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JP1 Version 12

JP1/Automatic Operation Service Template Reference

3021-3-D07-40(E)

Notices

■ Relevant program products

P-2A2C-E1CL JP1/Automatic Operation 12-60 (for Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, Windows Server 2022)

The above product includes the following:

•P-CC2A2C-EACL JP1/Automatic Operation - Server 12-60 (for Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, Windows Server 2022)

•P-CC2A2C-EBCL JP1/Automatic Operation - Contents 12-60 (for Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, Windows Server 2022)

P-2A2C-E3CL JP1/Automatic Operation Content Pack 12-60 (for Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, Windows Server 2022)

P-822C-E1CL JP1/Automatic Operation 12-60 (for Red Hat Enterprise Linux 6 (x64), Red Hat Enterprise Linux 7, Oracle Linux 6 (x64), Oracle Linux 7, CentOS 6 (x64), CentOS 7, SUSE Linux 12)

The above product includes the following:

•P-CC822C-EACL JP1/Automatic Operation - Server 12-60 (for Red Hat Enterprise Linux 6 (x64), Red Hat Enterprise Linux 7, Oracle Linux 6 (x64), Oracle Linux 7, CentOS 6 (x64), CentOS 7, SUSE Linux 12)

•P-CC822C-EBCL JP1/Automatic Operation - Contents 12-60 (for Red Hat Enterprise Linux 6 (x64), Red Hat Enterprise Linux 7, Oracle Linux 6 (x64), Oracle Linux 7, CentOS 6 (x64), CentOS 7, SUSE Linux 12)

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The above product includes the following:

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•P-CC822C-EBCL JP1/Automatic Operation - Contents 12-60 (for Red Hat Enterprise Linux 8, Oracle Linux 8, CentOS 8)

P-822C-E3CL JP1/Automatic Operation Content Pack 12-60 (for Red Hat Enterprise Linux 6 (x64), Red Hat Enterprise Linux 7, Red Hat Enterprise Linux 8, Oracle Linux 6 (x64), Oracle Linux 7, Oracle Linux 8, CentOS 6 (x64), CentOS 7, CentOS 8, SUSE Linux 12)

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Summary of amendments

The following table lists changes in this manual (3021-3-D07-40(E)) and product changes related to this manual.

Changes	Location
Notes were added or changed that are common to all service templates.	1.4
Red Hat Enterprise Linux Server 8 was added as prerequisite OS for the following service templates and plug-ins: • Service templates for JP1 (configuration) • Service templates for JP1 (operation) • Service templates for JP1 (reporting) • Service templates for JP1 (troubleshooting) • Service templates for OS (generic processing) • Service templates for OS (operation) • JP1-related Plug-ins • JP1/AJS-related Plug-ins • JP1/Base-related Plug-ins • JP1/IM-related Plug-ins • JP1/NNMi-related Plug-ins • JP1/PFM-related Plug-ins • OS-related Plug-ins • UNIX-related Plug-ins	2.4, 2.5, 2.6, 2.7, 2.8, 2.10, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.13, 4.15
JP1/VERITAS NetBackup 8.2, 8.3, 9.0, and 9.1 were added as prerequisite products for the following service templates and plug-ins: • Service templates for JP1 (configuration) • Service templates for JP1 (operation) • JP1/VERITAS-related Plug-ins	2.4, 2.5, 4.12
Windows Server 2016 Standard/Datacenter and Windows Server 2019 Standard/Datacenter were added as prerequisite product OSs for the following service templates: • Service templates for JP1 (configuration) • Service templates for JP1 (operation) • JP1/VERITAS-related Plug-ins	2.4, 2.5, 4.12
JP1/Network Node Manager i 12-10, 12-50, and 12-60 were added as prerequisite products for the following service templates and plug-ins: • Deletion of nodes monitored by JP1/Cm2 • Adding of a node to be monitored by JP1/Cm2 • Delete monitoring setting • Add monitoring setting • Obtain JP1/CM2 monitored node list • Output of the NNMi topology database content • Delete monitored node • Add monitored node	2.4.3, 2.4.5, 2.4.10, 2.4.12, 2.5.12, 4.9.1, 4.9.2, 4.9.3
Execution permissions for the following service templates were changed: • Create JP1/VERITAS Backup Policy • JP1/AJS root jobnet migration • JP1/AJS root jobnet deletion	2.4.8, 2.5.4, 2.5.8

Changes	Location
CentOS 8 and Oracle Linux 8 were added as prerequisite OS for the following service templates and plug-ins: • Service templates for JP1 (operation) • Service templates for OS (generic processing) • Service templates for OS (operation) • OS-related Plug-ins • UNIX-related Plug-ins	2.5, 2.8, 2.10, 4.13, 4.15
Red Hat Enterprise Linux Server 8 (64-bit x86_64) was added as a prerequisite product OS for the following service templates and plug-ins: • Execution of instant recovery of JP1/VERITAS • End of instant recovery of JP1/VERITAS • Perform JP1/VERITAS backup • Execute instant recovery (JP1/VERITAS) • End instant recovery (JP1/VERITAS) • Perform backup (JP1/VERITAS)	2.5.18, 2.5.19, 2.5.20, 4.12.1, 4.12.2, 4.12.10
The following prerequisite products and OSs were added for the "End of instant recovery of JP1/VERITAS" service template: • VMware vCenter Server 7.0 • VMware vSphere ESXi 7.0 • VMware PowerCLI 11.3.0, 12.0.0, 12.1.0 • Windows Server 2016 Standard/Datacenter • Windows Server 2019 Standard/Datacenter • Red Hat Enterprise Linux Server 8 (64-bit x86_64)	2.5.19
Windows Server 2012 R2 Standard/Datacenter was added as a prerequisite product OS for the following service templates and plug-ins: • Perform JP1/VERITAS backup • Perform backup (JP1/VERITAS)	2.5.20, 4.12.10
Execution permissions for the following service templates were added: • Batch change of operation users • Get Lists of Users from Multiple Servers • Windows update program installation	2.5.25, 2.10.1, 3.14.1
Flow specification details were changed for the following service templates: • Get Lists of Users from Multiple Servers (repeated flow) • Get Lists of Users from Multiple Servers(SYSTEM)(repeated flow) • Stop the virtual server (repeated flow) • Modify Virtual Machine Configuration	2.10.2, 2.10.4, 3.7.7, 3.15.2
Red Hat Enterprise Linux Server 8 (64-bit x86_64) was added as a required OS of an instance for the following service templates and plug-ins: • Service templates for AWS (configuration) • Service templates for AWS (operation) • AWS-related Plug-ins	3.4, 3.5, 5.2
Red Hat Enterprise Linux Server 8 (64-bit x86_64) and CentOS 8 (64-bit x86_64) were added as required OSs of an instance for the following service templates and plug-ins: • Service templates for vSphere (configuration) • Service templates for vSphere (operation) • vSphere-related Plug-ins	3.15, 3.16, 5.11

Changes	Location
VMware PowerCLI 12.1.0 was added as required products for the following service templates or plug-ins: • Service templates for vSphere (configuration) • Service templates for vSphere (operation) • vSphere-related Plug-ins	3.15, 3.16, 5.11
Descriptions of the properties of the following plug-ins were added: • General command plug-in • Terminal connect plug-in • Terminal command plug-in	4.2.2, 4.2.8, 4.2.9
Examples of how to specify escape characters in the command line were added to the descriptions of the following property keys: • commandLine • commandLineParameter	4.2.2
Note was added for the terminal command plug-in.	4.2.9
Notes were added for when specifying a command line for the property commandLine.	4.2.9
Notes related to stopping the execution of a task during the execution of a plug-in were changed.	4.2.17, 4.2.18, 4.2.19
Use situations were changed for the following OS-related Plug-ins: • Set JP1/Base permissions • Set JP1/Base permissions(SYSTEM) • Add OS user (UNIX)	4.7.15, 4.7.16, 4.15.1
The following notes were added: notes related to when the user set in the authentication information for configuring agentless connection destinations is not a built-in Administrator. • Update JP1/IM-SS Instance • Register JP1/IM-SS Instance • Send ICMP echo request message • Get CSV data • Send ICMP echo request message (confirm no response) • Create DP volume • Check LU creation	4.11.1, 4.11.2, 4.13.8, 4.16.1, 4.16.2, 5.3.1, 5.3.4
Notes on Windows environments were added. • Acquisition of row data from a CSV/Excel file • Acquisition of row data from a CSV/Excel file(SYSTEM) • Acquisition of column data from a CSV/Excel file • Acquisition of column data from a CSV/Excel file(SYSTEM)	4.13.4, 4.13.5, 4.13.6, 4.13.7
Execution permissions of the following plug-ins were added: • Acquisition of row data from a CSV/Excel file • Acquisition of column data from a CSV/Excel file	4.13.4, 4.13.6
An explanation of the property key common.targetString was added to the description about sorting character strings.	4.13.40
Explanations of the property keys common.replaceTarget and common.replaceStr were added to the description about replacing character strings.	4.13.43
An explanation of the property key common.addStr was added to the description about adding character strings.	4.13.44

Changes	Location
The requirement category of the property keys common.osUserPassword and common.osUserPasswordReEnter were changed for the usage conditions of execution target servers for the following plug-ins: • Add OS user (Windows) • Add OS user (Windows)(SYSTEM)	4.16.7, 4.16.8
Descriptions of the property keys Windows.accountComment and Windows.userComment were changed in the usage conditions of execution target servers for the following plug-ins: • Add OS user (Windows) • Add OS user (Windows)(SYSTEM)	4.16.7, 4.16.8
Execution permissions of the following plug-in were changed: • Install the Windows updates	5.12.3

In addition to the above changes, minor editorial corrections were made.

Preface

This manual describes the service templates and plug-ins provided by JP1/Automatic Operation. In this manual, JP1/Automatic Operation is abbreviated to *JP1/AO*.

For reference information on JP1/AO manuals and a glossary, see the manual *JP1/Automatic Operation Overview and System Design Guide*.

■ Intended readers

This manual is intended for:

- Users who add service templates to the JP1/AO system
- Users who want to know more about service templates or plug-ins

■ Microsoft product name abbreviations

This manual uses the following abbreviations for Microsoft product names.

Abbreviation		Full name or meaning
.NET Framework 3.5		Microsoft(R) .NET Framework 3.5
Active Directory		Microsoft(R) Active Directory
Hyper-V	Windows Server 2008 R2 Hyper-V	Microsoft(R) Windows Server(R) 2008 R2 Hyper-V(R)
	Windows Server 2012 Hyper-V	Microsoft(R) Windows Server(R) 2012 Hyper-V(R)
	Windows Server 2012 R2 Hyper-V	Microsoft(R) Windows Server(R) 2012 R2 Hyper-V(R)
	Windows Server 2016 Hyper-V	Microsoft(R) Windows Server(R) 2016 Hyper-V(R)
Internet Explorer		Windows(R) Internet Explorer(R)
Windows Server 2008 R2	Windows Server 2008 R2 Datacenter	Microsoft(R) Windows Server(R) 2008 R2 Datacenter
	Windows Server 2008 R2 Enterprise	Microsoft(R) Windows Server(R) 2008 R2 Enterprise
	Windows Server 2008 R2 Standard	Microsoft(R) Windows Server(R) 2008 R2 Standard
Windows Server 2012	Windows Server 2012 Datacenter	Microsoft(R) Windows Server(R) 2012 Datacenter
	Windows Server 2012 Standard	Microsoft(R) Windows Server(R) 2012 Standard
Windows Server 2012 R2	Windows Server 2012 R2 Datacenter	Microsoft(R) Windows Server(R) 2012 R2 Datacenter
	Windows Server 2012 R2 Standard	Microsoft(R) Windows Server(R) 2012 R2 Standard
Windows Server 2016	Windows Server 2016 Datacenter	Microsoft(R) Windows Server(R) 2016 Datacenter
	Windows Server 2016 Standard	Microsoft(R) Windows Server(R) 2016 Standard
Windows Server 2019	Windows Server 2019 Datacenter	Microsoft(R) Windows Server(R) 2019 Datacenter
	Windows Server 2019 Standard	Microsoft(R) Windows Server(R) 2019 Standard
Windows Server 2022	Windows Server 2022 Datacenter	Microsoft(R) Windows Server(R) 2022 Datacenter

Abbreviation		Full name or meaning
Windows Server 2022	Windows Server 2022 Standard	Microsoft(R) Windows Server(R) 2022 Standard

Windows is often used generically to refer to Windows Server 2022, Windows Server 2019, Windows Server 2016, Windows Server 2012 R2, Windows Server 2012, or Windows Server 2008 R2.

■ Formatting conventions used in this manual

The following describes the formatting conventions used in this manual.

Text formatting	Description
Character string	Italic characters indicate a variable. Example: A date is specified in *YYYYMMDD* format.
Bold - Bold	Indicates selecting menu items in succession. Example: Select **File - New**. This example means that you select **New** from the **File** menu.
key + **key**	Indicates pressing keys on the keyboard at the same time. Example: **Ctrl** + **Alt** + **Delete** means pressing the **Ctrl**, **Alt**, and **Delete** keys at the same time.

■ Representation of JP1/AO-related installation folders

In this manual, the default installation folders for the Windows version of JP1/AO are represented as follows:

JP1/AO installation folder:
  system-drive\Program Files\Hitachi\JP1AO

Common Component installation folder:
  system-drive\Program Files\Hitachi\HiCommand\Base64

The installation folders for the Linux version of JP1/AO are as follows:

JP1/AO installation folder:
  • /opt/jp1ao
  • /var/opt/jp1ao

Common Component installation folder:
  /opt/HiCommand/Base64

■ Diagrams of windows in the manual

Some windows in this manual might differ from the windows of your product because of reasons such as product improvements made without prior notice.

Contents

1 Overview of Service Templates

This chapter describes the service templates and plug-ins required to automate operating procedures in IT systems.

This chapter describes how to interpret the reference material about service templates and plug-ins, and provides cautionary notes common to both elements. For this reason, we recommend that you read this chapter before chapter 2 and subsequent chapters. These later chapters provide more detailed information about service templates and plug-ins.

1.1 Types of service templates and plug-ins

JP1/AO provides two types of service templates and plug-ins:

- Service templates and plug-ins in the JP1/AO standard package
- Service templates and plug-ins available by purchasing the JP1/AO Content Pack

Service templates and plug-ins are categorized by the function.

Table 1–1: Overview of service templates and plug-ins in the JP1/AO standard package

Type	Category name	Description
Service template	Service templates for JP1 (configuration)	Service templates for configuring JP1 products.
	Service templates for JP1 (operation)	Service templates for operating JP1 products.
	Service templates for JP1 (reporting)	Service templates for creating reports using JP1 products.
	Service templates for JP1 (troubleshooting)	Service templates for troubleshooting errors using JP1 products.
	Service templates for OS (generic processing)	Service templates for performing generic processing in cooperation with the OS (Windows or UNIX).
	Service templates for OS (configuration)	Service templates for performing configuration in cooperation with the OS (Windows or UNIX).
	Service templates for OS (operation)	Service templates for linking with and operating Windows and Linux.
	Service templates for providing Plug-ins	A service template for importing all JP1/AO Standard-package content plug-ins. The service template imports the latest version of each plug-in. Note that you cannot execute this service template as a service. It is intended to be used as the basis for service template development.
Basic plug-in		A plug-in that performs generic processing like email notification and flow repetition.
Content plug-in	Active Directory-related Plug-ins	Plug-ins that interact with Active Directory.
	JP1-related Plug-ins	Plug-ins that interact with JP1.
	JP1/AJS-related Plug-ins	A plug-in that interacts with JP1/AJS3.
	JP1/Base-related Plug-ins	A plug-in that interacts with JP1/Base.
	JP1/IM-related Plug-ins	A plug-in that interacts with JP1/IM.
	JP1/NNMi-related Plug-ins	Plug-ins that interact with HP NNM or HP NNMi.
	JP1/PFM-related Plug-ins	Plug-ins that interact with JP1/PFM.
	JP1/SS-related Plug-ins	A plug-in that interacts with JP1/IM-SS.
	JP1/VERITAS-related Plug-ins	Plug-ins that interact with JP1/VERITAS.
	OS-related Plug-ins	A plug-in that interacts with Windows and Linux.
	UNIX-related Plug-ins	A plug-in that interacts with Linux.
	Windows-related Plug-ins	A plug-in that interacts with Windows.

Type	Category name	Description
Content plug-in	TELstaff-related Plug-ins	Plug-ins that interact with TELstaff.

Table 1–2: Overview of service templates and plug-ins available by purchasing the JP1/AO Content Pack

Type	Category name	Description
Service template	Service templates for AWS (configuration)	Service templates for configuring a virtual server by using AWS.
	Service templates for AWS (operation)	Service templates for operating a virtual server by using AWS.
	Service templates for Hyper-V 2008 (configuration)	Service templates for configuring a virtual server in a Hyper-V environment. (Windows Server 2008 R2)
	Service templates for Hyper-V 2008 (operation)	Service templates for operating a virtual server in a Hyper-V environment. (Windows Server 2008 R2)
	Service templates for Hyper-V 2012 (configuration)	Service templates for configuring a virtual server in a Hyper-V environment. (Windows Server 2012 or Windows Server 2012 R2)
	Service templates for Hyper-V 2012 (operation)	Service templates for operating a virtual server in a Hyper-V environment. (Windows Server 2012 or Windows Server 2012 R2)
	Service templates for Hyper-V 2016 (configuration)	Service templates for configuring a virtual server in a Hyper-V environment. (Windows Server 2016)
	Service templates for Hyper-V 2016 (operation)	Service templates for operating a virtual server in a Hyper-V environment. (Windows Server 2016)
	Service templates for OpenStack (configuration)	Service templates for configuring a virtual server in an OpenStack environment.
	Service templates for OpenStack (operation)	Service templates for operating a virtual server in an OpenStack environment.
	Service templates for OS (configuration)	Service templates for configuring the OS information.
	Service templates for vSphere (configuration)	Service templates for configuring a virtual server in a vSphere environment.
	Service templates for vSphere (operation)	Service templates for operating a virtual server in a vSphere environment.
	Service templates for providing Plug-ins	Service templates for importing the plug-ins that are provided by JP1/AO Content Pack. For details about the plug-ins that are imported, see A.5 List of plug-ins contained in service templates. Note that you cannot execute these service templates as services. Use these service templates for developing service templates only.

Type	Category name	Description
Content plug-ins	AWS-related Plug-ins	Plug-ins that interact with AWS.
	HCS-related Plug-ins	Plug-ins that interact with HCS.
	Hyper-V 2008-related Plug-ins	Plug-ins that interact with Hyper-V. (Windows Server 2008 R2)
	Hyper-V 2012-related Plug-ins	Plug-ins that interact with Hyper-V. (Windows Server 2012 or Windows Server 2012 R2)
	Hyper-V 2016-related Plug-ins	Plug-ins that interact with Hyper-V. (Windows Server 2016)
	Linux-related Plug-ins	Plug-ins that interact with Linux.
	OpenStack-related Plug-ins	Plug-ins that interact with Openstack.
	Oracle-related Plug-ins	Plug-ins that interact with Oracle.
	OS-related Plug-ins	Plug-ins that interact with the OS. (Windows or Linux)
	vSphere-related Plug-ins	Plug-ins that interact with vSphere
	Windows-related Plug-ins	Plug-ins that interact with Windows

Related topics

- 2. JP1/AO Standard-package Service Templates
- 3. JP1/AO Content Pack Service Templates
- 4. JP1/AO Standard-package Plug-ins
- 5. JP1/AO Content Pack Plug-ins

1.2 Interpreting the service template reference

This section describes how to interpret the service template reference provided in chapters 2 and 3.

Function

Describes the functionality provided by the service template.

Prerequisites

Describes the prerequisites, if any, for executing the service.

Cautionary notes

Describes cautionary notes the operator needs to be aware of when executing the service.

Permissions

Shows the permissions required to execute the service.

Version

Shows the version of the service template.

Tag

Shows the tags that are set in the service template.

Property list

Shows the properties of the service template. The following information is provided:

- Property group

  The group in which the property is classified. This information is only provided if a property group is assigned to the service template.

  Table 1–3: Items described in the property list (property group)

Item	Description
Property group	The name of the property group.
Description	The description of the property group.
Initial display	Shows whether properties that belong to the property group are listed as the initial display.

- Property overview

  This table shows the information displayed for the property in the JP1/AO user interface, the property type, and other information.

  Table 1–4: Items described in property list (property overview) (for service templates)

Item	Description
Property key	The property key of a property set in the service template.
Property name	The property name displayed in the **Service Definition** and **Submit Service** windows.
Description	The description displayed in the **Service Definition** and **Submit Service** windows.
I/O type	The input/output type of the property, as one of the following: - Input: Indicates an input property. - Output: Indicates an output property.

Item	Description
I/O type	• Variable: Indicates a variable.
Shared	The scope of the property. • Enabled: The **Service Share Property** check box is selected for the property in the **Scope** area in the **Create Input Property for Service** or **Edit Input Property for Service** dialog box. • Disabled: The **Service Share Property** check box is cleared for the property.
Required	Whether the property is required or optional. • R (Required): The property must be specified. • O (Optional): The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the **Description** of each property.
Property group	The property group into which each property is classified.

• Values that can be specified in the property

For input properties, this section shows the characters that can be specified in the property, or the values that can be selected from the list.

Table 1–5: Items described in the property list (values that can be specified in the property) (for service templates)

Item	Description
Property key	The property key of a property set in the service template.
Characters that can be input	The characters that can be input into the property, or the values that can be selected from the list.

Flow specification details

This section shows the detailed specification of the flow of the service template.

The following details are described:

Table 1–6: Items described in Flow specification details

Item		Description
Hierarchy		The position of the step in the hierarchy of the flow.
Display name in the **Task Details** window[#]		The display name in the **Task Details** window.
Display Name[#]		The name of a step in the hierarchy displayed in the **Flow** tab of the **Service Builder Edit** window.
Plug-in	Plug-in name	The name of a plug-in used in the service template.
	Description	The description of the plug-in.
	Error recovery method	A description of how to recover from errors that occur in the plug-in.

#:

Because repeated flows are not displayed in the **Flow** tab of the **Service Builder Edit** window, the display name in the **Task Details** window is used as *Processing* for repeated flows.

Related topics

• 2. JP1/AO Standard-package Service Templates

• 3. JP1/AO Content Pack Service Templates

- 1.4 Notes common to service templates

- *Overview of service property* in the *JP1/AO Service Template Developer's Guide*

1.3 Interpreting the plug-in reference

This section describes how to interpret the plug-in reference provided in chapters 4 and 5.

Function

Describes the functionality provided by the plug-in.

Usage scenario

Describes an example of a scenario in which the plug-in is used.

Prerequisites

Describes the prerequisites, if any, for executing a service that includes the plug-in.

Cautionary notes

Describes cautionary notes the operator needs to be aware of when executing a service that includes the plug-in.

Permissions

Shows the permissions required to execute a service that includes the plug-in.

Version

Shows the version of the plug-in.

Tag

Shows the tags that are set for the plug-in.

Plug-in name displayed in the task log

Shows the plug-in name displayed in the task log.

Return code

Shows the return code of the plug-in.

Property list

Shows the properties of the plug-in. The following information is provided:

Table 1–7: Items described in the property list (plug-in)

Item	Description
Property key	The property key displayed in the **Edit Plug-in** dialog box.
Property name	The property name displayed in the **Edit Plug-in** dialog box.
Description	The description of the property.
Default value	The default value of the property. • --: No value is assigned.
I/O type	The input/output type of the property, as one of the following: • Input: Indicates an input property. • Output: Indicates an output property
Required	Whether the property is required or optional. • R (Required): The property must be specified

Item	Description
Required	• O (Optional): The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the **Description** of each property.

Related topics

- 4. JP1/AO Standard-package Plug-ins
- 5. JP1/AO Content Pack Plug-ins

1.4 Notes common to service templates

The following cautionary notes apply to the service templates provided by JP1/AO:

- The locale setting applied at plug-in execution differs depending on the operating system on the operation-target device.
  - For Windows
    The locale depends on the configuration of the operating system.
  - For UNIX
    The following services are executed with the locale LANG=C :Characters might become garbled when these services are used with multi-byte characters.

    Table 1–8: List of services executed with LANG=C

Category	Service
Service templates for JP1 (configuration)	Add monitoring setting Delete monitoring setting Add JP1/Base monitoring settings Adding of a node to be monitored by JP1/Cm2 Deletion of nodes monitored by JP1/Cm2
Service templates for JP1 (operation)	Add operational user Change operational user Delete operational user JP1/AJS root jobnet migration Register JP1/AJS jobnet for execution Get JP1 events Get list of JP1/PFM monitoring targets Get list of JP1/PFM alarm information Get list of JP1/PFM process monitoring settings Obtain JP1/CM2 monitored node list Get list of JP1 users Get JP1 user mapping definition Batch change of operation users
Service templates for JP1 (reporting)	Get JP1/PFM report
Service templates for JP1 (troubleshooting)	Get JP1/AJS and JP1/Base logs Get JP1/IM and JP1/Base logs Changing of the JP1 event action status
Service templates for OS (operation)	Get list of OS users Get lists of OS users by batch

  All other services use the default locale of the connected user.

- When you execute a plug-in, certain commands must already be installed in the operating system of the operation-target device. For details, see the release notes.

- If the operation target device is running UNIX, files are transferred from the device to the JP1/AO server in binary mode. For this reason, when a text file is transferred, the linefeed code is not converted to a code that is appropriate for Windows. Conversely, when you transfer a file from the JP1/AO server to the operation target device, make sure that the linefeed code in the file conforms to the specification of the OS of the device.

- If the operation target device is running Windows and you specify an output file in a property of the service template, do not use the following reserved keywords as file names:

CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, LPT9

- *(Local)* in the property name indicates that the file or folder is located on the JP1/AO server. *(Remote)* means that the file or folder is on the operation target device.

- If a service that uses an Email Notification Plug-in or User-Response Wait Plug-in to send email uses machine-dependent characters or characters that are incompatible with the character set assigned to the JP1/AO server and the operation-target device in the subject line or body of an email, characters are replaced with question marks (?) or other characters. In this scenario, either change the characters in the email, or change the encoding of the email.

  The following characters might not be converted correctly:

  ～, ￥, ＼, ∼, ∥, −, ¢, £, ¬

- To connect to an operation-target device, you need to define a Connection Destination. If the operation-target device is running Windows, specify Windows as the protocol. If the device is running UNIX, specify SSH.

- If you execute multiple services concurrently on a given Hyper-V server, the command executed by JP1/AO might result in an error, causing the task to terminate abnormally. In this case, `CommandExitCode:False` is output to the task log and the plug-in returns code `27`.

- The content plug-ins provided by JP1/AO are set to be executed by automatically elevating the user's privileges to root permission. The exceptions are the following plug-ins, which are set to be executed without elevating the privileges of the user who connects to the operation-target device.

  - Update cell data in a CSV/Excel file

  - Acquisition of cell data from a CSV/Excel file

  - Division of data from a CSV/Excel file

  - Output OS type

  - Calculating dates and times

  - Start an Oracle DB instance

  - Stop an Oracle DB instance

  - Delete an Oracle DB user

  - Add an Oracle DB user (UNIX)

  The service templates provided by JP1/AO use content plug-ins that must be executed by a user with root permission. When you execute the content plug-ins that must be executed by a user with root permission, root elevation is performed by executing su command. That promote non-superuser users.

  At this time, the superuser password is entered at the password prompt returned from the OS.

  Therefore, if the OS of the operation-target device is UNIX, the following should be done.

  - Enable root elevation on operation-target device.

  - Enable the superuser on operation-target device.

  - Set the superuser password on operation-target device.

  - Set the user ID whose UID is not the same as superuser in the agentless connection definition.
    You can set superuser itself.

  - Set the superuser password in the agentless connection definition.

- A content plug-in might return a value outside the 0 to 63 range. For details about the meaning of return values outside this range, see Return values of content plug-ins in the *JP1/Automatic Operation Service Template Developer's Guide*.

- Do not use the following multi-byte symbols in the properties of service templates and plug-ins:

—, ‘,’ , “,”

In addition, do not insert line breaks in these properties.

- The values you can specify in the properties of a service template depend on the data type. The range of values you can specify for each data type is shown below.

  If the range of values you can specify for a property has been limited in your system, specify a value within that range.

  - For string data

    1,024 characters

  - For integer data

    -2147483648 to 2147483647

  - For double data

    A numerical value from approximately $\pm 4.9 \times 10^{-324}$ to $\pm 1.7 \times 10^{308}$

    Note that you cannot enter this value in the form of an exponent. We recommend that the value you specify has no more than 15 significant digits.

  - For password data

    1,024 characters

  - For composite data

    30 MB

- When you use a user-defined character or surrogate pair character in an input value or input file of a property, characters might become garbled or might not be processed as the intended character.

- The service templates that transfer a file between the operation-target device and JP1/AO server do not convert the character encoding of the file. Therefore, if the operation-target device and JP1/AO server use different character encodings, the encoding for the operation-target device must be used to reference the file.

- If the operating system of the virtual server in the VMware vSphere environment is Red Hat Enterprise Linux Server 7 (64-bit x86_64), you must use open-vm-tools 9.10 or later for VMware Tools to be installed on the virtual server.

- When PowerCLI V6.3 or later is used on the execution target server, commandlets executed by plug-ins might time out, causing the plug-in to end abnormally. To prevent this problem, execute the PowerCLI commandlet Set-PowerCLIConfiguration to change the timeout value. For details about commandlets, see Cmdlets Reference in the vSphere PowerCLI Documentation. Note that, even if a timeout occurs, the operation performed by the plug-in might have succeeded in the VMware environment. In this case, if you change the timeout value and then re-execute the service template, the processing of the service template might end abnormally. For this reason, check the VMware environment before re-executing the service template.

  Conditions of occurrence:

  This problem occurs when all of the following conditions are met:

  - PowerCLI V6.3 or later is used on the execution target server.

  - The following message is output to the task log.

    For PowerCLI V6.3:

    ```
    The operation has timed out.
    ```

    For PowerCLI V6.5:

    ```
    The request channel timed out attempting to send after 00:05:00. Increa
    se the timeout value passed to the call to Request or increase the Send
    Timeout value on the Binding. The time allotted to this operation may h
    ave been a portion of a longer timeout.
    ```

Workaround:

Perform the following procedure.

1. Launch the PowerShell prompt.

    Select **Start**, **VMware**, and then **VMware vSphere PowerCLI**.

2. Check the PowerCLI settings.

    In the PowerCLI prompt, execute the following commandlet.

    ```
    PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI>
    Get-PowerCLIConfiguration
    ```

3. Change the PowerCLI settings.

    In the PowerCLI prompt, execute the following commandlet.

    ```
    PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI>
    Set-PowerCLIConfiguration -WebOperationTimeoutSeconds timeout-value
    ```

    Note: Specify the timeout value in units of seconds. For example, to set a timeout value of 10 minutes, specify 600.

4. Execute the target service from JP1/AO.

- When executing the file transfer plug-in or the content plug-in with the script set, use SCP to transfer the file to the operation-target device. Make sure that the operation-target device has an environment in which files can be transferred using SCP. Note that if the operation-target device is Linux and a character string is output from .bashrc of the connecting user, SCP might become fail. Note that the following parts correspond to "the content plug-in with the script set".

  - The JP1/AO standard-package Content plug-ins and JP1/AO Content Pack plug-ins other than the following plug-ins.

    - Shutdown Server (osShutdownServer)

    - Restart Server (osRebootServer)

  - The plug-in that a user created (when Script is selected for the execution method)

- For vSphere-related plug-ins and service templates, the OS for the prerequisite products for the execution target-server is Windows Server 2019, use JP1/Automatic Operation 12-10-01 or later as the prerequisite product in the system.

- When connecting to the Connection Destination using SSH or Telnet, do not include commands such as stty, tty, tset, and script that require an interactive environment in the login script of the connecting user. If so, change the login script or create a new user who uses the login script that does not execute these commands.

2

JP1/AO Standard-package Service Templates

This chapter describes the service templates in the JP1/AO standard package.

2.1 List of JP1/AO standard-package service templates

2.1.1 List of the service templates used for JP1 (configuration)

No.	Service template name	Function	System configuration
1	Add JP1/Base monitoring settings	Performs JP1/Base setup and adds the monitoring settings.	--
2	Deletion of nodes monitored by JP1/Cm2	Deletes two or more nodes from those monitored by JP1/Cm2/NNMi.	--
3	Adding of a node to be monitored by JP1/Cm2	Adds two or more nodes to be monitored by JP1/Cm2/NNMi.	--
4	Replicating a JP1/PFM alarm definition	Copies and binds a JP1/PFM alarm definition.	--
5	Create JP1/VERITAS Backup Policy	Creates a backup policy in VMware format based on the parameter sheet in a JP1/VERITAS NetBackup environment.	--
6	Create JP1/VERITAS Backup Policy(SYSTEM)	Creates a backup policy in VMware format based on the parameter sheet in a JP1/VERITAS NetBackup environment.	--
7	Delete monitoring setting	Deletes monitoring settings from JP1/Cm2/NNMi and JP1/PFM.	2.3.2 System configuration of Delete monitoring setting service template
8	Add monitoring setting	Adds multiple monitor servers to JP1/Cm2/NNMi and JP1/PFM.	2.3.1 System configuration of Add monitoring setting service template

(Legend)

　　--: None.

2.1.2 List of the service templates used for JP1 (operation)

No.	Service template name	Function	System configuration
1	Register JP1/AJS jobnet for execution	Registers a JP1/AJS jobnet for execution.	--
2	JP1/AJS jobnet planned execution registration	Registers a JP1/AJS jobnet for planned execution or fixed execution.	--

No.	Service template name	Function	System configuration
3	JP1/AJS jobnet scheduled execution results output	Outputs the scheduled execution results of a JP1/AJS jobnet to a file.	--
4	JP1/AJS root jobnet migration	Migrates JP1/AJS root jobnets.	--
5	JP1/AJS root jobnet migration(SYSTEM)	Migrates JP1/AJS root jobnets.	--
6	JP1/AJS root jobnet deletion	Deletes JP1/AJS root jobnets.	--
7	JP1/AJS root jobnet deletion(SYSTEM)	Deletes JP1/AJS root jobnets.	--
8	Obtain JP1/CM2 monitored node list	Obtains the JP1/CM2 monitored node list.	--
9	Update JP1/IM-SS Item information	Updates information about Items registered in JP1/IM-SS.	--
10	Register a JP1/IM-SS Item	Registers a new Item in JP1/IM-SS.	--
11	Get list of JP1/PFM monitoring targets	Acquires a list of JP1/PFM - RM for Platform monitoring targets.	--
12	Get list of JP1/PFM alarm information	Acquires a list of JP1/PFM - RM alarm tables.	--
13	Get list of JP1/PFM process monitoring settings	Acquires a list of process monitoring settings set in JP1/PFM - Manager.	--
14	Execution of instant recovery of JP1/VERITAS	Execute an instant recovery job for the virtual server on the JP1/VERITAS NetBackup server, and then output a detailed list of the running instant recovery jobs to the output file (output).	--
15	End of instant recovery of JP1/VERITAS	Restore the virtual server for which instant recovery is being executed on the JP1/VERITAS NetBackup server.	--
16	Perform JP1/VERITAS backup	Performs a backup using JP1/VERITAS NetBackup.	--
17	Virtual-machine restoration with JP1/VERITAS	This plug-in restores a virtual machine in a JP1/VERITAS NetBackup environment.	--
18	Get JP1 events	Acquires JP1 events from the integrated monitoring DB in JP1/IM.	--
19	Get list of JP1 users	Acquires a list of JP1 users.	--
20	Get JP1 user mapping definition	Acquires the mapping definition between JP1 users and OS users.	--
21	Batch change of operation users	Changes the passwords of OS users or JP1 users and changes the JP1/Base password management information in a single operation.	--
22	Batch change of operation users(SYSTEM)	Changes the passwords of OS users or JP1 users and changes the JP1/Base password management information in a single operation.	--
23	Delete operational user	Deletes OS user and JP1 user registration information and mapping information.	2.3.5 System configuration of Delete operational user service template

No.	Service template name	Function	System configuration
24	Delete operational user(SYSTEM)	Deletes OS user and JP1 user registration information and mapping information.	--
25	Add operational user	Adds an OS user and a JP1 user and their mapping information.	2.3.3 System configuration of Add operational user service template
26	Add operational user(SYSTEM)	Adds an OS user and a JP1 user and their mapping information.	--
27	Change operational user	Changes the password for an OS user or JP1 user, and makes changes to JP1/Base password management information.	2.3.4 System configuration of Change operational user service template
28	Change operational user(SYSTEM)	Changes the password for an OS user or JP1 user, and makes changes to JP1/Base password management information.	--

(Legend)

   --: None.

2.1.3 List of the service templates used for JP1 (reporting)

No.	Service template name	Function	System configuration
1	Get JP1/PFM report	Acquires JP1/PFM - RM reports collected by JP1/PFM - Manager.	--

(Legend)

   --: None.

2.1.4 List of the service templates used for JP1 (troubleshooting)

No.	Service template name	Function	System configuration
1	Get JP1/AJS and JP1/Base logs	Acquires JP1/AJS and JP1/Base logs.	--
2	Get JP1/IM and JP1/Base logs	Acquires JP1/IM and JP1/Base logs.	--
3	Changing of the JP1 event action status	Changes the action status of a JP1 event registered in the JP1/IM - Manager event database.	--
4	Registration of the JP1 event	Registers a JP1 event to the agent server.	--

(Legend)

    --: None.

2.1.5 List of the service templates used for OS (generic processing)

No.	Service template name	Function	System configuration
1	Execute Remote Command	Executes a command on the remote execution target server.	--

(Legend)

    --: None.

2.1.6 List of the service templates used for OS (configuration)

No.	Service template name	Function	System configuration
1	Registering Chef Client	The Chef Client server is registered to the Chef Server instance.	--
2	Registering the Puppet Enterprise Agent instance	Registers the Puppet Enterprise Agent server in Puppet Enterprise Master.	--

(Legend)

    --: None.

2.1.7 List of the service templates used for OS (operation)

No.	Service template name	Function	System configuration
1	Get Lists of Users from Multiple Servers	Acquires lists of Windows or UNIX OS users from multiple servers.	--
2	Get Lists of Users from Multiple Servers(SYSTEM)	Acquires lists of Windows or UNIX OS users from multiple servers.	--
3	Get List of Users from Server	Acquires a list of Windows or UNIX OS users.	--

(Legend)

    --: None.

2.1.8 List of the service templates used for providing Plug-ins

No.	Service template name	Function	System configuratio n
1	Utility Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--

(Legend)

    --: None.

2.2 Usage examples of service templates for operation and monitoring

The JP1/AO standard package provides the service templates required to operate and monitor JP1 products.

This section describes assumed system configurations and examples of properties to be specified when using the following service templates:

- Add monitoring setting
- Add operational user
- Batch change of operation users

2.2.1 Usage example of Add monitoring setting service template

This section describes an assumed system configuration and examples of properties to be specified when using the Add monitoring setting service template.

By using this service template, you can add monitoring targets and make monitoring settings in JP1/Cm2/NNM and JP1/PFM.

Assumed system configuration

This service template assumes the following system configuration:

Web browser

    A terminal used to operate JP1/AO. The user uses this terminal to set property values in the service template.

IT operation automation server

    A server with JP1/AO and JP1/Base installed. On the local disk (`C:\temp`) of the IT operation automation server, prepare the following monitoring definition files in advance:

- Definition file for monitoring (`agent.conf`)
- Agent hierarchy definition file (`tree.xml`)
- Application definition file (`process.xml`)
- Definition file for method of recording (`parameter.xml`)
- Definition file for data retention conditions (`store.xml`)

NNM server

    A server with JP1/Cm2/NNM or JP1/Cm2/NNMi installed.

PFM-RM server

    A server with JP1/PFM-RM and JP1/PFM - Base installed.

PFM management server

    A server with JP1/PFM - Manager and JP1/PFM - Web Console installed.

ESX server

    A server with VMware vSphere ESXi (or VMware ESX Server) installed. This server controls the monitoring target server.

Monitoring target server

> A server set as a monitoring target of the NNM server or the PFM-RM server.

Figure 2–1: System configuration assumed for the Add monitoring setting service template
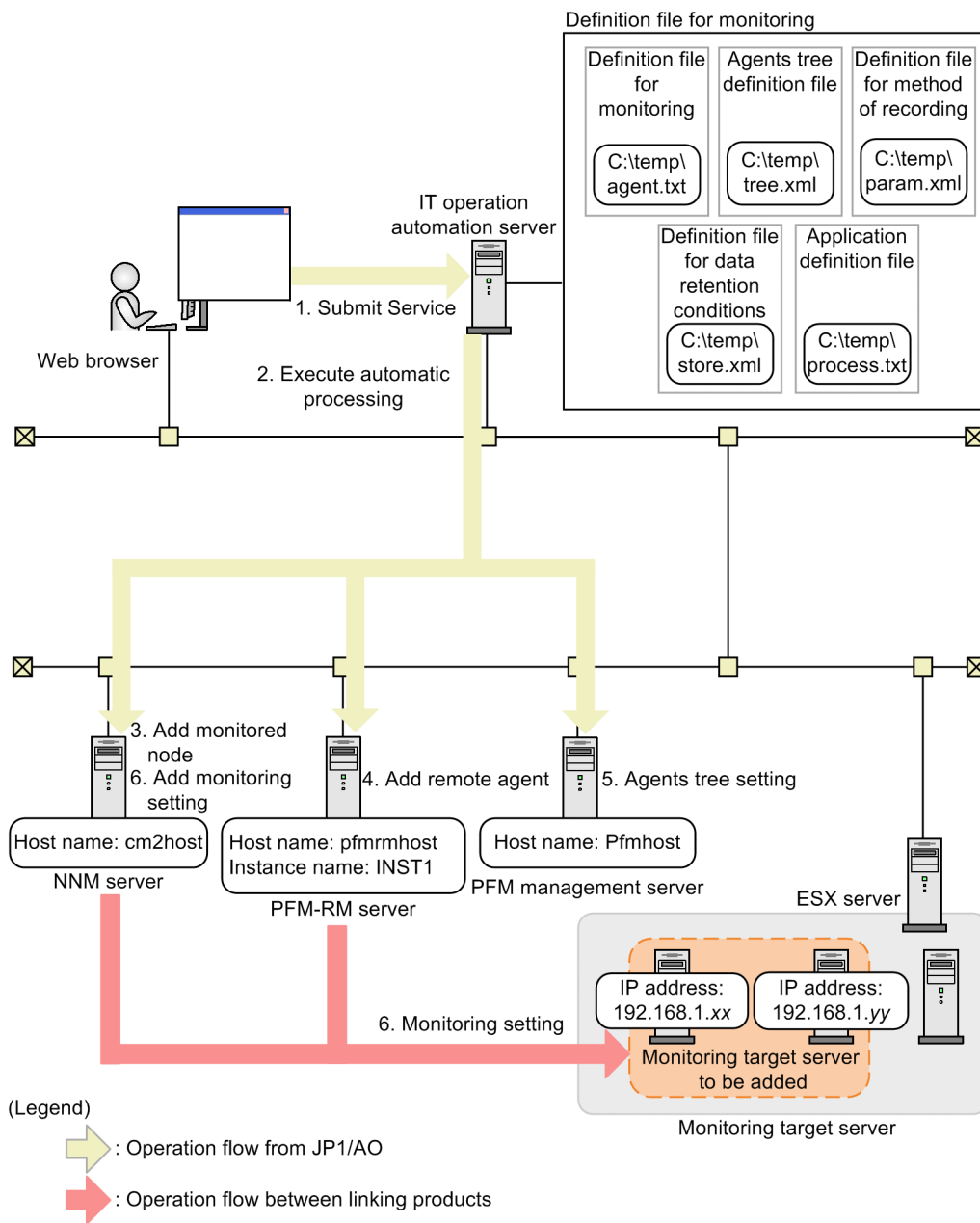
Processing flow

1. A user enters property values in the Web browser and submits the service for execution.

2. The IT operation automation server executes automatic processing on the PFM management server, the PFM-RM server, and the NNM server.

3. A monitored node is added to the NNM server.

4. A remote agent is added to the PFM-RM server.

5. An agents tree is added to the PFM management server.

6. The following monitoring settings are added to the added remote agent:

- Method of recording performance data
- Retention conditions of performance data
- Process monitoring settings
- Alarm table settings

Example of specifying property values

To use the Add monitoring setting service template, a user must specify the appropriate property values for the user environment. Specify the property values in the **Service Definition** window and the **Submit Service** window.

Table 2–1: Example of property values specified in the Service Definition window (Add monitoring setting)

Property group	Property name	Property key	Description	Specification example
Monitored system environment information	NNMi server host name	jp1cm2nnm.nnmHostName	Specify the host name of the server where JP1/Cm2/NNMi is installed. Specify the physical host name of primary server or the logical host name of JP1/Cm2/NNMi.	cm2host
	PFM management server host name	jp1pfm.pfmHostName	Specifies the host name of the server where JP1/PFM - Manager and JP1/PFM - Web Console are installed. In the case of a cluster configuration, specify the physical host or logical host of the active server.	pfmhost
	Host name of PFM-RM server	jp1pfm.pfmRMHostName	Specifies the host name of the server where JP1/PFM - RM for Platform is installed. In the case of a cluster configuration, specify the physical host or logical host of the active server.	pfmrmhost
Monitoring information	Instance name of JP1/PFM - RM	jp1pfm.instance	Specify the name of the instance of JP1/PFM - RM for Platform associated with the remote agent of the monitor server.	INST1
	Monitoring target definition file (local)	jp1pfm.agentDefFileLocal	Specify the full path of the monitoring target definition file to be transferred from the JP1/AO server.	C:\temp\agent.txt
	Monitoring target definition file (remote)	jp1pfm.agentDefFileRemote	Specify the full destination path for the monitoring target definition files to be transferred to the PFM-RM server.	D:\temp\agent.txt
Option monitoring information	Agent tree definition file (local)	jp1pfm.agentLevelDefFileNameLocal	Specify the full path of the agent tree definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer a file or apply its contents.	C:\temp\tree.xml
	Agent tree definition file (remote)	jp1pfm.agentLevelDefFileNameRemote	Specify the full destination path for agent tree definition files to be transferred to the PFM management server.	D:\temp\tree.xml
	Recording method definition file (local)	jp1pfm.paramDefFileLocal	Specify the full path of the recording method definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer the file or apply its contents.	C:\temp\param.xml
	Recording method definition file (remote)	jp1pfm.paramDefFileRemote	Specify the full destination path for the recording method definition files to be transferred to the PFM management server.	D:\temp\param.xml

Property group	Property name	Property key	Description	Specification example
Option monitoring information	Storage conditions definition file (local)	jp1pfm.saveConditionDefFileNameLocal	Specify the full path of the storage conditions definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer the file or apply its contents.	C:\temp\store.xml
	Storage conditions definition file (remote)	jp1pfm.saveConditionDefFileNameRemote	Specify the full destination path for storage conditions definition files to be transferred to the PFM management server.	D:\temp\store.xml
	Application definition file (local)	jp1pfm.procMonDefFileLocal	Specify the full path of the application definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer the file or apply its contents.	C:\temp\process.txt
	Application definition file (remote)	jp1pfm.procMonDefFileRemote	Specify the full destination path for application definition files transferred to the PFM management server.	D:\temp\process.txt

Table 2–2: Example of property values specified in the Submit Service window (Add monitoring setting)

Property group	Property name	Property key	Description	Specification example
Monitoring information	IP address of monitor server	common.foreachIPaddress	Specify the IP address of the monitored server. Separate multiple addresses with commas. You cannot specify an IPv6 address.	`192.168.1.xx,192.168.1.yy`

2.2.2 Usage example of Add operational user service template

This section describes an assumed system configuration and examples of properties to be specified when using the Add operational user service template.

By using this service template, you can add OS users and JP1 users related to those OS users to a specific server.

Assumed system configuration

This service template assumes the following system configuration:

Web browser
 A terminal used to operate JP1/AO. The user uses this terminal to set property values in the service template.

IT operation automation server
 A server with JP1/AO and JP1/Base installed. The file of user permission levels is stored on the local disk of the IT operation automation server.

Authentication server
 A server with JP1/Base installed.

Agent server
 A server with JP1/Base installed.

Assumed system configuration

Figure 2–2: System configuration assumed for Add operational user service template
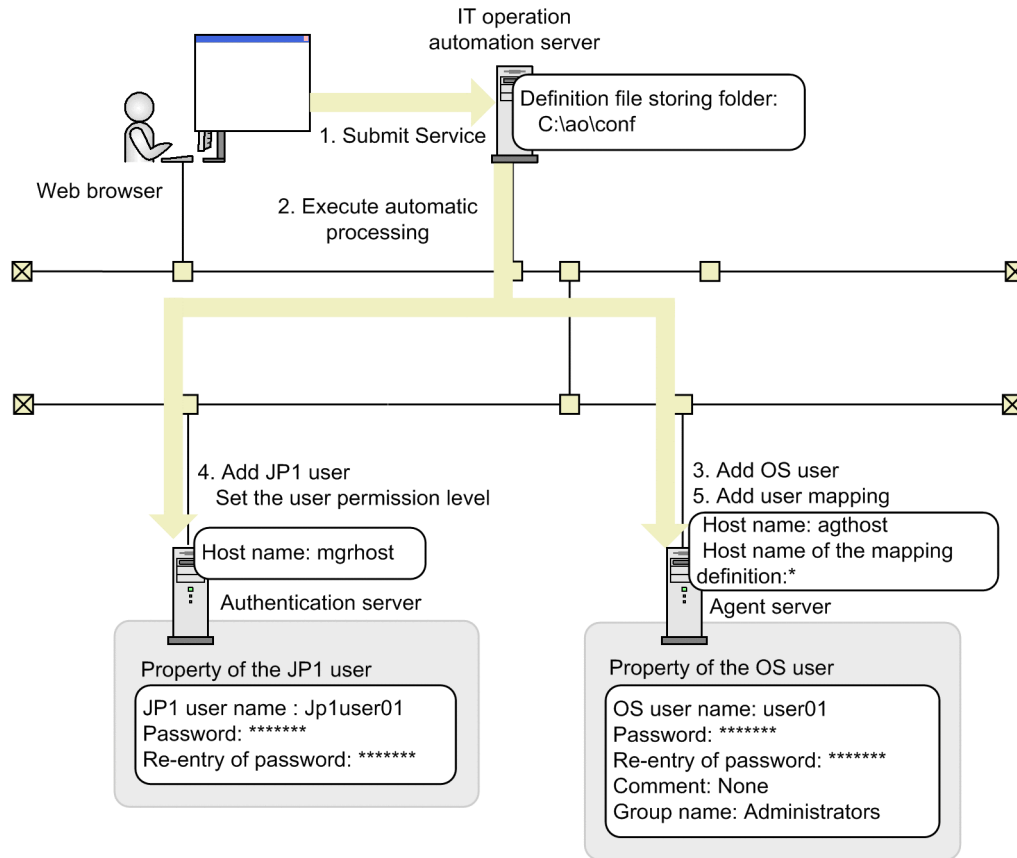
(Legend)

⇨ : Operation flow from JP1/AO

Processing flow

1. A user enters property values in the Web browser and submits the service for execution.

2. The IT operation automation server executes automatic processing on the authentication server and the agent server.

3. An OS user is added to the agent server.

4. A JP1 user and the corresponding user permission level are set on the JP1 authentication server.

5. User mapping is set on the agent server.

Example of specifying property values

To use the Add operational user service template, a user must specify the appropriate property values for the user environment. Specify the property values in the **Service Definition** window and the **Submit Service** window.

Table 2–3: Example of property values specified in the Service Definition window (Add operational user)

Property group	Property name	Property key	Description	Specification example
JP1 authenticatio	Host name of the JP1	jp1base.certHost	Specify the host name of the JP1 authentication server. Specify the physical host name of primary	mgrhost

Property group	Property name	Property key	Description	Specification example
n server information	authentication server	jp1base.certHost	server or the logical host name of JP1/Base (when using JP1/Base in a cluster configuration).	mgrhost
System environment information	Folder containing JP1/AO server definition files	ao.confPath	Specify the folder on the JP1/AO server containing the definition (configuration) files to be transferred to the JP1 authentication server, by the folder's full path.	C:\ao\conf

Table 2–4: Examples of property values specified in the Submit Service window (Add operational user)

Property group	Property name	Property key	Description	Specification example
System environment information	Agent server host name	common.targetHost	Specify the host name or IP address of the agent server. You cannot specify an IPv6 address. Specify the physical host name of primary server or the logical host name of business server (when using business server in a cluster configuration).	agthost
OS user information	OS user name	OS.osUserName	Specify the name of the OS user to create on the agent server.	user01
	OS user password	OS.osUserPassword	Specify the password of the OS user.	*******
	Enter the OS user password again	OS.osUserPasswordReEnter	Enter the OS user password again.	*******
	OS user group name	OS.osGroupName	Specify the name of the existing group to which the OS user belongs.	Administrators
JP1 user information	JP1 user name	jp1base.jp1UserName	Specify the name of the JP1 user you want to create on the JP1 authentication server.	jp1user01
	JP1 user password	jp1base.jp1UserPassword	Specify the password of the JP1 user.	*******
	Enter the JP1 user password again	jp1base.jp1UserPasswordReEnter	Enter the JP1 user password again.	*******
	Mapping definition host name	jp1base.serverHostName	Specify the Target host to define in the user mapping of the agent server, or an asterisk (*). Do not specify an IP address. Note that the task will appear to succeed if you specify an IP address. In a cluster configuration, specify the physical host or logical host of the active server.	*

2.2.3 Usage example of Batch change of operation users service template

This section describes an assumed system configuration and examples of properties to be specified when using the Batch change of operation users service template.

By using this service template, you can change OS user passwords, change JP1/Base password management information, and change JP1 user passwords based on the contents of CSV (Comma Separated Values) files or spreadsheets created in Microsoft Excel.

Assumed system configuration

This service template assumes the following system configuration:

Web browser

A terminal used to operate JP1/AO. The user uses this terminal to set property values in the service template.

IT operation automation server

A server with JP1/AO and JP1/Base installed. The file of user permission levels is stored on the local disk of the IT operation automation server.

Authentication server

A server with JP1/Base installed.

Agent server

A server with JP1/Base installed.

Figure 2–3: System configuration assumed for the Batch change of operation users service template
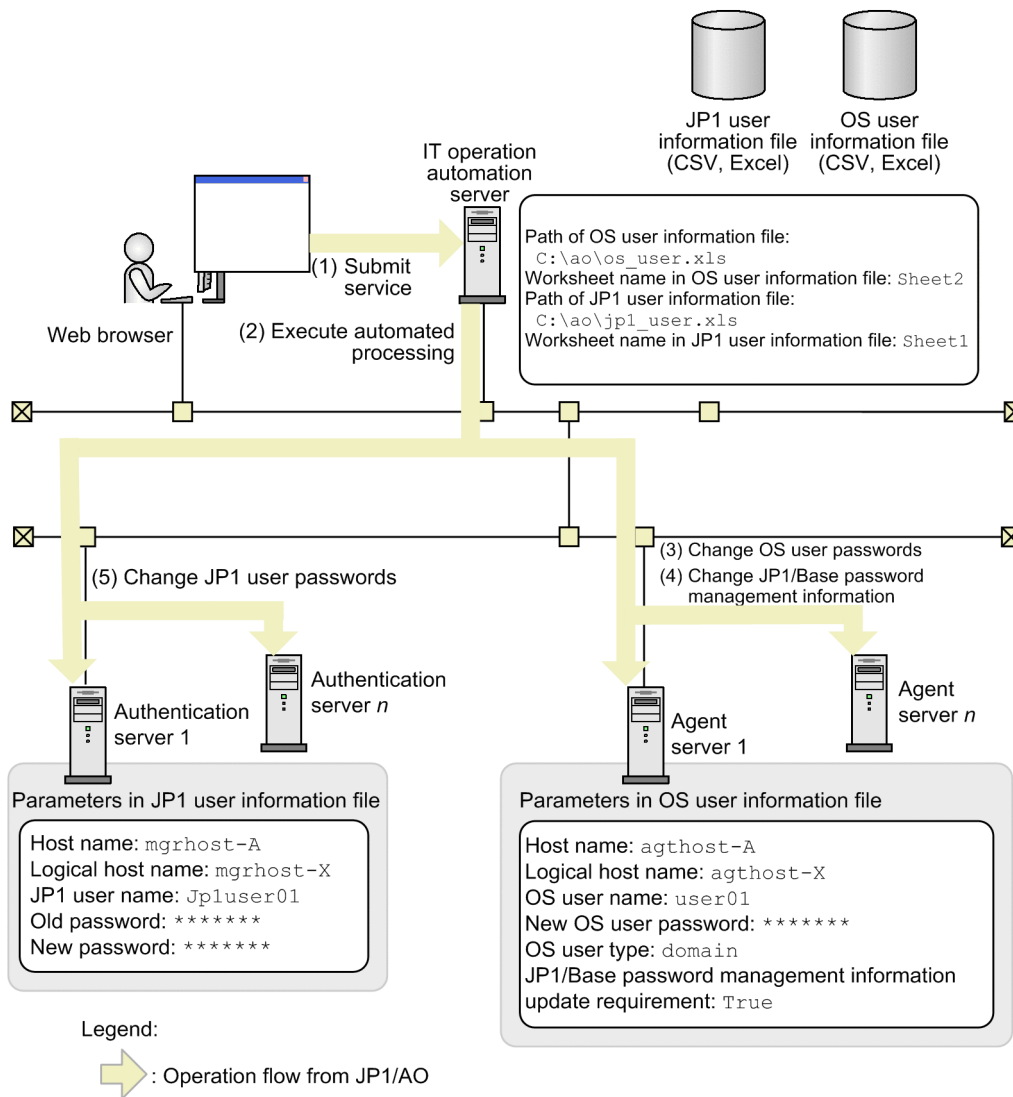
Legend:
→ : Operation flow from JP1/AO

Processing flow

1. A user enters property values in the Web browser and submits the service for execution.

2. The IT operation automation server loads the OS user information file and JP1 user information file specified in the property value.

Based on the loaded parameters, the IT operation automation server performs automated processing on the agent server and the authentication server.

3. Based on the setting values in the OS user information file, the passwords for OS users are changed on the agent server.

4. If you set `True` for JP1/Base password management information update requirement for a user in the OS user information file, JP1/Base password management information is changed on the agent server.

5. Based on the setting values in the JP1user information file, the passwords for JP1 users on the authentication server are changed.

Example of specifying property values

To use the Batch change of operation users service template, a user must specify the appropriate property values for the user environment. Specify the property values in the **Service Definition** window and the **Submit Service** window.

Table 2–5: Examples of property values specified in the Submit Service window (Batch change of operation users)

Property group	Property name	Property key	Description	Specification example
Information on the user information file	Path of the OS user information file	OS.osUserInfoFilePath	Specifies the path of the file containing the OS user information stored in the JP1/AO server as a full path. One of the following file extensions is required: csv, xls, xlsx, or xlsm.	C:\ao\os_user.xls
	Sheet name of the OS user information file	OS.osUserInfoSheetName	If the OS user information file is an Excel file, specify the sheet name containing the user information.	Sheet2
	Path of JP1 user information file	jp1base.jp1UserInfoFilePath	Specifies the path of the file containing the JP1 user information stored in the JP1/AO server as a full path. One of the following file extensions is required: csv, xls, xlsx, or xlsm.	C:\ao\jp1_user.xls
	Sheet name of JP1 user information file	jp1base.jp1UserInfoSheetName	If the JP1 user information file is an Excel file, specify the sheet name containing the user information. Always specify when the JP1 user information file is an Excel file.	Sheet1
Details of the OS user information file	Column number of key information of the OS user information file	OS.osUserInfoKeyColumn	Specifies the column number containing the "key information" in the OS user information file. Specify the column number as an integer from 1 to 255.	7
	Column number of host name of agent server	common.targetHostNameColumn	Specifies the column number containing the "Agent server host name" in the OS user information file. Specify the column number as an integer from 1 to 255.	1
	Column number of JP1/Base logical host name of agent server	jp1base.jp1BaseLHostNameColumn	Specifies the column number containing the "Agent server JP1/Base logical host name" in the OS user information file. Specify the column number as an integer from 1 to 255.	5
	Column number of the OS user name	OS.osUserNameColumn	Specifies the column number containing the "OS user name" in the OS user information file. Specify the column number as an integer from 1 to 255.	2

Property group	Property name	Property key	Description	Specification example
Details of the OS user information file	Column number of new password of the OS user	OS.osUserNewPasswordColumn	Specifies the column number containing the "new password of the OS user" in the OS user information file. Specify the column number as an integer from 1 to 255.	3
	Column number of the OS user type	OS.osUserTypeColumn	Specifies the column number containing the "OS user type" in the OS user information file. Specify the column number as an integer from 1 to 255.	4
	Column no. of JP1/Base psswrd mngmnt info update required column	jp1base.updatePasswordInfoColumn	Specifies the column number containing the "JP1/Base password management information update requirement" in the OS user information file. Specify the column number as an integer from 1 to 255.	6
Details of the JP1 user information file	Column number of key information of JP1 user information file	jp1base.jp1UserInfoKeyColumn	Specifies the column number containing the "key information" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	6
	Column number of host name of JP1 authentication server	jp1base.certHostNameColumn	Specifies the column number containing the "JP1 authentication server host name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	1
	Column number of logical host name of JP1 authentication server	jp1base.certHostLHostNameColumn	Specifies the column number containing the "JP1 authentication server logical host name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	5
	Column number of JP1 user name	jp1base.jp1UserNameColumn	Specifies the column number containing the "JP1 user name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	2
	Column number of old password of JP1 user	jp1base.jp1UserOldPasswordColumn	Specifies the column number containing the "old password of the JP1 user" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	4
	Column number of new password of JP1 user	jp1base.jp1UserNewPasswordColumn	Specifies the column number containing the "new password of the JP1 user" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	3

Relationship between property values and user information in list form

The column of information read from a user information list (OS user information file or JP1 user information file) is specified using the column number associated with each property. User list information must include a column with key information. You can, for example, make an existing user management ledger or other source of user information usable as a user information list by adding a key information column. The following figure shows an example in which an OS user information file is used to change OS user passwords and JP1/Base password management information.

Figure 2–4: Mapping example in which OS user information file is used

Properties specifiable in Submit Service dialog box

Property name	Property value
Path of the OS user information file	C:\ao\os_user.xls
Sheet name of the OS user information file	Sheet2
Column number of key information of the OS user information file	7
Column number of host name of agent server	1
Column number of JP1/Base logical host name of agent server	5
Column number of the OS user name	2
Column number of new password of the OS user	3
Column number of the OS user type	4
Column no. of JP1/Base psswrd mngmnt info update required column	6

(1) Submit service

(2)JP1/AO references the OS user information file and worksheet specified in the properties.

(3) The column numbers specified for the properties are mapped to the column numbers of each parameter in the OS user information file.

OS user information file

File name: `C:\ao\os_user.xls`
Worksheet name: `Sheet2`

The first row of information in the file shows the parameter name. Data is recorded in the second and subsequent rows.

Column→	1	2	3	4	5	6	7
Row↓ 1	Host	User	Password	Type	Logical host	Update	Key
2	agthost-A	user01	newpass01	domain	agthost-X	True	KEY1
3	agthost-B	user02	newpass02	local			
4	agthost-C	user03	newpass03	local			KEY2

(4) Key information is acquired. JP1/AO changes the passwords in rows corresponding to the key information.

1. A user enters property values in the Web browser and submits the service for execution.

2. JP1/AO reads the worksheet specified in the Sheet name of the OS user information file property from the file specified in the Path of the OS user information file property.

3. The column numbers specified for each item in the properties are mapped to the column read from the OSuser information file.

4. JP1/AO references the column specified in the Column number of key information of the OS user information file property, and changes OS user passwords and JP1/Base password management information in lines with the corresponding key information.

2.3 System configuration of JP1/AO standard-package templates

This section describes the system configuration of the following service templates for JP1 configuration and operation:

Service templates for JP1 (configuration)

- Add monitoring setting
- Delete monitoring setting

Service templates for JP1 (operation)

- Add operational user
- Change operational user
- Delete operational user

2.3.1 System configuration of Add monitoring setting service template

Figure 2–5: System configuration of Add monitoring setting
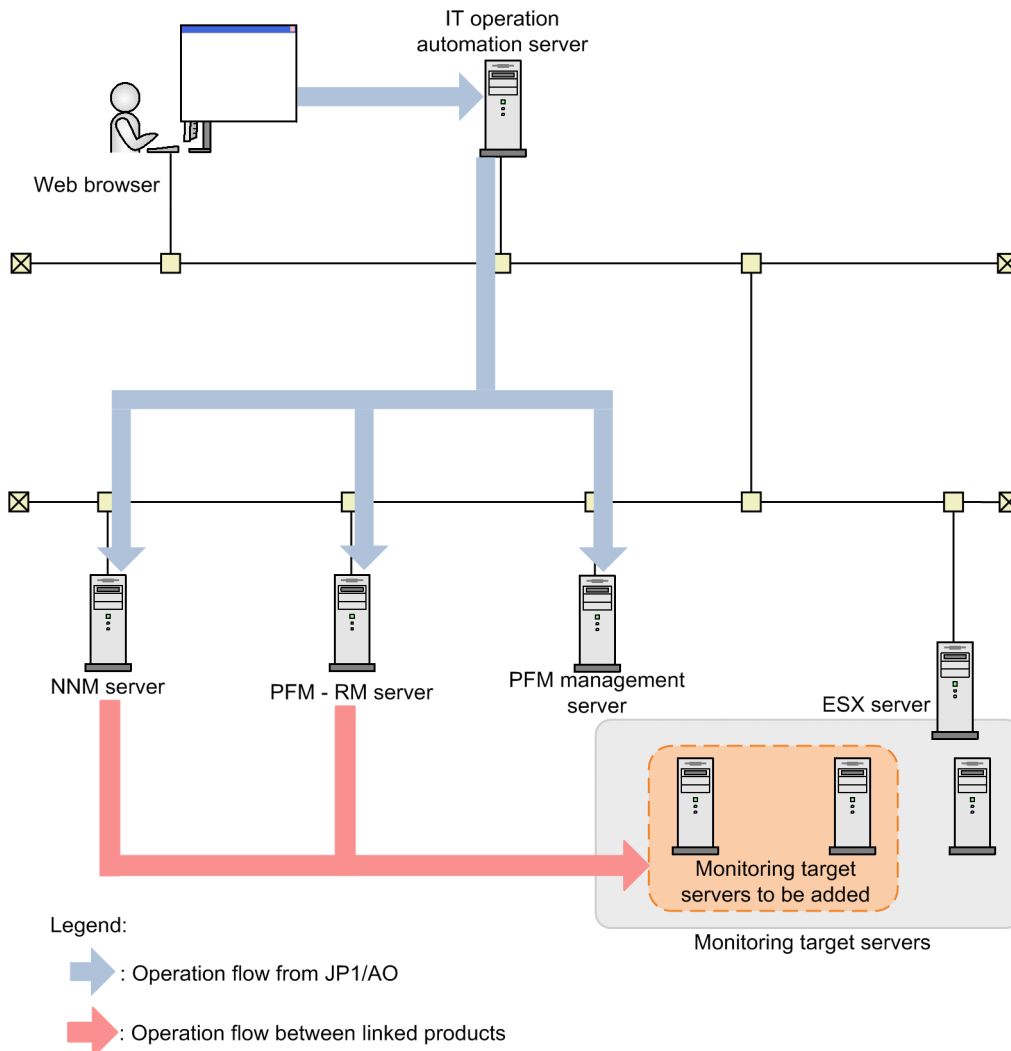
2.3.2 System configuration of Delete monitoring setting service template

Figure 2–6: System configuration of Delete monitoring setting

Legend:

: Operation flow from JP1/AO

: Operation flow between linked products
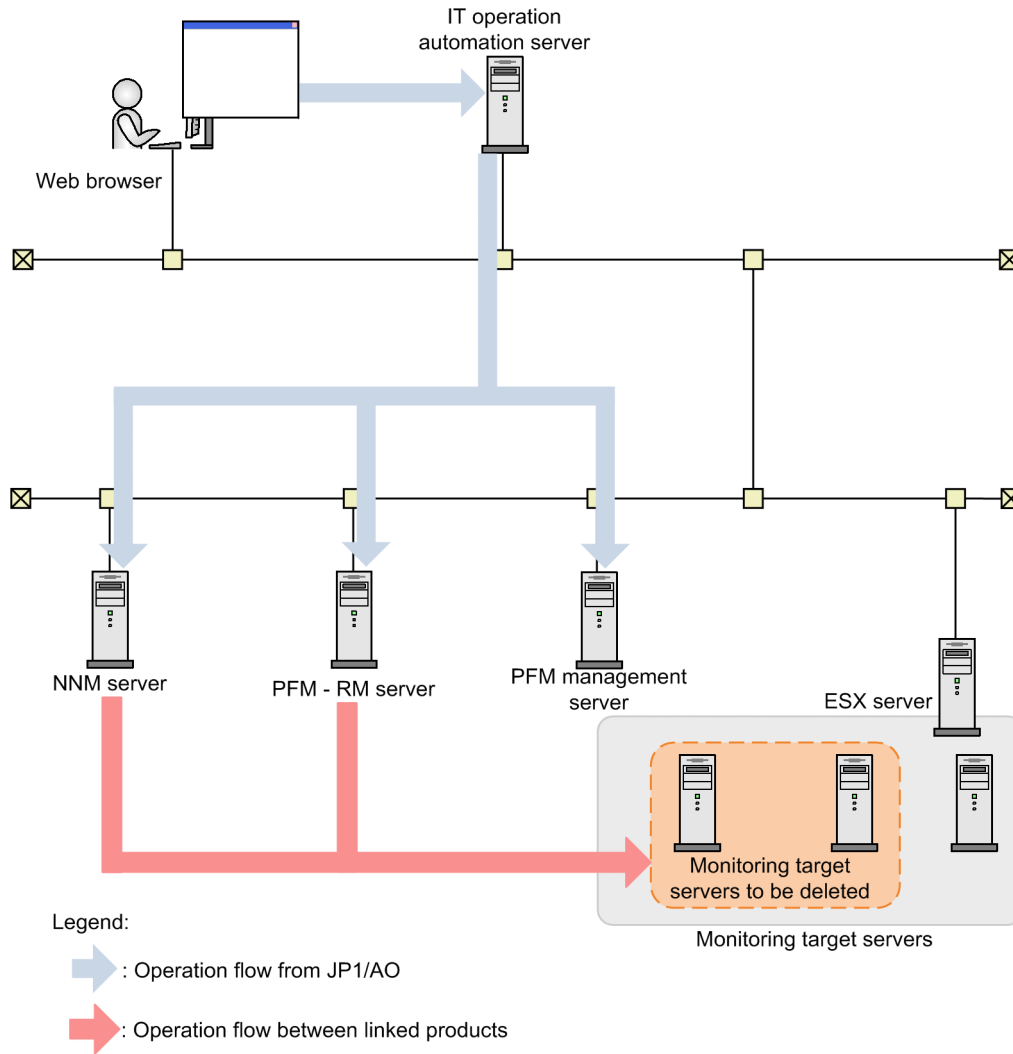
2.3.3 System configuration of Add operational user service template

Figure 2–7: System configuration of Add operational user

IT operation automation server

Web browser

Authentication server

Agent server

Legend:

: Operation flow from JP1/AO
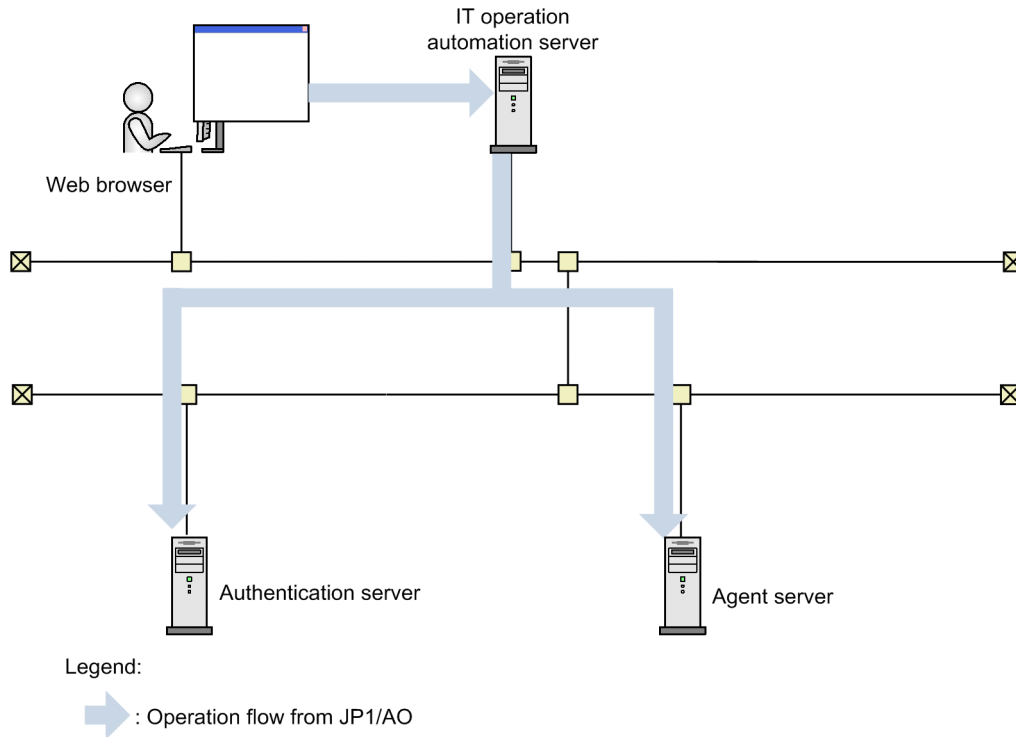
2.3.4 System configuration of Change operational user service template

Figure 2–8: System configuration of Change operational user

IT operation automation server

Web browser

Authentication server

Agent server

Legend:

: Operation flow from JP1/AO
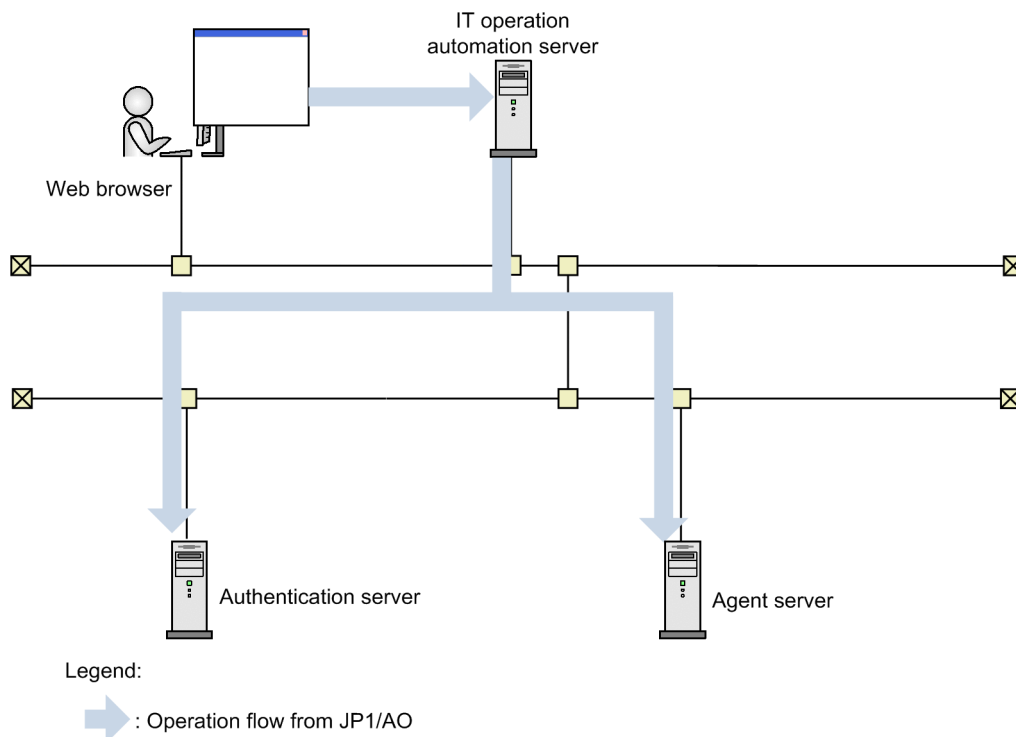
2.3.5 System configuration of Delete operational user service template

Figure 2–9: System configuration of Delete operational user
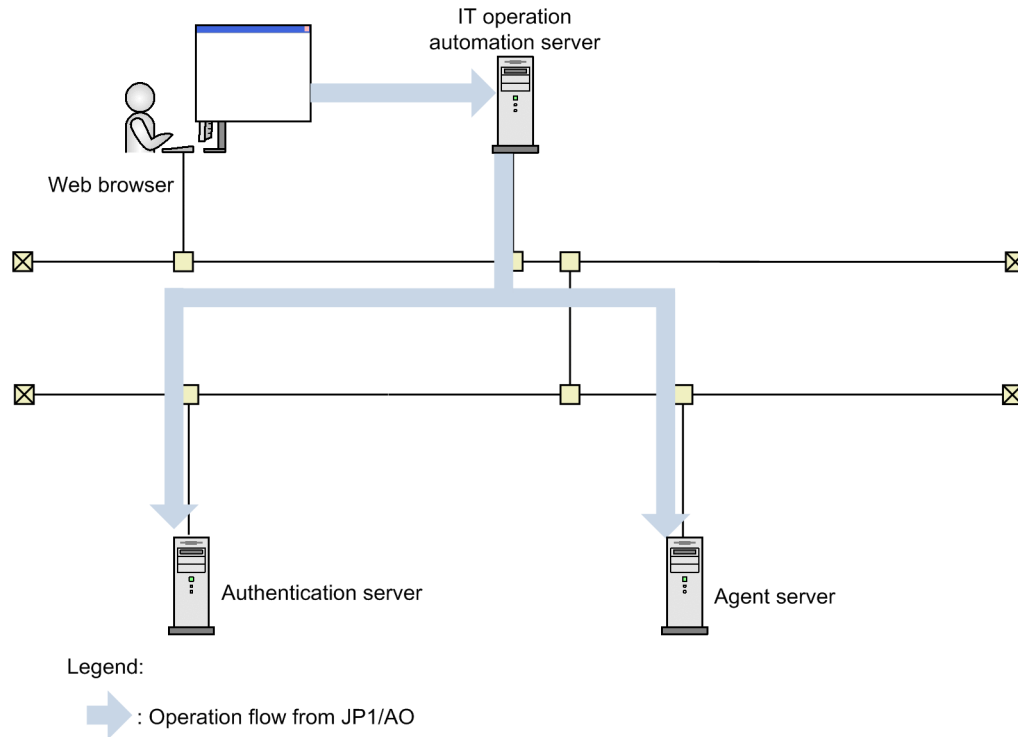
2.4 Service templates for JP1 (configuration)

2.4.1 Add JP1/Base monitoring settings

Function

This service template performs the basic setup and monitoring configuration for JP1/Base.

A monitoring system that monitors the following content is assumed:

- The system uses JP1/Base of the monitor server to conduct event log monitoring (Windows only) and application log trapping, and transfers the monitoring results to the JP1/IM - Manager server.

- The system does not execute automatic actions from the JP1/IM - Manager server.

This service template requires the following server:

- Monitor server

This server performs event log monitoring and application log monitoring, and transfers the JP1 events that occur to JP1/IM - Manager.

Perform the following setup procedure, which is necessary after a monitor server is added to the above monitoring system.

(1) For Windows, configure the startup order definition file (JP1SVPRM.DAT). For UNIX, configure the automatic startup and automatic stop scripts.

(2) Register the following JP1/Base process to the Windows Firewall.

Skip this step if registration of JP1/Base programs of later than version 8.0# in Windows Firewall failed.

- jbssessionmgr

- jbsroute

- jcocmd

- jcocmdapi

- jevservice

- jbsplugind

- jbscomd_snd(#)

- jbscomd_rcv(#)

(3) Set the common definition information.

Use the jbssetcnf command to set the JP1/Base common definition information.

Transfer, to the monitor server for usage as the file specified for the p1base.targetCommonDefInfoPath property, the file in the JP1/AO server specified in the jp1base.commonDefInfoPathLocal property in the arguments of the jbssetcnf command.

Make this setting when both the jp1base.targetCommonDefInfoPath property and the jp1base.commonDefInfoPathLocal property are specified.

(4) Set the transfer settings file (forward).

(5) Set the definition file for event-log trap operations (ntevent.conf), the definition file for log-file trap operations (user-selected file name), the definition file for log-file trapping startup (jevlog_start.conf), and the log information definition file (jevlogd.conf).

You can specify more than one monitor servers where the JP1/AO settings will be made. To specify more than one monitor server, specify the host names of the monitor servers in the common.targetHostList property by separating them with commas. You can specify up to 99 servers.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of Job Management Partner 1/Base is running on the servers to be monitored:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) Prepare various definition files according to the monitor server environment (OS and JP1/Base version), and create services corresponding to these files.

(2) When making the startup order definition (JP1/Base for Windows only) and event transfer settings

Store the following files to be transferred to the monitor server in the JP1/AO server, and specify the paths of these files in the respective properties.

- Startup-order definition file (jp1svprm.dat) (Windows version only) (optional)

- Transfer-settings file (forward) (required)

(3) When configuring event log trapping (JP1/Base for Windows only)

In addition to the files shown in (2), store the following file to be transferred to the monitor server in the JP1/AO server, and specify the path of this file in the respective properties.

- Event log trap operation definition file (ntevent.conf) (Windows version only) (optional)

(4) When configuring log file trapping

In addition to the files shown in (2), store the following files to be transferred to the monitor server in the JP1/AO server, and specify the paths of these files in the respective properties.

- Definition file for log-file trap operations (jevlog.conf) (optional)

- Definition file for log-file trap startup (jevlog_start.conf) (optional)

- Log information definition file (jevlogd.conf) (optional)

(5) When configuring the common definition file

In addition to the files shown in (2), store the following file to be set to the monitor server in the JP1/AO server, and specify the path of this file in the respective properties.

- Common definition settings file (optional)

Create the common definition settings file by using the model files or the setting formats provided in the JP1/Base manual.

In JP1/Base, multiple model files are provided for each function, but you must create the file by combining these files into a single file.

(6) When making all settings

Store the files shown in (2) to (5) in the JP1/AO server, and specify the paths of these files in the respective properties.

(7) If properties are not specified for any file above that is indicated as optional, the corresponding file is not transferred. Also, if a file is not found at the path specified in the property, the task terminates abnormally.

(8) When using JP1/Base in a cluster configuration, specify the physical host or logical host of the execution system server in the common.targetHostList property.

Cautions

(1) To apply the content that is set in this service, after executing this service, reboot the monitor server.

(2) If the version of JP1/Base of the operation target is 09-00 or earlier, the definition file for log-file trap startup (jevlog_start.conf) cannot be set.

If necessary, refer to the JP1/Base manual, and make the automatic startup settings for the log file trap.

(3) When setting the common definition information, the task might terminate normally even if the statements in the common definition settings file are invalid. Carefully check that there are no mistakes in the common definition settings file.

When invalid common definition information is set, or if unnecessary settings remain even after the correct common definition information is set, make the corrections manually.

(4) If you use JP1/Base in a cluster configuration, execution of services is possible only to the execution system environment. The JP1/Base process is not registered in the Windows Firewall of the standby system. Make the settings manually.

(5) If you use JP1/Base in a cluster configuration, execution of services for the common definition information settings is possible only to the execution system environment. The common definition information of the standby system is not set. Make the settings manually.

(6) If you use JP1/Base in a cluster configuration, execution of services is possible only to the environment matching the logical host specified in the common definition settings file. If the service is executed to an environment that does not match the logical host, the task terminates normally, but the monitor server does not operate correctly.

(7) If this service is executed for a UNIX environment, do not use multi-byte characters for the properties.

(8) If the monitor server OS is Windows and multi-byte characters are specified, specify the file path by using a maximum of 255 bytes. Specify the conf folder path by using a maximum of 231 bytes.

(9) If a file or folder name specified remotely already exists, the remote file or folder is overwritten. For this reason, carefully check that there are no mistakes in the specified file or folder name.

Version

03.01.01

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitor server information	Specifies the environment information of the monitor server to be added.	Y
JP1/Base definition information	Specifies the various definition files that are transferred from the JP1/AO server to JP1/Base.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.jp1svprmPathLocal	JP1/Base start sequence definition file path (local)	Specify the full path of the JP1/Base start sequence definition file (jp1svprm.dat) to be transferred from the JP1/AO server.	Input	Disabled	O	JP1/Base definition information
jp1base.forwardPathLocal	JP1/Base forwarding settings file path (local)	Specify the full path of the JP1/Base forwarding settings file (forward) to be transferred from the JP1/AO server.	Input	Disabled	R	JP1/Base definition information
jp1base.nteventPathLocal	JP1/Base event log trapping definition file path (local)	Specify the full path of the JP1/Base event log trapping definition file (ntevent.conf) to be transferred from the JP1/AO server. If you omit this property, no file will be transferred.	Input	Disabled	O	JP1/Base definition information
jp1base.jevlogPathLocal	JP1/Base log file trapping definition file path (local)	Specify the full path of the JP1/Base log file trapping definition file (jevlog.conf) to be transferred from the JP1/AO server. If you omit this property, no file will be transferred.	Input	Disabled	O	JP1/Base definition information
jp1base.jevlogstartLocal	JP1/Base log file trapping startup definition file path (local)	Specify the full path of the JP1/Base log file trapping startup definition file (jevlog_start.conf) to be transferred from the JP1/AO server. If you omit this property, no file will be transferred.	Input	Disabled	O	JP1/Base definition information
jp1base.jevlogdLocal	JP1/Base log information definition file path (local)	Specify the full path of the JP1/Base log information definition file (jevlogd.conf) to be transferred from the JP1/AO server. If you omit this property, no file will be transferred.	Input	Disabled	O	JP1/Base definition information
jp1base.commonDefInfoPathLocal	Path of the JP1/Base common definition settings file (local)	Specifies, as a full path, the path of the JP1/Base common definition settings file that is transferred (set) from the JP1/AO server. If a full path is not specified, the transfer does not execute.	Input	Disabled	O	JP1/Base definition information
jp1base.targetBasePath_Windows	JP1/Base installation path (Windows)	Specify the installation folder of JP1/Base (Windows) on the monitor server. This property is mandatory for Windows-based monitor server.	Input	Disabled	O	Monitor server information
jp1base.targetForwardPath_Windows	Path to JP1/Base (Windows) forwarding file	Specify the location of the JP1/Base forwarding settings file (forward) on the monitor server (Windows). This property is mandatory for Windows-based monitor server.	Input	Disabled	O	Monitor server information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1base.targetConfPath_ Windows	Path to JP1/ Base (Windows) configuration folder	Specify the location of the JP1/ Base configuration folder on the monitor server (Windows). This property is mandatory for Windows-based monitor server.	Input	Disab led	O	Monitor server information
jp1base.targetForwardPa th_Linux	Path of forwarding file in JP1/Base (UNIX)	Specify the full path of the forwarding settings file (forward) of JP1/Base on the monitor server (UNIX). This property is mandatory for UNIX-based monitor server.	Input	Disab led	O	Monitor server information
jp1base.targetConfPath_ Linux	Path of configuration directory in JP1/ Base (UNIX)	Specify the full path of the JP1/ Base configuration directory on the monitor server (UNIX). This property is mandatory for UNIX-based monitor server.	Input	Disab led	O	Monitor server information
jp1base.targetCommonD efInfoPath	The path of JP1/ Base common definition settings file	Specifies, as a full path, the path of the destination file when the JP1/Base common definition settings file is transferred to a monitor server. Always set this value when configuring the JP1/ Base common definition settings.	Input	Disab led	O	Monitor server information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
common.targetHostList	List of host names for monitor server	Specify the host names of monitor server on which to configure JP1/Base. Separate multiple host names with commas. The maximum number of host names is 99.Specify the physical host name of primary server or the logical host name of JP1/Base.	Input	Disab led	R	Monitor server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.jp1svprmPathLocal	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1base.forwardPathLocal	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.

Property key	Characters that can be input
jp1base.nteventPathLocal	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1base.jevlogPathLocal	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1base.jevlogstartLocal	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1base.jevlogdLocal	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1base.commonDefInfoPathLocal	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1base.targetBasePath_Windows	A character string of no more than 232 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, /, or a trailing \.
jp1base.targetForwardPath_Windows	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, /, or a trailing \.
jp1base.targetConfPath_Windows	A character string of no more than 231 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, /, or a trailing \.
jp1base.targetForwardPath_Linux	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /.
jp1base.targetConfPath_Linux	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /.
jp1base.targetCommonDefInfoPath	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHostList	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters, as well as . , - and , .

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	setupJP1BaseLoop	JP1/Base setup	Repeatedly performs JP1/Base setup and adds monitoring settings for the specified host names.	Remove the cause of the error, and then run the service again.

2.4.2 Add JP1/Base monitoring setting (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkOS	OS identification	Identifies the OS type.	--
1-1		Output OS type	Determines the type of OS.	Eliminate the cause of the error, and then re-execute the service.
2	jp1baseSetup	JP1/Base setup	Performs setup of JP1/Base on the specified server.	--
2-3		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
2-4		Flow Plug-in	Sets up JP1/Base on a Windows server.	--
2-4-3		Compatible Plug-in	Checks that a start sequence definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
2-4-4		File-forwarding plug-in	Transfers a start sequence definition file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
2-4-5		Configure Windows firewall	Registers the jbssessionmgr process.	Eliminate the cause of the error, and then re-execute the service.
2-4-6		Configure Windows firewall	Registers the jbsroute process.	Eliminate the cause of the error, and then re-execute the service.
2-4-7		Configure Windows firewall	Registers the jcocmd process.	Eliminate the cause of the error, and then re-execute the service.
2-4-8		Configure Windows firewall	Registers the jcocmdapi process.	Eliminate the cause of the error, and then re-execute the service.
2-4-9		Configure Windows firewall	Registers the jevservice process.	Eliminate the cause of the error, and then re-execute the service.
2-4-10		Configure Windows firewall	Registers the jbsplugind process.	Eliminate the cause of the error, and then re-execute the service.
2-4-11		Configure Windows firewall	Registers the jbscomd_snd process.	Eliminate the cause of the error, and then re-execute the service.
2-4-12		Configure Windows firewall	Registers the jbscomd_rcv process.	Eliminate the cause of the error, and then re-execute the service.
2-4-15		Compatible Plug-in	Checks that a start sequence definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
2-4-16		Flow Plug-in	--	--
2-4-16-3		Compatible Plug-in	Checks that a start sequence definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
2-4-16-4		Flow Plug-in	--	--
2-4-16-4-1		File-forwarding plug-in	Transfers a start sequence definition file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
2-4-16-4-2		JP1/AO Custom Job	--	Eliminate the cause of the error, and then re-execute the service.
2-4-16-4-3		Delete file	Deletes the specified file.	Eliminate the cause of the error, and then re-execute the service.
2-5		Compatible Plug-in	Determines whether or not the OS is UNIX.	Eliminate the cause of the error, and then re-execute the service.
2-6		Flow Plug-in	Sets up JP1/Base on a UNIX server.	--

2. JP1/AO Standard-package Service Templates

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
2-6-1	jp1baseSetup	Copy file	Copies an auto-start script.	Eliminate the cause of the error, and then re-execute the service.
2-6-2		Copy file	Copies an auto-stop script.	Eliminate the cause of the error, and then re-execute the service.
2-6-5		Compatible Plug-in	Checks that a start sequence definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
2-6-6		Flow Plug-in	--	--
2-6-6-3		Compatible Plug-in	Checks that a start sequence definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
2-6-6-4		Flow Plug-in	--	--
2-6-6-4-1		File-forwarding plug-in	Transfers a start sequence definition file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
2-6-6-4-2		JP1/AO Custom Job	--	Eliminate the cause of the error, and then re-execute the service.
2-6-6-4-3		Delete file	Deletes the specified file.	Eliminate the cause of the error, and then re-execute the service.
3	jp1baseAddmonitoringConfiguration	Add JP1/Base monitoring settings	Adds the JP1/Base monitoring settings.	Eliminate the cause of the error, and then re-execute the service.
3-7		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
3-8		Flow Plug-in	Transfers a JP1/Base monitoring configuration file to a Windows server.	--
3-8-1		File-forwarding plug-in	Transfers a forward file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
3-8-2		Compatible Plug-in	Checks whether an event log trap operation definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-8-3		File-forwarding plug-in	Transfers an ntevent.conf file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
3-8-4		Compatible Plug-in	Checks whether a log trap operation definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-8-5		File-forwarding plug-in	Transfers a jevlog.conf file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
3-8-6		Compatible Plug-in	Checks that a log file trap start definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-8-7		File-forwarding plug-in	Transfers a jevlog_start.conf file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
3-8-8		Compatible Plug-in	Checks that a log information definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-8-9		File-forwarding plug-in	Transfers a jevlogd.conf file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
3-9		Compatible Plug-in	Determines whether or not the OS is UNIX.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
3-10	jp1baseAddmonitoringConfiguration	Flow Plug-in	Transfers a JP1/Base monitoring configuration file to a UNIX server.	--
3-10-1		File-forwarding plug-in	Transfers a forward file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
3-10-2		Compatible Plug-in	Checks whether a log trap operation definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-10-3		File-forwarding plug-in	Transfers a jevlog.conf file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
3-10-4		Compatible Plug-in	Checks that a log file trap start definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-10-5		File-forwarding plug-in	Transfers a jevlog_start.conf file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.
3-10-6		Compatible Plug-in	Checks that a log information definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-10-7		File-forwarding plug-in	Transfers a jevlogd.conf file to a monitor server.	Eliminate the cause of the error, and then re-execute the service.

2.4.3 Deletion of nodes monitored by JP1/Cm2

Function

Deletes two or more nodes from those monitored by JP1/Cm2/NNMi.

This service template assumes the following servers as prerequisites:

- NNMi server

Server where JP1/Cm2/NNMi is installed

- Monitored node

Server or device to be deleted from those monitored by JP1/Cm2/NNMi

An outline of the processing is as follows:

1. The IP address of the specified monitored node is deleted from the JP1/Cm2/NNMi seed on the NNMi server.

2. The monitored node is deleted from JP1/Cm2/NNMi on the NNMi server.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Job Management Partner 1/Cm2/Network Node Manager i 10-00, 10-10, 10-50

(2) JP1/Network Node Manager i 11-00, 11-10, 11-50, 12-00, 12-10, 12-50, 12-60

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The bind-utils package must be installed.

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

The bind-utils package must be installed.

[Usage conditions for the required products for the service template execution system]

(1) The JP1/AO server is capable of resolving the name of a monitored node to be deleted.

(2) To execute this service, the set agent-less destinations must be a JP1/AO server (having a loopback address to be resolved by "localhost") and an NNMi server.

(3) When using JP1/Cm2/NNMi 09-10, make sure that account credentials (the values used as a user name and password when a JP1/Cm2/NNMi script is executed) have already been specified.

Cautions

(1) Do not execute this service for multiple instances of the same NNMi server at a time.

(2) To delete a monitoring node from this service, either of the following names must match the value of the [hostname] or [mgmtIPAddress] of a monitored node registered in JP1/Cm2/NNMi:

- IP address specified in the IP address property (common.foreachIPaddress) of the monitored node

- Host name resolved on the JP1/AO server from the IP address specified in the IP address property (common.foreachIPaddress) of the monitored node

Each property of a monitored node registered in JP1/Cm2/NNMi might be changed, based on a result of communication with the node or name resolution. When executing this service, make sure that the above conditions are met. If the service fails to delete a monitored node, the service will end abnormally. If the service ends abnormally, manually delete the monitored node from JP1/Cm2/NNMi.

Version

02.12.00

Tags

Configure JP1,NNMi

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitoring system environment information	Specify NNMi server environment information.	Y
Monitored node information	Specify information about the monitored node to be deleted.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1cm2nnm.nnmHostName	Host name of an NNMi server	Specify the host name or IP address of a server where JP1/Cm2/NNMi is installed. IPv6 addresses are not supported. For a cluster configuration, specify the physical or logical host of the active server.	Input	Disabled	R	Monitoring system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.foreachIPaddress	IP address of a node to be monitored	Specify the IP address of a monitored node to be deleted. To specify two or more nodes, separate them with a comma. Up to 99 nodes can be specified. IPv6 addresses are not supported.	Input	Disabled	R	Monitored node information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1cm2nnm.nnmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.foreachIPaddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and , .

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	deleteMonitoredNode	Repeated Execution Plug-in	Deletes two or more nodes from those monitored by JP1/Cm2/NNMi.	Follow the instructions in the repeated jobnet.

2.4.4 Deletion of nodes monitored by JP1/Cm2 (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetHostName	Get host name	Obtains the host name corresponding to the IP address.	Remove the cause of the error, and then execute the service again.
2	jp1nnmDeleteHost	Delete monitored node	Deletes a node from those monitored by JP1/Cm2/NNMi.	Delete a monitored node from JP1/Cm2/NNMi manually.

2.4.5 Adding of a node to be monitored by JP1/Cm2

Function

Adds two or more nodes to be monitored by JP1/Cm2/NNMi.

This service template assumes the following servers as prerequisites:

- NNM server

Server where JP1/Cm2/NNMi is installed

- Node to be monitored

Monitored server or device to be added to JP1/Cm2/NNMi

An outline of the processing is as follows:

1. The node to be monitored is added to JP1/Cm2/NNMi on the NNM server.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Job Management Partner 1/Cm2/Network Node Manager i 10-00, 10-10, 10-50

(2) JP1/Network Node Manager i 11-00, 11-10, 11-50, 12-00, 12-10, 12-50, 12-60

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The bind-utils package must be installed.

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

The bind-utils package must be installed.

[Usage conditions for the required products for the service template execution system]

(1) The JP1/AO server is capable of resolving the name of a monitored node to be added.

(2) To execute this service, the set agent-less destinations must be a JP1/AO server (having a loopback address to be resolved by "localhost") and an NNM server.

Cautions

(1) Do not execute this service for multiple instances of the same NNM server at a time.

(2) JP1/Cm2/NNMi multi-tenants are not supported. If a tenant is used, move monitored nodes to the tenant manually after adding them.

(3) For JP1/Cm2/NNMi, a seed is registered in order to add a monitored node. It is recommended that the seed be deleted after adding a monitored node.

In this service, no seed is deleted automatically, because it is not determined when a monitored node is added after a seed is added.

For details about a seed, please see the JP1/Cm2/NNMi Release Notes.

Version

02.12.00

Tags

Configure JP1,NNMi

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitoring system environment information	Specify NNM server environment information.	Y
Monitored node information	Specify information about the monitored node to be added.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1cm2nnm.nnmHostName	NNMi server host name	Specify the host name or IP address of a server where JP1/Cm2/NNMi is installed. IPv6 addresses are not supported. For a cluster configuration, specify the physical or logical host of the active server.	Input	Disabled	R	Monitoring system environment information
jp1cm2nnm.targetSubnetMask	Subnet mask for the node to be monitored	Specify the subnet mask for the monitored node to be added. (Only one subnet mask can be specified.)	Input	Disabled	O	Monitored node information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.foreachIPaddress	IP address of a node to be monitored	Specify the IP address of a monitored node to be added. To specify two or more nodes, separate them with a comma. Up to 99 nodes can be specified. IPv6 addresses are not supported.	Input	Disabled	R	Monitored node information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1cm2nnm.nnmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1cm2nnm.targetSubnetMask	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.foreachIPaddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and , .

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	addMonitoredNode	Repeated Execution Plug-in	Adds two or more nodes to be monitored by JP1/Cm2/NNMi.	Remove the cause of the error, and then execute the service again.

2.4.6 Adding of nodes to be monitored by JP1/Cm2 (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetHostName	Get host name	Obtains the host name corresponding to the IP address.	Remove the cause of the error, and then execute the service again.
2	jp1nnmAddHost	Add monitored node	Adds a node to be monitored by JP1/Cm2/NNMi on the NNM server.	Remove the cause of the error, and then execute the service again.

2.4.7 Replicating a JP1/PFM alarm definition

Function

This service template copies and changes an alarm definition in a system that uses JP1/PFM to monitor servers, and then binds the new alarm definition to the specified agents.

When you add or change the conditions for determining the servers to be monitored by JP1/PFM - RM for Platform, you can create and bind a new alarm table by modifying a ready-made alarm table boilerplate.

The following describes the servers that this service template requires:

- PFM management server

A server on which JP1/PFM - Manager is installed.

- Monitored servers

Servers to be set as the monitoring targets of JP1/PFM.

The following provides a processing overview:

(1) On the PFM management server, a new alarm table is created by copying an existing alarm table.

(2) The alarms in the alarm table created in (1) are copied to create new alarms.

(3) An alarm definition file is exported.

(4) The exported alarm definition file is edited according to the service template.

(5) The edited alarm definition file is imported.

(6) The copy-source alarms are deleted (the alarms to be deleted can be selected).

(7) The alarm table is bound to monitored server agents.

(8) The definition information and bind information about the alarm table and alarms are output to a file (hereinafter, this file is called an "alarm information file").

(9) The edited alarm definition file and the alarm information file are forwarded from the PFM management server to the JP1/AO server.

(10) The alarm definition file and the alarm information file are deleted from the PFM management server.

In an environment in which multiple alarm tables can be bound, the alarm table changed or imported by this service can be additionally bound to the specified agents. To do this, specify "true" for the jp1pfm.bindMultipleAlarmTable property of JP1/PFM - Manager on the PFM management server. In an environment in which multiple alarm tables cannot be bound, make sure that "false" is specified for the jp1pfm.bindMultipleAlarmTable property. If "false" is specified for this property, all alarm tables bound to the specified agents are unbound, and only the alarm table changed or imported by this service is bound.

Notes on specifying the common.targetStr property:

- Regular expressions are not supported.

- If the OS of the PFM management server is Windows, to specify the following symbols, prefix a backslash (\) to them as an escape character: \ [ ] * . @

To specify a character string that includes spaces or any of the following symbols, prefix a grave accent mark (`) to the string as an escape character: # , ` < >

To specify (,), or $, prefix both a backslash and grave accent mark (\`) to them as escape characters.

- If the OS of the PFM management server is UNIX, to use a backslash (\) as an ordinary character, specify \\ instead of \. Also, to use the following symbols, prefix a backslash (\) to them as an escape character: [ ] / . * $

- Never enter a double quotation mark ("), regardless of whether the OS is Windows or UNIX. To specify a double quotation mark ("), enter \0x22.

Notes on specifying the common.destinationStr property:

- If the OS of the PFM management server is Windows, you can use the meta characters `t (tab) and `r`n (line break). To specify a character string that includes a space or any of the following symbols, prefix a grave accent mark (`) to the string as an escape character: ` # , @ ( ) < > $

- If the OS of the PFM management server is UNIX, you can use the meta characters \t (tab) and \n (line break). To use a backslash (\) as an ordinary character, specify \\ instead of \. Also, to include a slash (/) or dollar sign ($) in a character string, prefix a backslash (\) to the string as an escape character.

- Never enter a double quotation mark (") regardless of whether the OS is Windows or UNIX. To specify a double quotation mark ("), enter \0x22.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the system executing the service templates:

(1)Job Management Partner 1/Performance Management - Manager 09-10-11 or later, or

(2)Job Management Partner 1/Performance Management - Manager 10-00 or later, or

(3)JP1/Performance Management - Manager 11-00 or later

(4)Job Management Partner 1/Performance Management - Remote Monitor for Platform 08-10 or later, or

(5)Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-10 or later, or

(6)JP1/Performance Management - Remote Monitor for Platform 11-00 or later

Supported OSs for the prerequisite products for the system executing the service templates:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using the prerequisite products in the service-template execution system:

(1) The following JP1/PFM - Manager services must be running:

- Name Server service

- Master Manager service

- View Server service

(2) The alarm table and alarms to be copied must have been registered in the JP1/PFM system.

(3) The conditions for using the following subcommands of the JP1/PFM jpctool alarm command must be satisfied:

- jpctool alarm bind

- jpctool alarm copy

- jpctool alarm delete

- jpctool alarm export

- jpctool alarm import

- jpctool alarm list

Cautions

(1) If this service is executed simultaneously with a service that links to that service or another JP1/PFM service, the task might terminate abnormally.

(2) If JP1/PFM - Manager on the execution target server is in a cluster configuration, execute the service on the active node.

(3) If the encryption attribute is set for any of the folders in the specified remote or local file path, transmission of the specified file fails and the task terminates abnormally. For details, see the notes on the File-Forwarding plug-in.

(4) If the OS of the PFM management server is UNIX, make sure that no multi-byte characters are used in the specified remote file path.

(5) If a file that has the specified remote or local file name already exists, that file is overwritten. At this time, the remote file is deleted. Therefore, carefully confirm that the specified file name is correct.

(6) If the specified remote path includes non-existent folders, these folders are created. These created folders are not deleted. Delete these folders if you do not use them regularly.

(7) If the OS of the PFM management server is UNIX, commands are executed with the default locale of the connecting user defined at the agentless connection destination. For the default locale of the connecting user, be sure to set a locale

supported by JP1/PFM. For details, see "Locale set for operation target devices during plug-in execution" and "Character set used for communication by JP1/AO during plug-in execution" in the JP1/AO manual and JP1/PFM manual.

Version

03.01.00

Tags

Configure JP1,PFM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitoring system information	Specify the information about the PFM management server and monitored server.	Y
Alarm editing information	Specify the information about alarm editing.	Y
Output file information	Specify the information about output files.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.pfmHostName	PFM management server host name	Specify the host name or IP address of the server on which JP1/PFM - Manager is installed. If you specify an IP address, do not specify an IPv6 address. In a cluster configuration, specify the physical host or logical host for the active server.	Input	Disabled	R	Monitoring system information
jp1pfm.serviceKey	Service key	Specify the service key of JP1/PFM - RM for Platform. If the product name display function is enabled, you can also specify the product name.	Input	Disabled	R	Monitoring system information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.agentServiceId	Agent service ID	Specify the service ID of the JP1/PFM - RM remote agent or group agent with which the alarm is to be bound.	Input	Disabled	R	Monitoring system information
jp1pfm.sourceAlarmTableName	Copy-source alarm table name	Specify the copy-source alarm table name.	Input	Disabled	R	Alarm editing information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.destinationAlarm TableName	Copy-destination alarm table name	Specify the name of the copy-destination alarm table.	Input	Disabled	R	Alarm editing information
jp1pfm.sourceAlarmName	Copy-source alarm name	Specify the copy-source alarm name.	Input	Disabled	R	Alarm editing information
jp1pfm.destinationAlarm Name	Copy-destination alarm name	Specify the name of the copy-destination alarm.	Input	Disabled	R	Alarm editing information
common.targetStr	Change-from string in the alarm definition file	Specify the string to be changed in the file.	Input	Disabled	R	Alarm editing information
common.destinationStr	Change-to string in the alarm definition file	Specify the string with which the "change-from string" is to be replaced.	Input	Disabled	R	Alarm editing information
jp1pfm.deleteSourceAlarm	Whether to delete the copy-source alarm	If you want to delete the copy-source alarm, specify "true". If you do not want to delete the copy-source alarm, specify "false".	Input	Disabled	R	Alarm editing information
jp1pfm.bindMultipleAlarmTable	Whether additional alarm tables need to be bound	To bind a replicated alarm table additionally when the function that binds multiple alarm tables is enabled, specify "true".	Input	Disabled	R	Alarm editing information
jp1pfm.alarmDefinitionFilePathRemote	Alarm definition file path (remote)	Specify a full path for the export-destination folder (on the PFM management server side) for the alarm definition file.	Input	Disabled	R	Output file information
jp1pfm.alarmDefinitionFilePathLocal	Alarm definition file path (local)	Specify a full path for the folder (on the JP1/AO side) for storing the edited alarm definition file.	Input	Disabled	R	Output file information
jp1pfm.alarmInfoFilePathRemote	Alarm information file path (remote)	Specify a full path for the export-destination folder (on the PFM management server side) for the alarm information file.	Input	Disabled	R	Output file information
jp1pfm.alarmInfoFilePathLocal	Alarm information file path (local)	Specify a full path for the folder (on the JP1/AO side) for storing the alarm information file.	Input	Disabled	R	Output file information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1pfm.pfmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.serviceKey	This is a character string of 2 to 16 characters. < > | ; & " and ` are not allowed.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1pfm.agentServiceId	A string that has 258 or fewer single-byte alphanumeric characters, including the following symbols: - . @ [ ]

Property key	Characters that can be input
jp1pfm.sourceAlarmTableName	A string that has 64 or fewer characters. The following symbols cannot be used: \ ! " # $ & ' * + : ; , < > = ? ^ ~ ` { } |
jp1pfm.destinationAlarmTableName	A string that has 64 or fewer characters. The following symbols cannot be used: \ ! " # $ & ' * + : ; , < > = ? ^ ~ ` { } |
jp1pfm.sourceAlarmName	A string that has 64 or fewer characters. The following symbols cannot be used: \ ! " # $ & ' * + : ; , < > = ? ^ ~ ` { } |
jp1pfm.destinationAlarmName	A string that has 64 or fewer characters. The following symbols cannot be used: \ ! " # $ & ' * + : ; , < > = ? ^ ~ ` { } |
common.targetStr	A string that has 1,024 or fewer characters, does not end with a backslash (\), and does not include the following symbols: | ; & ' " ? { } ~ ! + ^
common.destinationStr	A string that has 1,024 or fewer characters, does not end with a backslash (\), and does not include the following symbols: | ; & ' " ? { } ~ ! + ^
jp1pfm.deleteSourceAlarm	Select one of the following values: true,false
jp1pfm.bindMultipleAlarmTable	Select one of the following values: true,false
jp1pfm.alarmDefinitionFilePathRemote	A string that has 256 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % `
jp1pfm.alarmDefinitionFilePathLocal	A string that has 256 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % `
jp1pfm.alarmInfoFilePathRemote	A string that has 256 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % `
jp1pfm.alarmInfoFilePathLocal	A string that has 256 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % `

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	copyAlarmTable	Copy alarm table (JP1/PFM)	Copies an existing alarm table to create a new alarm table.	After removing the cause of the error, run the service again.
2	copyAlarm	Copy alarm table (JP1/PFM)	Copies an alarm to create a new alarm.	After removing the cause of the error, delete the created alarm tables, and then run the service again.
3	exportAlarmDefinition	Export alarm definition file (JP1/PFM)	Exports an alarm definition file.	After removing the cause of the error, delete the created alarm tables, and then run the service again.
4	editAlarmDefinitionFile	Replace character strings	Replaces character strings.	After removing the cause of the error, delete the created alarm tables, and then run the service again.
5	importAlarmDefinitionFile	Import alarm definition file (JP1/PFM)	Imports an alarm definition file.	After removing the cause of the error, delete the created

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
5	importAlarmDefinitionFile	Import alarm definition file (JP1/PFM)	Imports an alarm definition file.	alarm tables, and then run the service again.
6	deleteAlarm	Flow Plug-in	Deletes an alarm.	--
6-1		Judge Value Plug-in	Judges whether the copy-source alarm needs to be deleted.	After removing the cause of the error, delete the created alarm tables, and then run the service again.
6-2		Delete alarm table (JP1/PFM)	Deletes the copy-source alarm.	After removing the cause of the error, delete the created alarm tables, and then run the service again.
7	bindAlarmTable	Bind alarm (JP1/PFM - RM)	Binds an alarm table to a monitored server.	After removing the cause of the error, delete the created alarm tables, and then run the service again.
8	acquireAlarmInfo	Obtain alarm table information (JP1/PFM)	Obtains an alarm information file.	Obtain the alarm definition file and alarm information file as necessary.
9	fileTransfer	Flow Plug-in	Forwards the alarm definition file and alarm information file to the JP1/AO server.	--
9-1		File-Forwarding Plug-in	Forwards the alarm definition file to the JP1/AO server.	Obtain the output alarm definition file and alarm information file as necessary.
9-2		File-Forwarding Plug-in	Forwards the alarm information file to the JP1/AO server.	Obtain the output alarm information file as necessary.
10	deleteFile	Flow Plug-in	Deletes the alarm definition file and alarm information file from the PFM management server.	--
10-1		Delete file	Deletes the alarm definition file from the PFM management server.	Delete the alarm definition file and alarm information file from the PFM management server.
10-2		Delete file	Deletes the alarm information file from the PFM management server.	Delete the alarm information file from the PFM management server.

2.4.8 Create JP1/VERITAS Backup Policy

Function

This service template creates a backup policy based on the design values on the attached parameter sheet in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following servers:

- JP1/AO server

The server running JP1/AO. Save a valid parameter sheet in any folder on this server.

- Backup processing server

The server running JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The following shows an overview of the processing:

(1) The values from the parameter sheet are read out.

(2) A backup policy is created and initialized in JP1/VERITAS NetBackup based on the values specified in the parameter sheet.

(3) The attributes of the created backup policy are set.

(4) Schedules (a maximum of three) are added to the backup policy, and the schedule attributes are set.

(5) Clients are added to the backup policy.

(6) A file list is added to the backup policy.

The format of the parameter sheet that can be used depends on the OS of the JP1/AO server, as follows:

- Windows: Excel or CSV format

- UNIX: CSV format

Enter values in the parameter sheet and save it on the JP1/AO server. Note that the procedure differs depending on the format of the parameter sheet as shown below.

Excel format:

(1) Enter values in the [Policy] tab of the parameter sheet.

(2) Copy the parameter sheet in (1) to the JP1/AO server.

CSV format:

(1) Enter values in the [Policy] sheet of the parameter sheet.

(2) Save the [AO Input] sheet in CSV (comma-separated values) format.

(3) Copy the CSV file created in (2) to the JP1/AO server. If the JP1/AO server is in a Windows environment, make sure that the line break code is CR+LF. If the JP1/AO server is in a UNIX environment, make sure that the line break code is LF.

Note the following when setting properties:

- For the jp1veritas.paramSheetPath property, specify the full path of the parameter sheet on the JP1/AO server.

If the JP1/AO server and the execution target server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "Create JP1/VERITAS Backup Policy(SYSTEM)" service template that executes with the system account.

Prerequisites

For the latest support information about [Required product in the system], [Prerequisite products on the server executing the service template], and [Prerequisite product OS running on the server executing the service template], see the release notes.

[Required product in the system]

JP1/Automatic Operation 12-00 or later

[Prerequisite products on the server executing the service template]

- JP1/VERITAS NetBackup 7.6, 7.7

- JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

- JP1/VERITAS NetBackup 9.0, 9.1

[Prerequisite product OS running on the server executing the service template]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

[Conditions for using the prerequisite products on the server executing the service template]

No special conditions apply.

Execution privilege

Built-in Administrator

Version

03.01.02

Tags

Control JP1,VERITAS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
JP1/VERITAS NetBackup Configuration Information	Specify the configuration information about JP1/VERITAS NetBackup.	Y
Parameter Sheet Information	Set the parameter sheet information for the backup policy.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

　　R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.targetHost	Host name of the active backup server	Specifies the host name or IP address of the JP1/VERITAS NetBackup master server. IPv6 addresses are not supported. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	JP1/VERITAS NetBackup Configuration Information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.paramSheetPath	Parameter Sheet Path	Specify the full path of the parameter sheet for the backup policy stored on the JP1/AO server.	Input	Disabled	R	Parameter Sheet Information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1veritas.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1veritas.paramSheetPath	Specify a string that has no more than 256 characters, does not end with a backslash (\) or slash (/), and does not include any of the following characters: < > | ; & * ? " %

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osReadCSVExcelFileRow1	Acquisition of Row Data from a CSV/Excel File	Reads out the basic information and first schedule from the parameter sheet.	Correct the cause of the error, and then re-execute the service.
2	jp1veritasCreatePolicy	Create Backup Policy	Creates a backup policy.	Correct the cause of the error, and then re-execute the service.
3	jp1veritasInitializePolicy_VMw	Initialize Backup Policy (VMware)	Initializes the backup policy.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4	jp1veritasUppdatePolicy_VMware	Change Backup Policy Attributes (VMware)	Sets the attributes of the backup policy.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
5	JudgeValuePlugin1	Judge Value Plug-in	Checks whether the first schedule label has been set.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
6		Flow Plug-in	Adds the first schedule.	--
7		Add Schedule to Backup Policy	Adds a schedule.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
8		Change Backup Policy Schedule Attributes	Sets the schedule attributes.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
9	osReadCSVExcelFileRow2	Acquisition of Row Data from a CSV/Excel File	Reads out the second schedule from the parameter sheet.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
10	JudgeValuePlugin2	Judge Value Plug-in	Checks whether the second schedule label has been set.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
11		Flow Plug-in	Adds the second schedule.	--
12		Add Schedule to Backup Policy	Adds a schedule.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
13		Change Backup Policy Schedule Attributes	Sets the schedule attributes.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
14	osReadCSVExcelFileRow3	Acquisition of Row Data from a CSV/Excel File	Reads out the third schedule from the parameter sheet.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
15	JudgeValuePlugin3	Judge Value Plug-in	Checks whether the third schedule label has been set.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
16		Flow Plug-in	Adds the third schedule.	--
17		Add Schedule to Backup Policy	Adds a schedule.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
18		Change Backup Policy Schedule Attributes	Sets the schedule attributes.	Correct the cause of the error, delete the backup policy that

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
18	JudgeValuePlugin3	Change Backup Policy Schedule Attributes	Sets the schedule attributes.	was created, and then re-execute the service.
19	jp1veritasAddClient	Add Clients to Backup Policy	Adds clients to the backup policy.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
20	jp1veritasAddFileList	Add File List to Backup Policy	Adds a file list to the backup policy.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.

2.4.9 Create JP1/VERITAS Backup Policy(SYSTEM)

Function

This service template creates a backup policy based on the design values on the attached parameter sheet in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following servers:

- JP1/AO server

The server running JP1/AO. Save a valid parameter sheet in any folder on this server.

- Backup processing server

The server running JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The following shows an overview of the processing:

(1) The values from the parameter sheet are read out.

(2) A backup policy is created and initialized in JP1/VERITAS NetBackup based on the values specified in the parameter sheet.

(3) The attributes of the created backup policy are set.

(4) Schedules (a maximum of three) are added to the backup policy, and the schedule attributes are set.

(5) Clients are added to the backup policy.

(6) A file list is added to the backup policy.

The format of the parameter sheet that can be used depends on the OS of the JP1/AO server, as follows:

- Windows: Excel or CSV format

- UNIX: CSV format

Enter values in the parameter sheet and save it on the JP1/AO server. Note that the procedure differs depending on the format of the parameter sheet as shown below.

Excel format:

(1) Enter values in the [Policy] tab of the parameter sheet.

(2) Copy the parameter sheet in (1) to the JP1/AO server.

CSV format:

(1) Enter values in the [Policy] sheet of the parameter sheet.

(2) Save the [AO Input] sheet in CSV (comma-separated values) format.

(3) Copy the CSV file created in (2) to the JP1/AO server. If the JP1/AO server is in a Windows environment, make sure that the line break code is CR+LF. If the JP1/AO server is in a UNIX environment, make sure that the line break code is LF.

Note the following when setting properties:

- For the jp1veritas.paramSheetPath property, specify the full path of the parameter sheet on the JP1/AO server.

Prerequisites

For the latest support information about [Required product in the system], [Prerequisite products on the server executing the service template], and [Prerequisite product OS running on the server executing the service template], see the release notes.

[Required product in the system]

JP1/Automatic Operation 12-00 or later

[Prerequisite products on the server executing the service template]

- JP1/VERITAS NetBackup 7.6, 7.7

- JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

- JP1/VERITAS NetBackup 9.0, 9.1

[Prerequisite product OS running on the server executing the service template]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

[Conditions for using the prerequisite products on the server executing the service template]

No special conditions apply.

Execution privilege

Users who belong to the Administrator group

Version

03.10.02

Tags

Control JP1,VERITAS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
JP1/VERITAS NetBackup Configuration Information	Specify the configuration information about JP1/VERITAS NetBackup.	Y
Parameter Sheet Information	Set the parameter sheet information for the backup policy.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.targetHost	Host name of the active backup server	Specifies the host name or IP address of the JP1/VERITAS NetBackup master server. IPv6 addresses are not supported. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	JP1/VERITAS NetBackup Configuration Information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.paramSheetPath	Parameter Sheet Path	Specify the full path of the parameter sheet for the backup policy stored on the JP1/AO server.	Input	Disabled	R	Parameter Sheet Information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1veritas.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1veritas.paramSheetPath	Specify a string that has no more than 256 characters, does not end with a backslash (\) or slash (/), and does not include any of the following characters: < > | ; & * ? " %

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osReadCSVExcelFileRow_System1	Acquisition of Row Data from a CSV/Excel File(SYSTEM)	Reads out the basic information and first schedule from the parameter sheet.	Correct the cause of the error, and then re-execute the service.
2	jp1veritasCreatePolicy	Create Backup Policy	Creates a backup policy.	Correct the cause of the error, and then re-execute the service.
3	jp1veritasInitializePolicy_VMw	Initialize Backup Policy (VMware)	Initializes the backup policy.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
4	jp1veritasUppdatePolicy_VMware	Change Backup Policy Attributes (VMware)	Sets the attributes of the backup policy.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
5	JudgeValuePlugin1	Judge Value Plug-in	Checks whether the first schedule label has been set.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
6		Flow Plug-in	Adds the first schedule.	--
7		Add Schedule to Backup Policy	Adds a schedule.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
8		Change Backup Policy Schedule Attributes	Sets the schedule attributes.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
9	osReadCSVExcelFileRow_System2	Acquisition of Row Data from a CSV/Excel File(SYSTEM)	Reads out the second schedule from the parameter sheet.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
10	JudgeValuePlugin2	Judge Value Plug-in	Checks whether the second schedule label has been set.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
11		Flow Plug-in	Adds the second schedule.	--
12		Add Schedule to Backup Policy	Adds a schedule.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
13		Change Backup Policy Schedule Attributes	Sets the schedule attributes.	Correct the cause of the error, delete the backup policy that

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
13	JudgeValuePlugin2	Change Backup Policy Schedule Attributes	Sets the schedule attributes.	was created, and then re-execute the service.
14	osReadCSVExcelFileRow_System3	Acquisition of Row Data from a CSV/Excel File(SYSTEM)	Reads out the third schedule from the parameter sheet.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
15	JudgeValuePlugin3	Judge Value Plug-in	Checks whether the third schedule label has been set.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
16		Flow Plug-in	Adds the third schedule.	--
17		Add Schedule to Backup Policy	Adds a schedule.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
18		Change Backup Policy Schedule Attributes	Sets the schedule attributes.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
19	jp1veritasAddClient	Add Clients to Backup Policy	Adds clients to the backup policy.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.
20	jp1veritasAddFileList	Add File List to Backup Policy	Adds a file list to the backup policy.	Correct the cause of the error, delete the backup policy that was created, and then re-execute the service.

2.4.10 Delete monitoring setting

Function

Deletes multiple nodes to be monitored from JP1/Cm2/NNMi or JP1/PFM.

This service template assumes that the following servers are being used.

• NNMi server

Servers with JP1/Cm2/NNMi installed.

• PFM management server

Servers with JP1/PFM - Manager and JP1/PFM - Web Console installed.

• PFM-RM server

Servers with JP1/PFM - RM for Platform installed.

• Monitor server

Servers configured to be monitored by JP1/Cm2/NNMi and JP1/PFM.

The following summarizes the processing.

1. Servers to be monitored are deleted from the NNMi server's JP1/Cm2/NNMi.

2. Monitored servers are deleted from JP1/PFM. The following processing is performed.

(1) In the PFM management server, the alarm table is unbound.

(2) The JP1/PFM - RM for Platform remote agent is deleted for the PFM-RM server.

(3) The Agents tree is set up for the JP1/PFM - Web Console of the PFM management server.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Job Management Partner 1/Cm2/Network Node Manager i 10-00, 10-10, 10-50

JP1/Network Node Manager i 11-00, 11-10, 11-50, 12-00, 12-10, 12-50, 12-60

(2) Job Management Partner 1/Performance Management - Manager 10-00, or

JP1/Performance Management - Manager 11-00 or later

Job Management Partner 1/Performance Management - Web Console 10-00, or

JP1/Performance Management - Web Console 11-00 or later

Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-00, or

JP1/Performance Management - Remote Monitor for Platform 11-00 or later

Job Management Partner 1/Performance Management - Base 10-00, or

JP1/Performance Management - Base 11-00 or later

(3) JP1/PFM - Manager and JP1/PFM - Web Console are installed on the same server.

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The bind-utils package must be installed.

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

The bind-utils package must be installed.

(8) AIX V6 (This does not apply to NNMi server and PFM-RM server.)

(9) AIX V7 (This does not apply to NNMi server and PFM-RM server.)

[Usage conditions of prerequisite products in the system executing the service template]

(1) If the PFM-RM server is in a cluster configuration, specify the name of the physical host on which the logical host is running in property jp1pfm.pfmRMHostName, and specify the logical host name in property jp1pfm.jp1pfmRMLHostName.

(2) For a JP1/PFM Agents tree to be configured, the following files that are transferred to the PFM management server must be stored on the JP1/AO server.

• Agents tree definition file (the file name specified by jpcconf agttree import) (optional)

If this file name is not specified, the Agents tree is not set up.

• When you specify the above files in properties, specify the transfer source and destination as well.

(3) The names of the monitor server can be resolved on the JP1/AO server.

(4) In order to execute this service, the JP1/AO server (loopback address resolved by localhost) and the server that is the connection destination must be set as agentless connection destinations.

(5) If the alarm table name is blank, the default alarm table for this service template (PFM RM Platform Template Alarms 09.00) is unbound.

(6) The product name display function is enabled on JP1/PFM.

(7) When using JP1/Cm2/NNMi 09-10, make sure that account credentials (the values used as a user name and password when a JP1/Cm2/NNMi script is executed) have already been specified.

Cautions

(1) Do not execute multiple instances of this service simultaneously on the same NNMi server, PFM management server, or PFM-RM server.

(2) IPv6 cannot be specified as the IP address of a monitor server.

(3) If an IP address that is not included in the JP1/PFM monitoring destinations is specified, the service ends abnormally.

(4) There is only one alarm table that is unbound by this service. Do not execute this service on monitor server that bind more than one alarm table.

(5) A maximum of 50 monitor server IP addresses can be specified.

(6) When a monitor server registered as a node in JP1/Cm2/NNMi is not one of the following names, the monitor server cannot be deleted from JP1/Cm2/NNMi.

• Specified IP address

• Host name resolved on the JP1/AO server from the specified IP address

If deletion of a monitor server fails, the service ends abnormally. If the service ends abnormally, manually delete the settings of the monitor server from JP1/Cm2/NNMi and JP1/PFM.

(7) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(8) If a file has already been specified as remote, the remote file is overwritten and deleted. For this reason, make sure that the file name is specified correctly.

(9) If there is no folder at the path specified as remote, a folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

Version

03.00.00

Tags

Configure JP1,NNMi,PFM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify environment information for the NNMi server, PFM management server, and PFM-RM server.	Y
Monitoring information	Set monitoring information for the monitor server to be deleted.	Y
Option monitoring information	Specify the agent hierarchy definition and alarm table settings (unbound) for the PFM management server.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1cm2nnm.nnmHostName	Host name of NNMi server	Specify the host name of the server where JP1/Cm2/NNMi is installed. Specify the physical host name of primary server or the logical host name of JP1/Cm2/NNMi (when using JP1/Cm2/NNMi in a cluster configuration).	Input	Disabled	R	Monitored system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.pfmHostName	PFM management server host name	Specify the host name of the server where JP1/PFM - Manager and JP1/PFM - Web Console are installed. Specify the physical host name of primary server or the logical host name of JP1/PFM - Manager (when using JP1/PFM - Manager in a cluster configuration).	Input	Disabled	R	Monitored system environment information
jp1pfm.pfmRMHostName	Host name of PFM-RM server	Specify the host name of the server where JP1/PFM - RM is installed. Specify the physical host name of primary server or the logical host name of JP1/PFM - RM for Platform (when using JP1/PFM - RM for Platform in a cluster configuration).	Input	Disabled	R	Monitored system environment information
jp1pfm.instance	Instance name of JP1/PFM - RM	Specify the name of the instance of JP1/PFM - RM for Platform associated with the remote agent of the monitor server.	Input	Disabled	R	Monitoring information
jp1pfm.agentLevelDefFileNameLocal	Agent tree definition file (local)	Specify the full path of the agent tree definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer a file or apply its contents.	Input	Disabled	O	Option monitoring information
jp1pfm.agentLevelDefFileNameRemote	Agent tree definition file (remote)	Specify the full destination path for agent tree definition files to be transferred to the PFM management server.	Input	Disabled	O	Option monitoring information
jp1pfm.alarmTableName	Alarm table name	Specify the alarm table name to unbind from the remote agent on PFM-RM server.	Input	Disabled	O	Option monitoring information
jp1pfm.jp1pfmLHostName	Logical host name of JP1/PFM - Manager	Specify the logical host name of JP1/PFM - Manager (when you are using JP1/PFM - Manager in a cluster configuration).	Input	Disabled	O	Monitored system environment information
jp1pfm.jp1pfmRMLHostName	JP1/PFM - RM logical host name	Specify the logical host name of JP1/PFM - RM (when using JP1/PFM - RM for Platform in a cluster configuration).	Input	Disabled	O	Monitored system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.foreachIPaddress	IP address of monitor server	Specify the IP address of the monitor server. Separate multiple addresses with commas as in the example below. You cannot specify an IPv6 address.	Input	Disabled	R	Monitoring information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1cm2nnm.nnmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.pfmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.pfmRMHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.instance	A maximum of 32 characters can be entered. Characters that can be used include alphanumeric character.
jp1pfm.agentLevelDefFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", ?, !.
jp1pfm.agentLevelDefFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", `, !.
jp1pfm.alarmTableName	A character string of no more than 64 characters can be entered. It cannot include \, !, ", #, $, &, ', *, +, :, ;, , , <, >, =, ?, ^, ~, `, {, }, |.
jp1pfm.jp1pfmLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as ., - .
jp1pfm.jp1pfmRMLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.foreachIPaddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and , .

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	deleteMonitoringConfiguration	Repeated-execution plug-in	Deletes multiple monitor servers from JP1/Cm2/NNMi and JP1/PFM.	Follow the instructions in the jobnet to be repeated.
2	setMonitoringTreeConf	Flow Plug-in	Configures a JP1/PFM Agents tree.	--
2-3		Compatible Plug-in	Ascertains whether an Agents tree definition file has been specified.	Configure Agents trees manually.
2-4		Flow Plug-in	Configures a JP1/PFM Agents tree.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
2-4-1	setMonitoringTreeConf	File-forwarding plug-in	Transfers an Agents tree definition file to a PFM management server.	Configure Agents trees manually.
2-4-2		Add agent hierarchy setting	Configures a JP1/PFM Agents tree.	Configure Agents trees manually.
2-4-3		Delete file	Deletes the specified file.	Delete the file manually.
2-5		Synchronize service information	Synchronizes the JP1/PFM - Manager service information to JP1/PFM Web Console.	When synchronizing service information, execute a jpctool service sync command on the PFM management server.

2.4.11 Delete monitoring setting (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetHostName	Get host name	Acquires the host name from the IP address.	Eliminate the cause of the error, and then re-execute the service.
2	jp1nnmDeleteHost	Delete monitored node	Deletes a monitor server from JP1/Cm2/NNMi.	Manually delete the monitor server from JP1/Cm2/NNMi. Also, unbind the alarm from the monitor server, and then manually delete the monitor server from JP1/PFM - RM for Platform.
5	CheckMacroValue	Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Manually unbind the alarm from the monitor server, and then delete the monitor server from JP1/PFM - RM.
6	jp1pfmReleaseAlarm	Unbind alarm (JP1/PFM - RM)	Unbinds an alarm from the JP1/PFM remote agent.	Manually unbind the alarm from the monitor server, and then delete the monitor server from JP1/PFM - RM.
7	CheckMacroValue2	Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Manually unbind the alarm from the monitor server, and then delete the monitor server from JP1/PFM - RM.
8	jp1pfmReleaseAlarm 2	Unbind alarm (JP1/PFM - RM)	Unbinds an alarm from the JP1/PFM remote agent.	Manually unbind the alarm from the monitor server, and then delete the monitor server from JP1/PFM - RM.
9	jp1pfmDeleteRemoteAgent	Delete monitoring target (JP1/PFM - RM)	Deletes a JP1/PFM remote agent.	Manually delete the remote agent from JP1/PFM - RM for Platform.

2.4.12 Add monitoring setting

Function

Adds multiple servers to be monitored to JP1/Cm2/NNMi and JP1/PFM.

This service template assumes that the following servers are being used.

• NNM server

Servers with JP1/Cm2/NNMi installed.

• PFM management server

Servers with JP1/PFM - Manager and JP1/PFM - Web Console installed.

• PFM-RM server

Servers with JP1/PFM - RM for Platform installed.

• Monitor server

Servers configured to be monitored by JP1/Cm2/NNMi and JP1/PFM.

The following summarizes the processing.

1. Nodes to be monitored are added to JP1/Cm2/NNMi on the NNM server.

2. The following monitoring conditions are set up in JP1/PFM.

(1) A remote agent is added to the PFM-RM server.

For the monitored server name, specify a host name resolved from an IP address specified by property common.foreachIPaddress.

(2) The performance data recording method for the added remote agent is changed.

(3) The performance data storage conditions for the added remote agent are changed.

(4) Process monitoring is set up for the added remote agent.

(5) The alarm table is bound for the added remote agent.

(6) The Agents tree is set up for the JP1/PFM - Web Console of the PFM management server.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Job Management Partner 1/Cm2/Network Node Manager i 10-00, 10-10, 10-50

JP1/Network Node Manager i 11-00, 11-10, 11-50, 12-00, 12-10, 12-50, 12-60

(2) Job Management Partner 1/Performance Management - Manager 10-00, or

JP1/Performance Management - Manager 11-00 or later

Job Management Partner 1/Performance Management - Web Console 10-00, or

JP1/Performance Management - Web Console 11-00 or later

Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-00, or

JP1/Performance Management - Remote Monitor for Platform 11-00 or later

Job Management Partner 1/Performance Management - Base 10-00, or

JP1/Performance Management - Base 11-00 or later

(3) JP1/PFM - Manager and JP1/PFM - Web Console are installed on the same server.

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The bind-utils package must be installed.

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

The bind-utils package must be installed.

(8) AIX V6 (This does not apply to NNM server and PFM-RM server.)

(9) AIX V7 (This does not apply to NNM server and PFM-RM server.)

[Usage conditions of prerequisite products in the system executing the service template]

(1) The following files for transfer to the JP1/PFM server are stored on the JP1/AO server.

• Definition file to be monitored (file name specified with jpcconf target setup command) (required)

However, specify the following value in Target Host within the definition file to be monitored.

#AGENTNAME#

If you are setting the user name and password of the connection destination information in multiple monitor servers, set the same information as that specified in the definition file to be monitored.

• Agents tree definition file (the file name specified by jpcconf agttree import) (optional)

If this file name is not specified, the Agents tree is not set up.

• Recording methods definition file (the file name specified by the jpcasrec update command) (optional)

If this file name is not specified, the performance data recording method is not set.

Specify the following values for the id field of the service tag in the file.

<service id=""7A1#INSTANCENAME#[#AGENTNAME#@#REMOTEMONITORHOST#]"">

<service id=""7A1#INSTANCENAME#[#REMOTEMONITORHOST#]"">

• Storage conditions definition file (the file name specified by the jpcaspsv update command) (optional)

If this file name is not specified, the performance data storage conditions are not set.

Specify the id field of the service tag in the file as follows to switch values in the specified property.

<service id=""7S1#INSTANCENAME#[#REMOTEMONITORHOST#]"">

• Application definition file (the file name specified by the jpcprocdef create command) (optional)

If this file name is not specified, the application definition is not set.

Note: When you specify the above files in the properties, specify the transfer source and transfer destination as well.

(2) The names of the monitor servers can be resolved on the JP1/AO server.

(3) JP1/PFM - Manager is running.

(4) The product name display function is enabled on JP1/PFM.

(5) The alarm table to be bound by JP1/PFM has been created. (If blank, the default alarm table for this service template (PFM RM Platform Template Alarms 09.00) is bound.)

(6) The JP1/PFM - RM for Platform interface has been created.

(7) If you are configuring multiple monitor servers, each server must be on the same subnet. (Only one subnet mask can be specified.)

(8) If the PFM management server is in a cluster configuration, specify the name of the physical host on which the logical host is running in property jp1pfm.pfmHostName, and specify the logical host name in property jp1pfm.jp1pfmLHostName.

(9) If the PFM-RM server is in a cluster configuration, specify the name of the physical host on which the logical host is running in property jp1pfm.pfmRMHostName, and specify the logical host name in property jp1pfm.jp1pfmRMLHostName.

(10) In the PFM management server, the JP1/PFM authentication key has been created.

(11) In order to execute this service, you must set the JP1/AO server (loopback address resolved by ""localhost"") and the server that is the connection destination as agentless connection destinations.

Cautions

(1) Do not execute multiple instances of this service simultaneously on the same NNM server, PFM management server, or PFM-RM server.

(2) IPv6 cannot be specified as the IP address of a monitoring destination.

(3) JP1/Cm2/NNMi does not support multiple tenants, so if you are using tenants, add a node, and then move the node to the tenant manually.

(4) With JP1/Cm2/NNMi, seeds are registered for adding nodes. With JP1/Cm2/NNMi, Hitachi recommends deleting these seeds after the nodes are added. Seeds cannot be deleted automatically, because the timing when nodes are added after seeds is undefined with this service. For details about seeds, see the JP1/CM2/NNMi release notes.

(5) Different OSes can be monitored, depending on the OS on which JP1/PFM - RM for Platform is running.

With JP1/PFM - RM for Platform (Linux), only UNIX and Linux can be monitored.

With JP1/PFM - RM for Platform (Windows), Windows, UNIX, and Linux can be monitored:

(6) Depending on the combination of PFM-RM server and monitor server, ssh authentication and wmi authentication may require separate configurations.

(7) Up to 50 remote agents can be registered per instance of JP1/PFM - RM for Platform. Do not specify more than the maximum of 50 as monitor server IP addresses.

(8) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(9) If you specify multibyte characters, and the PFM-RM server OS is Windows, specify a path for the monitoring target definition file (remote) that is no longer than 250 bytes.

(10) If a file has already been specified as remote, the remote file is overwritten and deleted. For this reason, make sure that the file name is specified correctly.

(11) If there is no folder at the path specified as remote, a folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

(12) Sometimes the plugin for adding monitoring settings or the plugin for setting Store database save conditions might end abnormally, and the following message might be output to the task log:

"KNAE08132-E Processing was canceled because the maximum limit on the standard output size for commands was exceeded. (maximum = 100 KB)"

If the above problem occurs, reduce the number of service IDs (<Service> tags) written in the file specified for the recording method definition file (local) property, or written in the file specified in the save-conditions definition file (local) property. After that, retry the operation.

(13) Do not execute this service on monitored servers that have already been added, except when the service must be re-executed to recover from a job error.

Version

03.00.00

Tags

Configure JP1,NNMi,PFM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify environment information for the NNM server, PFM management server, and PFM-RM server.	Y
Monitoring information	Set monitoring information for the monitor server to be added.	Y
Option monitoring information	Specify definitions of the agent hierarchy for the PFM management server, definitions related to storage conditions for the Store database, application definitions for process monitoring settings, and information on alarm table settings (bindings).	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1cm2nnm.nnmHostNa me	NNMi server host name	Specify the host name of the server where JP1/Cm2/NNMi is installed. Specify the physical host name of primary server or the logical host name of JP1/Cm2/NNMi.	Input	Disab led	R	Monitored system environment information
jp1pfm.pfmHostName	PFM management server host name	Specifies the host name of the server where JP1/PFM - Manager and JP1/PFM - Web Console are installed. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disab led	R	Monitored system environment information
jp1pfm.pfmRMHostNam e	Host name of PFM-RM server	Specifies the host name of the server where JP1/PFM - RM for Platform is installed. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disab led	R	Monitored system environment information
jp1cm2nnm.targetSubnet Mask	Subnet mask of monitor server	Specify the subnet mask of the monitor server. You cannot specify more than one subnet mask. This property is mandatory when you are using JP1/Cm2/NNM.	Input	Disab led	O	Monitoring information
jp1pfm.instance	Instance name of JP1/PFM - RM	Specify the name of the instance of JP1/PFM - RM for Platform associated with the remote agent of the monitor server.	Input	Disab led	R	Monitoring information
jp1pfm.agentDefFileLoc al	Monitoring target definition file (local)	Specify the full path of the monitoring target definition file to be transferred from the JP1/AO server.	Input	Disab led	R	Monitoring information
jp1pfm.agentDefFileRe mote	Monitoring target definition file (remote)	Specify the full destination path for the monitoring target definition files to be transferred to the PFM-RM server.	Input	Disab led	R	Monitoring information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.jp1pfmLHostName	Logical host name of JP1/PFM - Manager	Specify the logical host name of JP1/PFM - Manager (when you are using JP1/PFM - Manager in a cluster configuration).	Input	Disabled	O	Monitored system environment information
jp1pfm.jp1pfmRMLHostName	JP1/PFM - RM logical host name	Specify the logical host name of JP1/PFM - RM (when using JP1/PFM - RM for Platform in a cluster configuration).	Input	Disabled	O	Monitored system environment information
jp1pfm.agentLevelDefFileNameLocal	Agent tree definition file (local)	Specify the full path of the agent tree definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer a file or apply its contents.	Input	Disabled	O	Option monitoring information
jp1pfm.agentLevelDefFileNameRemote	Agent tree definition file (remote)	Specify the full destination path for agent tree definition files to be transferred to the PFM management server.	Input	Disabled	O	Option monitoring information
jp1pfm.paramDefFileLocal	Recording method definition file (local)	Specify the full path of the recording method definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer the file or apply its contents.	Input	Disabled	O	Option monitoring information
jp1pfm.paramDefFileRemote	Recording method definition file (remote)	Specify the full destination path for the recording method definition files to be transferred to the PFM management server.	Input	Disabled	O	Option monitoring information
jp1pfm.saveConditionDefFileNameLocal	Storage conditions definition file (local)	Specify the full path of the storage conditions definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer the file or apply its contents.	Input	Disabled	O	Option monitoring information
jp1pfm.saveConditionDefFileNameRemote	Storage conditions definition file (remote)	Specify the full destination path for storage conditions definition files to be transferred to the PFM management server.	Input	Disabled	O	Option monitoring information
jp1pfm.procMonDefFileLocal	Application definition file (local)	Specify the full path of the application definition file to be transferred from the JP1/AO server. If you omit this property, the service will not transfer the file or apply its contents.	Input	Disabled	O	Option monitoring information
jp1pfm.procMonDefFileRemote	Application definition file (remote)	Specify the full destination path for the application definition files to be transferred to the PFM management server.	Input	Disabled	O	Option monitoring information
jp1pfm.alarmTableName	Alarm table name	Specify the alarm table to bind to the remote agent on the PFM-RM server.	Input	Disabled	O	Option monitoring information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.foreachIPaddress	IP address of monitor server	Specify the IP address of the monitor server. Separate multiple addresses with commas as in the example below. You cannot specify an IPv6 address.	Input	Disabled	R	Monitoring information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1cm2nnm.nnmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.pfmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.pfmRMHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1cm2nnm.targetSubnetMask	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
jp1pfm.instance	A maximum of 32 characters can be entered. Characters that can be used include alphanumeric character.
jp1pfm.agentDefFileLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", ?, !.
jp1pfm.agentDefFileRemote	A character string of no more than 250 characters can be entered. It cannot include <, >, |, ;, &, *, ", !, `.
jp1pfm.jp1pfmLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as ., - .
jp1pfm.jp1pfmRMLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.agentLevelDefFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", ?, !.
jp1pfm.agentLevelDefFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", `, !.
jp1pfm.paramDefFileLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", ?, !.
jp1pfm.paramDefFileRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", !, `.
jp1pfm.saveConditionDefFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", ? or !.

Property key	Characters that can be input
jp1pfm.saveConditionDefFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", !, or `.
jp1pfm.procMonDefFileLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", ?, !.
jp1pfm.procMonDefFileRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ", !, `.
jp1pfm.alarmTableName	A character string of no more than 64 characters can be entered. It cannot include \, !, ", #, $, &, ', *, +, :, ;, , , <, >, =, ?, ^, ~, `, {, }, |.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.foreachIPaddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and , .

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	addMonitoringConfiguration	Repeated-execution plug-in	Adds monitor server to NNM server's JP1/Cm2/NNMi	Eliminate the cause of the error, and then re-execute the service.
2	addMonitoringTreeConf	Flow Plug-in	Adds remote agent to JP1/PFM.	--
2-3		Compatible Plug-in	Ascertains whether an Agents tree definition file has been specified.	Eliminate the cause of the error, and then re-execute the service.
2-4		Flow Plug-in	Configures a JP1/PFM Agents tree.	Eliminate the cause of the error, and then re-execute the service.
2-4-1		File-forwarding plug-in	Transfers an Agents tree definition file to a PFM management server.	Eliminate the cause of the error, and then re-execute the service.
2-4-2		Add agent hierarchy setting	Configures a JP1/PFM Agents tree.	Eliminate the cause of the error, and then re-execute the service.
2-4-3		Delete file	Deletes the specified file.	Eliminate the cause of the error, and then re-execute the service.

2.4.13 Add monitoring setting (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	getIPaddrByHost	Get host name	Acquires the host name from the IP address.	Acquires the host name from the IP address.
2	addNodeMonitoring NodeConf	Flow Plug-in	Adds a monitor server to NNM server.	Adds a monitored server to NNM servers.
2-1		Add monitored node	Adds monitor server to NNM server's JP1/Cm2/NNMi	Adds monitored server to NNM server's JP1/Cm2/NNMi
3	addMonitoringResou rceConf	Flow Plug-in	Adds remote agent to JP1/PFM.	Adds remote agent to JP1/PFM.
3-3		File-forwarding plug-in	Transfers definition file of monitored server to PFM-RM server.	Transfers definition file of monitored server to PFM-RM server.
3-4		Add monitoring target (JP1/PFM - RM)	Adds remote agent to JP1/PFM.	Adds remote agent to JP1/PFM.
3-5		Delete file	Deletes the specified file.	Deletes the specified file.
4	addStoreRecordUpda teConf	Flow Plug-in	Changes the definition of how to record a remote agent.	Changes the definition of the recording method for a remote agent.
4-3		Compatible Plug-in	Ascertains whether a property file has been specified.	Ascertains whether a property file has been specified.
4-4		Flow Plug-in	Changes the definition of the recording method for a remote agent.	Changes the definition of the recording method for a remote agent.
4-4-1		File-forwarding plug-in	Transfers a definition file for the recording method to the PFM management server.	Transfers a definition file for the recording method to the PFM management server.
4-4-2		Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.
4-4-3		Add monitoring setting (JP1/PFM - RM)	Changes the definition of the recording method for a remote agent.	Changes the definition of the recording method for a remote agent.
4-4-4		Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.
4-4-5		Add monitoring setting (JP1/PFM - RM)	Changes the definition of the recording method for a remote agent.	Changes the definition of the recording method for a remote agent.
4-4-6		Delete file	Deletes the specified file.	Deletes the specified file.
4-7		Compatible Plug-in	Ascertains whether a storage conditions definition file has been specified.	Ascertains whether a storage conditions definition file has been specified.
4-8		Flow Plug-in	Configures storage conditions for the Store database.	Configures storage conditions for the Store database.
4-8-1		File-forwarding plug-in	Transfers a storage conditions definition file to the PFM management server.	Transfers a storage conditions definition file to the PFM management server.

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
4-8-2	addStoreRecordUpdateConf	Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.
4-8-3		Set Store database storage conditions	Configures storage conditions for the Store database.	Configures storage conditions for the Store database.
4-8-4		Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.
4-8-5		Set Store database storage conditions	Configures storage conditions for the Store database.	Configures storage conditions for the Store database.
4-8-6		Delete file	Deletes the specified file.	Deletes the specified file.
5	addProcessMonitoringConf	Flow Plug-in	Adds an application definition to a remote agent.	Adds an application definition to a remote agent.
5-3		Compatible Plug-in	Ascertains whether an application definition file has been specified.	Ascertains whether an application definition file has been specified.
5-4		Flow Plug-in	Adds an application definition to a remote agent.	Adds an application definition to a remote agent.
5-4-1		File-forwarding plug-in	Transfers an application definition file to the PFM management server.	Transfers an application definition file to the PFM management server.
5-4-2		Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.
5-4-3		Add process monitoring setting	Adds an application definition to a remote agent.	Adds an application definition to a remote agent.
5-4-4		Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.
5-4-5		Add process monitoring setting	Adds an application definition to a remote agent.	Adds an application definition to a remote agent.
5-4-6		Delete file	Deletes the specified file.	Deletes the specified file.
6	addAlarmConf	Flow Plug-in	Binds an alarm table to a remote agent.	Binds an alarm table to a remote agent.
6-1		Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.
6-2		Bind alarm (JP1/PFM - RM)	Binds an alarm table to a remote agent.	Binds an alarm table to a remote agent.
6-3		Compatible Plug-in	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.	Determines whether a logical host name has been specified for JP1/PFM - RM for Platform.
6-4		Bind alarm (JP1/PFM - RM)	Binds an alarm table to a remote agent.	Binds an alarm table to a remote agent.

2.5 Service templates for JP1 (operation)

2.5.1 Register JP1/AJS jobnet for execution

Function

This service template executes root jobnets defined in JP1/AJS3 - Manager (or JP1/AJS2 - Manager). JP1/AJS3 (JP1/AJS2) macro variables required at execution can be specified.

This service template assumes that the following servers are being used.

• Job server

These are servers running JP1/AJS3 - Manager (or JP1/AJS2 - Manager). The jobnet that is being executed must be registered.

The following describes the processing.

(1) Jobnet execution is ordered for the job server's JP1/AJS3 - Manager (or JP1/AJS2 - Manager), and the service waits for it to finish.

(2) The results of jobnet execution by the job server is checked and then displayed.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following products are running on the job server:

JP1/Automatic Job Management System 3 - Manager 11-00 or later, or

Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later.

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The jobnet to be executed must have been created on the job server.

(2) This service template supports only execution registration of the root jobnet. Batch execution of job groups is not supported.

(3) This service template only allows immediate execution registration of jobnets. Further, if start conditions are provided for a jobnet, those conditions are disabled.

(4) In property jp1ajs.executeJP1UserName, specify the name of the JP1 user for whom jobnet execution registration will be performed by the job server. To perform execution registration of the same name as the OS user who connects from JP1/AO, you must specify a value in this property.

(5) If you register a jobnet defined on a logical host with a cluster configuration, specify the physical host name or logical host name of the active server in property common.targetHost. Also specify the logical host being run by the scheduler service in property jp1ajs.ajsServiceName, and the name of the logical host running the scheduler service in property jp1ajs.jp1ajsLHostName.

Cautions

(1) This service template only performs immediate execution registration of jobnets. Check the execution status of jobnets that require lengthy times to complete using the appropriate JP1/AJS3 - View (or JP1/AJS2 - View).

(2) Even when a task is stopped by JP1/AO, jobnet execution continues in the linked JP1/AJS3 (or JP1/AJS2). If necessary, check execution status using JP1/AJS3 - View (or JP1/AJS2 - View). If the task ended abnormally, eliminate the cause of the error, and then re-execute the task.

(3) Up to 1024 characters can be specified as macro parameters in property jp1ajs.ajsMacroParameter.

(4) The following characters can be used in jobnets: single-byte alphanumeric characters and symbols (!#$%+@-._) and double-byte characters. Double-byte characters can be used when the JP1/AJS manager character code type in Windows on the job server side is SJIS.

(5) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(6) If you specify multibyte characters and if the job server OS is Windows, specify a jobnet name that is no longer than 930 bytes. Be sure to specify a service name no longer than 255 bytes.

Execution privilege

The following settings are required for OS users connecting to a job server from JP1/AO. If there is no JP1 user with the same name as the connecting OS user, you must specify the property jp1ajs.executeJP1UserName.

[For both Windows and UNIX]

The same name as a JP1 user who has been granted JP1_AJS_Operator permissions, JP1_AJS_Manager permissions, or JP1_AJS_Admin permissions.

Version

02.00.00

Tags

Configure JP1,AJS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Business system environment information	Specify the environment information for the job server.	Y
Business information	Specify the information on the jobnet to be executed.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.ajsServiceName	Name of the JP1/AJS service for jobnet execution	Specify the service name of the JP1/AJS scheduler service that will execute the jobnet.Specify the service name of the JP1/AJS on logical host (when using business server in a cluster configuration).	Input	Disabled	O	Business information
jp1ajs.ajsJobnetName	Jobnet name	Specify the name and path of the jobnet you want to execute. You can't specify neither a manager job group name nor a manager jobnet name.	Input	Disabled	R	Business information
jp1ajs.executeJP1UserName	JP1 user for jobnet execution	Specify the JP1 user name used to execute the jobnet. You can omit this property if the JP1 user name is the same as the OS user name used to connect to the job server.	Input	Disabled	O	Business information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Host name of job server	Specifies the host name or IP address of the job server. IPv6 addresses are not supported. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Business system environment information
jp1ajs.ajsMacroParameter	Macro variables for jobnet execution	Specify values for the macro variables required by the jobnet you are executing, in the format	Input	Disabled	O	Business information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.ajsMacroParameter	Macro variables for jobnet execution	"variable-name:value, variable-name:value, ...".	Input	Disabled	O	Business information
jp1ajs.jp1ajsLHostName	JP1/AJS logical host name	Specify the logical host name of JP1/AJS (when using JP1/AJS in a cluster configuration).	Input	Disabled	O	Business system environment information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
jp1ajs.jobnetResult	Jobnet execution results	This property stores the results of the jobnet execution.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1ajs.ajsServiceName	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \.
jp1ajs.ajsJobnetName	A character string of no more than 930 bytes. Characters that can be used include alphanumeric characters, as well as !, #, $, %, +, @, -, ., _, / and double-byte character.
jp1ajs.executeJP1UserName	A maximum of 31 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, @, _, and ~.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1ajs.ajsMacroParameter	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \.
jp1ajs.jp1ajsLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	jp1ajsExecute	Register JP1/AJS jobnet for execution	Registers a jobnet for execution on the job server.	Eliminate the cause of the error, and then re-execute the service.
2	jp1ajsCheck	Get JP1/AJS jobnet execution results	Acquires the execution result of the specified jobnet.	Eliminate the cause of the error, and then re-execute the service.

2.5.2 JP1/AJS jobnet planned execution registration

Function

This service template registers the route jobnet defined in JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) for planned execution or fixed execution.

The JP1/AJS macro variables that are required at execution can be specified.

This service template requires the following server:

- Job server

Server where JP1/AJS operates. The jobnet for execution must be already created.

The jobnet must be a jobnet whose execution can be registered by the JP1/AJS command ajsentry. The manager job group name and manager jobnet name cannot be specified.

The process flow is given below.

(1) Registration for planned execution or fixed execution is determined from the execution registration type.

Execute one of the following processes.

(a) If registration for planned execution was specified, the specified jobnet is registered for planned execution in JP1/AJS on the job server.

(b) If registration for fixed execution was specified, the specified jobnet is registered for fixed execution in JP1/AJS on the job server.

- When executing the jobnet at a specific date and time (Specify date and time):

Specify the jp1ajs.executeDate property and jp1ajs.executeTime property.

- When specifying and executing the number of scheduled execution generations of a jobnet (Specify the number of future generations):

Specify the jp1ajs.executeGeneration property.

Make sure that one of the above is specified.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following products are running on the job server:

Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

Job Management Partner 1/Automatic Job Management System 3 - Manager 10-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) Specify the JP1 user name in the jp1ajs.entryJP1UserName property for registering jobnet execution for the execution target server. If execution is registered by a JP1 user whose name is the same as the OS user connected from JP1/AO, the value does not need to be specified for this property.

(2) When registering the jobnet defined on a logical host having a cluster configuration:

- In the common.targetHost property, specify the physical host name or logical host name of the execution system server.

- In the jp1ajs.ajsServiceName property, specify the name of the scheduler service operating in the logical host.

- In the jp1ajs.jp1ajsLHostName property, specify the name of the logical host where the scheduler service is operating.

Cautions

(1) If the job server OS is UNIX, set the same character encoding for the JP1/AJS environment setting parameter of the application server and for the default locale of the OS user used when connecting to the application server.

(2) Specify the scheduler service name that is set in the jp1ajs.ajsserviceName property. Use 30 bytes or less for the name.

(3) The job group cannot be specified in the jp1ajs.entryJobnetName property.

(4) For other usage notes, see the usage notes for the ajsentry command in Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user mapped to the OS user when connected to the job server has operation permissions for the jobnet registered for execution.

(2) If the JP1 user mapped to the OS user when connected to the job server does not exist, in the jp1ajs.entryJP1UserName property specify a JP1 user having operation permissions for the jobnet registered for execution.

Version

03.00.00

Tags

Configure JP1,AJS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Application system environment information	Specify the environment information of the job server.	Y
Jobnet registration information	Specify the information of the jobnet to be executed.	Y
Fixed execution information	Specify the fixed execution registration information.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Job server host name	Specifies the host name or IP address of the job server. IPv6 addresses are not supported. When a cluster configuration is used, specify the physical host or logical host of the execution system server.	Input	Disabled	R	Application system environment information
jp1ajs.ajsServiceName	Name of the JP1/AJS service for jobnet execution	Specify the service name of the JP1/AJS scheduler service that will execute the jobnet.Specify the service name of the JP1/AJS on logical host (when using business server in a cluster configuration).	Input	Disabled	O	Application system environment information
jp1ajs.jp1ajsLHostName	JP1/AJS logical host name	Specify the logical host name of JP1/AJS (when using JP1/AJS in a cluster configuration).	Input	Disabled	O	Application system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.entryJobnetName	Jobnet name where execution registration is performed	Specifies, by a complete name, the name of the jobnet that is registered for execution. The manager job group name and	Input	Disabled	R	Jobnet registration information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.entryJobnetName	Jobnet name where execution registration is performed	manager jobnet name cannot be specified.	Input	Disabled	R	Jobnet registration information
jp1ajs.entryType	Jobnet execution registration methods	Specifies whether the jobnet is registered for planned execution or fixed execution. Fixed: Registered for fixed execution, Planned: Registered for planned execution	Input	Disabled	R	Jobnet registration information
jp1ajs.executePrior	Scheduled execution required during stopped scheduler service	If scheduled execution date passed during stopped scheduler service, specifies scheduled execution upon scheduler service restart, or from next scheduled execution. (true: Execute passed scheduled execution, false: Execute from next scheduled execution)	Input	Disabled	R	Jobnet registration information
jp1ajs.ajsMacroParameter	Macro variables for jobnet execution	The value of the macro variable required in the jobnet that is executed is specified in the format "variable name: value, ...". Up to 32 macro variables can be specified.	Input	Disabled	O	Jobnet registration information
jp1ajs.entryJP1UserName	Jobnet execution registration JP1 user name	Specifies the JP1 user name when the jobnet is registered for execution. This does not need to be specified when the JP1 user registering execution has the same name as the OS user name when connecting to the job server.	Input	Disabled	O	Jobnet registration information
jp1ajs.executeDate	Jobnet fixed execution date	The fixed execution date when the jobnet is registered for fixed execution is selected from the calendar.	Input	Disabled	O	Fixed execution information
jp1ajs.executeTime	Jobnet fixed execution time (hh:mm)	The fixed execution time when the jobnet is registered for fixed execution is separated by a colon (:) and specified in the format hh:mm. The ":mm" part can be omitted. When omitted, this is assumed to be 0 minutes.	Input	Disabled	O	Fixed execution information
jp1ajs.executeGeneration	Future scheduled number of generations for jobnet	Specifies the scheduled number of generations to be executed from the next time when the jobnet is registered for fixed execution.	Input	Disabled	O	Fixed execution information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

Property key	Characters that can be input
jp1ajs.ajsServiceName	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \.
jp1ajs.jp1ajsLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1ajs.entryJobnetName	Enter a character string of no more than 930 bytes. You can use a character string of single-byte alphanumeric characters and symbols (! # $ % + @ - . _ /) and double-byte characters.
jp1ajs.entryType	Select one of the following values: Fixed,Planned
jp1ajs.executePrior	Select one of the following values: false,true
jp1ajs.ajsMacroParameter	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \.
jp1ajs.entryJP1UserName	Enter up to 31 halfwidth alphanumeric characters. You can also use the following symbols: ! # $ % ' - @ _ ~
jp1ajs.executeDate	You can enter 10 or fewer bytes of single-byte numbers and a slash (/).
jp1ajs.executeTime	You can enter 5 or fewer single-byte alphanumeric characters and a colon (:).
jp1ajs.executeGeneration	Enter a number from 1 to 99.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	registerPlannedEntry	Flow Plug-in	Registers planned execution for a JP1/AJS jobnet.	--
1-1		Compatible Plug-in	Determines whether the registration is a planned execution.	After removing the cause of the error, run the service again.
1-2		Register for JP1/AJS jobnet planned execution	Registers a planned execution of a JP1/AJS jobnet.	After removing the cause of the error, run the service again.
2	registerFixedEntry	Flow Plug-in	Registers fixed execution for a JP1/AJS jobnet.	--
2-1		Compatible Plug-in	Determines whether the registration is a fixed execution.	After removing the cause of the error, run the service again.
2-2		Register for JP1/AJS jobnet fixed execution	Registers a fixed execution of a JP1/AJS jobnet.	After removing the cause of the error, run the service again.

2.5.3 JP1/AJS jobnet scheduled execution results output

Function

This service template outputs the following information to a specified CSV-format file: the execution results up to the previous execution, the current status, and the next scheduled execution of a jobnet (and its jobs) that was registered for execution in JP1/AJS3 - Manager or JP1/AJS2 - Manager (collectively called JP1/AJS hereafter).

This service template requires the following server:

- Job server

Server where JP1/AJS operates. The jobnet for execution must be already registered.

The process flow is given below.

(1) Outputs the following information to a specified file (called the "scheduled execution results file") for JP1/AJS on the job server: the execution results up to the previous execution, the current status, the next scheduled execution, and other information from the scheduled execution results output start date to the scheduled execution results output end date.

(2) Transfer the scheduled execution results file (remote) on the job server that was output to the transfer target file (local) on the JP1/AO server.

(3) Delete the scheduled execution results file (remote) on the job server.

If the schedule of the jobnet that was registered for planned execution was output, the next scheduled execution can be confirmed. To confirm the scheduled executions after the next one, check the monthly schedule window of JP1/AJS3 - View (or JP1/AJS2 - View) as needed.

◇Format of items output to the scheduled results file

The following information is output in CSV format:

- Complete name of jobnet/job name of scheduled execution output

- Unit type

- Jobnet status

- Scheduled date and time of next execution

- Jobnet execution registration date and time

- Execution registration method type

- Jobnet execution registration user name

- Number of future generations

- Jobnet/job execution start date and time

- Jobnet/job execution end date and time

- Job end code

- Agent host name

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following products are running on the job server:

Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

Job Management Partner 1/Automatic Job Management System 3 - Manager 10-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The referenced jobnet must be already created.

(2) The referenced jobnet calendar and schedule rules must be already defined.

(3) Specify the JP1 user name in the jp1ajs.readJP1UserName property for outputting jobnet scheduled execution results by the execution target server. If execution is registered by a JP1 user with the same name as the OS user connected from JP1/AO, the value does not need to be specified for this property.

(4) When referencing a jobnet defined on a logical host having a cluster configuration, specify:

- In the common.targetHost property, specify the physical host name or logical host name of the execution system server.

- In the jp1ajs.ajsServiceName property, specify the name of the scheduler service operating in the logical host.

- In the jp1ajs.jp1ajsLHostName property, specify the name of the logical host where the scheduler service is operating.

Cautions

(1) If the job server OS is UNIX, set the same character encoding setting for the JP1/AJS environment setting parameter of the application server and for the default locale of the OS user used when connecting to the job server.

(2) Specify the scheduler service name that is set in the jp1ajs.ajsServiceName property. Use a string that is no more than 30 bytes

(3) If the job server OS is Windows and multibyte characters are specified, specify the scheduled execution results file that is set in the jp1ajs.jobnetOutputFileNameRemote property. Use a string that is no more than 256 bytes.

(4) If multibyte characters are specified, specify the transfer target file that is set in the jp1ajs.jobnetOutputFileNameLocal property. Use a string that is no more than 256 bytes.

(5) If a file that is set in the jp1ajs.jobnetOutputFileNameRemote property or jp1ajs.jobnetOutputFileNameLocal property already exists, the existing file is overwritten. For this reason, carefully check that there are no mistakes in the specified file name.

(6) If a folder with the path that was set in the jp1ajs.jobnetOutputFileNameRemote property or jp1ajs.jobnetOutputFileNameLocal property does not exist, the folder is created. The created folder remains and is not deleted. Delete unused folders on a regular basis.

(7) Set a shorter interval between the dates that are set in the jp1ajs.outputStartDate property and jp1ajs.outputEndDate property.

(8) If the names of the specified jobnet or its jobs include double quotation marks ("), the scheduled execution results file is output unchanged. Problems can sometimes occur when the file is read by the ODBC driver. If necessary, after obtaining the scheduled execution results file, perform character replacement and other processes.

(9) For other usage notes, see the usage notes for the ajsshow command in Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user mapped to the OS user when connected to the job server has browsing privileges for the jobnet registered for execution.

(2) If the JP1 user mapped to the OS user when connected to the job server does not exist, in the jp1ajs.readJP1UserName property specify the JP1 user having browsing privileges for the target jobnet.

Version

03.00.00

Tags

Configure JP1,AJS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Application system environment information	Specify the environment information of the job server.	Y
Jobnet output information	Specify the information of the jobnet that will output the scheduled execution results.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Job server host name	Specifies the host name or IP address of the job server. IPv6 addresses are not supported. When a cluster configuration is used, specify the physical host or logical host of the execution system server.	Input	Disabled	R	Application system environment information
jp1ajs.ajsServiceName	Name of the JP1/AJS service for jobnet execution	Specify the service name of the JP1/AJS scheduler service that will execute the jobnet.Specify the service name of the JP1/AJS on logical host (when using business server in a cluster configuration).	Input	Disabled	O	Application system environment information
jp1ajs.jp1ajsLHostName	JP1/AJS logical host name	Specify the logical host name of JP1/AJS (when using JP1/AJS in a cluster configuration).	Input	Disabled	O	Application system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.targetJobnetName	Jobnet name where schedules and execution results are output	Specifies the complete name of the jobnet where schedules and execution results are output. Manager job group names and manager jobnet names cannot be specified.	Input	Disabled	R	Jobnet output information
jp1ajs.outputStartDate	Jobnet scheduled execution results output start date	The scheduled execution results output start date of the jobnet is selected from the calendar.	Input	Disabled	R	Jobnet output information
jp1ajs.outputEndDate	Jobnet scheduled execution results output end date	The scheduled execution results output end date of the jobnet is selected from the calendar.	Input	Disabled	R	Jobnet output information
jp1ajs.readJP1UserName	JP1 user name when browsing jobnet execution schedules/results	Specifies the JP1 user name when browsing schedules and results of jobnet execution. This does not need to be specified when the referencing JP1 user has the same name as the OS user name when connecting to the job server.	Input	Disabled	O	Jobnet output information
jp1ajs.jobnetOutputFileNameRemote	Output file name (remote)	Specifies the temporary file name when the jobnet scheduled execution results file is output	Input	Disabled	R	Jobnet output information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.jobnetOutputFileNameRemote	Output file name (remote)	to the job server as a full path. The remote file is deleted after transfer.	Input	Disabled	R	Jobnet output information
jp1ajs.jobnetOutputFileNameLocal	Output file name (local)	Specifies the file name of the JP1/AO server that obtains the scheduled execution results file of the jobnet as a full path.	Input	Disabled	R	Jobnet output information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1ajs.ajsServiceName	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \.
jp1ajs.jp1ajsLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1ajs.targetJobnetName	Enter a character string of up to 930 bytes. You can enter halfwidth alphanumeric characters and symbols (! # $ % + @ - . _ /), as well as fullwidth characters.
jp1ajs.outputStartDate	You can enter 10 or fewer bytes of single-byte numbers and a slash (/).
jp1ajs.outputEndDate	You can enter 10 or fewer bytes of single-byte numbers and a slash (/).
jp1ajs.readJP1UserName	Enter up to 31 halfwidth alphanumeric characters. You can also use the following symbols: ! # $ % ' - @ _ ~
jp1ajs.jobnetOutputFileNameRemote	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % ` or a trailing \
jp1ajs.jobnetOutputFileNameLocal	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % ` or a trailing \

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	jp1ajsOutputSchedule	JP1/AJS jobnet scheduled execution results output	Outputs the scheduled execution results of JP1/AJS jobnet to a file.	After removing the cause of the error, run the service again.
2	transferFile	Flow Plug-in	Transfers a file.	--
2-1		File-Forwarding Plug-in	Transfers the scheduled execution results file (remote) to the scheduled execution results file (local).	Transfer the scheduled execution results file (remote) to the scheduled execution results file (local).

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
2-1	transferFile	File-Forwarding Plug-in	Transfers the scheduled execution results file (remote) to the scheduled execution results file (local).	Deletes the scheduled execution results file (remote) after transfer.
2-2		Delete file	Deletes the scheduled execution results file (remote).	Delete the scheduled execution results file (remote).

2.5.4 JP1/AJS root jobnet migration

Function

This service template migrates the root jobnets of JP1/AJS3 - Manager (hereafter referred to as "JP1/AJS3") from the development server to the job server, based on a list of processing-target root jobnets (hereafter referred to as the "root jobnet definition file"). The root jobnet definition file is either a CSV (Comma Separated Values) file or an Excel file.

If the JP1/AO server is in a Windows environment, use a CSV or Excel file. If the JP1/AO server is in a UNIX environment, use a CSV file.

To use this service template, the following servers are required:

- Development server

A server running JP1/AJS, where the target root jobnets are registered

- Job server

A server running JP1/AJS, where the target root jobnets are to be registered

Key values are retrieved from the root jobnet definition file specified by the property jp1ajs.jobnetListFilePath, and then the following processing is executed for all key values:

(1) From each row corresponding to a key value, retrieve the root jobnet name, the host name of the job execution agent, and the user name of the job execution user.

(2) Using the information retrieved in step (1), execute the command ajsprint on the development server, and then output the root jobnet information as a unit definition file.

(3) Transfer the unit definition file output in step (2) to the job server via the JP1/AO server.

(4) Execute the command ajsdefine on the job server to register the root jobnets.

(5) If the host name of the job execution agent is specified, execute the command ajschange on the job server to change the host name for all jobs belonging to the root jobnets.

(6) If the user name of the job execution user is specified, execute the command ajschange on the job server to change the user name for all jobs belonging to the root jobnets.

The root jobnet definition file can contain a maximum of 99 entries (rows) of root jobnet information.

During processing to change root jobnet information, a plug-in is executed repeatedly to change each entry sequentially.

If processing fails during repetition, the task will immediately end abnormally.

If reading a root jobnet definition file fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

If the JP1/AO server and the execution target server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "JP1/AJS root jobnet migration(SYSTEM)" service template that executes with the system account.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the system executing the service templates:

(1) The following Microsoft program must be installed on the JP1/AO server:

2007 Office System Driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

(2) The following product must be running on the development server and job server:

Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the system executing the service templates:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using the prerequisite products on the system executing the service template:

(1) A JP1/AJS scheduler service must be running.

(2) The JP1 user specified by the property jp1ajs.jp1UserName must be registered on both the development server and job server.

(3) The migration-target root jobs must not be registered on the job server.

If migration-target root jobs are registered, use the JP1/AJS Root Jobnet Deletion service to delete the jobs in a batch.

(4) This service template supports only the migration of root jobnets. It does not support the migration of job groups.

(5) The development server and job server must run the same type of OS (either Windows or UNIX).

(6) The root jobnet definition file containing the following information must be stored on the JP1/AO server:

(6-a) Number of columns

There must be no more than 255 columns after the column starting from which data is to be retrieved.

(6-b) Column names

For CSV files:

- If column names are necessary, specify them in the first row. If column names are unnecessary, do not specify them.

- Regardless of whether column names are specified, data retrieval must start from the second row or a following row.

For Excel files:

- Column names must be specified. In the file, the first row containing data is assumed to be the row of column names.

- Data retrieval starts from the row below the row of column names.

When specifying column names, follow the rules described in (8).

(6-c) Key information

Each row in the root jobnet definition file must have a unique key value, specified in the key value column. You can use any value for the key value. We recommend that you use short values, such as integers starting from 1. Key values must not contain a double quotation mark (") or single quotation mark ('). The sum of the total number of bytes for all key values and the number of data rows must not exceed 1,017 bytes. If you omit a key value, the corresponding row will be excluded from the processing target.

(6-d) Parent unit name

Specify the name of the parent unit for each root jobnet. Make sure that the same parent unit name is specified on both the development server and the job server. To specify a root job group, enter a null string.

(6-e) Root jobnet name

Specify root jobnet names. You cannot specify the names of jobs or job groups. You cannot specify the names of jobnets that are not root jobnets. Make sure that the same root jobnet names are specified on both the development server and the job server. You cannot omit a root jobnet name.

(6-f) Job execution agent host name

Specify the host names of the job execution agents used for the root jobnets registered on the job server. The specified host name is applied to all jobs under the applicable root jobnet. If you omit this specification, the job server inherits

the job execution host definition for the corresponding jobnet on the development server. If you do not want to use the definitions on the development server, make sure to specify the job execution agent host names.

(6-g) Job execution user name

Specify the user names of job execution users used for the root jobnets registered on the job server. The specified user name is applied to all jobs subordinate to the applicable root jobnet. If you omit this specification, the job server inherits the job execution user definition for the corresponding jobnet on the development server. If you do not want to use the definitions on the development server, make sure to specify the job execution user names.

Example:

Key,Parent Unit,Root Jobnet,Job Execution Host,Job Execution User

1,/parent1,jobnet1,host1,jp1user1

2,/parent2,jobnet2,host2,jp1user2

3,/parent3,jobnet3,,jp1user3

4,/parent4,jobnet4,host4,

5,/parent5,jobnet5,,

(7) In order to execute this service, you must set the JP1/AO server (loopback address resolved by "localhost"), development server, and job server as agentless connection destinations.

(8) When specifying column names in the root jobnet definition file, follow the rules below.

(8-a) Use string-type data instead of numeric-type data.

(8-b) The specifiable characters are as follows:

- The first character of the key value column name must not be a number (one-byte or two-byte) or any of the following symbols: ! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ /

- The key value column name cannot contain any of the following symbols: " # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- The names of columns other than the key value column must not contain any of the following symbols: ! [ ] ` , .

(8-c) Each column name can have a maximum of 64 characters (one-byte or two-byte).

(9) Check the fields to be read from the root jobnet definition file to make sure none of the following exist:

- A field containing any of the following symbols: , < > | ; &

- A field containing a double quotation mark (") that is not used to enclose the field value.

- A field ending with a backslash (\).

- A field containing any control characters (0x00 to 0x1f).

If there is a field that meets any of the conditions above, the task terminates abnormally.

If all fields in a row are blank, the task ignores the row and reads the next row.

Cautions

[Notes on root jobnet definition files]

- If the JP1/AO server is running in a Windows environment

(1) For Excel files, make sure there are no merged cells or cells containing errors in expression. If such a cell exists, a null value is read for that cell. In addition, make sure no write-protection password is set. If a write-protection password is set for the root jobnet definition file to be read, the task terminates abnormally.

(2) Make sure that string-type data and numeric-type data do not coexist in the same column. If different types of data coexist, values might not be obtained correctly, depending on the specifications of the ODBC driver.

(2-a) Numeric-type data includes the following types of base-10 numbers:

Negative integers (Example: -12345)

Fixed-point numbers (Example: 3.1415)

Floating-point numbers (Example: 6.543E+10)

(2-b) String-type data is any data that is not numeric-type data.

(3) To obtain a column that contains different types of data from the file to be read, first perform one of the following steps:

- If the root jobnet definition file is an Excel file, prefix each numeric-type value with a single quotation mark (').

- If the root jobnet definition file is a CSV file, enclose each numeric-type value in double quotation marks (").

(4) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

- If the JP1/AO server is running in a UNIX environment

(1) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

(2) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(3) Any number of single-byte spaces or tab characters at the beginning or end of a row in a root jobnet definition information file are ignored.

[Other notes]

(1) Note the following restrictions on the maximum lengths of certain properties:

- jp1ajs.logicalHostNameRemote: 64 characters

- jp1ajs.logicalHostNameDevelop: 64 characters

- jp1ajs.workDirectoryRemote: 128 characters

- jp1ajs.workDirectoryDevelop: 128 characters

Note the following restrictions on the maximum lengths of certain jobnet definition file entries:

- Parent unit name: 512 characters

- Job execution host name: 64 characters

If you specify a value longer than the maximum length, a command executed by the task might be truncated. A truncated command might not be executed normally. If a maximum length is exceeded, the message KNAE08015-W is output to the task log.

(2) If the OS of both the development server and the job server is Windows, to specify a percent sign (%) for any of the items below, you must add an escape character (%). In other words, specify %%.

- The property jp1ajs.jp1UserName

- The property jp1ajs.serviceNameRemote

- The property jp1ajs.serviceNameDevelop

- Root jobnet definition file entries (Note that you cannot use percent signs in root jobnet names.)

(3) If the OS of both the development server and the job server is Windows, you cannot use a double quotation mark (") for either of the following properties:

- jp1ajs.serviceNameRemote

- jp1ajs.serviceNameDevelop

(4) If the OS of both the development server and the job server is UNIX, you cannot use a single quotation mark (') for any of the following items:

- The property jp1ajs.jp1UserName

- The property jp1ajs.serviceNameRemote

- The property jp1ajs.serviceNameDevelop

- The property jp1ajs.workDirectoryRemote

- The property jp1ajs.workDirectoryDevelop

- Root jobnet definition file entries

(5) For more information, see the notes on the commands ajsprint, ajschange, and ajsdefine in the manual "Job Management Partner 1/Automatic Job Management System 3 Command Reference 1".

Execution privilege

Built-in Administrator

If the user used to log in to the execution target server is the user specified by the property jp1ajs.jp1UserName and if "yes" is specified for the environment settings parameter ADMACLIMIT of the JP1/AJS3 common information, the user must have the following permissions:

(Applicable for both Windows and UNIX)

For the development server:

The JP1_AJS_Guest, JP1_AJS_Operator, JP1_AJS_Editor, JP1_AJS_Manager, or JP1_AJS_Admin permission is required.

For the job server:

The JP1_AJS_Editor, JP1_AJS_Manager, or JP1_AJS_Admin permission is required.

Version

03.01.02

Tags

Configure JP1,AJS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Root jobnet information	Information about a root jobnet.	Y
Job/development server information	Information about the job server and development server.	Y
JP1/AO server information	Information about the JP1/AO server.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.hostNameRemote	Host name (job server)	Specify the host name or IP address of the job server. Make sure that you do not specify an IPv6 address. In a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Job/ development server information
jp1ajs.hostNameDevelop	Host name (development server)	Specify the host name or IP address of the development server. Make sure that you do not specify an IPv6 address. In a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Job/ development server information
jp1ajs.logicalHostName Remote	Logical host name (job server)	If JP1/AJS on the job server is in a cluster configuration, specify the logical host name of JP1/AJS.	Input	Disabled	O	Job/ development server information
jp1ajs.logicalHostName Develop	Logical host name (development server)	If JP1/AJS on the development server is in a cluster	Input	Disabled	O	Job/ development

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1ajs.logicalHostName Develop	Logical host name (development server)	configuration, specify the logical host name of JP1/AJS.	Input	Disab led	O	server information
OS.osKind	OS type	Specify the OS type (Windows or UNIX).	Input	Disab led	R	Job/ development server information
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a root jobnet definition file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disab led	R	Root jobnet information
OS.fileOpenRetryInterva l	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a root jobnet definition file fails (only applicable to Windows).	Input	Disab led	R	Root jobnet information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1ajs.jobnetListFilePath	Path of the root jobnet definition file	Specify a full path for the root jobnet definition file stored on the JP1/AO server. The file extension of the file must be csv, xls, xlsx, or xlsm.	Input	Disab led	R	Root jobnet information
jp1ajs.jobnetInfoSheetNa me	Root jobnet definition file's sheet name	Specify the name of the sheet that contains root jobnet information. Make sure that you specify this item if the root jobnet definition file is an Excel file. The sheet name specified for a CSV file is ignored.	Input	Disab led	R	Root jobnet information
jp1ajs.serviceNameRem ote	JP1/AJS scheduler service name (job server)	Specify the name of a scheduler service on the job server.	Input	Disab led	R	Job/ development server information
jp1ajs.serviceNameDeve lop	JP1/AJS scheduler service name (development server)	Specify the name of a scheduler service on the development server.	Input	Disab led	R	Job/ development server information
jp1ajs.workDirectoryLoc al	Work folder (local)	Specify a full path for the work folder on the JP1/AO server.	Input	Disab led	R	JP1/AO server information
jp1ajs.workDirectoryRe mote	Work folder (job server)	Specify a full path for the work folder on the job server. If you execute this service in a UNIX environment, do not use multi-byte characters when specifying values for properties.	Input	Disab led	R	Job/ development server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.workDirectoryDevelop	Work folder (development server)	Specify a full path for the work folder on the development server. If you execute this service in a UNIX environment, do not use multi-byte characters when specifying values for properties.	Input	Disabled	R	Job/ development server information
jp1ajs.jp1UserName	JP1 user name	Specify the name of the JP1 user who executes JP1/AJS commands. If this JP1 user name is the same as the name of the OS user who logs in to the server, you do not need to specify this item.	Input	Disabled	O	Job/ development server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1ajs.hostNameRemote	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1ajs.hostNameDevelop	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1ajs.logicalHostNameRemote	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1ajs.logicalHostNameDevelop	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
OS.osKind	Select one of the following values: Windows,UNIX
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1ajs.jobnetListFilePath	A string that has 8 to 255 characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < > | ; & * ? " % [ ] !
jp1ajs.jobnetInfoSheetName	A string that has 1 to 31 characters except for: 1) The following single-byte symbols: < > | ; : & * ? " % / \ ! ` { [ ] 2) Multi-byte characters corresponding to the following symbols: : \ ? [ ] / *
jp1ajs.serviceNameRemote	A string that has 255 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & `

Property key	Characters that can be input
jp1ajs.serviceNameDevelop	A string that has 255 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & `
jp1ajs.workDirectoryLocal	A string that has 200 or fewer characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < > | ; & * ? " % `
jp1ajs.workDirectoryRemote	A string that has 200 or fewer characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < > | ; & * ? " % `
jp1ajs.workDirectoryDevelop	A string that has 200 or fewer characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < > | ; & * ? " % `
jp1ajs.jp1UserName	A string that has 31 or fewer single-byte alphanumeric characters, including the following symbols: ! # $ % ' - @ _ ~

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetOsInfo	Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	getRootJobnetKeyList	Obtain column data from a CSV/Excel file	Obtains a list of key values of root jobnets from the root jobnet definition file.	After removing the cause of the error, run the service again.
3	forEachRootJobnet	Repeated Execution Plug-in	Migrates a repeated root jobnet based on the key information that was read.	After removing the cause of the error, run the service again.

2.5.5 JP1/AJS root jobnet migration (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	readRootJobnet	Obtain row data from a CSV/Excel file	Reads root jobnet information from the root jobnet definition file.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
2	judgeOsWindows	Judge Value Plug-in	Judges whether the operating system is Windows.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3	flowWindows	Flow Plug-in	This flow is for use in Windows.	--
3-1		Judge Value Plug-in	Judges whether the connected host is a logical host (development server).	Remove the cause of the error, and then remove the descriptions

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
3-1	flowWindows	Judge Value Plug-in	Judges whether the connected host is a logical host (development server).	of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-2		General Command Plug-in	For a logical host (development server), this plug-in the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-3		Judge Value Plug-in	Judges whether the connected host is a logical host (job server).	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-4		General Command Plug-in	For a logical host (job server), this plug-in replaces the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-5		General Command Plug-in	Outputs definition information about the root jobnet of the development server (hereafter referred to as root jobnet definition information).	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-6		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.
3-7		File-Forwarding Plug-in	Forwards root jobnet definition information from the development server to the JP1/AO server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-8		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
3-9		File-Forwarding Plug-in	Forwards root jobnet definition information from the development server to the JP1/AO server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-10		Delete file	Deletes the root jobnet definition information on the development server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-11		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
3-12	flowWindows	File-Forwarding Plug-in	Forwards root jobnet definition information from the JP1/AO server to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-13		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
3-14		File-Forwarding Plug-in	Forwards root jobnet definition information from the JP1/AO server to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-15		General Command Plug-in	Registers a root jobnet to the job server by using the root jobnet definition information forwarded to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-16		Delete file	Deletes the root jobnet definition information on the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then, from the root jobnet definition file, remove the description of jobnets that were successfully migrated, and then run the service again.
3-17		Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then, from the root jobnet definition file, remove the description of jobnets that were successfully migrated, and then run the service again.	Confirms that an execution user is specified in the root jobnet definition file.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then, remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
3-18		General Command Plug-in	Changes the execution user name of the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
3-19		Judge Value Plug-in	Confirms that the name of the job execution agent host is specified in the root jobnet definition file.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS

Hierarchy	Processing	Plug-in			
		Plug-in name	Description		Error recovery method
3-19	flowWindows	Judge Value Plug-in	Confirms that the name of the job execution agent host is specified in the root jobnet definition file.		jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
3-20		General Command Plug-in	Changes the name of the job execution agent host of the job server.		Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
4	judgeOsUNIX	Judge Value Plug-in	Judges whether the operating system is Linux.		Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5	flowUNIX	Flow Plug-in	This flow is for use in Linux.		--
5-1		Judge Value Plug-in	Judges whether the connected host is a logical host (development server).		Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-2		General Command Plug-in	For a logical host (development server), this plug-in replaces the environment variables used in a command line with work variables.		Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-3		Judge Value Plug-in	Judges whether the connected host is a logical host (job server).		Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-4		General Command Plug-in	For a logical host (job server), this plug-in replaces the environment variables used in a command line with work variables.		Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-5		General Command Plug-in	Outputs definition information about the root jobnet of the development server (hereafter referred to as root jobnet definition information).		Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-6		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.		Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
5-7	flowUNIX	File-Forwarding Plug-in	Forwards root jobnet definition information from the development server to the JP1/AO server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-8		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
5-9		File-Forwarding Plug-in	Forwards root jobnet definition information from the development server to the JP1/AO server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-10		Delete file	Deletes the root jobnet definition information on the development server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-11		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.
5-12		File-Forwarding Plug-in	Forwards root jobnet definition information from the JP1/AO server to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-13		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
5-14		File-Forwarding Plug-in	Forwards root jobnet definition information from the JP1/AO server to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-15		General Command Plug-in	Registers a root jobnet to the job server by using the root jobnet definition information forwarded to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-16		Delete file	Deletes the root jobnet definition information on the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
5-17		Judge Value Plug-in	Confirms that an execution user is specified in the root jobnet definition file.	Remove the cause of the error, and then delete the root jobnet that

Hierarchy	Processing	Plug-in			
		Plug-in name	Description	Error recovery method	
5-17	flowUNIX	Judge Value Plug-in	Confirms that an execution user is specified in the root jobnet definition file.	caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.	
5-18		General Command Plug-in	Changes the execution user name of the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.	
5-19		Judge Value Plug-in	Confirms that the name of a job execution agent host is specified in the root jobnet definition file.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.	
5-20		General Command Plug-in	Changes the execution user name of the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.	
6	judgeOsWindows_2	Delete file	Determines whether or not the OS of the JP1/AO server is Windows.	Delete the files created in the work folder of the JP1/AO server specified by the jp1ajs.workDirectoryLocal property.	
7	delRootJobnetDefFileLocal	Delete file	Deletes the root jobnet definition information (local).	Delete the files created in the work folder of the JP1/AO server specified by the jp1ajs.workDirectoryLocal property.	
8	judgeOsUNIX_2	Delete file	Determines whether or not the OS of the JP1/AO server is UNIX.	Delete the files created in the work folder of the JP1/AO server specified by the jp1ajs.workDirectoryLocal property.	
9	delRootJobnetDefFileLocal_2	Delete file	Deletes the root jobnet definition information (local).	Delete the files created in the work folder of the JP1/AO server specified by the jp1ajs.workDirectoryLocal property.	

2.5.6 JP1/AJS root jobnet migration(SYSTEM)

Function

This service template migrates the root jobnets of JP1/AJS3 - Manager (hereafter referred to as "JP1/AJS3") from the development server to the job server, based on a list of processing-target root jobnets (hereafter referred to as the "root jobnet definition file"). The root jobnet definition file is either a CSV (Comma Separated Values) file or an Excel file.

If the JP1/AO server is in a Windows environment, use a CSV or Excel file. If the JP1/AO server is in a UNIX environment, use a CSV file.

To use this service template, the following servers are required:

- Development server

A server running JP1/AJS, where the target root jobnets are registered

- Job server

A server running JP1/AJS, where the target root jobnets are to be registered

Key values are retrieved from the root jobnet definition file specified by the property jp1ajs.jobnetListFilePath, and then the following processing is executed for all key values:

(1) From each row corresponding to a key value, retrieve the root jobnet name, the host name of the job execution agent, and the user name of the job execution user.

(2) Using the information retrieved in step (1), execute the command ajsprint on the development server, and then output the root jobnet information as a unit definition file.

(3) Transfer the unit definition file output in step (2) to the job server via the JP1/AO server.

(4) Execute the command ajsdefine on the job server to register the root jobnets.

(5) If the host name of the job execution agent is specified, execute the command ajschange on the job server to change the host name for all jobs belonging to the root jobnets.

(6) If the user name of the job execution user is specified, execute the command ajschange on the job server to change the user name for all jobs belonging to the root jobnets.

The root jobnet definition file can contain a maximum of 99 entries (rows) of root jobnet information.

During processing to change root jobnet information, a plug-in is executed repeatedly to change each entry sequentially.

If processing fails during repetition, the task will immediately end abnormally.

If reading a root jobnet definition file fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the system executing the service templates:

(1) The following Microsoft program must be installed on the JP1/AO server:

2007 Office System Driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

(2) The following product must be running on the development server and job server:

Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the system executing the service templates:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using the prerequisite products on the system executing the service template:

(1) A JP1/AJS scheduler service must be running.

(2) The JP1 user specified by the property jp1ajs.jp1UserName must be registered on both the development server and job server.

(3) The migration-target root jobs must not be registered on the job server.

If migration-target root jobs are registered, use the JP1/AJS Root Jobnet Deletion service to delete the jobs in a batch.

(4) This service template supports only the migration of root jobnets. It does not support the migration of job groups.

(5) The development server and job server must run the same type of OS (either Windows or UNIX).

(6) The root jobnet definition file containing the following information must be stored on the JP1/AO server:

(6-a) Number of columns

There must be no more than 255 columns after the column starting from which data is to be retrieved.

(6-b) Column names

For CSV files:

- If column names are necessary, specify them in the first row. If column names are unnecessary, do not specify them.

- Regardless of whether column names are specified, data retrieval must start from the second row or a following row.

For Excel files:

- Column names must be specified. In the file, the first row containing data is assumed to be the row of column names.

- Data retrieval starts from the row below the row of column names.

When specifying column names, follow the rules described in (8).

(6-c) Key information

Each row in the root jobnet definition file must have a unique key value, specified in the key value column. You can use any value for the key value. We recommend that you use short values, such as integers starting from 1. Key values must not contain a double quotation mark (") or single quotation mark ('). The sum of the total number of bytes for all key values and the number of data rows must not exceed 1,017 bytes. If you omit a key value, the corresponding row will be excluded from the processing target.

(6-d) Parent unit name

Specify the name of the parent unit for each root jobnet. Make sure that the same parent unit name is specified on both the development server and the job server. To specify a root job group, enter a null string.

(6-e) Root jobnet name

Specify root jobnet names. You cannot specify the names of jobs or job groups. You cannot specify the names of jobnets that are not root jobnets. Make sure that the same root jobnet names are specified on both the development server and the job server. You cannot omit a root jobnet name.

(6-f) Job execution agent host name

Specify the host names of the job execution agents used for the root jobnets registered on the job server. The specified host name is applied to all jobs under the applicable root jobnet. If you omit this specification, the job server inherits the job execution host definition for the corresponding jobnet on the development server. If you do not want to use the definitions on the development server, make sure to specify the job execution agent host names.

(6-g) Job execution user name

Specify the user names of job execution users used for the root jobnets registered on the job server. The specified user name is applied to all jobs subordinate to the applicable root jobnet. If you omit this specification, the job server inherits the job execution user definition for the corresponding jobnet on the development server. If you do not want to use the definitions on the development server, make sure to specify the job execution user names.

Example:

Key,Parent Unit,Root Jobnet,Job Execution Host,Job Execution User

1,/parent1,jobnet1,host1,jp1user1

2,/parent2,jobnet2,host2,jp1user2

3,/parent3,jobnet3,,jp1user3

4,/parent4,jobnet4,host4,

5,/parent5,jobnet5,,

(7) In order to execute this service, you must set the JP1/AO server (loopback address resolved by "localhost"), development server, and job server as agentless connection destinations.

(8) When specifying column names in the root jobnet definition file, follow the rules below.

(8-a) Use string-type data instead of numeric-type data.

(8-b) The specifiable characters are as follows:

- The first character of the key value column name must not be a number (one-byte or two-byte) or any of the following symbols: ! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ /

- The key value column name cannot contain any of the following symbols: " # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- The names of columns other than the key value column must not contain any of the following symbols: ! [ ] ` , .

(8-c) Each column name can have a maximum of 64 characters (one-byte or two-byte).

(9) Check the fields to be read from the root jobnet definition file to make sure none of the following exist:

- A field containing any of the following symbols: , < > | ; &

- A field containing a double quotation mark (") that is not used to enclose the field value.

- A field ending with a backslash (\).

- A field containing any control characters (0x00 to 0x1f).

If there is a field that meets any of the conditions above, the task terminates abnormally.

If all fields in a row are blank, the task ignores the row and reads the next row.

Cautions

[Notes on root jobnet definition files]

- If the JP1/AO server is running in a Windows environment

(1) For Excel files, make sure there are no merged cells or cells containing errors in expression. If such a cell exists, a null value is read for that cell. In addition, make sure no write-protection password is set. If a write-protection password is set for the root jobnet definition file to be read, the task terminates abnormally.

(2) Make sure that string-type data and numeric-type data do not coexist in the same column. If different types of data coexist, values might not be obtained correctly, depending on the specifications of the ODBC driver.

(2-a) Numeric-type data includes the following types of base-10 numbers:

Negative integers (Example: -12345)

Fixed-point numbers (Example: 3.1415)

Floating-point numbers (Example: 6.543E+10)

(2-b) String-type data is any data that is not numeric-type data.

(3) To obtain a column that contains different types of data from the file to be read, first perform one of the following steps:

- If the root jobnet definition file is an Excel file, prefix each numeric-type value with a single quotation mark (').

- If the root jobnet definition file is a CSV file, enclose each numeric-type value in double quotation marks (").

(4) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

- If the JP1/AO server is running in a UNIX environment

(1) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

(2) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(3) Any number of single-byte spaces or tab characters at the beginning or end of a row in a root jobnet definition information file are ignored.

[Other notes]

(1) Note the following restrictions on the maximum lengths of certain properties:

- jp1ajs.logicalHostNameRemote: 64 characters

- jp1ajs.logicalHostNameDevelop: 64 characters

- jp1ajs.workDirectoryRemote: 128 characters

- jp1ajs.workDirectoryDevelop: 128 characters

Note the following restrictions on the maximum lengths of certain jobnet definition file entries:

- Parent unit name: 512 characters

- Job execution host name: 64 characters

If you specify a value longer than the maximum length, a command executed by the task might be truncated. A truncated command might not be executed normally. If a maximum length is exceeded, the message KNAE08015-W is output to the task log.

(2) If the OS of both the development server and the job server is Windows, to specify a percent sign (%) for any of the items below, you must add an escape character (%). In other words, specify %%.

- The property jp1ajs.jp1UserName

- The property jp1ajs.serviceNameRemote

- The property jp1ajs.serviceNameDevelop

- Root jobnet definition file entries (Note that you cannot use percent signs in root jobnet names.)

(3) If the OS of both the development server and the job server is Windows, you cannot use a double quotation mark (") for either of the following properties:

- jp1ajs.serviceNameRemote

- jp1ajs.serviceNameDevelop

(4) If the OS of both the development server and the job server is UNIX, you cannot use a single quotation mark (') for any of the following items:

- The property jp1ajs.jp1UserName

- The property jp1ajs.serviceNameRemote

- The property jp1ajs.serviceNameDevelop

- The property jp1ajs.workDirectoryRemote

- The property jp1ajs.workDirectoryDevelop

- Root jobnet definition file entries

(5) For more information, see the notes on the commands ajsprint, ajschange, and ajsdefine in the manual "Job Management Partner 1/Automatic Job Management System 3 Command Reference 1".

Execution privilege

Users who belong to the Administrator group

If the user used to log in to the execution target server is the user specified by the property jp1ajs.jp1UserName and if "yes" is specified for the environment settings parameter ADMACLIMIT of the JP1/AJS3 common information, the user must have the following permissions:

(Applicable for both Windows and UNIX)

For the development server:

The JP1_AJS_Guest, JP1_AJS_Operator, JP1_AJS_Editor, JP1_AJS_Manager, or JP1_AJS_Admin permission is required.

For the job server:

The JP1_AJS_Editor, JP1_AJS_Manager, or JP1_AJS_Admin permission is required.

Version

03.10.02

Tags

Configure JP1,AJS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Root jobnet information	Information about a root jobnet.	Y

Property group	Description	Initial display
Job/development server information	Information about the job server and development server.	Y
JP1/AO server information	Information about the JP1/AO server.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.hostNameRemote	Host name (job server)	Specify the host name or IP address of the job server. Make sure that you do not specify an IPv6 address. In a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Job/development server information
jp1ajs.hostNameDevelop	Host name (development server)	Specify the host name or IP address of the development server. Make sure that you do not specify an IPv6 address. In a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Job/development server information
jp1ajs.logicalHostName Remote	Logical host name (job server)	If JP1/AJS on the job server is in a cluster configuration, specify the logical host name of JP1/AJS.	Input	Disabled	O	Job/development server information
jp1ajs.logicalHostName Develop	Logical host name (development server)	If JP1/AJS on the development server is in a cluster configuration, specify the logical host name of JP1/AJS.	Input	Disabled	O	Job/development server information
OS.osKind	OS type	Specify the OS type (Windows or UNIX).	Input	Disabled	R	Job/development server information
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a root jobnet definition file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disabled	R	Root jobnet information
OS.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a root jobnet definition file fails (only applicable to Windows).	Input	Disabled	R	Root jobnet information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.jobnetListFilePath	Path of the root jobnet definition file	Specify a full path for the root jobnet definition file stored on the JP1/AO server. The file extension of the file must be csv, xls, xlsx, or xlsm.	Input	Disabled	R	Root jobnet information
jp1ajs.jobnetInfoSheetName	Root jobnet definition file's sheet name	Specify the name of the sheet that contains root jobnet information. Make sure that you specify this item if the root jobnet definition file is an Excel file. The sheet name specified for a CSV file is ignored.	Input	Disabled	R	Root jobnet information
jp1ajs.serviceNameRemote	JP1/AJS scheduler service name (job server)	Specify the name of a scheduler service on the job server.	Input	Disabled	R	Job/ development server information
jp1ajs.serviceNameDevelop	JP1/AJS scheduler service name (development server)	Specify the name of a scheduler service on the development server.	Input	Disabled	R	Job/ development server information
jp1ajs.workDirectoryLocal	Work folder (local)	Specify a full path for the work folder on the JP1/AO server.	Input	Disabled	R	JP1/AO server information
jp1ajs.workDirectoryRemote	Work folder (job server)	Specify a full path for the work folder on the job server. If you execute this service in a UNIX environment, do not use multi-byte characters when specifying values for properties.	Input	Disabled	R	Job/ development server information
jp1ajs.workDirectoryDevelop	Work folder (development server)	Specify a full path for the work folder on the development server. If you execute this service in a UNIX environment, do not use multi-byte characters when specifying values for properties.	Input	Disabled	R	Job/ development server information
jp1ajs.jp1UserName	JP1 user name	Specify the name of the JP1 user who executes JP1/AJS commands. If this JP1 user name is the same as the name of the OS user who logs in to the server, you do not need to specify this item.	Input	Disabled	O	Job/ development server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1ajs.hostNameRemote	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1ajs.hostNameDevelop	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1ajs.logicalHostNameRemote	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1ajs.logicalHostNameDevelop	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
OS.osKind	Select one of the following values: Windows,UNIX
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1ajs.jobnetListFilePath	A string that has 8 to 255 characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < >	; & * ? " % [ ] !
jp1ajs.jobnetInfoSheetName	A string that has 1 to 31 characters except for: 1) The following single-byte symbols: < >	; : & * ? " % / \ ! ` { [ ] 2) Multi-byte characters corresponding to the following symbols: : \ ? [ ] / *
jp1ajs.serviceNameRemote	A string that has 255 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < >	; & `
jp1ajs.serviceNameDevelop	A string that has 255 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < >	; & `
jp1ajs.workDirectoryLocal	A string that has 200 or fewer characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < >	; & * ? " % `
jp1ajs.workDirectoryRemote	A string that has 200 or fewer characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < >	; & * ? " % `
jp1ajs.workDirectoryDevelop	A string that has 200 or fewer characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < >	; & * ? " % `
jp1ajs.jp1UserName	A string that has 31 or fewer single-byte alphanumeric characters, including the following symbols: ! # $ % ' - @ _ ~

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetOsInfo	Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	getRootJobnetKeyList_System	Obtain column data from a CSV/Excel file(SYSTEM)	Obtains a list of key values of root jobnets from the root jobnet definition file.	After removing the cause of the error, run the service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3	forEachRootJobnet	Repeated Execution Plug-in	Migrates a repeated root jobnet based on the key information that was read.	After removing the cause of the error, run the service again.

2.5.7 JP1/AJS root jobnet migration(SYSTEM)(repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	readRootJobnet_System	Obtain row data from a CSV/ Excel file(SYSTEM)	Reads root jobnet information from the root jobnet definition file.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
2	judgeOsWindows	Judge Value Plug-in	Judges whether the operating system is Windows.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3	flowWindows	Flow Plug-in	This flow is for use in Windows.	--
3-1		Judge Value Plug-in	Judges whether the connected host is a logical host (development server).	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-2		General Command Plug-in	For a logical host (development server), this plug-in the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-3		Judge Value Plug-in	Judges whether the connected host is a logical host (job server).	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-4		General Command Plug-in	For a logical host (job server), this plug-in replaces the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-5		General Command Plug-in	Outputs definition information about the root jobnet of the development server	Remove the cause of the error, and then remove the descriptions

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
3-5	flowWindows	General Command Plug-in	(hereafter referred to as root jobnet definition information).	of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-6		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.
3-7		File-Forwarding Plug-in	Forwards root jobnet definition information from the development server to the JP1/AO server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-8		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
3-9		File-Forwarding Plug-in	Forwards root jobnet definition information from the development server to the JP1/AO server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-10		Delete file	Deletes the root jobnet definition information on the development server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-11		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.
3-12		File-Forwarding Plug-in	Forwards root jobnet definition information from the JP1/AO server to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-13		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
3-14		File-Forwarding Plug-in	Forwards root jobnet definition information from the JP1/AO server to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-15		General Command Plug-in	Registers a root jobnet to the job server by using the root jobnet definition information forwarded to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
3-16		Delete file	Deletes the root jobnet definition information on the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the

Hierarchy	Processing	Plug-in			
		Plug-in name	Description	Error recovery method	
3-16	flowWindows	Delete file	Deletes the root jobnet definition information on the job server.	job server. Then, from the root jobnet definition file, remove the description of jobnets that were successfully migrated, and then run the service again.	
3-17		Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then, from the root jobnet definition file, remove the description of jobnets that were successfully migrated, and then run the service again.	Confirms that an execution user is specified in the root jobnet definition file.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then, remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.	
3-18		General Command Plug-in	Changes the execution user name of the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.	
3-19		Judge Value Plug-in	Confirms that the name of the job execution agent host is specified in the root jobnet definition file.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.	
3-20		General Command Plug-in	Changes the name of the job execution agent host of the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.	
4	judgeOsUNIX	Judge Value Plug-in	Judges whether the operating system is Linux.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.	
5	flowUNIX	Flow Plug-in	This flow is for use in Linux.	--	
5-1		Judge Value Plug-in	Judges whether the connected host is a logical host (development server).	Remove the cause of the error, and then remove the descriptions	

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
5-1	flowUNIX	Judge Value Plug-in	Judges whether the connected host is a logical host (development server).	of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-2		General Command Plug-in	For a logical host (development server), this plug-in replaces the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-3		Judge Value Plug-in	Judges whether the connected host is a logical host (job server).	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-4		General Command Plug-in	For a logical host (job server), this plug-in replaces the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-5		General Command Plug-in	Outputs definition information about the root jobnet of the development server (hereafter referred to as root jobnet definition information).	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-6		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.
5-7		File-Forwarding Plug-in	Forwards root jobnet definition information from the development server to the JP1/AO server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-8		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
5-9		File-Forwarding Plug-in	Forwards root jobnet definition information from the development server to the JP1/AO server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-10		Delete file	Deletes the root jobnet definition information on the development server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-11		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
5-12	flowUNIX	File-Forwarding Plug-in	Forwards root jobnet definition information from the JP1/AO server to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-13		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
5-14		File-Forwarding Plug-in	Forwards root jobnet definition information from the JP1/AO server to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-15		General Command Plug-in	Registers a root jobnet to the job server by using the root jobnet definition information forwarded to the job server.	Remove the cause of the error, and then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file. Then run the service again.
5-16		Delete file	Deletes the root jobnet definition information on the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
5-17		Judge Value Plug-in	Confirms that an execution user is specified in the root jobnet definition file.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
5-18		General Command Plug-in	Changes the execution user name of the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
5-19		Judge Value Plug-in	Confirms that the name of a job execution agent host is specified in the root jobnet definition file.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
5-19	flowUNIX	Judge Value Plug-in	Confirms that the name of a job execution agent host is specified in the root jobnet definition file.	definition file, and then run the service again.
5-20		General Command Plug-in	Changes the execution user name of the job server.	Remove the cause of the error, and then delete the root jobnet that caused the error from the JP1/AJS jobnet definitions on the job server. Then remove the descriptions of jobnets for which migration was successful from the root jobnet definition file, and then run the service again.
6	judgeOsWindows_2	Delete file	Determines whether or not the OS of the JP1/AO server is Windows.	Delete the files created in the work folder of the JP1/AO server specified by the jp1ajs.workDirectoryLocal property.
7	delRootJobnetDefFileLocal	Delete file	Deletes the root jobnet definition information (local).	Delete the files created in the work folder of the JP1/AO server specified by the jp1ajs.workDirectoryLocal property.
8	judgeOsUNIX_2	Delete file	Determines whether or not the OS of the JP1/AO server is UNIX.	Delete the files created in the work folder of the JP1/AO server specified by the jp1ajs.workDirectoryLocal property.
9	delRootJobnetDefFileLocal_2	Delete file	Deletes the root jobnet definition information (local).	Delete the files created in the work folder of the JP1/AO server specified by the jp1ajs.workDirectoryLocal property.

2.5.8 JP1/AJS root jobnet deletion

Function

This service template deletes root jobnets defined in JP1/AJS3 - Manager (hereafter referred to as "JP1/AJS3") based on a list of processing-target root jobnets (hereafter referred to as the "root jobnet definition file") created in CSV (Comma Separated Values) or Excel format.

If the JP1/AO server is in a Windows environment, use a CSV or Excel file. If the JP1/AO server is in a UNIX environment, use a CSV file.

To use this service template, the following servers are required:

- Job server

A server running JP1/AJS, where the root jobnets to be deleted are registered

Key values are retrieved from the root jobnet definition file specified by the property jp1ajs.jobnetListFilePath, and then the following processing is executed for all key values:

(1) For each row corresponding to a key value, retrieve the root jobnet name.

(2) Using the information retrieved in step (1), execute the command ajsleave on the job server to cancel the registration of root jobnets that are scheduled to be executed. Even if cancellation fails, processing continues without resulting in an error.

(3) Using the information retrieved in step (1), execute the command ajsdelete on the job server to delete root jobnet definitions for root jobnets that are not registered for execution. If deletion fails, the task terminates abnormally.

The root jobnet definition file can contain a maximum of 99 entries (rows) of root jobnet information.

During processing to change root jobnet information, a plug-in is executed repeatedly to change each entry sequentially.

If reading a root jobnet definition file fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

If the JP1/AO server and the execution target server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "JP1/AJS root jobnet deletion(SYSTEM)" service template that executes with the system account.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the system executing the service templates:

(1) The following Microsoft program must be installed on the JP1/AO server:

2007 Office System Driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

(2) The following product must be running on the job server:

Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the system executing the service templates:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using the prerequisite products in the service-template execution system:

(1) A JP1/AJS scheduler service must be running.

(2) The JP1 user specified by the property jp1ajs.jp1UserName must be registered on the job server.

(3) The deletion-target root jobs must be registered but not running on the job server.

(4) This service template supports only the deletion of root jobnets. It does not support the deletion of job groups.

(5) The root jobnet definition file containing the following information must be stored on the JP1/AO server:

(5-a) Number of columns

There must be no more than 255 columns after the column starting from which data is to be retrieved.

(5-b) Column names

For CSV files:

- If column names are necessary, specify them in the first row. If column names are unnecessary, do not specify them.

- Regardless of whether column names are specified, data retrieval must start from the second row or a following row.

For Excel files:

- Column names must be specified. In the file, the first row containing data is assumed to be the row of column names.

- Data retrieval starts from the row below the row of column names.

When specifying column names, follow the rules described in (6).

(5-c) Key information

Each row in the root jobnet definition file must have a unique key value, specified in the key value column. You can use any value for the key value. We recommend that you use short values, such as integers starting from 1. Key values must not contain a double quotation mark (") or single quotation mark ('). The sum of the total number of bytes for all key values and the number of data rows must not exceed 1,017 bytes. If you omit a key value, the corresponding row will be excluded from the processing target.

(5-d) Parent unit name

Specify the name of the parent unit for each root jobnet. Make sure that the same parent unit name is specified on both the development server and the job server. To specify a root job group, enter a null string.

(5-e) Root jobnet name

Specify root jobnet names. You cannot specify the names of jobs or job groups. You cannot specify the names of jobnets that are not root jobnets. Make sure that the same root jobnet names are specified on both the development server and the job server. You cannot omit a root jobnet name.

Example:

Key,Parent Unit,Root Jobnet

1,/parent1,jobnet1

2,/parent2,jobnet2

3,/parent3,jobnet3

(6) In order to execute this service, you must set the JP1/AO server (loopback address resolved by "localhost") and job server as agentless connection destinations.

(7) When specifying column names in the root jobnet definition file, follow the rules below.

(7-a) Use string-type data instead of numeric-type data.

(7-b) The specifiable characters are as follows:

- The first character of the key value column name must not be a number (one-byte or two-byte) or any of the following symbols: ! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ /

- The key value column name cannot contain any of the following symbols: " # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- The names of columns other than the key value column must not contain any of the following symbols: ! [ ] ` , .

(7-c) Each column name can have a maximum of 64 characters (one-byte or two-byte).

(8) Check the fields to be read from the root jobnet definition file to make sure none of the following exist:

- A field containing any of the following symbols: , < > | ; &

- A field containing a double quotation mark (") that is not used to enclose the field value.

- A field ending with a backslash (\).

- A field containing any control characters (0x00 to 0x1f).

If there is a field that meets any of the conditions above, the task terminates abnormally.

If all fields on a row are blank, the task ignores the row and reads the next row.

Cautions

[Notes on root jobnet definition files]

- If the JP1/AO server is running in a Windows environment

(1) For Excel files, make sure there are no merged cells or cells containing errors in expression. If such a cell exists, a null value is read for that cell. In addition, make sure no write-protection password is set. If a write-protection password is set for the root jobnet definition file to be read, the task terminates abnormally.

(2) Make sure that string-type data and numeric-type data do not coexist in the same column. If different types of data coexist, values might not be obtained correctly, depending on the specifications of the ODBC driver.

(2-a) Numeric-type data includes the following types of base-10 numbers:

Negative integers (Example: -12345)

Fixed-point numbers (Example: 3.1415)

Floating-point numbers (Example: 6.543E+10)

(2-b) String-type data is any data that is not numeric-type data.

(3) To obtain a column that contains different types of data from the file to be read, first perform one of the following steps:

- If the root jobnet definition file is an Excel file, prefix each numeric-type value with a single quotation mark (').

- If the root jobnet definition file is a CSV file, enclose each numeric-type value in double quotation marks (").

(4) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

- If the JP1/AO server is running in a UNIX environment

(1) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

(2) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(3) Any number of single-byte spaces or tab characters at the beginning or end of a row in a root jobnet definition information file are ignored.

[Other notes]

(1) Note the following restrictions on the maximum lengths of certain items:

- For the property jp1ajs.logicalHostNameRemote: 64 characters

- For the jobnet definition file entry "parent unit name": 512 characters

If you specify a value longer than the maximum length, a command executed by the task might be truncated. A truncated command might not be executed normally. If a maximum length is exceeded, the message KNAE08015-W is output to the task log.

(2) If the OS of both the development server and the job server is Windows, to specify a percent sign (%) for any of the items below, you must add an escape character (%). In other words, specify %%.

- The property jp1ajs.jp1UserName

- The property jp1ajs.serviceNameRemote

- Root jobnet definition file entries (Note that you cannot use percent signs in root jobnet names.)

(3) If the OS of both the development server and the job server is Windows, you cannot use a double quotation mark (") for either of the following properties:

- jp1ajs.serviceNameRemote

(4) If the OS of both the development server and the job server is UNIX, you cannot use a single quotation mark (') for any of the following items:

- The property jp1ajs.jp1UserName

- The property jp1ajs.serviceNameRemote

- Root jobnet definition file entries

(5) For more information, see the notes on the commands ajsleave and ajsdefine in the manual "Job Management Partner 1/Automatic Job Management System 3 Command Reference 1".

Execution privilege

Built-in Administrator

If the user used to log in to the execution target server is the user specified by the property jp1ajs.jp1UserName and if "yes" is specified for the environment settings parameter ADMACLIMIT of the JP1/AJS3 common information, the user must have the following permissions:

(Applicable for both Windows and UNIX)

For the job server:

The JP1_AJS_Manager or JP1_AJS_Admin permission is required.

Note: If you do not need to cancel the registration of root jobnets for execution, the user only need to have the JP1_AJS_Editor permission.

Version

03.01.02

Tags

Configure JP1,AJS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Root jobnet information	Information about a root jobnet.	Y
Job server information	Information about the job server.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
    R: The property must be specified.
    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.hostNameRemote	Host name (job server)	Specify the host name or IP address of the job server.	Input	Disabled	R	Job server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.hostNameRemote	Host name (job server)	Make sure that you do not specify an IPv6 address. In a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Job server information
jp1ajs.logicalHostName Remote	Logical host name (job server)	If JP1/AJS on the job server is in a cluster configuration, specify the logical host name of JP1/AJS.	Input	Disabled	O	Job server information
OS.osKind	OS type	Specify the OS type (Windows or UNIX).	Input	Disabled	R	Job server information
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a root jobnet definition file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disabled	R	Root jobnet information
OS.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a root jobnet definition file fails (only applicable to Windows).	Input	Disabled	R	Root jobnet information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.jobnetListFilePath	Path of the root jobnet definition file	Specify a full path for the root jobnet definition file stored on the JP1/AO server. The file extension of the file must be csv, xls, xlsx, or xlsm.	Input	Disabled	R	Root jobnet information
jp1ajs.jobnetInfoSheetName	Root jobnet definition file's sheet name	Specify the name of the sheet that contains root jobnet information. Make sure that you specify this item if the root jobnet definition file is an Excel file. The sheet name specified for a CSV file is ignored.	Input	Disabled	R	Root jobnet information
jp1ajs.serviceNameRemote	JP1/AJS scheduler service name (job server)	Specify the name of a scheduler service on the job server.	Input	Disabled	R	Job server information
jp1ajs.jp1UserName	JP1 user name	Specify the name of the JP1 user who executes JP1/AJS commands. If this JP1 user name is the same as the name of the OS user who logs in to the server, you do not need to specify this item.	Input	Disabled	O	Job server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1ajs.hostNameRemote	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1ajs.logicalHostNameRemote	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
OS.osKind	Select one of the following values: Windows,UNIX
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1ajs.jobnetListFilePath	A string that has 8 to 255 characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < > | ; & * ? " % [ ] !
jp1ajs.jobnetInfoSheetName	A string that has 1 to 31 characters except for: 1) The following single-byte symbols: < > | ; : & * ? " % / \ ! ` { [ ] 2) Multi-byte characters corresponding to the following symbols: : \ ? [ ] / *
jp1ajs.serviceNameRemote	A string that has 255 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & `
jp1ajs.jp1UserName	A string that has 31 or fewer single-byte alphanumeric characters, including the following symbols: ! # $ % ' - @ _ ~

Flow specification details

The following table shows the detailed specification of the flow:

| Hierarchy | Display name | Plug-in | | |
		Plug-in name	Description	Error recovery method
1	getRootJobnetKeyList	Obtain column data from a CSV/Excel file	Obtains a list of key values from the root jobnet definition file.	After removing the cause of the error, run the service again.
2	forEachRootJobnet	Repeated Execution Plug-in	Deletes the repeated root jobnet based on the key information that was read.	After removing the cause of the error, run the service again.

2.5.9 JP1/AJS root jobnet deletion (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in			
		Plug-in name	Description	Error recovery method
1	readRootJobnet	Obtain row data from a CSV/Excel file	Reads root jobnet information from the root jobnet definition file.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
2	judgeOsWindows	Judge Value Plug-in	Judges whether the operating system is Windows.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
3	flowWindows	Flow Plug-in	This flow is for use in Windows.	--
3-1		Judge Value Plug-in	Judges whether the connected host is a logical host.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
3-2		General Command Plug-in	For a logical host, this plug-in replaces the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
3-3		General Command Plug-in	Cancels the registration and execution of a root jobnet.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
3-4		General Command Plug-in	Deletes a root jobnet definition.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
4	judgeOsUNIX	Judge Value Plug-in	Judges whether the operating system is Linux.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
5	flowUNIX	Flow Plug-in	This flow is for use in Linux.	--
5-1		Judge Value Plug-in	Judges whether the connected host is a logical host.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
5-2		General Command Plug-in	For a logical host, this plug-in replaces the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
5-2	flowUNIX	General Command Plug-in	For a logical host, this plug-in replaces the environment variables used in a command line with work variables.	was successful from the root jobnet definition file. Then run the service again.
5-3		General Command Plug-in	Cancels the registration and execution of a root jobnet.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
5-4		General Command Plug-in	Deletes a root jobnet definition.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.

2.5.10 JP1/AJS root jobnet deletion(SYSTEM)

Function

This service template deletes root jobnets defined in JP1/AJS3 - Manager (hereafter referred to as "JP1/AJS3") based on a list of processing-target root jobnets (hereafter referred to as the "root jobnet definition file") created in CSV (Comma Separated Values) or Excel format.

If the JP1/AO server is in a Windows environment, use a CSV or Excel file. If the JP1/AO server is in a UNIX environment, use a CSV file.

To use this service template, the following servers are required:

- Job server

A server running JP1/AJS, where the root jobnets to be deleted are registered

Key values are retrieved from the root jobnet definition file specified by the property jp1ajs.jobnetListFilePath, and then the following processing is executed for all key values:

(1) For each row corresponding to a key value, retrieve the root jobnet name.

(2) Using the information retrieved in step (1), execute the command ajsleave on the job server to cancel the registration of root jobnets that are scheduled to be executed. Even if cancellation fails, processing continues without resulting in an error.

(3) Using the information retrieved in step (1), execute the command ajsdelete on the job server to delete root jobnet definitions for root jobnets that are not registered for execution. If deletion fails, the task terminates abnormally.

The root jobnet definition file can contain a maximum of 99 entries (rows) of root jobnet information.

During processing to change root jobnet information, a plug-in is executed repeatedly to change each entry sequentially.

If reading a root jobnet definition file fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the system executing the service templates:

(1) The following Microsoft program must be installed on the JP1/AO server:

2007 Office System Driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

(2) The following product must be running on the job server:

Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the system executing the service templates:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using the prerequisite products in the service-template execution system:

(1) A JP1/AJS scheduler service must be running.

(2) The JP1 user specified by the property jp1ajs.jp1UserName must be registered on the job server.

(3) The deletion-target root jobs must be registered but not running on the job server.

(4) This service template supports only the deletion of root jobnets. It does not support the deletion of job groups.

(5) The root jobnet definition file containing the following information must be stored on the JP1/AO server:

(5-a) Number of columns

There must be no more than 255 columns after the column starting from which data is to be retrieved.

(5-b) Column names

For CSV files:

- If column names are necessary, specify them in the first row. If column names are unnecessary, do not specify them.

- Regardless of whether column names are specified, data retrieval must start from the second row or a following row.

For Excel files:

- Column names must be specified. In the file, the first row containing data is assumed to be the row of column names.

- Data retrieval starts from the row below the row of column names.

When specifying column names, follow the rules described in (6).

(5-c) Key information

Each row in the root jobnet definition file must have a unique key value, specified in the key value column. You can use any value for the key value. We recommend that you use short values, such as integers starting from 1. Key values must not contain a double quotation mark (") or single quotation mark ('). The sum of the total number of bytes for all key values and the number of data rows must not exceed 1,017 bytes. If you omit a key value, the corresponding row will be excluded from the processing target.

(5-d) Parent unit name

Specify the name of the parent unit for each root jobnet. Make sure that the same parent unit name is specified on both the development server and the job server. To specify a root job group, enter a null string.

(5-e) Root jobnet name

Specify root jobnet names. You cannot specify the names of jobs or job groups. You cannot specify the names of jobnets that are not root jobnets. Make sure that the same root jobnet names are specified on both the development server and the job server. You cannot omit a root jobnet name.

Example:

Key,Parent Unit,Root Jobnet

1,/parent1,jobnet1

2,/parent2,jobnet2

3,/parent3,jobnet3

(6) In order to execute this service, you must set the JP1/AO server (loopback address resolved by "localhost") and job server as agentless connection destinations.

(7) When specifying column names in the root jobnet definition file, follow the rules below.

(7-a) Use string-type data instead of numeric-type data.

(7-b) The specifiable characters are as follows:

- The first character of the key value column name must not be a number (one-byte or two-byte) or any of the following symbols: ! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ /

- The key value column name cannot contain any of the following symbols: " # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- The names of columns other than the key value column must not contain any of the following symbols: ! [ ] ` , .

(7-c) Each column name can have a maximum of 64 characters (one-byte or two-byte).

(8) Check the fields to be read from the root jobnet definition file to make sure none of the following exist:

- A field containing any of the following symbols: , < > | ; &

- A field containing a double quotation mark (") that is not used to enclose the field value.

- A field ending with a backslash (\).

- A field containing any control characters (0x00 to 0x1f).

If there is a field that meets any of the conditions above, the task terminates abnormally.

If all fields on a row are blank, the task ignores the row and reads the next row.

Cautions

[Notes on root jobnet definition files]

- If the JP1/AO server is running in a Windows environment

(1) For Excel files, make sure there are no merged cells or cells containing errors in expression. If such a cell exists, a null value is read for that cell. In addition, make sure no write-protection password is set. If a write-protection password is set for the root jobnet definition file to be read, the task terminates abnormally.

(2) Make sure that string-type data and numeric-type data do not coexist in the same column. If different types of data coexist, values might not be obtained correctly, depending on the specifications of the ODBC driver.

(2-a) Numeric-type data includes the following types of base-10 numbers:

Negative integers (Example: -12345)

Fixed-point numbers (Example: 3.1415)

Floating-point numbers (Example: 6.543E+10)

(2-b) String-type data is any data that is not numeric-type data.

(3) To obtain a column that contains different types of data from the file to be read, first perform one of the following steps:

- If the root jobnet definition file is an Excel file, prefix each numeric-type value with a single quotation mark (').

- If the root jobnet definition file is a CSV file, enclose each numeric-type value in double quotation marks (").

(4) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

- If the JP1/AO server is running in a UNIX environment

(1) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

(2) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(3) Any number of single-byte spaces or tab characters at the beginning or end of a row in a root jobnet definition information file are ignored.

[Other notes]

(1) Note the following restrictions on the maximum lengths of certain items:

- For the property jp1ajs.logicalHostNameRemote: 64 characters

- For the jobnet definition file entry "parent unit name": 512 characters

If you specify a value longer than the maximum length, a command executed by the task might be truncated. A truncated command might not be executed normally. If a maximum length is exceeded, the message KNAE08015-W is output to the task log.

(2) If the OS of both the development server and the job server is Windows, to specify a percent sign (%) for any of the items below, you must add an escape character (%). In other words, specify %%.

- The property jp1ajs.jp1UserName

- The property jp1ajs.serviceNameRemote

- Root jobnet definition file entries (Note that you cannot use percent signs in root jobnet names.)

(3) If the OS of both the development server and the job server is Windows, you cannot use a double quotation mark (") for either of the following properties:

- jp1ajs.serviceNameRemote

(4) If the OS of both the development server and the job server is UNIX, you cannot use a single quotation mark (') for any of the following items:

- The property jp1ajs.jp1UserName

- The property jp1ajs.serviceNameRemote

- Root jobnet definition file entries

(5) For more information, see the notes on the commands ajsleave and ajsdefine in the manual "Job Management Partner 1/Automatic Job Management System 3 Command Reference 1".

Execution privilege

Users who belong to the Administrator group

If the user used to log in to the execution target server is the user specified by the property jp1ajs.jp1UserName and if "yes" is specified for the environment settings parameter ADMACLIMIT of the JP1/AJS3 common information, the user must have the following permissions:

(Applicable for both Windows and UNIX)

For the job server:

The JP1_AJS_Manager or JP1_AJS_Admin permission is required.

Note: If you do not need to cancel the registration of root jobnets for execution, the user only need to have the JP1_AJS_Editor permission.

Version

03.10.02

Tags

Configure JP1,AJS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Root jobnet information	Information about a root jobnet.	Y
Job server information	Information about the job server.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.hostNameRemote	Host name (job server)	Specify the host name or IP address of the job server. Make sure that you do not specify an IPv6 address. In a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Job server information
jp1ajs.logicalHostNameRemote	Logical host name (job server)	If JP1/AJS on the job server is in a cluster configuration, specify the logical host name of JP1/AJS.	Input	Disabled	O	Job server information
OS.osKind	OS type	Specify the OS type (Windows or UNIX).	Input	Disabled	R	Job server information
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a root jobnet definition file fails (only applicable to Windows). This value multiplied by the retry	Input	Disabled	R	Root jobnet information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disabled	R	Root jobnet information
OS.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a root jobnet definition file fails (only applicable to Windows).	Input	Disabled	R	Root jobnet information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1ajs.jobnetListFilePath	Path of the root jobnet definition file	Specify a full path for the root jobnet definition file stored on the JP1/AO server. The file extension of the file must be csv, xls, xlsx, or xlsm.	Input	Disabled	R	Root jobnet information
jp1ajs.jobnetInfoSheetName	Root jobnet definition file's sheet name	Specify the name of the sheet that contains root jobnet information. Make sure that you specify this item if the root jobnet definition file is an Excel file. The sheet name specified for a CSV file is ignored.	Input	Disabled	R	Root jobnet information
jp1ajs.serviceNameRemote	JP1/AJS scheduler service name (job server)	Specify the name of a scheduler service on the job server.	Input	Disabled	R	Job server information
jp1ajs.jp1UserName	JP1 user name	Specify the name of the JP1 user who executes JP1/AJS commands. If this JP1 user name is the same as the name of the OS user who logs in to the server, you do not need to specify this item.	Input	Disabled	O	Job server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1ajs.hostNameRemote	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1ajs.logicalHostNameRemote	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
OS.osKind	Select one of the following values: Windows,UNIX

Property key	Characters that can be input
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1ajs.jobnetListFilePath	A string that has 8 to 255 characters, does not end with a backslash (\) or forward slash (/), and does not include the following symbols: < > | ; & * ? " % [ ] !
jp1ajs.jobnetInfoSheetName	A string that has 1 to 31 characters except for: 1) The following single-byte symbols: < > | ; : & * ? " % / \ ! ` { [ ] 2) Multi-byte characters corresponding to the following symbols: : \ ? [ ] / *
jp1ajs.serviceNameRemote	A string that has 255 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & `
jp1ajs.jp1UserName	A string that has 31 or fewer single-byte alphanumeric characters, including the following symbols: ! # $ % ' - @ _ ~

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	getRootJobnetKeyList_System	Obtain column data from a CSV/Excel file(SYSTEM)	Obtains a list of key values from the root jobnet definition file.	After removing the cause of the error, run the service again.
2	forEachRootJobnet	Repeated Execution Plug-in	Deletes the repeated root jobnet based on the key information that was read.	After removing the cause of the error, run the service again.

2.5.11 JP1/AJS root jobnet deletion(SYSTEM)(repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	readRootJobnet_System	Obtain row data from a CSV/Excel file(SYSTEM)	Reads root jobnet information from the root jobnet definition file.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
2	judgeOsWindows	Judge Value Plug-in	Judges whether the operating system is Windows.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
2	judgeOsWindows	Judge Value Plug-in	Judges whether the operating system is Windows.	jobnet definition file. Then run the service again.
3	flowWindows	Flow Plug-in	This flow is for use in Windows.	--
3-1		Judge Value Plug-in	Judges whether the connected host is a logical host.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
3-2		General Command Plug-in	For a logical host, this plug-in replaces the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
3-3		General Command Plug-in	Cancels the registration and execution of a root jobnet.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
3-4		General Command Plug-in	Deletes a root jobnet definition.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
4	judgeOsUNIX	Judge Value Plug-in	Judges whether the operating system is Linux.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
5	flowUNIX	Flow Plug-in	This flow is for use in Linux.	--
5-1		Judge Value Plug-in	Judges whether the connected host is a logical host.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
5-2		General Command Plug-in	For a logical host, this plug-in replaces the environment variables used in a command line with work variables.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.
5-3		General Command Plug-in	Cancels the registration and execution of a root jobnet.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
5-4	flowUNIX	General Command Plug-in	Deletes a root jobnet definition.	Remove the cause of the error, and then remove the descriptions of jobnets for which deletion was successful from the root jobnet definition file. Then run the service again.

2.5.12 Obtain JP1/CM2 monitored node list

Function

Obtains the JP1/CM2/NNMi monitored node list.

This service template requires the following servers:

- NNMi server

This is the server where JP1/Cm2/NNMi is installed.

- Monitored node

This is the server or device monitored by JP1/Cm2/NNMi.

An overview of the process is given below.

1. Obtain the monitored node list of the NNMi server, and output it to the specified file in XML format. The output format of the file is identical to the output results of the JP1/Cm2/NNMi command nnmtopodump.

2. Transfer the file that was output from the NNMi server to the JP1/AO server, and delete the transfer source file from the NNMi server.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Job Management Partner 1/Cm2/Network Node Manager i 10-00, 10-10, 10-50

(2) JP1/Network Node Manager i 11-00, 11-10, 11-50, 12-00, 12-10, 12-50, 12-60

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions of prerequisite products in the system executing the service template]

(1) When this service is executed, the JP1/AO server (loopback address resolved by "localhost") and NNMI server must be set as agentless connection targets.

(2) When using JP1/Cm2/NNMi 09-10, make sure that account credentials (the values used as a user name and password when a JP1/Cm2/NNMi script is executed) have already been specified.

Cautions

(1) Do not execute multiple instances of this service simultaneously in the NNMi server.

(2) This service executes the nnmtopodump command in the NNMi server. For this reason, do not execute the nnmtopodump command in the NNMi server while this service is being executed. In the same way, do not execute this service while the nnmtopodump command is being executed in the NNMi server.

(3) If the OS running in the execution target server is Linux, a command is executed at the default locale of the connected user defined in the agentless connection target. Set a locale supported by JP1/Cm2/NNMi for the default locale of the connection user. For details, see "Locale set for operation target devices during plug-in execution" and "Character set used for communication by JP1/AO during plug-in execution" in the JP1/AO manual and the JP1/Cm2/NNMi release notes.

(4) If a file name specified remotely or locally already exists, the existing file is overwritten. Also, the files on the remote side are deleted. For this reason, carefully check that there are no mistakes in the specified file name.

(5) If a folder with the path specified remotely does not exist, the folder is created. The created folder remains and is not deleted. Delete unused folders on a regular basis.

Version

02.00.00

Tags

Gather JP1 information,NNMi

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitoring system environment information	Specify the environment information of the NNMi server.	Y
Output file storage information	Specify the storage location of the output file.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1cm2nnm.nnmHostName	NNMi server host name	Specifies the host name or IP address of the server where JP1/Cm2/NNMi is installed. IPv6 addresses are not supported. When a cluster configuration is used, specify the physical host or logical host of the execution system server.	Input	Disabled	R	Monitoring system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1cm2nnm.nodeListFileNameRemote	Output file path (remote)	Specifies the temporary file name when outputting the monitored node list file to the NNMi server as a full path. The remote file is deleted after transfer.	Input	Disabled	R	Output file storage information
jp1cm2nnm.nodeListFileNameLocal	Output file path (local)	Specifies the file name of the JP1/AO server that obtains the monitored node list file as a full path.	Input	Disabled	R	Output file storage information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1cm2nnm.nnmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1cm2nnm.nodeListFileNameRemote	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % ` or a trailing \ or /
jp1cm2nnm.nodeListFileNameLocal	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % or a trailing \ or /

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	getNodeListFileJP1Cm2	Output of the NNMi topology database content	Obtains the NNMi monitored node list.	After removing the cause of the error, run the service again.
2	FileTransferPlugin	File-Forwarding Plug-in	Transfers the monitored node list file.	After removing the cause of the error, run the service again.
3	osDeleteFile	Delete file	Deletes temporary files.	Files remain in the target server. Delete them manually.

2.5.13 Update JP1/IM-SS Item information

Function

This service template updates the statuses of registered Items by using the JP1/IM-SS command jssitemedit.

This service template requires the following servers:

- JP1/IM-SS server

A server on which JP1/IM-SS is operating

- JP1/AO server

A server on which JP1/AO is operating

The following is an overview of the function:

(1) Information about an Item registered on the JP1/IM-SS server is updated.

1. The JP1/IM-SS command jssitemedit is issued to update the Item information to the specified values.

Only basic information can be registered for an Item. The Item information to be registered is specified by using the properties in the property group "Item Basic Information".

Only basic information can be updated for an Item. The Item information to be updated is specified by using the properties in the property group "Item Basic Information".

2. The value of the status (jp1imss.statusTypeCode property) must be specified by using one of the followings keys set in the JP1/IM-SS code mapping file (by default, jp1imss_itemedit_codemap.conf):

- Received

- Investigating

- Planning

- Discussing

- Support requested

- Reviewing

- Acknowledged

- Close

- Extended status 01 to 40

To use keys other than the default keys above, create a code mapping file, and then specify the name of that file for the item that sets the remote code mapping file path (jp1imss.codeMappingFile).

For details about the code mapping file, see the "JP1/Service Support Configuration and Operation Guide".

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products in the service-template execution system, and the OSs for the prerequisite products in the service-template execution system, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) The following product must be running on the JP1/IM-SS server:

Job Management Partner 1/Integrated Management - Service Support 10-10 or later, or

JP1/Service Support 11-00 or later

OSs for the prerequisite products in the service-template execution system:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products in the service-template execution system:

(1) The Item specified by the Item ID must exist on the JP1/IM-SS server.

(2) The user ID to be specified as a property must be defined on the JP1/IM-SS server.

(3) The role ID to be specified as a property must be defined on the JP1/IM-SS server.

Cautions

(1) Only properties that are explicitly specified are updated. To update properties that are not specified, update them from the JP1/IM-SS GUI or CLI.

Execution privilege

Built-in Administrator

Version

02.00.00

Tags

Configure JP1,SS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
JP1/IM-SS Environment Information	Specify information about the JP1/IM-SS server.	Y
Item Basic Information	Specify the basic information about the Item to be edited.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1imss.imssServerName	JP1/IM-SS server host name	Specify the host name or IP address of the JP1/IM-SS server that manages Items. Do not specify an IPv6 address.	Input	Disabled	R	JP1/IM-SS Environment Information
jp1imss.entryUserID	Item-registering user ID	Specify the ID of the user who will register the Item.	Input	Disabled	R	Item Basic Information
jp1imss.ownerUserType	Person-in-charge type	Specify USER or ROLE as the type of person in charge of the Item.	Input	Disabled	R	Item Basic Information
jp1imss.ownerUserID	Person-in-charge ID	Specify the user ID or role ID of the user who is to be in charge of the Item.	Input	Disabled	R	Item Basic Information
jp1imss.codeMappingFile	Code mapping file path (remote)	Specify a full path for a code mapping file on the JP1/IM-SS server if a user-defined code mapping file needs to be used.	Input	Disabled	O	Item Basic Information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1imss.itemID	Item ID	Specify an ID that uniquely identifies the Item. Specify the Item ID in JP1/IM-SS.	Input	Disabled	R	Item Basic Information
jp1imss.statusTypeCode	Status	Specify the status to be set for the Item.	Input	Disabled	R	Item Basic Information
jp1imss.forceWrite	Whether the Item being editing can be updated	If "true" is specified, the Item can be updated while it is being edited. If "false" is specified, the Item cannot be updated while	Input	Disabled	O	Item Basic Information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1imss.forceWrite	Whether the Item being editing can be updated	it is being edited. The default is "false".	Input	Disabled	O	Item Basic Information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1imss.imssServerName	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1imss.entryUserID	A string that has 64 or fewer single-byte alphanumeric characters
jp1imss.ownerUserType	Select one of the following values: USER,ROLE
jp1imss.ownerUserID	A string that has 64 or fewer single-byte alphanumeric characters, including underscores (_)
jp1imss.codeMappingFile	A string that has 4 to 255 characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % / `

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1imss.itemID	A string that has 75 or fewer single-byte alphanumeric characters, including hyphens (-)
jp1imss.statusTypeCode	A string that has 255 or fewer single-byte alphanumeric characters and multi-byte characters
jp1imss.forceWrite	Select one of the following values: true,false

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	updateItemJP1IMSS	Update JP1/IM-SS Item information	Updates Items registered to the JP1/IM-SS server.	After removing the cause of the error, run the service again.

2.5.14 Register a JP1/IM-SS Item

Function

This service template uses the JP1/IM-SS command jssitementry to register Items.

This service template requires the following servers:

- JP1/IM-SS server

A server on which JP1/IM-SS is operating

- JP1/AO server

A server on which JP1/AO is operating

The following is an overview of the function:

(1) An Item is registered to the JP1/IM-SS server.

1. The JP1/IM-SS command jssitementry is issued to register a new Item in a process workboard of JP1/IM-SS. Only basic information can be registered for an Item. The Item information to be registered is specified by using the properties in the property group "Item Basic Information".

2. If the environment settings for linking with JP1/AO are already specified in JP1/IM-SS, the settings for calling the JP1/AO service execution dialog box are specified in the "related information" for the Item to be registered, by specifying all properties in the property group "JP1/IM-SS Information Related to JP1/IM-SS Linkage with JP1/AO".

The value of the property jp1imss.relatedInformationName is set as the display name of the "related information" for the Item. The URL string set in the "related information" for the Item is created by using specified property values. The format of the URL string is as follows:

URL set in the related information:

<JP1/AO-server-protocol>://<JP1/AO-server-host-name>:<JP1/AO-server-command-execution-port-number>/Automation/launcher/SubmitTask

For the values to be specified for the above properties, see hptl_jp1_imss_add_item_info_url_$n in the JP1/IM-SS system properties file (hptl_jp1_imss_main_setting.properties).

3. The severity level (jp1imss.severity) must be specified by using one of the following keys set in the JP1/IM-SS code mapping file (by default, jp1imss_itementry_codemap.conf):

Note: The names displayed in the default Item form are enclosed in parentheses.

- Emergency (Emergency)

- Alert (Alert)

- Critical (Critical)

- Error (Error)

- Warning (Warning)

- Notice (Notice)

- Information (Information)

- Debug (Debug)

To use keys other than the default keys above, create a code mapping file, and then specify the name of that file for the item that sets the remote code mapping file path (jp1imss.codeMappingFile).

For details about the code mapping file, see the "Job Management Partner 1/Integrated Management - Service Support Configuration and Operation Guide".

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products in the service-template execution system, and the OSs for the prerequisite products in the service-template execution system, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) The following product must be running on the JP1/IM-SS server:

Job Management Partner 1/Integrated Management - Service Support 10-10 or later, or

JP1/Service Support 11-00 or later

OSs for the prerequisite products in the service-template execution system:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products in the service-template execution system:

(1) The process workboard to which Items are to be registered must be defined on the JP1/IM-SS server.

(2) The user ID to be specified as a property must be defined on the JP1/IM-SS server.

(3) The role ID to be specified as a property must be defined on the JP1/IM-SS server.

Conditions for using the JP1/IM-SS function for JP1/AO linkage:

(1) The JP1/IM-SS server and the JP1/AO server must be linked by single sign-on.

For details about how to set up single sign-on, see the section that describes linkage with JP1/AO in the "JP1/Service Support Configuration and Operation Guide".

(2) Extended text data must be added to the Item form.

The name of the service group that includes the service called by the JP1/IM-SS function for JP1/AO linkage and the extended text data for that service must be added to the Item form of JP1/IM-SS.

For details about how to set up the Item form, see the section that describes Item form customization in the "JP1/Service Support Configuration and Operation Guide".

(3) The item IDs for extended text data must be set in the system properties file.

Set the item IDs for the extended text data added to the Item form in the JP1/IM-SS system properties file (hptl_jp1_imss_main_setting.properties). At this time, specify the item IDs as information (service group name and service name of the service) to be inherited by JP1/AO.

For details about how to set up the system properties file, see the section that describes linkage with JP1/AO in the "Job Management Partner 1/Integrated Management - Service Support Configuration and Operation Guide".

(4) The service to be called by the JP1/IM-SS function for JP1/AO linkage must exist as a service on the local server.

Cautions

(1) Only properties that are explicitly specified are registered. To register properties that are not specified, update the Item information from the JP1/IM-SS GUI or CLI.

(2) If you specify the any of the following four properties, you must specify all of them:

- jp1imss.relatedResourceGroupName

- jp1imss.relatedResourceGroupNumber

- jp1imss.relatedServiceName

- jp1imss.relatedServiceNumber

(3) For the following properties, do not specify a value that begins with "//":

- jp1imss.titleName

- jp1imss.summary

- jp1imss.relatedInformationName

- jp1imss.relatedServiceName

Execution privilege

Built-in Administrator

Version

02.00.00

Tags

Configure JP1,SS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
JP1/IM-SS Environment Information	Specify information about the JP1/IM-SS server.	Y
Item Basic Information	Specify the basic information about the Item to be registered.	Y
Information Related to JP1/IM-SS Linkage with JP1/AO	Specify the information needed to use the JP1/IM-SS function for JP1/AO linkage to set up a link for calling a JP1/AO service from JP1/IM-SS.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
    R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1imss.imssServerName	JP1/IM-SS server host name	Specify the host name or IP address of the JP1/IM-SS server that manages Items. Do not specify an IPv6 address.	Input	Disabled	R	JP1/IM-SS Environment Information
jp1imss.processWorkBoardID	Process workboard ID	Specify the ID of the process workboard for which the Item is to be registered.	Input	Disabled	R	Item Basic Information
jp1imss.entryUserID	Item-registering user ID	Specify the ID of the user who will register the Item.	Input	Disabled	R	Item Basic Information
jp1imss.ownerUserType	Person-in-charge type	Specify USER or ROLE as the type of person in charge of the Item.	Input	Disabled	R	Item Basic Information
jp1imss.ownerUserID	Person-in-charge ID	Specify the user ID or role ID of the user who is to be in charge of the Item.	Input	Disabled	R	Item Basic Information
jp1imss.codeMappingFile	Code mapping file path (remote)	Specify a full path for a code mapping file on the JP1/IM-SS server if a user-defined code mapping file needs to be used.	Input	Disabled	O	Item Basic Information
jp1imss.relatedIP	JP1/AO server host name	Specify the host name or IP address of the JP1/AO server when calling the JP1/AO service execution window from the related information for a registered Item by using JP1/IM-SS linkage with JP1/AO. Do not specify an IPv6 address.	Input	Disabled	O	Information Related to JP1/IM-SS Linkage with JP1/AO
jp1imss.relatedPortNumber	HTTP port for executing a JP1/AO server command	Specify the HTTP port for executing a JP1/AO server command when calling the JP1/AO service execution window from the related information for a registered Item by using JP1/IM-SS linkage with JP1/AO.	Input	Disabled	O	Information Related to JP1/IM-SS Linkage with JP1/AO
jp1imss.relatedProtocol	JP1/AO server protocol	Specify "http" as the protocol when calling the JP1/AO service execution window from the related information for a registered Item by using JP1/IM-SS linkage with JP1/AO.	Input	Disabled	O	Information Related to JP1/IM-SS Linkage with JP1/AO
jp1imss.relatedResourceGroupNumber	Extended text data number for service group of service to call	When calling JP1/AO service execution window from registered Item-related information, link JP1/IM-SS with JP1/AO to specify the extended text data number in the JP1/IM-SS system properties file as a property to assign to the service of service group name.	Input	Disabled	O	Information Related to JP1/IM-SS Linkage with JP1/AO

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1imss.relatedServiceN umber	Extended text data number for the service to call	When calling the JP1/AO service execution window from registered Item-related information, link JP1/IM-SS with JP1/AO to specify the extended text data number in the JP1/IM-SS system properties file as a property to assign to the service name.	Input	Disab led	O	Information Related to JP1/IM-SS Linkage with JP1/AO

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1imss.titleName	Title	Specify the title of the Item.	Input	Disab led	R	Item Basic Information
jp1imss.severity	Severity level	Specify the severity level to be set for the Item.	Input	Disab led	O	Item Basic Information
jp1imss.summary	Outline	Specify the outline of the Item.	Input	Disab led	O	Item Basic Information
jp1imss.relatedInformati onName	Display name of related information	Specify the display name of the related information for the Item when calling the JP1/AO service execution window from the related information for a registered Item by using JP1/IM-SS linkage with JP1/AO.	Input	Disab led	O	Information Related to JP1/IM-SS Linkage with JP1/AO
jp1imss.relatedResource GroupName	Service group name of the service to be called	Specify the service group name of the service to be called when calling the JP1/AO service execution window from the related information for a registered Item by using JP1/IM-SS linkage with JP1/AO.	Input	Disab led	O	Information Related to JP1/IM-SS Linkage with JP1/AO
jp1imss.relatedServiceN ame	Name of the service to call	Specify the name of the service to be called when calling the JP1/AO service execution window from the related information for a registered Item by using JP1/IM-SS linkage with JP1/AO.	Input	Disab led	O	Information Related to JP1/IM-SS Linkage with JP1/AO

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1imss.imssServerName	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1imss.processWorkBoardID	A string that has 64 or fewer single-byte alphanumeric characters
jp1imss.entryUserID	A string that has 64 or fewer single-byte alphanumeric characters
jp1imss.ownerUserType	Select one of the following values:

Property key	Characters that can be input
jp1imss.ownerUserType	USER,ROLE
jp1imss.ownerUserID	A string that has 64 or fewer single-byte alphanumeric characters, including underscores (_)
jp1imss.codeMappingFile	A string that has 4 to 255 characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % / `
jp1imss.relatedIP	A string that has 255 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
jp1imss.relatedPortNumber	An integer in the range from 1 to 65,535
jp1imss.relatedProtocol	5 or fewer single-byte alphanumeric characters
jp1imss.relatedResourceGroupNumber	An integer in the range from 1 to 20
jp1imss.relatedServiceNumber	An integer in the range from 1 to 20

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1imss.titleName	A string that has 512 or fewer characters, does not begin with "//" or "-", and does not include the following symbols: " $ & ; < > ` { | }
jp1imss.severity	A string that has 255 or fewer single-byte alphanumeric characters and multi-byte characters.
jp1imss.summary	A string that has 1,024 or fewer characters, does not begin with "//" or "-", and does not include the following symbols: " $ & ; < > ` { | }
jp1imss.relatedInformationName	A string that has 512 or fewer characters, does not begin with "//" or "-", and does not include the following symbols: " $ & ; < > ` { | }
jp1imss.relatedResourceGroupName	A string that has 63 or fewer single-byte alphanumeric characters, including underscores (_) and spaces
jp1imss.relatedServiceName	A string that has 64 or fewer characters, does not begin with "//" or "-", and does not include the following symbols: " $ & ; < > ` { | }

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	entryItemJP1IMSS	Register JP1/IM-SS Item	Registers an Item to the JP1/IM-SS server.	After removing the cause of the error, run the service again.

2.5.15 Get list of JP1/PFM monitoring targets

Function

This service template acquires a list of JP1/PFM - RM for Platform's monitored targets.

The service template checks JP1/PFM - RM for Platform's monitored targets.

This service template assumes the following server:

• PFM-RM server

Server on which JP1/PFM - RM for Platform is installed

The service template performs the following task:

(1) Outputs in text format to a specified file a list of the servers that are monitored in the instances by JP1/PFM - RM for Platform on the PFM - RM server. The output format of the file is the same as the format of the results output by JP1/PFM's jpcconf target list command.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products in the system executing the service template]

(1)Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-00 or later, or

JP1/Performance Management - Remote Monitor for Platform 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions of prerequisite products in the system executing the service template]

(1) The product name display function must be enabled in Job Management Partner 1/PFM.

(2) Job Management Partner 1/PFM's jpcconf command must be specified correctly, in accordance with its usage conditions.

Cautions

(1) Only one instance of this service can be executing on the same server at the same time.

(2) This service executes the jpcconf command on the PFM - RM server. Therefore, do not execute the jpcconf command on the PFM - RM server while the service is running.

Similarly, do not run this service while the jpcconf command is executing on the PFM - RM server.

(3) If you run this service in a Linux environment, do not use multi-byte characters in the properties.

(4) If a file name specified for the remote and local systems already exists, that file will be overwritten. Also, the file in the remote system will be deleted. Therefore, make sure that you specify the correct file names.

(5) If there is no folder on the specified path in the remote system, such a folder will be created. A folder that is created will remain and will not be deleted; for this reason, you should delete unneeded folders periodically.

Version

02.00.00

Tags

Gather JP1 information,PFM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify the environment information of the PFM - RM server.	Y
Monitoring target acquisition information	Specify the information you want to acquire about the monitored servers.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.pfmRMHostName	JP1/PFM - RM host name	Specify the host name or IP address of the server where JP1/PFM - RM for Platform is installed. IPv6 address is not supported. Specify the physical host name of primary server or the logical host name of JP1/PFM - RM for Platform.	Input	Disabled	R	Monitored system environment information
jp1pfm.jp1pfmRMLHostName	JP1/PFM - RM logical host name	Specify the logical host name of JP1/PFM - RM (when using JP1/PFM - RM for Platform in a cluster configuration).	Input	Disabled	O	Monitored system environment information
jp1pfm.reportOutputFileNameRemote	Report output file name(remote)	Specifies the full path name of the temporary file for outputting the list of monitored servers in JP1/PFM - RM for Platform to the PFM - RM server.	Input	Disabled	R	Monitoring target acquisition information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1pfm.instance	Instance name of JP1/PFM - RM	Specifies the JP1/PFM - RM for Platform instance name.	Input	Disab led	R	Monitoring target acquisition information
jp1pfm.reportOutputFile NameLocal	Report output file name(local)	Specifies the full path name of the file for acquiring the list of monitored servers in JP1/PFM - RM for Platform.	Input	Disab led	R	Monitoring target acquisition information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1pfm.pfmRMHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.jp1pfmRMLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.reportOutputFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1pfm.instance	A maximum of 32 characters can be entered. Characters that can be used include alphanumeric character.
jp1pfm.reportOutputFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	listMonitoringTargetJ P1PFM-RM	Display monitoring targets (JP1/PFM - RM)	Acquires a list of monitoring targets.	Eliminate the cause of the error, and then re-execute the service.
2	FileTransfer	File-forwarding plug-in	Transfer a list of monitoring targets.	Eliminate the cause of the error, and then re-execute the service.
3	osDeleteFile	Delete file	Deletes temporary files.	Eliminate the cause of the error, and then re-execute the service.

2.5.16 Get list of JP1/PFM alarm information

Function

This service template acquires a listing of JP1/PFM - RM's alarm information defined in JP1/PFM - Manager.

This service template assumes the following server:

• PFM management server

This is the server on which JP1/PFM - Web Console is installed.

The service template performs the following task:

(1) The service template outputs to a specified file in text format a list of JP1/PFM - RM's alarm table names defined in JP1/PFM - Manager, together with the specified service keys of all alarm tables defined on the PFM management server. The output format of the file is the same as the format of the results output by JP1/PFM's jpctool alarm list command.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products in the system executing the service template]

(1) Job Management Partner 1/PFM - Manager 10-00 or later, or

JP1/PFM - Manager 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) Job Management Partner 1/PFM - Manager must be running.

(2) The product name display function must be enabled in Job Management Partner 1/PFM.

(3) Job Management Partner 1/PFM's jpctool command must be specified correctly, in accordance with its usage conditions.

Cautions

(1) Only one instance of this service can be executing on the same server at the same time.

(2) This service executes the jpcconf command on the PFM management server. Therefore, do not execute the jpcconf command on the PFM management server while the service is running.

Similarly, do not run this service while the jpcconf command is executing on the PFM - RM server.

(3) If you run this service in a UNIX environment, do not use multi-byte characters in the properties.

(4) If a file name specified for the remote and local systems already exists, that file will be overwritten. Also, the file in the remote system will be deleted. Therefore, make sure that you specify the correct file names.

(5) If there is no folder on the specified path in the remote system, such a folder will be created. A folder that is created will remain and will not be deleted; for this reason, you should delete unneeded folders periodically.

Version

02.00.00

Tags

Gather JP1 information,PFM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify the environment information for the PFM management server.	Y
Alarm list acquisition information	Specify the information you want to acquire about the alarm list.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.pfmHostName	PFM management server host name	Specifies the host name or IP address of the server where JP1/PFM - Manager is installed. IPv6 addresses are not supported. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Monitored system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.reportOutputFileNameRemote	Report output file name(remote)	Specifies the full path name of the temporary file for outputting the list of alarm information to the PFM management server.	Input	Disabled	R	Alarm list acquisition information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.serviceKey	Service key	Specifies the service key for acquiring the list of alarm information.	Input	Disabled	R	Alarm list acquisition information
jp1pfm.reportOutputFileNameLocal	Report output file name(local)	Specifies the full path name of the file for acquiring the list of alarm information.	Input	Disabled	R	Alarm list acquisition information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1pfm.pfmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.reportOutputFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1pfm.serviceKey	This is a character string of 2 to 16 characters. < > | ; & " and ` are not allowed.
jp1pfm.reportOutputFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	listAlarmSettingJP1PFM	Get list of alarm table names (JP1/PFM - RM)	Acquires a list of alarm tables.	Eliminate the cause of the error, and then re-execute the service.
2	FileTransfer	File-forwarding plug-in	Transfer a list.	Eliminate the cause of the error, and then re-execute the service.
3	osDeleteFile	Delete file	Deletes temporary files.	Eliminate the cause of the error, and then re-execute the service.

2.5.17 Get list of JP1/PFM process monitoring settings

Function

This service template acquires a listing of JP1/PFM - RM's process monitoring settings specified in JP1/PFM - Manager.

This service template assumes the following server:

• PFM management server

This is the server on which JP1/PFM - Web Console is installed.

The service template performs the following task:

(1) The service template outputs in text format to a specified file a list of the application definition names defined in JP1/PFM - RM, together with the specified service IDs from the PFM management server. The output format of the file is the same as the format of the results output by JP1/PFM's jpcprocdef list command.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products in the system executing the service template]

(1)Job Management Partner 1/PFM - Web Console 10-00 or later, or

JP1/PFM - Web Console 11-00 or later

(2)Job Management Partner 1/PFM - Manager 10-00 or later, or

JP1/PFM - Manager 11-00 or later

(3)Job Management Partner 1/PFM - Remote Monitor for Platform 10-00 or later, or

JP1/PFM - Remote Monitor for Platform 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions of prerequisite products in the system executing the service template]

(1) Job Management Partner 1/PFM - Manager and the target Job Management Partner 1/PFM - RM must be running.

(2) Job Management Partner 1/PFM's jpcprocdef command must be specified correctly, in accordance with its usage conditions.

(3) Authentication for Job Management Partner 1/PFM - Manager is required during execution.

If an authentication key file has not been created, you must use the jpcmkkey command before you execute this command to create a key file for authenticating a user account with the Job Management Partner 1/PFM administrator user permissions.

Cautions

(1) If you run this service in a Linux environment, do not use multi-byte characters in the properties.

(2) If a file name specified for the remote and local systems already exists, that file will be overwritten. Also, the file in the remote system will be deleted. Therefore, make sure that you specify the correct file names.

(3) If there is no folder on the specified path in the remote system, such a folder will be created. A folder that is created will remain and will not be deleted; for this reason, you should delete unneeded folders periodically.

Version

02.00.00

Tags

Gather JP1 information,PFM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify the environment information for the PFM management server.	Y
Process monitoring settings list acquisition information	Specify the information you want to acquire about the process monitoring settings.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
> R: The property must be specified.
> O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.jp1pfmWebconHostName	JP1/PFM - Web Console host name	Specify the host name or IP addr. of the server where JP1/PFM - Web Console are installed. IPv6 is not supported. Specify the physical host name of primary	Input	Disabled	R	Monitored system environment information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1pfm.jp1pfmWebconH ostName	JP1/PFM - Web Console host name	server. In a cluster configuration, specify the logical host name.	Input	Disab led	R	Monitored system environment information
jp1pfm.reportOutputFile NameRemote	Report output file name(remote)	Specifies the full path name of the temporary file for outputting the list of process monitoring settings to the PFM management server.	Input	Disab led	R	Process monitoring settings list acquisition information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1pfm.serviceId	Service ID	Specifies the service ID for acquiring the list of process monitoring settings.	Input	Disab led	R	Process monitoring settings list acquisition information
jp1pfm.reportOutputFile NameLocal	Report output file name(local)	Specifies the full path name of the file for acquiring the list of process monitoring settings.	Input	Disab led	R	Process monitoring settings list acquisition information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1pfm.jp1pfmWebconHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.reportOutputFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1pfm.serviceId	A maximum of 258 characters can be entered. Characters that can be used include alphanumeric characters, as well as @ , [,] , . , and - .
jp1pfm.reportOutputFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	jp1pfmShowProcess Def	Get list of process monitoring settings	Acquires a list of process monitoring settings.	Eliminate the cause of the error, and then re-execute the service.
2	FileTransfer	File-forwarding plug-in	Transfer a list.	Eliminate the cause of the error, and then re-execute the service.
3	osDeleteFile	Delete file	Deletes temporary files.	Eliminate the cause of the error, and then re-execute the service.

2.5.18 Execution of instant recovery of JP1/VERITAS

Function

This service template is used to execute the virtual server's instant recovery jobs on the JP1/VERITAS NetBackup server, and outputs a detailed list of the running instant recovery jobs to the output file (local) (jp1veritas.listFileLocal property).

This service template requires the following server:

- JP1/VERITAS NetBackup server (#)

A server on which JP1/VERITAS NetBackup (master server) runs.

A backup must be created beforehand.

#: Agentless connection destination

The following is an overview of the procedure:

(1) Use JP1/VERITAS NetBackup to execute an instant recovery job (by using the nbrestorevm -ir_activate command).

To specify the virtual server for instant recovery, use the display name of the virtual server in VMware vCenter Server.

Instant recovery of the specified virtual server will be performed on the ESX server that managed the virtual server when the backup was made.

(2) Make sure that the instant recovery job successfully started. (Make sure that an instant recovery job exists with the virtual server name specified in the output result of the nbrestorevm -ir_listvm command.) Then, output a detailed list of the running instant recovery jobs (output result of the nbrestorevm -ir_listvm command) to the output file (remote) (jp1veritas.listFileRemote property).

(3) Transfer the remote temporary file created in (2) to the specified local output file.

(4) Delete the remote temporary file.

Note the following when you specify the property settings:

(1) If the media server and master server of JP1/VERITAS NetBackup exist on different servers, specify the host name of the media server for the jp1veritas.mediaServerHost property.

(2) When you perform instant recovery, wait for the number of seconds specified for the instant recovery job start wait interval (jp1veritas.waitJobActInterval property). Then, repeat the operation of checking the instance status the number

of times specified for the instant recovery job start wait count (jp1veritas.waitJobActCount property). Adjust the values of individual properties according to your environment.

(3) For the snapshot creation datastore (jp1veritas.dataStoreName property), specify the name of a datastore managed by the ESX server on which instant recovery is executed.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the release notes.

[Required product in the system]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Prerequisite products for the JP1/VERITAS NetBackup server

- JP1/VERITAS NetBackup 7.6, 7.7

- JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

- JP1/VERITAS NetBackup 9.0, 9.1

[Prerequisite product OS running in the system executing the service template]

(1) Required OS for the JP1/VERITAS NetBackup server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions of prerequisite products in the system executing the service template]

(1) A backup of the virtual server specified for the virtual server name (vmware.vmName property) on the JP1/VERITAS NetBackup server must be created. Create the backup, meeting the following conditions:

- In the backup policy, the VM display name is specified for the primary VM identifier.

- In the backup policy, a Windows server is specified as the backup host.

(2) Conditions regarding the virtual server

- Each virtual server name must be unique in the same vCenter management environment.

- The virtual server whose name is specified for the virtual server name (vmware.vmName property) must not exist in the same vCenter management environment.

Cautions

(1) Even if a task running in Job Management Partner 1/Automatic Operation is canceled (forced termination), the JP1/VERITAS NetBackup job is not canceled.

To cancel an instant recovery job running in JP1/VERITAS NetBackup, you must cancel the job in JP1/VERITAS NetBackup (by using the nbrestorevm -ir_deactivate command).

(2) Do not execute this service and the nbrestorevm -ir_activate command at the same time, or multiple services at the same time when the same virtual server name (vmware.vmName property) is specified. If they are executed at the same time, the instant recovery job might not be started correctly, even if the service successfully ended. Therefore, in the detailed list of the running instant recovery jobs, make sure that the following values are the same as the values specified in this plugin:

- virtual server name (VM Display Name)

- temporary datastore name (Temporary datastore name for writes)

- media server name (Media Server Name) (Only if the host name of the media server (common.mediaServerHost property) is specified)

(3) If the file names to be specified for the remote and local files already exist, the existing files are overwritten, and the remote files are deleted. Therefore, make sure that the specified file names are correct.

(4) If a folder for the specified path does not exist, the folder is created. The created folder remains undeleted. Delete the folder if it is not necessary.

Execution privilege

(1) The following privileges are required for a user to connect to the JP1/VERITAS NetBackup server:

- For Windows: Administrator privileges

- For Unix: Root privileges

Version

02.00.00

Tags

Control JP1,VERITAS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Environment information of the instant recovery execution server	Specify the environment information about the JP1/VERITAS NetBackup server.	Y
Virtual server information	Specify the virtual server information.	Y
Instant recovery information	Specify the information necessary for instant recovery.	Y
Output file storage information	Specify the storage destination of the output file.	Y

Property group	Description	Initial display
Execution option	A property regarding the status check when instant recovery is executed. Change the option as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.targetHost	Host name of the JP1/VERITAS NetBackup server	Specify the host name or IP address of the JP1/VERITAS NetBackup master server. IPv6 addresses are not supported. For a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Environment information of the instant recovery execution server

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server subject to instantly recovery (specify the display name of the virtual server in VMware vCenter Server, not the host name for the OS).	Input	Disabled	R	Virtual server information
jp1veritas.mediaServerHost	Host name of the media server	Specify the host name of the JP1/VERITAS NetBackUp media server. Specify this parameter if the master server and media server exist on different servers.	Input	Disabled	O	Instant recovery information
jp1veritas.dataStoreName	Snapshot creation data store	Specify the temporary data store on the ESX server to which snapshots are written until the virtual server is restored. Specify a created data store.	Input	Disabled	R	Instant recovery information
jp1veritas.startVM	Whether to start the virtual server	Select "true" to start the virtual server after an instant recovery. Specify "false" to terminate processing without starting the virtual server.	Input	Disabled	R	Instant recovery information
jp1veritas.listFileRemote	Output file (remote)	Specify the full path name of a temporary file used to output the details list for the running instant recovery job to the JP1/VERITAS NetBackup server.	Input	Disabled	R	Output file storage information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.listFileLocal	Output file (local)	Specify the full path name of the file on the JP1/AO server that acquires the details list for the running instant recovery job.	Input	Disabled	R	Output file storage information
jp1veritas.waitJobActCount	Wait count for starting instant recovery jobs	Specify the number of times to confirm that the instant recovery job has started. You can specify a value in the range from 1 to 3600.	Input	Disabled	R	Execution option
jp1veritas.waitJobActInterval	Wait interval for starting instant recovery jobs	Specify the interval (seconds) for confirming that the instant recovery job has started. You can specify a value in the range from 1 to 60.	Input	Disabled	R	Execution option

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1veritas.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	60 or fewer one-byte alphanumeric characters, spaces, plus signs (+), hyphens (-), underscores (_), left parentheses ((), right parentheses ()), and periods (.). However, the last character cannot be a period.
jp1veritas.mediaServerHost	256 or fewer one-byte alphanumeric characters, periods (.), and hyphens (-)
jp1veritas.dataStoreName	42 or fewer one-byte alphanumeric characters, spaces, plus signs (+), hyphens (-), underscores (_), left parentheses ((), right parentheses ()), and periods (.). However, the last character cannot be a period.
jp1veritas.startVM	Select one of the following values: true,false
jp1veritas.listFileRemote	A string of 256 or fewer characters. The string cannot end in a yen sign (\) or forward slash (/), and the following characters cannot be used: <, >, |, ;, &, *, ?, ", %, `
jp1veritas.listFileLocal	A string of 256 or fewer characters. The string cannot end in a yen sign (\) or forward slash (/), and the following characters cannot be used: <, >, |, ;, &, *, ?, ", %
jp1veritas.waitJobActCount	An integer value in the range from 1 to 3600
jp1veritas.waitJobActInterval	An integer value in the range from 1 to 60

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	jp1veritasStartInstant Recovery	Execution of instant recovery (JP1/VERITAS)	Executes instant recovery.	Check the job status in the NetBackup Administration Console, and then perform the recommended procedure described in JP1/VERITAS Symantec NetBackup(TM) Status Code Reference Guide. If you cannot check the job status in the NetBackup Administration Console, contact the system administrator.
2	FileTransferPlugin	File-forwarding plug-in	Transfers a remote temporary file to the specified local output file.	After removing the cause of the error, execute this and subsequent steps.
3	osDeleteFile	File deletion	Deletes a remote temporary file.	Check whether a temporary file exists. If the temporary file has not been deleted, delete it.

2.5.19 End of instant recovery of JP1/VERITAS

Function

This service template is used to restore the virtual server (for which instant recovery is being executed on the JP1/VERITAS NetBackup server). Specifically, this template migrates data from the temporary datastore used for instant recovery to the datastore to be used after restoration. This template also deletes the snapshot created when instant recovery is executed, and finishes the processing of the instant recovery job.

This service template supports the following types of servers:

- JP1/VERITAS NetBackup server (#)

A server on which JP1/VERITAS NetBackup (master server) runs.

An instant recovery job must be running.

- vCenter server

A server on which VMware vCenter Server has been installed

- vCenter control server (#)

A server on which the VMware vSphere PowerCLI has been installed

- Virtual server

A virtual server that is managed by the vCenter server and VMware vSphere ESXi.

#: Agentless connection destination

The following is an overview of the procedure:

(1) Perform migration.

Migrate data from the temporary datastore to the datastore to be used after restoration. Specify the destination datastore with the datastore name.

(2) Delete the snapshot.

Delete the snapshot created when instant recovery is executed (snapshot name: NBU_IR_SNAPSHOT).

(3) Finish the instant recovery job (by using the nbrestorevm -ir_done command).

Finish the instant recovery job by specifying it with the instant recovery ID.

Note the following when you specify the property settings:

(1) For the value to be entered for the instant recovery ID (jp1veritas.instantRecoveryID property), see the detailed list of the running instant recovery jobs (output result of the nbrestorevm -ir_listvm command).

(2) For the virtual server name to be specified for the vmware.vmName property, see the list of instant recovery jobs, and then enter the value corresponding to the instant recovery ID.

(3) Do not specify a temporary datastore name for the vmware.dataStoreName property.

(4) When you finish an instant recovery job, wait for the number of seconds specified for the instant recovery job end wait interval (jp1veritas.waitJobFinInterval property). Then, repeat the operation of finishing the instant recovery job the number of times specified for the instant recovery job end wait count (jp1veritas.waitJobFinCount property). Adjust the values of individual properties, according to your environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the release notes.

[Required product in the system]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Prerequisite products for the JP1/VERITAS NetBackup server

- JP1/VERITAS NetBackup 7.6, 7.7

- JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

- JP1/VERITAS NetBackup 9.0, 9.1

(2) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(3) Instance of VMware vSphere ESXi that manages the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(4) Prerequisite products for the vCenter control server

- VMware vSphere PowerCLI 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Note that instances of VMware vSphere ESXi that manage a virtual server, and the prerequisite products for the vCenter control server support the versions supported by JP1/VERITAS NetBackup.

[Prerequisite product OS running in the system executing the service template]

(1) Required OS for the JP1/VERITAS NetBackup server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(2) Prerequisite OS for the virtual server

In a configuration supported by the prerequisite products for the vCenter server, instances of VMware vSphere ESXi that manage a virtual server, and the prerequisite products for the vCenter control server, the following OSs are supported:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(3) Prerequisite OS for the vCenter control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) The instant recovery job specified for the instant recovery ID (common.instantRecoveryID property) is running on the JP1/VERITAS NetBackup server.

(2) VMware vSphere ESXi is managed by VMware vCenter Server.

(3) Conditions regarding the virtual server

- The virtual server name must be unique in the same vCenter management environment.

- VMwareTools has been installed on the virtual server.

- Each datastore name must be unique in the same vCenter management environment.

- Each snapshot name must be unique in the same vCenter management environment.

(4) The target virtual server environment meets the prerequisite of vMotion.

(5) The target virtual server environment meets the prerequisite of Storage vMotion.

Cautions

(1) Even if a task running in Job Management Partner 1/Automatic Operation is canceled (forced termination), the JP1/VERITAS NetBackup job is not canceled.

To cancel an instant recovery job running in JP1/VERITAS NetBackup, you must cancel the job in JP1/VERITAS NetBackup.

(2) Multiple services cannot be executed at the same time when the same virtual server name (common.vmName property) is specified. If they are executed at the same time, migration or deletion of snapshots might fail.

(3) Do not execute this service and the nbrestorevm -ir_done command at the same time with the same instance recovery ID (common.instantRecoveryID property) specified. If they are executed at the same time, the service might be abnormally terminated even if the instant recovery job has ended. Therefore, check the status of the instant recovery job in the NetBackup Administration Console.

Execution privilege

(1) The following privileges are required for a user to connect to VMware vCenter Server:

- A role that has the privileges of vMotion query, migration, and reallocation for the target virtual server, or the system administrator role

(2) The following privileges are required for a user to connect to the JP1/VERITAS NetBackup server:

- For Windows: Administrator privileges

- For UNIX: Root privileges

Version

02.11.00

Tags

Control JP1,VERITAS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Environment information of the instant recovery execution server	Specify the environment information about the JP1/VERITAS NetBackup server.	Y
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the virtual server information.	Y
Instant recovery information	Specify the information necessary for instant recovery.	Y
Execution option	A property regarding the status check when instant recovery is finished. Change the option as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.targetHost	Host name of the JP1/VERITAS NetBackup server	Specify the host name or IP address of the JP1/VERITAS NetBackup master server. IPv6 addresses are not supported. For a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Environment information of the instant recovery execution server
vmware.powerCLIHost	Host name of the vCenter control server	Specify the host name or IP address of the server on which VMware vSphere PowerCLI is installed. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for connecting to the VMware vCenter Server	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for connecting to the VMware vCenter Server	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	VMware vCenter Server connection port number	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.protocol	VMware vCenter Server connection protocol	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	Input	Disabled	R	Virtual server information
vmware.dataStoreName	Data store name	Specify the data store to be migrated from the temporary data store created when an instant recovery is performed. Specify a created data store.	Input	Disabled	R	Virtual server information
jp1veritas.instantRecoveryID	Instant recovery ID	Specify the ID of the instant recovery job to end.	Input	Disabled	R	Instant recovery information
jp1veritas.waitJobFinCount	Wait count for ending instant recovery jobs	Specify the number of times to confirm that the instant recovery job ended. You can specify a value in the range from 1 to 3600.	Input	Disabled	R	Execution option
jp1veritas.waitJobFinInterval	Wait interval for ending instant recovery jobs	Specify the interval (seconds) for confirming that the instant recovery job ended. You can specify a value in the range from 1 to 60.	Input	Disabled	R	Execution option

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1veritas.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.powerCLIHost	256 or fewer one-byte alphanumeric characters, periods (.), and hyphens (-).
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	60 or fewer one-byte alphanumeric characters, spaces, plus signs (+), hyphens (-), underscores (_), left parentheses ((), right parentheses ()), and periods (.). However, the last character cannot be a period.
vmware.dataStoreName	A maximum of 42 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
jp1veritas.instantRecoveryID	An integer value in the range from 1 to 2147483647
jp1veritas.waitJobFinCount	An integer value in the range from 1 to 3600
jp1veritas.waitJobFinInterval	An integer value in the range from 1 to 60

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereMigration	Migration of the virtual server	Migrates the data from the temporary datastore used for instant recovery to the datastore to be used after restoration.	Check the task log. After removing the cause of the error, run the service again.
2	vsphereRemoveSnapshot	Deletion of the virtual server snapshot	Deletes the snapshot created during instant recovery.	Delete the snapshot (snapshot name: NBU_IR_SNAPSHOT) of the virtual server, and then execute the next and subsequent steps.
3	jp1veritasFinInstantRecovery	End of instant recovery (JP1/VERITAS)	Finishes the instant recovery job.	Check the job status in the NetBackup Administration Console, and then perform the recommended procedure described in JP1/VERITAS Symantec NetBackup(TM) Status Code Reference Guide. If you cannot check the job status in the NetBackup Administration Console, contact the system administrator.

2.5.20 Perform JP1/VERITAS backup

Function

This service template executes a backup using JP1/VERITAS NetBackup.

This service template assumes that the following servers are being used.

• Backup execution servers

A server running JP1/VERITAS NetBackup (master server).

The backup policy to be executed must already exist.

(1) The backup is executed by JP1/VERITAS NetBackup, and after backup execution finishes, the task finishes.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) JP1/VERITAS NetBackup is running

• JP1/VERITAS NetBackup 7.0, 7.1, 7.5, 7.6, 7.7

• JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

• JP1/VERITAS NetBackup 9.0, 9.1

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The backup policy to be executed has been set up.

(2) Set the following to define a backup policy with JP1/VERITAS NetBackup.

• Do not set the Start Window of the schedule.

Set up schedule execution with JP1/Automatic Operation.

• Uncheck "Bare Metal Restore". This function is not supported for JP1/VERITAS NetBackup 7.0 or 7.1.

The default with JP1/VERITAS NetBackup 7.0 is for this to be checked, so be sure to confirm this prior to service execution. Other unsupported functions of JP1/VERITAS NetBackup are described in the software documentation for JP1/VERITAS NetBackup. Do not set these functions.

Cautions

(1) To cancel a backup that is being executed, you must cancel the job from the JP1/VERITAS NetBackup side.

Canceling (forced quit) of an executing task on the JP1/Automatic Operation side does not cancel a JP1/VERITAS NetBackup job.

(2) Using the following functions will cause task execution to fail. Do not use these functions.

• Backups that define multiple clients for a single backup policy

• Secondary backups when Disk Staging is used

(3) When the following functions are used, multiple instances of the JP1/VERITAS NetBackup job are executed. The task finishes normally only when all jobs are normal; the task ends abnormally in all other cases.

• Backup using multiple data streams

• Backups using multiple copies

• Catalog backups

Execution privilege

Windows: Administrator permissions

UNIX: root permissions

Version

02.00.00

Tags

Control JP1,VERITAS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Backup execution server environment information	Specify the environment information for the JP1/VERITAS NetBackup server.	Y
Backup information	Specify the policy information to back up.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.targetHost	Host name of the active backup server	Specifies the host name or IP address of the JP1/VERITAS NetBackup master	Input	Disabled	R	Backup execution server

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.targetHost	Host name of the active backup server	server. IPv6 addresses are not supported. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.jp1nbuPolicyName	Backup policy name	Specifies the backup policy name registered in JP1/VERITAS NetBackup.	Input	Disabled	R	Backup information
jp1veritas.jp1nbuScheduleName	Schedule name	Specifies the schedule name defined in the specified backup policy.	Input	Disabled	R	Backup information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1veritas.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1veritas.jp1nbuPolicyName	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters, as well as ., -, +, and _, except for leading or trailing . or -.
jp1veritas.jp1nbuScheduleName	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters, as well as ., -, +, and _, except for leading or trailing . or -.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	jp1veritasBackup	Perform backup (JP1/VERITAS)	Performs a backup.	Eliminate the cause of the error, and then re-execute the service.

2.5.21 Virtual-machine restoration with JP1/VERITAS

Function

This service template restores a virtual machine in a vSphere environment linked with JP1/VERITAS NetBackup.

This plug-in assumes the following servers:

- Backup execution server

The backup execution server refers to a server on which JP1/VERITAS NetBackup (master server) is running. This product transfers plug-ins to this server, and the plug-ins are executed on this server.

- ESX server

The ESX server refers to a server on which the restore-target virtual machine and VMware vSphere ESXi are running.

The following is an outline of the processing:

(1) The rename file defining restore-destination information is output to the backup execution server.

(2) The virtual machine is restored in the specified vSphere environment.

(3) The rename file is deleted.

Create a rename file when you restore a virtual machine on an ESX server different from the backup source, or when you change settings such as the virtual-machine display name and datastore.

This service template outputs the rename file of the following content to the folder that has the path name specified by the jp1veritas.renameFilePath property on the backup execution server:

[change vmname to virtual-machine-display-name (jp1veritas.newDisplayName property)]

[change esxhost to restore-destination-ESX-server (jp1veritas.newEsxHost property)]

[change datacenter to restore-destination-datacenter (jp1veritas.newDatacenter property)]

[change folder to restore-destination-folder (jp1veritas.newFolder property)]

[change resourcepool to restore-destination-resource-pool (jp1veritas.newResourcePool property)]

[change datastore to restore-destination-datastore (jp1veritas.newVmxDatastore property)]

[change original-vmdk-file-path-1 (jp1veritas.originalVmdkPath1 property) to restore-destination-vmdk-file-path-1 (jp1veritas.newVmdkPath1 property)]

[change original-vmdk-file-path-2 (jp1veritas.originalVmdkPath2 property) to restore-destination-vmdk-file-path-2 (jp1veritas.newVmdkPath2 property)]

[change original-vmdk-file-path-3 (jp1veritas.originalVmdkPath3 property) to restore-destination-vmdk-file-path-3 (jp1veritas.newVmdkPath3 property)]

[change original-vmdk-file-path-4 (jp1veritas.originalVmdkPath4 property) to restore-destination-vmdk-file-path-4 (jp1veritas.newVmdkPath4 property)]

[change original-vmdk-file-path-5 (jp1veritas.originalVmdkPath5 property) to restore-destination-vmdk-file-path-5 (jp1veritas.newVmdkPath5 property)]

[change original-vmdk-file-path-6 (jp1veritas.originalVmdkPath6 property) to restore-destination-vmdk-file-path-6 (jp1veritas.newVmdkPath6 property)]

[change original-vmdk-file-path-7 (jp1veritas.originalVmdkPath7 property) to restore-destination-vmdk-file-path-7 (jp1veritas.newVmdkPath7 property)]

[change original-vmdk-file-path-8 (jp1veritas.originalVmdkPath8 property) to restore-destination-vmdk-file-path-8 (jp1veritas.newVmdkPath8 property)]

[change original-vmdk-file-path-9 (jp1veritas.originalVmdkPath9 property) to restore-destination-vmdk-file-path-9 (jp1veritas.newVmdkPath9 property)]

[change original-vmdk-file-path-10 (jp1veritas.originalVmdkPath10 property) to restore-destination-vmdk-file-path-10 (jp1veritas.newVmdkPath10 property)]

[change network network-name (jp1veritas.newNetwork property)]

For details about the rename file, see descriptions of the nbrestorevm in the relevant manual for JP1/VERITAS NetBackup.

Prerequisites

For the latest support information about [Required product for the system]/[Required product for the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 12-00 or later

[Required product for the system executing the service template]

- JP1/VERITAS NetBackup 7.6, 7.7

- JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

- JP1/VERITAS NetBackup 9.0, 9.1

[Prerequisite product OS running in the system executing the service template]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

[Use conditions of required product for the system]

None

Cautions

(1) If an existing file has the same path name as that of the rename file (path name specified in the JP1VERITAS.renameFilePath property), the existing file is overwritten with the rename file. Make sure that a correct path name has been specified for the rename file.

(2) If the folder with a path name included in the path name of the rename file to be created does not exist, create the folder.

Execution privilege

The user must belong to the Administrators group.

Version

03.00.00

Tags

Control JP1,VERITAS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
JP1/VERITAS NetBackup configuration information	Specify the configuration information on JP1/VERITAS NetBackup.	Y
Restore-target virtual machine information	Specify the information about the virtual machine to be restored.	Y
Rename-file information	Specify the information to be output to the rename file.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.targetHost	Host name of the active backup server	Specifies the host name or IP address of the JP1/VERITAS NetBackup master server. IPv6 addresses are not supported. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	JP1/VERITAS NetBackup configuration information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.restoreVmName	Restore-target virtual machine name	Specify the name of the virtual machine to be restored. The virtual machine name must match the type of name that was selected in the Primary VM identifier option of the backup policy.	Input	Disabled	R	Restore-target virtual machine information
jp1veritas.restorevCenterServer	Restore-target vCenter server name	Specify the name of the vCenter server to be restored. If you restore the vCenter server as a vCenter server different from the backup source, specify this parameter.	Input	Disabled	O	Restore-target virtual machine information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.recoveryHost	Backup server name	Specify the name of the backup server to perform the restoration. If you use a backup server different from the one used for backup execution, specify this parameter.	Input	Disabled	O	Restore-target virtual machine information
jp1veritas.renameFilePath	Rename-file path	Specify the absolute path name of the rename file. If you restore the virtual machine with the original settings at the original location, you do not need to specify this property.	Input	Disabled	O	Rename-file information
jp1veritas.newDisplayName	Virtual-machine display name	Specify the display name of the virtual machine to be restored. If this parameter is omitted, the original display name of the virtual machine is used.	Input	Disabled	O	Rename-file information
jp1veritas.newEsxHost	Restore-destination ESX server	Specify the ESX server in which to restore the virtual machine. If you restore the virtual machine on an ESX server different from the backup source, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newDatacenter	Restore-destination datacenter	Specify the datacenter in which to restore the virtual machine. For the specification, use the format "/datacenter-name". If no datacenter is found at the restore destination, specify "None" in this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newFolder	Restore-destination folder	Specify the folder in which to restore the virtual machine. For the specification, use the format "/datacenter-name/folder-name". If no folder is found at the restore destination, specify "None" in this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newResourcePool	Restore-destination resource pool	Specify the resource pool in which to restore the virtual machine. For the specification, use the format "/datacenter-name/host/ESX-server-name/resources/resource-pool-name".	Input	Disabled	O	Rename-file information
jp1veritas.newVmxDatastore	Restore-destination datastore	Specify the datastore in which to restore the virtual machine.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdkPath1	Original vmdk file path 1	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath1	Restore-destination vmdk file path 1	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore	Input	Disabled	O	Rename-file information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.newVmdkPath1	Restore-destination vmdk file path 1	different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdkPath2	Original vmdk file path 2	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath2	Restore-destination vmdk file path 2	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdkPath3	Original vmdk file path 3	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath3	Restore-destination vmdk file path 3	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdkPath4	Original vmdk file path 4	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath4	Restore-destination vmdk file path 4	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdkPath5	Original vmdk file path 5	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath5	Restore-destination vmdk file path 5	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdkPath6	Original vmdk file path 6	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath6	Restore-destination vmdk file path 6	Specify the path name of the vmdk file at the restore destination. If you restore the	Input	Disabled	O	Rename-file information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1veritas.newVmdkPath 6	Restore-destination vmdk file path 6	virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdk Path7	Original vmdk file path 7	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath 7	Restore-destination vmdk file path 7	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdk Path8	Original vmdk file path 8	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath 8	Restore-destination vmdk file path 8	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdk Path9	Original vmdk file path 9	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath 9	Restore-destination vmdk file path 9	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.originalVmdk Path10	Original vmdk file path 10	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newVmdkPath 10	Restore-destination vmdk file path 10	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	Input	Disabled	O	Rename-file information
jp1veritas.newNetwork	Network name	Specify a new network name for the virtual machine to be restored. If you specify multiple network names, separate them by a comma (,).	Input	Disabled	O	Rename-file information
jp1veritas.deleteRename File	Rename-file deletion	Specify "true" to delete the rename file after processing ends	Input	Disabled	R	Rename-file information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1veritas.deleteRename File	Rename-file deletion	normally on the execution-target server, or "false" to not delete the rename file.	Input	Disab led	R	Rename-file information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1veritas.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1veritas.restoreVmName	String of 60 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "", """, "*", "?", "[", "]", "`", ",", and "%".
jp1veritas.restorevCenterServer	String of 256 or fewer alphanumeric characters, ".", and "-"
jp1veritas.recoveryHost	String of 256 or fewer alphanumeric characters, ".", and "-"
jp1veritas.renameFilePath	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newDisplayName	String of 60 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "", """, "*", "?", "[", "]", "`", ",", and "%".
jp1veritas.newEsxHost	String of 256 or fewer alphanumeric characters, ".", and "-"
jp1veritas.newDatacenter	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "", """, "*", "?", "[", "]", "`", and "%".
jp1veritas.newFolder	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "", """, "*", "?", "[", "]", "`", and "%".
jp1veritas.newResourcePool	String of 1,024 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "", """, "*", "?", "[", "]", "`", and "%".
jp1veritas.newVmxDatastore	String of 42 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "", """, "*", "?", "[", "]", "`", and "%".
jp1veritas.originalVmdkPath1	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath1	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath2	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath2	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath3	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.

Property key	Characters that can be input
jp1veritas.newVmdkPath3	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath4	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath4	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath5	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath5	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath6	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath6	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath7	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath7	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath8	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath8	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath9	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath9	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.originalVmdkPath10	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newVmdkPath10	String of 256 or fewer characters. The following characters are excluded: "<", ">", "|", ";", "&", "*", "?", """, and "%". In addition, the characters "\" and "/" cannot be the last character in the string.
jp1veritas.newNetwork	String of 1,000 or fewer characters. The following characters are excluded: "<", ">", "|", ";", and "&".
jp1veritas.deleteRenameFile	Select one of the following values: true,false

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	JudgeValuePlugin1	Branch by Property Value Plug-in	This plug-in determines whether the rename file needs to be output.	Remove the cause of the error, and then execute the service again.
2		Rename-file creation	Rename-file creation	Remove the cause of the error, and then execute the service again.
3	restoreVm	Virtual-machine restoration	This plug-in restores the virtual machine.	Check indications on the Activity Monitor of JP1/VERITAS NetBackup, remove the cause of the error, and then execute the service again.
4	JudgeValuePlugin2	Branch by Property Value Plug-in	This plug-in determines whether the rename file needs to be deleted.	Remove the cause of the error, and then manually delete the rename file.
5		Flow Plug-in	This plug-in deletes the rename file.	--
6		Branch by Property Value Plug-in	This plug-in determines whether the rename file needs to be deleted.	Remove the cause of the error, and then manually delete the rename file.
7		File deletion	This plug-in deletes the rename file.	Remove the cause of the error, and then manually delete the rename file.

2.5.22 Get JP1 events

Function

This service template acquires information about JP1 events from the JP1/IM - Manager integrated monitoring database.

JP1 events are acquired and used for purposes such as analysis of system failure status.

This service template assumes that the following servers are being used.

• Monitoring server

These are Windows servers running JP1/IM - Manager.

The following summarizes the processing.

(1) JP1 event information registered in the integrated monitoring database is output in CSV format to a specified file. The output format of the file is the same as the output result of JP1/IM's jcoevtreport command. The format for time of registration, time of arrival, start time, and finish time is YYYYMMDDhhmmss; the header is output in DISP format.

(2) If the generated file is to be transferred to a JP1/AO server, JP1 event information is transferred from the monitoring server to the JP1/AO server, and the temporary folder created on the monitoring server is deleted. In that case, set the event information transfer option (property jp1im.transferJP1EventFile) to yes.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1)JP1/IM - Manager is running.

Job Management Partner 1/Integrated Management - Manager 09-00 or later, or

JP1/Integrated Management - Manager 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The JP1/IM - Manager integrated monitoring database is used.

(2) When JP1 event information is transferred to a JP1/AO server, the JP1/AO server (loopback address resolved by localhost) and the server that is the connection destination must be set as agentless connection destinations.

(3) If the running OS is UNIX, the default locale defined in the agentless-connection target for the connected user must be set to the language code operated by JP1/IM - Manager.

Cautions

(1) Do not execute multiple instances of this service simultaneously on the same monitoring server.

(2) This service executes the jcoevtreport command on the monitoring server. Therefore, do not simultaneously execute the jcoevtreport command on the monitoring server while executing the service. For the same reason, do not execute this service while the jcoevtreport command is executing on the monitoring server.

(3) When a large volume of JP1 event information is output, the system might be affected by JP1 event acquisition and file transfers. Adjust the settings of, for example, the interval between the output destination start date (property

jp1im.jp1imStartTime) and output destination finish date (property jp1im.jp1imEndTime), and the event conditions within the filter file, to keep down the output of JP1 event information.

(4) When executing the service again for a monitoring server that has already executed the service and stored JP1 event information, change the value of the output folder name (remote; property jp1im.jp1imOutputFolderPathRemote) before executing. If the values are the same, the stored JP1 event information will also be transferred simultaneously.

(5) If this service is executed for a UNIX environment, do not use multi-byte characters in the properties.

(6) If multi-byte characters are specified, specify the path of the output (remote) folder by using a maximum of 226 bytes.

(7) When a folder has already been specified as local, the local folder is overwritten. Also, when there is a file by the same name in the folder, it too is overwritten. For this reason, exercise sufficient caution that folder names are specified correctly.

(8) If there is no folder at the path specified as remote, the folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

Version

03.00.00

Tags

Gather JP1 information,IM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify the environment information for the monitoring server.	Y
JP1 event acquisition information	Specify the information on the JP1 Events to be retrieved.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1im.jp1imHostName	JP1/IM host name	Specifies the host name or IP address where JP1/IM is installed. IPv6 addresses are not supported. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Monitored system environment information
jp1im.jp1imLHostName	JP1/IM logical host name	Specify the logical host name of JP1/IM (when using JP1/IM in a cluster configuration).	Input	Disabled	O	Monitored system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1im.jp1imFilterFileName	Filter file name (local)	Specifies the full path name on the JP1/AO server of the filter file for event report output.	Input	Disabled	O	JP1 event acquisition information
jp1im.jp1imOutputFolderPathRemote	Output folder name (remote)	Specifies the full path name of the folder where the JP1 event information is to be acquired. Creates a folder named jp1imtemp under the specified folder and stores the JP1 event information there.	Input	Disabled	R	JP1 event acquisition information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1im.transferJP1EventFile	Whether to transfer event information	Specifies whether or not to transfer JP1 event information to the JP1/AO server. If transfer is specified, the jp1imtemp folder created in the output folder (remote) is deleted.	Input	Disabled	R	JP1 event acquisition information
jp1im.jp1imOutputFolderPathLocal	Output folder name (local)	Specifies the full path name of the folder on the JP1/AO server where the JP1 event information is to be acquired. The JP1/IM host name must be specified if you want to transfer the JP1 event information to the JP1/AO server.	Input	Disabled	O	JP1 event acquisition information
jp1im.jp1imStartTime	Output start date and time	Specifies the start date of the events to output. The time is set to 00:00:00.	Input	Disabled	R	JP1 event acquisition information
jp1im.jp1imEndTime	Output end date and time	Specifies the end date of the events to output. The time is set to 00:00:00.	Input	Disabled	R	JP1 event acquisition information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1im.jp1imHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1im.jp1imLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1im.jp1imFilterFileName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1im.jp1imOutputFolderPathRemote	A character string of no more than 226 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1im.transferJP1EventFile	Select one of the following values: yes,no
jp1im.jp1imOutputFolderPathLocal	A character string of no more than 239 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1im.jp1imStartTime	0
jp1im.jp1imEndTime	0

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	outputEventInformation	Flow Plug-in	Acquires JP1 event information.	--
1-3		Flow Plug-in	Acquires JP1 event information.	--
1-3-1		Flow Plug-in	Determines the type of OS.	--
1-3-1-1		Output OS type	Acquire OS information.	Eliminate the cause of the error, and then re-execute the service.
1-3-2		Compatible Plug-in	Checks whether the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
1-3-3		Flow Plug-in	If it is Windows, acquires JP1 event information.	--
1-3-3-1		Create folder	Creates a folder.	Eliminate the cause of the error, and then re-execute the service.
1-3-3-2		Compatible Plug-in	Checks whether a filter file has been specified.	Eliminate the cause of the error, and then re-execute the service.
1-3-3-3		Flow Plug-in	If a filter file has been specified, acquires JP1 event information.	--
1-3-3-3-1		File-forwarding plug-in	Transfers a filter file.	Eliminate the cause of the error, and then re-execute the service.
1-3-3-3-2		Get JP1 event	Acquires JP1 event information.	Eliminate the cause of the error, and then re-execute the service.
1-3-3-3-3		Delete file	Deletes a filter file.	Eliminate the cause of the error, and then re-execute the service.
1-3-3-4		Compatible Plug-in	Checks whether a filter file has been specified.	Eliminate the cause of the error, and then re-execute the service.
1-3-3-5		Flow Plug-in	If a filter file has not been specified, acquires JP1 event information.	--
1-3-3-5-1		Get JP1 event	Acquires JP1 event information.	Eliminate the cause of the error, and then re-execute the service.
1-3-4		Compatible Plug-in	Checks whether the OS is UNIX.	Eliminate the cause of the error, and then re-execute the service.
1-3-5		Flow Plug-in	If it is UNIX, acquires JP1 event information.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1-3-5-1	outputEventInformation	Create folder	Creates a folder.	Eliminate the cause of the error, and then re-execute the service.
1-3-5-2		Compatible Plug-in	Checks whether a filter file has been specified.	Eliminate the cause of the error, and then re-execute the service.
1-3-5-3		Flow Plug-in	If a filter file has been specified, acquires JP1 event information.	--
1-3-5-3-1		File-forwarding plug-in	Transfers a filter file.	Eliminate the cause of the error, and then re-execute the service.
1-3-5-3-2		Get JP1 event	Acquires JP1 event information.	Eliminate the cause of the error, and then re-execute the service.
1-3-5-3-3		Delete file	Deletes a filter file.	Eliminate the cause of the error, and then re-execute the service.
1-3-5-4		Compatible Plug-in	Checks whether a filter file has been specified.	Eliminate the cause of the error, and then re-execute the service.
1-3-5-5		Flow Plug-in	If a filter file has not been specified, acquires JP1 event information.	--
1-3-5-5-1		Get JP1 event	Acquires JP1 event information.	Eliminate the cause of the error, and then re-execute the service.
2	outputFileTransfer	Flow Plug-in	Transfer JP1 event information.	--
2-3		Compatible Plug-in	Checks whether yes was specified for file transfer.	Eliminate the cause of the error, and then re-execute the service.
2-4		Flow Plug-in	Transfer JP1 event information.	--
2-4-1		Compatible Plug-in	Checks whether the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
2-4-2		Flow Plug-in	If it is Windows, acquires Transfer JP1 event information.	--
2-4-2-1		FileTransfer Plug-in	Transfer JP1 event information.	Eliminate the cause of the error, and then re-execute the service.
2-4-2-2		osDeleteFolder	Deletes temporary folder.	Files remain in the target server. Delete them manually.
2-4-3		Compatible Plug-in	Checks whether the OS is UNIX.	Eliminate the cause of the error, and then re-execute the service.
2-4-4		Flow Plug-in	If it is UNIX, acquires Transfer JP1 event information.	--
2-4-4-1		FileTransfer Plug-in	Transfer JP1 event information.	Eliminate the cause of the error, and then re-execute the service.
2-4-4-2		osDeleteFolder	Deletes temporary directory.	Files remain in the target server. Delete them manually.

2.5.23 Get list of JP1 users

Function

This service template acquires a list of JP1 users registered in JP1/Base's authentication server.

(1) The JP1 user list is output in text format to the specified file from the JP1/Base authentication server that was set. The output format of the file is the same as the output result of JP1/Base's jbslistuser command.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) JP1/Base is running.

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The authentication server has been configured.

(2) The usage conditions for JP1/Base's jbslistuser command have been set.

Cautions

(1)If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(2)When the files names specified for remote and local already exist, the existing files are overwritten. The file on the remote side is also deleted. For this reason, exercise sufficient caution that file names are specified correctly.

(3)If there is no folder at the path specified as remote, the folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

Version

02.00.00

Tags

Gather JP1 information,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify JP1/Base environment information.	Y
JP1 user acquisition information	Specify the information you want to acquire about the JP1 user.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.listJP1UserOutputFileNameRemote	JP1 user list output file name (remote)	Specify the file name using the full path of the file that is on the JP1/Base host running as an authentication server and to which a JP1 user list is to be output.	Input	Disabled	R	JP1 user acquisition information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.jp1BaseHostName	JP1/Base host name	Specifies the host name or IP address of the server where JP1/Base is installed. IPv6 addresses are not supported. In the case of a cluster configuration, specify the logical host of the active server.	Input	Disabled	R	Monitored system environment information
jp1base.jp1BaseLHostName	Logical host name of JP1/Base	Specify the logical host name of JP1/Base on the agent server (if JP1/Base is used in a cluster configuration).	Input	Disabled	O	Monitored system environment information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
jp1base.listJP1UserOutp utFileNameLocal	JP1 user list output file name (local)	Specify the file name using the full path of the file on the JP1/AO server from which a JP1 user list is to be obtained.	Input	Disab led	R	JP1 user acquisition information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.listJP1UserOutputFileNameRemote	This is a character string of up to 256 characters. < > | ; & * ? " % ` and trailing \ and / are not allowed.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1base.jp1BaseHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.jp1BaseLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.listJP1UserOutputFileNameLocal	This is a character string of up to 256 characters. < > | ; & * ? " % and trailing \ and / are not allowed.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	listJP1UserJP1Base M	Get list of JP1 users	Acquires a list of JP1 users.	Eliminate the cause of the error, and then re-execute the service.
2	FileTransferPlugin	File-forwarding plug-in	Transfers a list of JP1 users.	Eliminate the cause of the error, and then re-execute the service.
3	osDeleteFile	Delete file	Deletes temporary files.	Files remain in the target server. Delete them manually.

2.5.24 Get JP1 user mapping definition

Function

This service template collects JP1/Base's JP1 user and OS mapping information in the format of the user mapping definition file (jp1BsUmap.conf).

The following tasks are performed.

(1) The JP1 user and OS mapping information is output to the specified file in text format (the same format as the user mapping definition file (jp1BsUmap.conf)). The output format of the file is the same as the output result of JP1/Base's jbsgetumap command.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) JP1/Base is running.

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The authentication server has been configured.

(2) The usage conditions for JP1/Base's jbsgetumap command have been set.

Cautions

(1) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(2) When the files names specified for remote and local already exist, the existing files are overwritten. The file on the remote side is also deleted. For this reason, exercise sufficient caution that file names are specified correctly.

(3) If there is no folder at the path specified as remote, the folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

Version

02.00.00

Tags

Gather JP1 information,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify JP1/Base environment information.	Y
JP1 user mapping acquisition information	Specify the information you want to acquire about the JP1 user mapping.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.listJP1UserMappingOutputFileNameRemote	JP1 user mapping definition output file name (remote)	Specify the file name using the full path of the file on the JP1/Base to which JP1 user mapping definitions are to be output.	Input	Disabled	R	JP1 user mapping acquisition information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.jp1BaseHostName	JP1/Base host name	Specifies the host name or IP address of the server where JP1/Base is installed. IPv6 addresses are not supported. In the case of a cluster configuration, specify the logical host of the active server.	Input	Disabled	R	Monitored system environment information
jp1base.jp1BaseLHostName	Logical host name of JP1/Base	Specify the logical host name of JP1/Base on the agent server (if JP1/Base is used in a cluster configuration).	Input	Disabled	O	Monitored system environment information
jp1base.listJP1UserMappingOutputFileNameLocal	JP1 user mapping definition output file name (local)	Specify the file name using the full path of the file on the JP1/AO server from which JP1 user mapping definitions are to be obtained.	Input	Disabled	R	JP1 user mapping acquisition information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.listJP1UserMappingOutputFileNameRemote	This is a character string of up to 256 characters. < > | ; & * ? " % ` and trailing \ and / are not allowed.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1base.jp1BaseHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.jp1BaseLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.listJP1UserMappingOutputFileNameLocal	This is a character string of up to 256 characters. < > | ; & * ? " % and trailing \ and / are not allowed.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	listUserMappingJP1Base	Check mapping information	Acquires the mapping definition between JP1 users and OS users.	Eliminate the cause of the error, and then re-execute the service.
2	FileTransferPlugin	File-forwarding plug-in	Transfers the JP1 user mapping definition.	Eliminate the cause of the error, and then re-execute the service.
3	osDeleteFile	Delete file	Deletes temporary files.	Files remain in the target server. Delete them manually.

2.5.25 Batch change of operation users

Function

This service template uses a CSV (Comma Separated Values) file or list information about users, created using Microsoft Excel, (called "user information files" hereafter) to perform batch operations for changing JP1 user passwords, changing OS user passwords, and making the resulting changes to the registered content in the password management information of the Windows version of JP1/Base.

Note that in a CentOS environment, only changing OS user passwords is executable.

If the JP1/AO server is in a Windows environment, use a CSV or Excel file. If the JP1/AO server is in a UNIX environment, use a CSV file.

This is effective when managing a system that has the following configuration:

- Jobs are executed using multiple agent servers in a job execution environment using JP1/AJS3.

- Automatic actions are performed and commands are executed on multiple agent servers in a monitoring environment using JP1/IM.

- Multiple JP1 users or OS users are managed in a system that uses JP1/Base for authentication.

This service template requires the following server:

- JP1 authentication server

This server is run by the JP1/Base authentication server. It manages the JP1 user information.

- Agent server

This server is where JP1/Base is installed and job execution and automatic actions are performed.

The following processes are performed for updating of the operation user information in the above system.

[OS User Password Change Process]

Extract the column containing the key value from the OS user information file, and execute the following process for all key values.

(1) Read the agent server host name, agent server logical host name, OS user name, and new password of the OS user from the row that matches the key value.

(2) Use the information that was read in step (1) to change the password of the OS user of the agent server.

(3) Use the information that was read in step (1) to update the password management information to JP1/Base of the agent server as necessary.

[JP1 User Password Change Process]

Extract the column containing the key value from the JP1 user information file, and execute the following process for all key values.

(1) Read the JP1 authentication server host name, JP1 authentication server logical host name, JP1 user name, old password of the JP1 user, and new password of the JP1 user from the row that matches the key value.

(2) Use the information that was read in step (1) to change the password of the JP1 user of the authentication server.

When OS.osUserInfoFilePath (path of OS user information file) is specified during service execution, execute the change process of the password of the OS user. When jp1base.jp1UserInfoFilePath (path of JP1 user information file) is specified, execute the change process of the password of the JP1 user. In the property where the column number is specified, specify with a value from 1 to 255 the number of the column counting from the left of the CSV file or number of the first column containing data when viewed from the left of the Excel file.

Up to 99 entries (99 rows) of user information can be entered into each user information file. Each change process is executed sequentially by a repeat component.

If reading an each user information file fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

If any of the JP1/AO server, the JP1 authentication server and the agent server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "Batch change of operation users(SYSTEM)" service template that executes with the system account.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of JP1/Base is running on the JP1 authentication server and the agent server:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

(2) When specifying an Excel book or an Excel macro enabled book in Excel 2007 or later as the user information file, the following Microsoft program needs to be installed on the JP1/AO server.

- 2007 Office system driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(9) CentOS 7 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(10) CentOS 8 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) If the password of the OS user is changed (in the case of
Windows, if the password management information of JP1/Base is updated), always
specify OS.osUserInfoFilePath, OS.osUserInfoSheetName(Excel file only), OS.osUserInfoKeyColumn,

common.targetHostNameColumn, jp1base.jp1BaseLHostNameColumn, OS.osUserNameColumn, OS.osUserNewPasswordColumn, OS.osUserTypeColumn, jp1base.updatePasswordInfoColumn.

(2) To change the password of the JP1 user, always specify jp1base.jp1UserInfoFilePath, jp1base.jp1UserInfoSheetName(Excel file only), jp1base.jp1UserInfoKeyColumn, jp1base.certHostNameColumn, jp1base.certHostLHostNameColumn, jp1base.jp1UserNameColumn, jp1base.jp1UserOldPasswordColumn, jp1base.jp1UserNewPasswordColumn.

(3) If the password of the JP1 user of the logical host environment is updated when JP1/Base of the authentication server has a cluster configuration, the physical host name or logical host name is entered for the value of the column specified in jp1base.certHostNameColumn, and the logical host name is entered for the value of the column specified in jp1base.certHostLHostNameColumn. If the password of the JP1 user of the physical host environment is updated, specify a null entry for the column specified in jp1base.certHostLHostNameColumn.

(4) If the password management information of the OS user of the logical host environment is updated when JP1/Base of the agent server has a cluster configuration, use the OS user information file containing the OS user information of the execution system environment to execute the service. Set the value of the column specified in jp1base.updatePasswordInfoColumn to "TRUE" in the information of the agent server of the execution system (being operated by JP1/Base). After the service is executed once on the execution system environment, when the service is executed to an execution system environment after changing over the system, enter the values into the parameters of the system environment setting information and OS user information, make all the parameters of the JP1 user information blank, and then execute the service.

(5) If processing to change the OS user is performed, the OS user information file containing the content given below must be stored in the JP1/AO server.

- Number of columns

Set so that the number of columns counted from the reading start column of the data is 255 or less.

- Column name

- CSV file

- If column names are needed, enter them in the first row of the file. If column names are not needed, the column names do not need to be included.

- The data reading start row starts from the second row regardless of whether the first row contains the column names or not.

- Excel file

- Always include the column names. Starting from the first row or after, the initial row that contains data is treated as column names.

- Data is read starting from the row following the row containing the column names.

See (8) when specifying the column names.

- Key information

This column stores values serving as unique keys at each row of the user information file. Any content can be entered for the key information, but it is recommended that you specify short values, such as integer values starting from 1. Also, use characters other than double quotation marks (") and single quotation marks (') in the key information. The total number of bytes of all key information + the number of data rows must not exceed 1017 bytes. Any value can be specified for each row. If a value is omitted, the processing for the applicable row is not performed.

- Agent server host name

This column stores the host name of the agent server that changes the password of the OS user. A value must be specified for each row.

- Agent server JP1/Base logical host name

This column stores the JP1/Base logical host name when the agent server JP1/Base has a cluster configuration. Any value can be specified for each row. If no value is specified to this column, the agent server is processed by treating it as a physical server.

- OS user name

This column stores the OS user name whose password is changed. A value must be specified for each row.

- New password of OS user

This column stores the new password of the OS user whose password is changed. A value must be specified for each row.

- OS user type

This column stores the OS user type (domain user (domain)) or local user (local)) for the password that is changed. If the agent server is running Windows, a value must be specified for each row.

- JP1/Base password management information update requirement

Specify "True" (case-sensitive) when updating the JP1/Base password management information in the information of the content row. Any value can be specified for each row. The JP1/Base password management information is updated only when "True" is specified.

(6) If processing to change the JP1 user is performed, the JP1 user information file containing the content given below must be stored:

- Number of columns

See the explanation for the number of columns in (5).

- Column names

See the explanation for the column names in (5).

- Key information

This column stores values serving as unique keys at each row of the user information file. Any content can be entered for the key information, but the specifying of short values, such as integer values starting from 1, is recommended. Also, use characters other than double quotation marks (") and single quotations (') in the key information. The total number of bytes of all key information + the number of data rows must not exceed 1017 bytes. Any value can be specified for each row. If a value is omitted, the process for the applicable row is not performed.

- JP1 authentication server host name

This column stores the host name of the JP1 authentication server that changes the password of the JP1 user. A value must be specified for each row.

- JP1 authentication server JP1/Base logical host name

This column stores the JP1/Base logical host name when the JP1 authentication server JP1/Base has a cluster configuration. Any value can be specified for each row. If no value is specified to this column, the JP1 authentication server is processed by treating it as a physical server.

- JP1 user name

This column stores the JP1 user name whose password is changed. Specify a value for each row.

- Old password of JP1 user

This column stores the current password of the JP1 user whose password is changed. Specify a value for each row.

- New password of JP1 user

This column stores the new password of the JP1 user whose password is changed. Specify a value for each row.

(7) When this service is executed, the JP1/AO server (loopback address resolved by "localhost"), the JP1 authentication server, and the agent server must be set as agentless connection targets.

(8) Specify the content given below for the column name.

- Always specify as a character string. Do not specify numerical data.

- The following characters cannot be used in the column name:

- The following characters cannot be used at the start of the column name in the key information.

- The following characters cannot be used starting from the second character of the column name in the key information.

- The following characters cannot be used in column names other than key information.

- The specified character string can mix of single-byte and double-byte characters but no more than 64 characters can be used.

Cautions

[Notes on user information files]

- Notes when the JP1/AO server is running in a Windows environment

(1) If the agent server OS is UNIX, do not use multibyte characters for the content of the user information file.

(2) If the agent server OS is Windows, multibyte characters can be specified for an OS user name only. If specifying an OS user name, specify no more than 20 bytes.

(3) After confirming the specifications for the OS user/JP1 user whose password is to be changed, create the OS user information file and JP1 user information file. The following characters cannot be specified in the fields of the user information file:

<, >, |, ;, &, control characters (0x00 to 0x1f), double quotation marks (") except at each end, and a trailing \.

(4) If cells in the Excel file are merged, or if an error occurs in the mathematical expression, the obtained value becomes null. Also, the task is abnormally terminated if a written password is set. Remove these states from the user information file.

(5) Do not mix character string data and numerical data in the loaded columns. If this data is mixed, the values may not be obtained properly depending on the ODBC driver specifications.

(a) Numerical data refers to character strings in the following formats.

- Signed integer values (decimal format) Example: -12345

- Values with a fixed decimal point (decimal format) Example: 3.1415

- Values with a floating decimal point (decimal format) Example: 6.543E+10

(b) Character string data refers to character strings in formats other than the above numerical formats.

(6) If columns containing different mixed data types are obtained from the user information file that is read, the following corrective action must be taken:

- For Excel files, add a single quotation mark (') to the beginning of the numerical data.

- For CSV files, enclose the numerical data in double quotation marks (").

(7) If the user information file is a CSV file, enclose the IP address in double quotation marks ("). If the value is not enclosed in double quotation marks ("), it may be falsely identified as numerical data, and the value will not be obtained properly.

(8) If there are blank rows between data rows of the reading target file, the blank rows are also counted in the number of rows. Even if the number of rows containing data is 99 or less, if the number of rows counted by including blank rows in between is 100 or more, the task is abnormally terminated.

(9) If the user information file is an Excel file, the displayed value and actual obtained value might differ depending on the data type of the data contained in the cell. Take careful note if the cell contains data of the following data types:

(a) Boolean type (True/False)

Displayed value: TRUE/FALSE

Value entered in cell: TRUE/FALSE

Actual obtained value: True/False

(b) Date data

Displayed value: mm (month) dd (day)

Value entered in cell: yyyy/mm/dd

Actual obtained value: yyyy/mm/dd

(c) Time data

Displayed value: hh:mm

Value entered in cell: hh:mm:ss

Actual obtained value: hh:mm:ss

(d) Percentage

Displayed value: ~% (Example: 10%)

Value entered in cell: ~% (Example: 10%)

Actual obtained value: 0.~ (Example: 0.1)

(e) Mathematical expression

Displayed value: (Result of mathematical expression)

Value entered in cell: (Mathematical expression)

Actual obtained value: (Result of mathematical expression)

To obtain values for the data in (a), (d), or (e) exactly as they are entered in the cell, add a single quotation mark (') at the start of the entry.

If the target file being loaded is a CSV file, the values contained in the cells can be obtained without any changes.

(10) If the cells contain any of the data types in (9), make the entries so that the data excluding the column with the column names is a single data type only. If multiple data types are mixed in a single column, the obtained data may be null.

- Notes when the JP1/AO server is running in a UNIX environment

(1) If the agent server OS is UNIX, do not use multibyte characters for the content of the user information file.

(2) If the agent server OS is Windows, multibyte characters can be specified for an OS user name only. If specifying an OS user name, specify no more than 20 bytes.

(3) After confirming the specifications for the OS user/JP1 user whose password is to be changed, create the OS user information file and JP1 user information file. The following characters cannot be specified in the fields of the user information file:

<, >, |, ;, &, control characters (0x00 to 0x1f), double quotation marks (") except at each end, and a trailing \.

(4) If there are blank rows between data rows of the reading target file, the blank rows are also counted in the number of rows. Even if the number of rows containing data is 99 or less, if the number of rows counted by including blank rows in between is 100 or more, the task is abnormally terminated.

(5) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(6) Any number of single-byte spaces or tab characters at the beginning or end of a row in a user information file are ignored.

[Other notes]

(1) If this service is executed for a UNIX environment, check beforehand that the OS user where the change will be made exists.

(2) Specify an integer value of 255 or less for the column number of the reading target file. Note that blank columns between data rows are also included in the number of columns.

Execution privilege

Built-in Administrator

Version

03.01.02

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Information on the user information file	Specify the information of the OS user information file or JP1 user information file.	Y
Details of the OS user information file	Specify the detailed information of the OS user information file. Specify all the properties when changing the OS user information.	Y
Details of the JP1 user information file	Specify the detailed information of the JP1 user information file. Specify all the properties when changing the JP1 user information.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading an each user information file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disabled	R	Information on the user information file
OS.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading an each user information file fails (only applicable to Windows).	Input	Disabled	R	Information on the user information file

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.osUserInfoFilePath	Path of the OS user information file	Specifies the path of the file containing the OS user information stored in the JP1/AO server as a full path. One of the following file extensions is required: csv, xls, xlsx, or xlsm.	Input	Disabled	O	Information on the user information file
OS.osUserInfoSheetName	Sheet name of the OS user information file	If the OS user information file is an Excel file, specify the sheet name containing the user information.	Input	Disabled	O	Information on the user information file

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
OS.osUserInfoKeyColu mn	Column number of key information of the OS user information file	Specifies the column number containing the "key information" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disab led	O	Details of the OS user information file
common.targetHostNam eColumn	Column number of host name of agent server	Specifies the column number containing the "Agent server host name" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disab led	O	Details of the OS user information file
jp1base.jp1BaseLHostNa meColumn	Column number of JP1/ Base logical host name of agent server	Specifies the column number containing the "Agent server JP1/ Base logical host name" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disab led	O	Details of the OS user information file
OS.osUserNameColumn	Column number of the OS user name	Specifies the column number containing the "OS user name" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disab led	O	Details of the OS user information file
OS.osUserNewPassword Column	Column number of new password of the OS user	Specifies the column number containing the "new password of the OS user" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disab led	O	Details of the OS user information file
OS.osUserTypeColumn	Column number of the OS user type	Specifies the column number containing the "OS user type" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disab led	O	Details of the OS user information file
jp1base.updatePasswordI nfoColumn	Column no. of JP1/Base psswrd mngmnt info update required column	Specifies the column number containing the "JP1/ Base password management information update requirement" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disab led	O	Details of the OS user information file
jp1base.jp1UserInfoFile Path	Path of JP1 user information file	Specifies the path of the file containing the JP1 user information stored in the JP1/AO server as a full path. One of the following file extensions is required: csv, xls, xlsx, or xlsm.	Input	Disab led	O	Information on the user information file
jp1base.jp1UserInfoShee tName	Sheet name of JP1 user information file	If the JP1 user information file is an Excel file, specify the sheet name containing the user information. Always specify when the JP1 user information file is an Excel file.	Input	Disab led	O	Information on the user information file
jp1base.jp1UserInfoKey Column	Column number of key information of JP1 user information file	Specifies the column number containing the "key information" in the JP1 user information file.	Input	Disab led	O	Details of the JP1 user information file

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.jp1UserInfoKeyColumn	Column number of key information of JP1 user information file	Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.certHostNameColumn	Column number of host name of JP1 authentication server	Specifies the column number containing the "JP1 authentication server host name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.certHostLHostNameColumn	Column number of logical host name of JP1 authentication server	Specifies the column number containing the "JP1 authentication server logical host name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.jp1UserNameColumn	Column number of JP1 user name	Specifies the column number containing the "JP1 user name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.jp1UserOldPasswordColumn	Column number of old password of JP1 user	Specifies the column number containing the "old password of the JP1 user" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.jp1UserNewPasswordColumn	Column number of new password of JP1 user	Specifies the column number containing the "new password of the JP1 user" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.osUserChangeResult	Repeat task execution result (OS user password change process)	Success (true) or failure (false) results for each task of the password change process of the OS user are separated by commas and output.	Output	Disabled
common.jp1UserChangeResult	Repeat task execution result (JP1 user password change process)	Success (true) or failure (false) results for each task of the password change process of the JP1 user are separated by commas and output.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
OS.osUserInfoFilePath	Enter from 8 to 255 characters. Do not include the following characters: < > | ; & * ? " % [ ] ! or a trailing \ or /
OS.osUserInfoSheetName	Enter from 1 to 31 characters. Do not include the following characters: < > | ; : & * ? " % / \ ! ` { [ ]
OS.osUserInfoKeyColumn	Enter an integer value from 1 to 255.
common.targetHostNameColumn	Enter an integer value from 1 to 255.
jp1base.jp1BaseLHostNameColumn	Enter an integer value from 1 to 255.
OS.osUserNameColumn	Enter an integer value from 1 to 255.
OS.osUserNewPasswordColumn	Enter an integer value from 1 to 255.
OS.osUserTypeColumn	Enter an integer value from 1 to 255.
jp1base.updatePasswordInfoColumn	Enter an integer value from 1 to 255.
jp1base.jp1UserInfoFilePath	Enter from 8 to 255 characters. Do not include the following characters: < > | ; & * ? " % [ ] ! or a trailing \ or /
jp1base.jp1UserInfoSheetName	Enter from 1 to 31 characters. Do not include the following characters: < > | ; : & * ? " % / \ ! ` { [ ]
jp1base.jp1UserInfoKeyColumn	Enter an integer value from 1 to 255.
jp1base.certHostNameColumn	Enter an integer value from 1 to 255.
jp1base.certHostLHostNameColumn	Enter an integer value from 1 to 255.
jp1base.jp1UserNameColumn	Enter an integer value from 1 to 255.
jp1base.jp1UserOldPasswordColumn	Enter an integer value from 1 to 255.
jp1base.jp1UserNewPasswordColumn	Enter an integer value from 1 to 255.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetOsInfo	Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	osChangePassword	Flow Plug-in	Changes the OS user password.	--
2-3		Compatible Plug-in	Determines whether the path of the OS user information file is specified.	After removing the cause of the error, run the service again.
2-4		Flow Plug-in	Executes the main process that changes the OS user password.	--
2-4-1		Acquisition of column data from a CSV/Excel file	Reads the key information from the file.	After removing the cause of the error, run the service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
2-4-2	osChangePassword	Repeated Execution Plug-in	Repeatedly changes the OS user password based on the read key information.	After removing the cause of the error, run the service again.
3	jp1baseChangePassword	Flow Plug-in	Changes the JP1 user password registered in JP1/Base.	--
3-3		Compatible Plug-in	Determines whether the path of the JP1 user information file is specified.	After removing the cause of the error, run the service again.
3-4		Flow Plug-in	Executes the main process that changes the JP1 user password.	After removing the cause of the error, run the service again.
3-4-1		Acquisition of column data from a CSV/Excel file	Reads the key information from the file.	After removing the cause of the error, run the service again with only the JP1 user information file specified. (The processing of the OS user has ended normally.)
3-4-2		Repeated Execution Plug-in	Repeatedly changes the JP1 user password based on the read key information.	After removing the cause of the error, checks with common.jp1UserChangeResult for the displayed order of "false". Execute the service using a file that contains the line with the same order of the failure (if it is the nth failure, the nth line) and the subsequent lines extracted.

2.5.26 Batch change of operation users (repeated flow 1)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	readOsUserInfo	Acquisition of row data from a CSV/Excel file	Reads the OS user information from the file.	After removing the cause of the error, run the service again.
2	osGetOsInfo	Output OS type	Identifies the OS of the agent server.	After removing the cause of the error, run the service again.
3	osChangePassword	Flow Plug-in	Changes the OS user password.	--
3-1		Change password for OS user	Changes the password of the user with the agent server (or the domain of the server).	After removing the cause of the error, run the service again.
4	CheckMacroValue	Compatible Plug-in	Determines whether the OS is Windows.	Set the value after changing the old/new password of the JP1 user, and execute the service again.
5	jp1baseChangeUserInfo	Flow Plug-in	Changes the OS user information registered in JP1/Base.	--

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
5-3	jp1baseChangeUserInfo	Compatible Plug-in	Determines whether to update the password management information of JP1/Base.	Set the value after changing the old/new password of the JP1 user, and execute the service again.
5-4		Change password management information in JP1/Base	Changes the mapping user password of JP1/Base of the specified server.	Set the value after changing the old/new password of the JP1 user, and execute the service again.

2.5.27 Batch change of operation users (repeated flow 2)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	readJp1UserInfo	Acquisition of row data from a CSV/Excel file	Reads the JP1 user information from a file.	After removing the cause of the error, run the service again.
2	jp1baseChangePassword	Flow Plug-in	Changes the JP1 user password.	--
2-1		Change JP1 user password	Changes the password of the JP1 user with the specified authentication server.	After removing the cause of the error, checks with common.jp1UserChangeResult for the displayed order of "false". Execute the service using a file that contains the line with the same order of the failure (if it is the nth failure, the nth line) and the subsequent lines extracted.

2.5.28 Batch change of operation users(SYSTEM)

Function

This service template uses a CSV (Comma Separated Values) file or list information about users, created using Microsoft Excel, (called "user information files" hereafter) to perform batch operations for changing JP1 user passwords, changing OS user passwords, and making the resulting changes to the registered content in the password management information of the Windows version of JP1/Base.

Note that in a CentOS environment, only changing OS user passwords is executable.

If the JP1/AO server is in a Windows environment, use a CSV or Excel file. If the JP1/AO server is in a UNIX environment, use a CSV file.

This is effective when managing a system that has the following configuration:

- Jobs are executed using multiple agent servers in a job execution environment using JP1/AJS3.

- Automatic actions are performed and commands are executed on multiple agent servers in a monitoring environment using JP1/IM.

- Multiple JP1 users or OS users are managed in a system that uses JP1/Base for authentication.

This service template requires the following server:

- JP1 authentication server

This server is run by the JP1/Base authentication server. It manages the JP1 user information.

- Agent server

This server is where JP1/Base is installed and job execution and automatic actions are performed.

The following processes are performed for updating of the operation user information in the above system.

[OS User Password Change Process]

Extract the column containing the key value from the OS user information file, and execute the following process for all key values.

(1) Read the agent server host name, agent server logical host name, OS user name, and new password of the OS user from the row that matches the key value.

(2) Use the information that was read in step (1) to change the password of the OS user of the agent server.

(3) Use the information that was read in step (1) to update the password management information to JP1/Base of the agent server as necessary.

[JP1 User Password Change Process]

Extract the column containing the key value from the JP1 user information file, and execute the following process for all key values.

(1) Read the JP1 authentication server host name, JP1 authentication server logical host name, JP1 user name, old password of the JP1 user, and new password of the JP1 user from the row that matches the key value.

(2) Use the information that was read in step (1) to change the password of the JP1 user of the authentication server.

When OS.osUserInfoFilePath (path of OS user information file) is specified during service execution, execute the change process of the password of the OS user. When jp1base.jp1UserInfoFilePath (path of JP1 user information file) is specified, execute the change process of the password of the JP1 user. In the property where the column number is specified, specify with a value from 1 to 255 the number of the column counting from the left of the CSV file or number of the first column containing data when viewed from the left of the Excel file.

Up to 99 entries (99 rows) of user information can be entered into each user information file. Each change process is executed sequentially by a repeat component.

If reading an each user information file fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of JP1/Base is running on the JP1 authentication server and the agent server:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

(2) When specifying an Excel book or an Excel macro enabled book in Excel 2007 or later as the user information file, the following Microsoft program needs to be installed on the JP1/AO server.

- 2007 Office system driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(9) CentOS 7 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(10) CentOS 8 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) If the password of the OS user is changed (in the case of
Windows, if the password management information of JP1/Base is updated), always
specify OS.osUserInfoFilePath, OS.osUserInfoSheetName(Excel file only), OS.osUserInfoKeyColumn,
common.targetHostNameColumn, jp1base.jp1BaseLHostNameColumn, OS.osUserNameColumn,
OS.osUserNewPasswordColumn, OS.osUserTypeColumn, jp1base.updatePasswordInfoColumn.

(2) To change the password of the JP1 user, always specify
jp1base.jp1UserInfoFilePath, jp1base.jp1UserInfoSheetName(Excel file only), jp1base.jp1UserInfoKeyColumn,
jp1base.certHostNameColumn, jp1base.certHostLHostNameColumn, jp1base.jp1UserNameColumn,
jp1base.jp1UserOldPasswordColumn, jp1base.jp1UserNewPasswordColumn.

(3) If the password of the JP1 user of the logical host environment is updated when JP1/Base of the authentication
server has a cluster configuration, the physical host name or logical host name is entered for the value of the column
specified in jp1base.certHostNameColumn, and the logical host name is entered for the value of the column specified
in jp1base.certHostLHostNameColumn. If the password of the JP1 user of the physical host environment is updated,
specify a null entry for the column specified in jp1base.certHostLHostNameColumn.

(4) If the password management information of the OS user of the logical host environment is updated when
JP1/Base of the agent server has a cluster configuration, use the OS user information file containing the OS user
information of the execution system environment to execute the service. Set the value of the column specified in
jp1base.updatePasswordInfoColumn to "TRUE" in the information of the agent server of the execution system (being
operated by JP1/Base). After the service is executed once on the execution system environment, when the service is
executed to an execution system environment after changing over the system, enter the values into the parameters of the
system environment setting information and OS user information, make all the parameters of the JP1 user information
blank, and then execute the service.

(5) If processing to change the OS user is performed, the OS user information file containing the content given below
must be stored in the JP1/AO server.

- Number of columns

Set so that the number of columns counted from the reading start column of the data is 255 or less.

- Column name

- CSV file

- If column names are needed, enter them in the first row of the file. If column names are not needed, the column names
do not need to be included.

- The data reading start row starts from the second row regardless of whether the first row contains the column names
or not.

- Excel file

- Always include the column names. Starting from the first row or after, the initial row that contains data is treated as
column names.

- Data is read starting from the row following the row containing the column names.

See (8) when specifying the column names.

- Key information

This column stores values serving as unique keys at each row of the user information file. Any content can be entered for the key information, but it is recommended that you specify short values, such as integer values starting from 1. Also, use characters other than double quotation marks (") and single quotation marks (') in the key information. The total number of bytes of all key information + the number of data rows must not exceed 1017 bytes. Any value can be specified for each row. If a value is omitted, the processing for the applicable row is not performed.

- Agent server host name

This column stores the host name of the agent server that changes the password of the OS user. A value must be specified for each row.

- Agent server JP1/Base logical host name

This column stores the JP1/Base logical host name when the agent server JP1/Base has a cluster configuration. Any value can be specified for each row. If no value is specified to this column, the agent server is processed by treating it as a physical server.

- OS user name

This column stores the OS user name whose password is changed. A value must be specified for each row.

- New password of OS user

This column stores the new password of the OS user whose password is changed. A value must be specified for each row.

- OS user type

This column stores the OS user type (domain user (domain)) or local user (local)) for the password that is changed. If the agent server is running Windows, a value must be specified for each row.

- JP1/Base password management information update requirement

Specify "True" (case-sensitive) when updating the JP1/Base password management information in the information of the content row. Any value can be specified for each row. The JP1/Base password management information is updated only when "True" is specified.

(6) If processing to change the JP1 user is performed, the JP1 user information file containing the content given below must be stored:

- Number of columns

See the explanation for the number of columns in (5).

- Column names

See the explanation for the column names in (5).

- Key information

This column stores values serving as unique keys at each row of the user information file. Any content can be entered for the key information, but the specifying of short values, such as integer values starting from 1, is recommended. Also, use characters other than double quotation marks (") and single quotations (') in the key information. The total number of bytes of all key information + the number of data rows must not exceed 1017 bytes. Any value can be specified for each row. If a value is omitted, the process for the applicable row is not performed.

- JP1 authentication server host name

This column stores the host name of the JP1 authentication server that changes the password of the JP1 user. A value must be specified for each row.

- JP1 authentication server JP1/Base logical host name

This column stores the JP1/Base logical host name when the JP1 authentication server JP1/Base has a cluster configuration. Any value can be specified for each row. If no value is specified to this column, the JP1 authentication server is processed by treating it as a physical server.

- JP1 user name

This column stores the JP1 user name whose password is changed. Specify a value for each row.

- Old password of JP1 user

This column stores the current password of the JP1 user whose password is changed. Specify a value for each row.

- New password of JP1 user

This column stores the new password of the JP1 user whose password is changed. Specify a value for each row.

(7) When this service is executed, the JP1/AO server (loopback address resolved by "localhost"), the JP1 authentication server, and the agent server must be set as agentless connection targets.

(8) Specify the content given below for the column name.

- Always specify as a character string. Do not specify numerical data.

- The following characters cannot be used in the column name:

- The following characters cannot be used at the start of the column name in the key information.

- The following characters cannot be used starting from the second character of the column name in the key information.

- The following characters cannot be used in column names other than key information.

- The specified character string can mix of single-byte and double-byte characters but no more than 64 characters can be used.

Cautions

[Notes on user information files]

- Notes when the JP1/AO server is running in a Windows environment

(1) If the agent server OS is UNIX, do not use multibyte characters for the content of the user information file.

(2) If the agent server OS is Windows, multibyte characters can be specified for an OS user name only. If specifying an OS user name, specify no more than 20 bytes.

(3) After confirming the specifications for the OS user/JP1 user whose password is to be changed, create the OS user information file and JP1 user information file. The following characters cannot be specified in the fields of the user information file:

<, >, |, ;, &, control characters (0x00 to 0x1f), double quotation marks (") except at each end, and a trailing \.

(4) If cells in the Excel file are merged, or if an error occurs in the mathematical expression, the obtained value becomes null. Also, the task is abnormally terminated if a written password is set. Remove these states from the user information file.

(5) Do not mix character string data and numerical data in the loaded columns. If this data is mixed, the values may not be obtained properly depending on the ODBC driver specifications.

(a) Numerical data refers to character strings in the following formats.

- Signed integer values (decimal format) Example: -12345

- Values with a fixed decimal point (decimal format) Example: 3.1415

- Values with a floating decimal point (decimal format) Example: 6.543E+10

(b) Character string data refers to character strings in formats other than the above numerical formats.

(6) If columns containing different mixed data types are obtained from the user information file that is read, the following corrective action must be taken:

- For Excel files, add a single quotation mark (') to the beginning of the numerical data.

- For CSV files, enclose the numerical data in double quotation marks (").

(7) If the user information file is a CSV file, enclose the IP address in double quotation marks ("). If the value is not enclosed in double quotation marks ("), it may be falsely identified as numerical data, and the value will not be obtained properly.

(8) If there are blank rows between data rows of the reading target file, the blank rows are also counted in the number of rows. Even if the number of rows containing data is 99 or less, if the number of rows counted by including blank rows in between is 100 or more, the task is abnormally terminated.

(9) If the user information file is an Excel file, the displayed value and actual obtained value might differ depending on the data type of the data contained in the cell. Take careful note if the cell contains data of the following data types:

(a) Boolean type (True/False)

Displayed value: TRUE/FALSE

Value entered in cell: TRUE/FALSE

Actual obtained value: True/False

(b) Date data

Displayed value: mm (month) dd (day)

Value entered in cell: yyyy/mm/dd

Actual obtained value: yyyy/mm/dd

(c) Time data

Displayed value: hh:mm

Value entered in cell: hh:mm:ss

Actual obtained value: hh:mm:ss

(d) Percentage

Displayed value: ~% (Example: 10%)

Value entered in cell: ~% (Example: 10%)

Actual obtained value: 0.~ (Example: 0.1)

(e) Mathematical expression

Displayed value: (Result of mathematical expression)

Value entered in cell: (Mathematical expression)

Actual obtained value: (Result of mathematical expression)

To obtain values for the data in (a), (d), or (e) exactly as they are entered in the cell, add a single quotation mark (') at the start of the entry.

If the target file being loaded is a CSV file, the values contained in the cells can be obtained without any changes.

(10) If the cells contain any of the data types in (9), make the entries so that the data excluding the column with the column names is a single data type only. If multiple data types are mixed in a single column, the obtained data may be null.

- Notes when the JP1/AO server is running in a UNIX environment

(1) If the agent server OS is UNIX, do not use multibyte characters for the content of the user information file.

(2) If the agent server OS is Windows, multibyte characters can be specified for an OS user name only. If specifying an OS user name, specify no more than 20 bytes.

(3) After confirming the specifications for the OS user/JP1 user whose password is to be changed, create the OS user information file and JP1 user information file. The following characters cannot be specified in the fields of the user information file:

<, >, |, ;, &, control characters (0x00 to 0x1f), double quotation marks (") except at each end, and a trailing \.

(4) If there are blank rows between data rows of the reading target file, the blank rows are also counted in the number of rows. Even if the number of rows containing data is 99 or less, if the number of rows counted by including blank rows in between is 100 or more, the task is abnormally terminated.

(5) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(6) Any number of single-byte spaces or tab characters at the beginning or end of a row in a user information file are ignored.

[Other notes]

(1) If this service is executed for a UNIX environment, check beforehand that the OS user where the change will be made exists.

(2) Specify an integer value of 255 or less for the column number of the reading target file. Note that blank columns between data rows are also included in the number of columns.

Execution privilege

Users who belong to the Administrator group

Version

03.10.02

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Information on the user information file	Specify the information of the OS user information file or JP1 user information file.	Y
Details of the OS user information file	Specify the detailed information of the OS user information file. Specify all the properties when changing the OS user information.	Y
Details of the JP1 user information file	Specify the detailed information of the JP1 user information file. Specify all the properties when changing the JP1 user information.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading an each user information file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disab led	R	Information on the user information file
OS.fileOpenRetryInterva l	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading an each user information file fails (only applicable to Windows).	Input	Disab led	R	Information on the user information file

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
OS.osUserInfoFilePath	Path of the OS user information file	Specifies the path of the file containing the OS user information stored in the JP1/AO server as a full path. One of	Input	Disab led	O	Information on the user information file

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.osUserInfoFilePath	Path of the OS user information file	the following file extensions is required: csv, xls, xlsx, or xlsm.	Input	Disabled	O	Information on the user information file
OS.osUserInfoSheetName	Sheet name of the OS user information file	If the OS user information file is an Excel file, specify the sheet name containing the user information.	Input	Disabled	O	Information on the user information file
OS.osUserInfoKeyColumn	Column number of key information of the OS user information file	Specifies the column number containing the "key information" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the OS user information file
common.targetHostNameColumn	Column number of host name of agent server	Specifies the column number containing the "Agent server host name" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the OS user information file
jp1base.jp1BaseLHostNameColumn	Column number of JP1/Base logical host name of agent server	Specifies the column number containing the "Agent server JP1/Base logical host name" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the OS user information file
OS.osUserNameColumn	Column number of the OS user name	Specifies the column number containing the "OS user name" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the OS user information file
OS.osUserNewPasswordColumn	Column number of new password of the OS user	Specifies the column number containing the "new password of the OS user" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the OS user information file
OS.osUserTypeColumn	Column number of the OS user type	Specifies the column number containing the "OS user type" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the OS user information file
jp1base.updatePasswordInfoColumn	Column no. of JP1/Base psswrd mngmnt info update required column	Specifies the column number containing the "JP1/Base password management information update requirement" in the OS user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the OS user information file
jp1base.jp1UserInfoFilePath	Path of JP1 user information file	Specifies the path of the file containing the JP1 user information stored in the JP1/AO server as a full path. One of the following file extensions is required: csv, xls, xlsx, or xlsm.	Input	Disabled	O	Information on the user information file

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.jp1UserInfoSheetName	Sheet name of JP1 user information file	If the JP1 user information file is an Excel file, specify the sheet name containing the user information. Always specify when the JP1 user information file is an Excel file.	Input	Disabled	O	Information on the user information file
jp1base.jp1UserInfoKeyColumn	Column number of key information of JP1 user information file	Specifies the column number containing the "key information" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.certHostNameColumn	Column number of host name of JP1 authentication server	Specifies the column number containing the "JP1 authentication server host name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.certHostLHostNameColumn	Column number of logical host name of JP1 authentication server	Specifies the column number containing the "JP1 authentication server logical host name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.jp1UserNameColumn	Column number of JP1 user name	Specifies the column number containing the "JP1 user name" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.jp1UserOldPasswordColumn	Column number of old password of JP1 user	Specifies the column number containing the "old password of the JP1 user" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file
jp1base.jp1UserNewPasswordColumn	Column number of new password of JP1 user	Specifies the column number containing the "new password of the JP1 user" in the JP1 user information file. Specify the column number as an integer from 1 to 255.	Input	Disabled	O	Details of the JP1 user information file

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.osUserChangeResult	Repeat task execution result (OS user password change process)	Success (true) or failure (false) results for each task of the password change process of the OS user are separated by commas and output.	Output	Disabled
common.jp1UserChangeResult	Repeat task execution result (JP1 user password change process)	Success (true) or failure (false) results for each task of the password change process of the JP1 user are separated by commas and output.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
OS.osUserInfoFilePath	Enter from 8 to 255 characters. Do not include the following characters: < > | ; & * ? " % [ ] ! or a trailing \ or /
OS.osUserInfoSheetName	Enter from 1 to 31 characters. Do not include the following characters: < > | ; : & * ? " % / \ ! ` { [ ]
OS.osUserInfoKeyColumn	Enter an integer value from 1 to 255.
common.targetHostNameColumn	Enter an integer value from 1 to 255.
jp1base.jp1BaseLHostNameColumn	Enter an integer value from 1 to 255.
OS.osUserNameColumn	Enter an integer value from 1 to 255.
OS.osUserNewPasswordColumn	Enter an integer value from 1 to 255.
OS.osUserTypeColumn	Enter an integer value from 1 to 255.
jp1base.updatePasswordInfoColumn	Enter an integer value from 1 to 255.
jp1base.jp1UserInfoFilePath	Enter from 8 to 255 characters. Do not include the following characters: < > | ; & * ? " % [ ] ! or a trailing \ or /
jp1base.jp1UserInfoSheetName	Enter from 1 to 31 characters. Do not include the following characters: < > | ; : & * ? " % / \ ! ` { [ ]
jp1base.jp1UserInfoKeyColumn	Enter an integer value from 1 to 255.
jp1base.certHostNameColumn	Enter an integer value from 1 to 255.
jp1base.certHostLHostNameColumn	Enter an integer value from 1 to 255.
jp1base.jp1UserNameColumn	Enter an integer value from 1 to 255.
jp1base.jp1UserOldPasswordColumn	Enter an integer value from 1 to 255.
jp1base.jp1UserNewPasswordColumn	Enter an integer value from 1 to 255.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetOsInfo	Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	osChangePassword	Flow Plug-in	Changes the OS user password.	--
2-3		Compatible Plug-in	Determines whether the path of the OS user information file is specified.	After removing the cause of the error, run the service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
2-4	osChangePassword	Flow Plug-in	Executes the main process that changes the OS user password.	--
2-4-1		Acquisition of column data from a CSV/ Excel file(SYSTEM)	Reads the key information from the file.	After removing the cause of the error, run the service again.
2-4-2		Repeated Execution Plug-in	Repeatedly changes the OS user password based on the read key information.	After removing the cause of the error, run the service again.
3	jp1baseChangePassword	Flow Plug-in	Changes the JP1 user password registered in JP1/Base.	--
3-3		Compatible Plug-in	Determines whether the path of the JP1 user information file is specified.	After removing the cause of the error, run the service again.
3-4		Flow Plug-in	Executes the main process that changes the JP1 user password.	After removing the cause of the error, run the service again.
3-4-1		Acquisition of column data from a CSV/ Excel file(SYSTEM)	Reads the key information from the file.	After removing the cause of the error, run the service again with only the JP1 user information file specified. (The processing of the OS user has ended normally.)
3-4-2		Repeated Execution Plug-in	Repeatedly changes the JP1 user password based on the read key information.	After removing the cause of the error, checks with common.jp1UserChangeResult for the displayed order of "false". Execute the service using a file that contains the line with the same order of the failure (if it is the nth failure, the nth line) and the subsequent lines extracted.

2.5.29 Batch change of operation users(SYSTEM)(repeated flow 1)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	readOsUserInfo(SYSTEM)	Acquisition of row data from a CSV/ Excel file(SYSTEM)	Reads the OS user information from the file.	After removing the cause of the error, run the service again.
2	osGetOsInfo	Output OS type	Identifies the OS of the agent server.	After removing the cause of the error, run the service again.
3	osChangePassword	Flow Plug-in	Changes the OS user password.	--
3-1		Change password for OS user	Changes the password of the user with the agent server (or the domain of the server).	After removing the cause of the error, run the service again.

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
4	CheckMacroValue	Compatible Plug-in	Determines whether the OS is Windows.	Set the value after changing the old/new password of the JP1 user, and execute the service again.
5	jp1baseChangeUserInfo	Flow Plug-in	Changes the OS user information registered in JP1/Base.	--
5-3		Compatible Plug-in	Determines whether to update the password management information of JP1/Base.	Set the value after changing the old/new password of the JP1 user, and execute the service again.
5-4		Change password management information in JP1/Base	Changes the mapping user password of JP1/Base of the specified server.	Set the value after changing the old/new password of the JP1 user, and execute the service again.

2.5.30 Batch change of operation users(SYSTEM)(repeated flow 2)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	readJp1UserInfo(SYSTEM)	Acquisition of row data from a CSV/Excel file(SYSTEM)	Reads the JP1 user information from a file.	After removing the cause of the error, run the service again.
2	jp1baseChangePassword	Flow Plug-in	Changes the JP1 user password.	--
2-1		Change JP1 user password	Changes the password of the JP1 user with the specified authentication server.	After removing the cause of the error, checks with common.jp1UserChangeResult for the displayed order of "false". Execute the service using a file that contains the line with the same order of the failure (if it is the nth failure, the nth line) and the subsequent lines extracted.

2.5.31 Delete operational user

Function

This service template deletes OS users and JP1 users, and performs peripheral settings.

It is used to facilitate tasks that are performed when administrative users are deleted, such as when servers are removed from a job execution environment.

It is enabled in the following systems:

• Systems in which jobs are executed by an agent server in a job execution environment that uses JP1/AJS3.

• Systems in which automated actions are performed and commands are executed on an agent server in a monitoring environment that uses JP1/IM.

This service template assumes that the following servers are being used.

• JP1 authentication server

Servers running a JP1/Base authentication server. These manage JP1 user information.

• Agent server

Servers on which JP1/Base is installed, and that execute jobs and perform automated actions.

The following tasks are performed:

(1) JP1 users and operating permissions are deleted (JP1 authentication server)

(2) User mapping information is deleted (agent server)

(3) Password management information registered in JP1/Base is deleted (agent server)

(4) OS users are deleted (agent server)

However, the above tasks are only executed for JP1 users for whom a permission level is appended.

If any of the JP1/AO server, the JP1 authentication server and the agent server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "Delete operational user(SYSTEM)" service template that executes with the system account.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of JP1/Base is running on the JP1 authentication server and the agent server:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The authentication server of the connection destination is set in JP1/Base on the agent server.

(2) OS users and JP1 users must be assigned a one-to-one correspondence.

(3) This service deletes the following information:

• Specified OS users

• (Windows environments only) Password management information of specified OS users

• Permissions of specified JP1 users

• Mapping information for specified JP1 users and specified server hosts

• Specified JP1 users

Manually delete definition information other than this.

(4) If JP1/Base on the agent server has a cluster configuration, the service can only be executed in the active server environment. In the standby server environment, manually delete OS users, password management information, and mapping definitions. If a JP1 authentication server has a cluster configuration, settings made in the active system are reflected in the standby system.

Cautions

(1) If the agent server is a UNIX server, this service also deletes the user's home directory. If necessary, save data stored in the home directory.

(2) To work with OS users of the domain environment, set domain in property OS.userType.

(3) When executing this service for a UNIX environment, do not use multibyte characters in properties.

(4) If specifying multibyte characters and when the agent server OS is Windows, specify an OS user name that is no longer than 20 bytes.

Version

03.00.00

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
System environment information	Specify the environment information of the agent server.	Y
OS user information	Specify the OS user information to be deleted.	Y
JP1 authentication server information	Specify the JP1 authentication server information on the JP1 user to be deleted.	Y
JP1 user information	Specify the JP1 user information to be deleted.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.certHost	Host name of the JP1 authentication server	Specify the host name of the JP1 authentication server. Specify the physical host name of primary server or the logical host name of JP1/Base (when using JP1/Base in a cluster configuration).	Input	Disabled	R	JP1 authentication server information
jp1base.certHostLHostName	Logical host name of JP1 authentication server	Specify the logical host name of the JP1 authentication server (when the JP1 authentication server is in a cluster configuration).	Input	Disabled	O	JP1 authentication server information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Agent server host name	Specify the host name or IP address of the agent server. You cannot specify an IPv6 address. Specify the physical host name of primary server or the logical host name of business server (when using business server in a cluster configuration).	Input	Disabled	R	System environment information
jp1base.jp1BaseLHostName	Logical host name of JP1/Base	Specify the logical host name of JP1/Base on the agent server (if JP1/Base is used in a cluster configuration).	Input	Disabled	O	System environment information
OS.osUserName	OS user name	Specifies the OS user name to be deleted from the agent server.	Input	Disabled	R	OS user information
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the agent server is running Windows.	Input	Disabled	O	OS user information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.homeDirectoryDelete	Whether to delete user's home directory	Specify whether to delete the user's home directory, after deleting the OS user. Specifying "yes" deletes it, and specifying "no" does not. This property only takes effect when the agent server is running UNIX.	Input	Disabled	O	OS user information
jp1base.jp1UserName	JP1 user name	Specifies the JP1 user name to be deleted from the JP1 authentication server.	Input	Disabled	R	JP1 user information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.certHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.certHostLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.jp1BaseLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.osUserName	A character string of no more than 20 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userType	Select one of the following values: local,domain
OS.homeDirectoryDelete	Select one of the following values: yes,no
jp1base.jp1UserName	A maximum of 31 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, @, _, ~.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method	
1	jpbaseDeleteJp1user	Flow Plug-in	Deletes information associated with a JP1 user.	--	
1-1		Delete JP1 user permissions	Deletes JP1/Base operating permission on a JP1 authentication server.	Eliminate the cause of the error, and then re-execute the service.	

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1-2	jpbaseDeleteJp1user	Delete JP1 user	Deletes a JP1 user from a JP1 authentication server.	Eliminate the cause of the error, and then re-execute the service.
1-3		Delete JP1/Base user mapping	Deletes JP1 user and OS user mapping on an agent server.	Eliminate the cause of the error, and then re-execute the service.
1-4		Output OS type	Determines the OS.	Eliminate the cause of the error, and then re-execute the service.
1-7		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
1-8		Delete OS user information	Deletes OS user passwords from JP1/Base.	Eliminate the cause of the error, and then re-execute the service.
2	osDeleteUser	Flow Plug-in	Deletes an OS user.	--
2-1		Delete OS user	Deletes users from agent servers (or agent server domains).	Eliminate the cause of the error, and then manually delete the OS users using the net user delete command (Windows) or the userdel command (UNIX).

2.5.32 Delete operational user(SYSTEM)

Function

This service template deletes OS users and JP1 users, and performs peripheral settings.

It is used to facilitate tasks that are performed when administrative users are deleted, such as when servers are removed from a job execution environment.

It is enabled in the following systems:

• Systems in which jobs are executed by an agent server in a job execution environment that uses JP1/AJS3.

• Systems in which automated actions are performed and commands are executed on an agent server in a monitoring environment that uses JP1/IM.

This service template assumes that the following servers are being used.

• JP1 authentication server

Servers running a JP1/Base authentication server. These manage JP1 user information.

• Agent server

Servers on which JP1/Base is installed, and that execute jobs and perform automated actions.

The following tasks are performed:

(1) JP1 users and operating permissions are deleted (JP1 authentication server)

(2) User mapping information is deleted (agent server)

(3) Password management information registered in JP1/Base is deleted (agent server)

(4) OS users are deleted (agent server)

However, the above tasks are only executed for JP1 users for whom a permission level is appended.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of JP1/Base is running on the JP1 authentication server and the agent server:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The authentication server of the connection destination is set in JP1/Base on the agent server.

(2) OS users and JP1 users must be assigned a one-to-one correspondence.

(3) This service deletes the following information:

• Specified OS users

• (Windows environments only) Password management information of specified OS users

• Permissions of specified JP1 users

• Mapping information for specified JP1 users and specified server hosts

• Specified JP1 users

Manually delete definition information other than this.

(4) If JP1/Base on the agent server has a cluster configuration, the service can only be executed in the active server environment. In the standby server environment, manually delete OS users, password management information, and mapping definitions. If a JP1 authentication server has a cluster configuration, settings made in the active system are reflected in the standby system.

Cautions

(1) If the agent server is a UNIX server, this service also deletes the user's home directory. If necessary, save data stored in the home directory.

(2) To work with OS users of the domain environment, set domain in property OS.userType.

(3) When executing this service for a UNIX environment, do not use multibyte characters in properties.

(4) If specifying multibyte characters and when the agent server OS is Windows, specify an OS user name that is no longer than 20 bytes.

Version

03.00.00

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
System environment information	Specify the environment information of the agent server.	Y
OS user information	Specify the OS user information to be deleted.	Y
JP1 authentication server information	Specify the JP1 authentication server information on the JP1 user to be deleted.	Y
JP1 user information	Specify the JP1 user information to be deleted.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.certHost	Host name of the JP1 authentication server	Specify the host name of the JP1 authentication server. Specify the physical host name of primary server or the logical host name of	Input	Disabled	R	JP1 authentication server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.certHost	Host name of the JP1 authentication server	JP1/Base (when using JP1/Base in a cluster configuration).	Input	Disabled	R	JP1 authentication server information
jp1base.certHostLHostName	Logical host name of JP1 authentication server	Specify the logical host name of the JP1 authentication server (when the JP1 authentication server is in a cluster configuration).	Input	Disabled	O	JP1 authentication server information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Agent server host name	Specify the host name or IP address of the agent server. You cannot specify an IPv6 address. Specify the physical host name of primary server or the logical host name of business server (when using business server in a cluster configuration).	Input	Disabled	R	System environment information
jp1base.jp1BaseLHostName	Logical host name of JP1/Base	Specify the logical host name of JP1/Base on the agent server (if JP1/Base is used in a cluster configuration).	Input	Disabled	O	System environment information
OS.osUserName	OS user name	Specifies the OS user name to be deleted from the agent server.	Input	Disabled	R	OS user information
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the agent server is running Windows.	Input	Disabled	O	OS user information
OS.homeDirectoryDelete	Whether to delete user's home directory	Specify whether to delete the user's home directory, after deleting the OS user. Specifying "yes" deletes it, and specifying "no" does not. This property only takes effect when the agent server is running UNIX.	Input	Disabled	O	OS user information
jp1base.jp1UserName	JP1 user name	Specifies the JP1 user name to be deleted from the JP1 authentication server.	Input	Disabled	R	JP1 user information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.certHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.certHostLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.jp1BaseLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.osUserName	A character string of no more than 20 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userType	Select one of the following values: local,domain
OS.homeDirectoryDelete	Select one of the following values: yes,no
jp1base.jp1UserName	A maximum of 31 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, @, _, ~.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	jpbaseDeleteJp1user	Flow Plug-in	Deletes information associated with a JP1 user.	--
1-1		Delete JP1 user permissions	Deletes JP1/Base operating permission on a JP1 authentication server.	Eliminate the cause of the error, and then re-execute the service.
1-2		Delete JP1 user	Deletes a JP1 user from a JP1 authentication server.	Eliminate the cause of the error, and then re-execute the service.
1-3		Delete JP1/Base user mapping	Deletes JP1 user and OS user mapping on an agent server.	Eliminate the cause of the error, and then re-execute the service.
1-4		Output OS type	Determines the OS.	Eliminate the cause of the error, and then re-execute the service.
1-7		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
1-8		Delete OS user information	Deletes OS user passwords from JP1/Base.	Eliminate the cause of the error, and then re-execute the service.
2	osDeleteUser	Flow Plug-in	Deletes an OS user.	--
2-1		Delete OS user	Deletes users from agent servers (or agent server domains).	Eliminate the cause of the error, and then manually delete the OS users using the net user delete command (Windows) or the userdel command (UNIX).

2.5.33 Add operational user

Function

This service template adds OS users and JP1 users, and performs peripheral settings.

It is used to facilitate tasks that are performed when administrative users are added, such as when job execution servers are added in a job execution environment.

It is enabled in the following systems:

• Systems in which jobs are executed by an agent server in a job execution environment that uses JP1/AJS3.

• Systems in which automated actions are performed and commands are executed on an agent server in a monitoring environment that uses JP1/IM.

This service template assumes that the following servers are being used.

• JP1 authentication server

Servers running a JP1/Base authentication server. These manage JP1 user information.

• Agent server

Servers on which JP1/Base is installed, and that execute jobs and perform automated actions.

To add administrative users (OS users and JP1 users) to the above systems, the following tasks are performed.

(1) OS users are added (agent server)

(2) JP1 users and operating permissions are set (JP1 authentication server)

(3) User mapping is set (agent server)

If any of the JP1/AO server, the JP1 authentication server and the agent server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "Add operational user(SYSTEM)" service template that executes with the system account.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of JP1/Base is running on the JP1 authentication server and the agent server:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system]

(1) The following files to be transferred to the JP1 authentication server are stored in a folder on the JP1/AO server. In the property ao.confPath, specify the path of the folder where you want to store these files. Make the linefeed code of the files to be stored consistent with the OS specifications of the JP1 authentication server.

• User permission level file (JP1_UserLevel)

[Usage conditions of prerequisite products in the system executing the service template]

(1) The authentication server of the connection destination is set in JP1/Base on the agent server.

(2) The user permission level file is transferred to the folders specified in properties Windows.targetTmpPath and Linux.targetTmpPath. If no folder is found at the specified path, a folder is created and the files are transferred. The specified folder is not deleted.

(3) If JP1/Base on the agent server has a cluster configuration, the service can only be executed on the active server environment. If a JP1 authentication server has a cluster configuration, settings made in the active system are reflected in the standby system.

Cautions

(1) To work with OS users of the domain environment, set property OS.userType to domain.

(2) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(3) If you specify multibyte characters and the agent server OS is Windows, specify the following parameters to be the lengths indicated.

Path of the JP1/AO server's definition file storage folder: 242 bytes

Agent server temporary folder (Windows): 242 bytes

OS user name: 20 bytes

OS user password: 64 bytes

OS user password re-entry: 64 bytes

OS user full name: 256 bytes

OS user comment: 256 bytes

OS user group name: 256 bytes

(4) If no folder is found in the path specified in remote, a folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

(5) In order to execute this service, the JP1/AO server (loopback address resolved by localhost) and the server that is the connection destination must be set as agentless connection destinations.

(6) If this service is executed for a Windows environment and the specified OS user already exists, the existing OS user is used. Note that the group settings of the OS user are made, but the password of the OS user is not changed.

(7) If this service is executed for a UNIX environment and the specified OS user already exists, the existing OS user is used. The password of the OS user is changed, but the OS user group settings and home directory remain unchanged.

Version

03.00.00

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
System environment information	Specify agent server environment information, and definition files needed to add a JP1 user.	Y
OS user information	Specify the OS user information to be added.	Y
JP1 authentication server information	Specify the JP1 authentication server information for the JP1 user to be added.	Y
JP1 user information	Specify the information for the JP1 user to be added.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.certHost	Host name of the JP1 authentication server	Specify the host name of the JP1 authentication server. Specify the physical host name of primary server or the logical host name of JP1/Base (when using JP1/Base in a cluster configuration).	Input	Disabled	R	JP1 authentication server information
jp1base.certHostLHostName	Logical host name of JP1 authentication server	Specify the logical host name of the JP1 authentication server (when the JP1	Input	Disabled	O	JP1 authentication server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.certHostLHostName	Logical host name of JP1 authentication server	authentication server is in a cluster configuration).	Input	Disabled	O	JP1 authentication server information
ao.confPath	Folder containing JP1/AO server definition files	Specify the folder on the JP1/AO server containing the definition (configuration) files to be transferred to the JP1 authentication server, by the folder's full path.	Input	Disabled	R	System environment information
windows.targetTmpPath	Temporary folder on agent server (Windows)	Specify the location of the temporary folder used as the destination for definition files transferred to the agent server, by the folder's full path. This property is mandatory when the agent server is running Windows.	Input	Disabled	O	System environment information
Linux.targetTmpPath	Temporary directory on agent server (UNIX)	Specify the location of the temporary directory used as the destination for definition files to be transferred to the agent server, by the directory's full path. This property is mandatory when the agent server is running UNIX.	Input	Disabled	O	System environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Agent server host name	Specify the host name or IP address of the agent server. You cannot specify an IPv6 address. Specify the physical host name of primary server or the logical host name of business server (when using business server in a cluster configuration).	Input	Disabled	R	System environment information
jp1base.jp1BaseLHostName	Logical host name of JP1/Base	Specify the logical host name of JP1/Base on the agent server (if JP1/Base is used in a cluster configuration).	Input	Disabled	O	System environment information
OS.osUserName	OS user name	Specify the name of the OS user to create on the agent server.	Input	Disabled	R	OS user information
OS.osUserPassword	OS user password	Specify the password of the OS user.	Input	Disabled	R	OS user information
OS.osUserPasswordReEnter	Enter the OS user password again	Enter the OS user password again.	Input	Disabled	R	OS user information
OS.userFullName	Full name of OS user	Specify the full name of the OS user. This property only takes effect when the agent server is running Windows.	Input	Disabled	O	OS user information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
OS.homeDirectory	Home directory of OS user	Specifies the full path of the OS user's home directory. This property is valid only if the OS of the agent server is UNIX.	Input	Disab led	O	OS user information
OS.userComment	Comment	Specify any relevant comments about the OS user.	Input	Disab led	O	OS user information
OS.osGroupName	OS user group name	Specify the name of the existing group to which the OS user belongs.	Input	Disab led	R	OS user information
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the agent server is running Windows.	Input	Disab led	O	OS user information
jp1base.jp1UserName	JP1 user name	Specify the name of the JP1 user you want to create on the JP1 authentication server.	Input	Disab led	R	JP1 user information
jp1base.jp1UserPasswor d	JP1 user password	Specify the password of the JP1 user.	Input	Disab led	R	JP1 user information
jp1base.jp1UserPasswor dReEnter	Enter the JP1 user password again	Enter the JP1 user password again.	Input	Disab led	R	JP1 user information
jp1base.serverHostName	Mapping definition host name	Specify the host name or * for defining the user mapping of the agent server. Do not specify an IP addr. Note that the operation will succeed even if you specify an IP. In the case of a cluster, specify the physical or logical host of the active server.	Input	Disab led	R	JP1 user information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.certHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.certHostLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
ao.confPath	A character string of between 2 and 242 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing trailing \ or /. In case of executing this service to UNIX, it cannot include multibyte character.
windows.targetTmpPath	A character string of between 2 and 242 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, /, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
Linux.targetTmpPath	A character string of no more than 32 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /. In case of executing this service to UNIX, it cannot include multibyte character.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.jp1BaseLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.osUserName	A character string of no more than 20 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPassword	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPasswordReEnter	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userFullName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.homeDirectory	A character string of between 7 and 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userComment	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osGroupName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userType	Select one of the following values: local,domain
jp1base.jp1UserName	A maximum of 31 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, @, _, ~.
jp1base.jp1UserPassword	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, } and ~.
jp1base.jp1UserPasswordReEnter	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, }, and ~.
jp1base.serverHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkOS	Flow Plug-in	Determines the OS type of the JP1 authentication server or agent server.	--
1-1		Output OS type	Ascertains the OS of the JP1 authentication server.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1-2	checkOS	Output OS type	Ascertains the agent server OS.	Eliminate the cause of the error, and then re-execute the service.
1-3		Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	osAddUser	Flow Plug-in	Adds an OS user and sets the group.	--
2-3		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
2-4		Flow Plug-in	Adds users to an agent server (or agent server domain).	--
2-4-1		Add OS user (Windows)	Adds users to an agent server (or agent server domain). Added users are shown in the Computer Management - System Tools - Local Users and Groups - Users. Also, the full names of OS users are shown on the screen under Full name and the OS user comments under Description.	Eliminate the cause of the error, and then re-execute the service.
2-4-2		Set group of OS user (Windows)	Adds users created in the groups of an agent server (or agent server domain). Added groups can be displayed in the Member Of tab in the user property by double-clicking an added user name in Computer Management - System Tools - Local Users and Groups - Users.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
2-5		Compatible Plug-in	Determines whether or not the OS is UNIX.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
2-6		Flow Plug-in	Adds users to a specified server (or server domain).	--
2-6-1		Add OS user (Linux)	Adds users to a specified server (or server domain). The added users add lines to the /etc/passwd file. Also, it is possible to access the OS user's home directory in the 6th column of the line of the added user in this file, the OS user's comments in the 5th column of the same line in this file, and the group ID of the OS user's group specified in the 4th column of the same line in this file. The group name of the corresponding group ID can be accessed in the /etc/group file.	Eliminate the cause of the error, and then re-execute the service.
2-6-2		Change password for OS user	Sets up the password of an added user.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3	jp1baseAddJp1user	Flow Plug-in	Adds a JP1 user name and sets its mapping information.	--
3-3		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3-4		Flow Plug-in	Adds JP1 user names.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-4-1	jp1baseAddJp1user	Add JP1 user	Adds a JP1 user to an authentication server. Added users are listed in the JP1 user area in the User Mapping page of the JP1/Base Environment Settings dialog box.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3-4-2		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.
3-4-3		File-forwarding plug-in	Transfers a user permission level file to an authentication server. Transfers the JP1_UserLevel file at the path of the JP1/AO server's definition file storage folder to a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-4-4		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
3-4-5		File-forwarding plug-in	Transfers a user permission level file to an authentication server. Transfers the JP1_UserLevel file at the path of the JP1/AO server's definition file storage folder to a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-4-6		Set JP1/ Base permissions	Configures JP1/Base operating permissions on a JP1 authentication server. The configured permission is shown on the list of Authority level for JP1 resource group area when a user name in the JP1 user area in the User Mapping page of the JP1/ Base Environment Settings dialog box is clicked.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-4-7		Delete file	Deletes a transferred file. Deletes a JP1_UserLevel file in a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-5		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-6		Flow Plug-in	Configures JP1 user mapping information.	--
3-6-1		Change password management information in JP1/Base	Registers the passwords of OS users in JP1/Base. Users registered in password management are listed when the Set button is clicked in the Password management area in the User Mapping page of the JP1/Base Environment Settings dialog box.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-6-2		Add JP1/Base user mapping	Configures mapping of newly added JP1 users and newly added OS users. Configured JP1 user names and mapping definition host names are shown in the JP1 user area in the User Mapping page of the JP1/Base Environment Settings	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-6-2	jp1baseAddJp1user	Add JP1/Base user mapping	dialog box; when clicked, it displays the OS user names configured in List of OS users to be mapped area.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-7		Compatible Plug-in	Determines whether or not the OS is UNIX.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3-8		Flow Plug-in	Adds JP1 user names.	--
3-8-1		Add JP1 user	Adds a JP1 user to a JP1 authentication server. The added JP1 user can be checked with the jbslistuser command.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3-8-2		File-forwarding plug-in	Transfers a user permission level file to a JP1 authentication server. Transfers the JP1_UserLevel file at the path of the JP1/AO server's definition file storage folder to a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-8-3		Set JP1/ Base permissions	Configures JP1/Base operating permissions on a JP1 authentication server. The configured permission can be checked with the jbslistacl command.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-8-4		Delete file	Deletes a transferred file. Deletes a JP1_UserLevel file in a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-9		Compatible Plug-in	Determines whether or not the OS is UNIX.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-10		Flow Plug-in	Configures JP1 user mapping information.	--
3-10-1		Add JP1/Base user mapping	Configures mapping of newly added JP1 users and newly added OS users. Configured JP1 user names, mapping definition host names, and configured OS user names are shown respectively in the 1st, 2nd, and 3rd columns of the jbsgetumap command results.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.

2.5.34 Add operational user(SYSTEM)

Function

This service template adds OS users and JP1 users, and performs peripheral settings.

It is used to facilitate tasks that are performed when administrative users are added, such as when job execution servers are added in a job execution environment.

It is enabled in the following systems:

• Systems in which jobs are executed by an agent server in a job execution environment that uses JP1/AJS3.

• Systems in which automated actions are performed and commands are executed on an agent server in a monitoring environment that uses JP1/IM.

This service template assumes that the following servers are being used.

• JP1 authentication server

Servers running a JP1/Base authentication server. These manage JP1 user information.

• Agent server

Servers on which JP1/Base is installed, and that execute jobs and perform automated actions.

To add administrative users (OS users and JP1 users) to the above systems, the following tasks are performed.

(1) OS users are added (agent server)

(2) JP1 users and operating permissions are set (JP1 authentication server)

(3) User mapping is set (agent server)

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of JP1/Base is running on the JP1 authentication server and the agent server:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system]

(1) The following files to be transferred to the JP1 authentication server are stored in a folder on the JP1/AO server. In the property ao.confPath, specify the path of the folder where you want to store these files. Make the linefeed code of the files to be stored consistent with the OS specifications of the JP1 authentication server.

• User permission level file (JP1_UserLevel)

[Usage conditions of prerequisite products in the system executing the service template]

(1) The authentication server of the connection destination is set in JP1/Base on the agent server.

(2) The user permission level file is transferred to the folders specified in properties Windows.targetTmpPath and Linux.targetTmpPath. If no folder is found at the specified path, a folder is created and the files are transferred. The specified folder is not deleted.

(3) If JP1/Base on the agent server has a cluster configuration, the service can only be executed on the active server environment. If a JP1 authentication server has a cluster configuration, settings made in the active system are reflected in the standby system.

Cautions

(1) To work with OS users of the domain environment, set property OS.userType to domain.

(2) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(3) If you specify multibyte characters and the agent server OS is Windows, specify the following parameters to be the lengths indicated.

Path of the JP1/AO server's definition file storage folder: 242 bytes

Agent server temporary folder (Windows): 242 bytes

OS user name: 20 bytes

OS user password: 64 bytes

OS user password re-entry: 64 bytes

OS user full name: 256 bytes

OS user comment: 256 bytes

OS user group name: 256 bytes

(4) If no folder is found in the path specified in remote, a folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

(5) In order to execute this service, the JP1/AO server (loopback address resolved by localhost) and the server that is the connection destination must be set as agentless connection destinations.

(6) If this service is executed for a Windows environment and the specified OS user already exists, the existing OS user is used. Note that the group settings of the OS user are made, but the password of the OS user is not changed.

(7) If this service is executed for a UNIX environment and the specified OS user already exists, the existing OS user is used. The password of the OS user is changed, but the OS user group settings and home directory remain unchanged.

Version

03.00.00

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
System environment information	Specify agent server environment information, and definition files needed to add a JP1 user.	Y
OS user information	Specify the OS user information to be added.	Y
JP1 authentication server information	Specify the JP1 authentication server information for the JP1 user to be added.	Y
JP1 user information	Specify the information for the JP1 user to be added.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.certHost	Host name of the JP1 authentication server	Specify the host name of the JP1 authentication server. Specify the physical host name of primary server or the logical host name of JP1/Base (when using JP1/Base in a cluster configuration).	Input	Disabled	R	JP1 authentication server information
jp1base.certHostLHostName	Logical host name of JP1 authentication server	Specify the logical host name of the JP1 authentication server (when the JP1 authentication server is in a cluster configuration).	Input	Disabled	O	JP1 authentication server information
ao.confPath	Folder containing JP1/AO server definition files	Specify the folder on the JP1/AO server containing the definition (configuration) files to be transferred to the JP1 authentication server, by the folder's full path.	Input	Disabled	R	System environment information
windows.targetTmpPath	Temporary folder on agent server (Windows)	Specify the location of the temporary folder used as the destination for definition files transferred to the agent server, by the folder's full path. This	Input	Disabled	O	System environment information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
windows.targetTmpPath	Temporary folder on agent server (Windows)	property is mandatory when the agent server is running Windows.	Input	Disab led	O	System environment information
Linux.targetTmpPath	Temporary directory on agent server (UNIX)	Specify the location of the temporary directory used as the destination for definition files to be transferred to the agent server, by the directory's full path. This property is mandatory when the agent server is running UNIX.	Input	Disab led	O	System environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
common.targetHost	Agent server host name	Specify the host name or IP address of the agent server. You cannot specify an IPv6 address. Specify the physical host name of primary server or the logical host name of business server (when using business server in a cluster configuration).	Input	Disab led	R	System environment information
jp1base.jp1BaseLHostNa me	Logical host name of JP1/Base	Specify the logical host name of JP1/Base on the agent server (if JP1/Base is used in a cluster configuration).	Input	Disab led	O	System environment information
OS.osUserName	OS user name	Specify the name of the OS user to create on the agent server.	Input	Disab led	R	OS user information
OS.osUserPassword	OS user password	Specify the password of the OS user.	Input	Disab led	R	OS user information
OS.osUserPasswordReE nter	Enter the OS user password again	Enter the OS user password again.	Input	Disab led	R	OS user information
OS.userFullName	Full name of OS user	Specify the full name of the OS user. This property only takes effect when the agent server is running Windows.	Input	Disab led	O	OS user information
OS.homeDirectory	Home directory of OS user	Specifies the full path of the OS user's home directory. This property is valid only if the OS of the agent server is UNIX.	Input	Disab led	O	OS user information
OS.userComment	Comment	Specify any relevant comments about the OS user.	Input	Disab led	O	OS user information
OS.osGroupName	OS user group name	Specify the name of the existing group to which the OS user belongs.	Input	Disab led	R	OS user information
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the agent server is running Windows.	Input	Disab led	O	OS user information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.jp1UserName	JP1 user name	Specify the name of the JP1 user you want to create on the JP1 authentication server.	Input	Disabled	R	JP1 user information
jp1base.jp1UserPassword	JP1 user password	Specify the password of the JP1 user.	Input	Disabled	R	JP1 user information
jp1base.jp1UserPasswordReEnter	Enter the JP1 user password again	Enter the JP1 user password again.	Input	Disabled	R	JP1 user information
jp1base.serverHostName	Mapping definition host name	Specify the host name or * for defining the user mapping of the agent server. Do not specify an IP addr. Note that the operation will succeed even if you specify an IP. In the case of a cluster, specify the physical or logical host of the active server.	Input	Disabled	R	JP1 user information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.certHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.certHostLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
ao.confPath	A character string of between 2 and 242 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing trailing \ or /. In case of executing this service to UNIX, it cannot include multibyte character.
windows.targetTmpPath	A character string of between 2 and 242 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, /, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
Linux.targetTmpPath	A character string of no more than 32 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /. In case of executing this service to UNIX, it cannot include multibyte character.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.jp1BaseLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.osUserName	A character string of no more than 20 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPassword	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.

Property key	Characters that can be input
OS.osUserPasswordReEnter	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userFullName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.homeDirectory	A character string of between 7 and 255 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userComment	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osGroupName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userType	Select one of the following values: local,domain
jp1base.jp1UserName	A maximum of 31 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, @, _, ~.
jp1base.jp1UserPassword	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, } and ~.
jp1base.jp1UserPasswordReEnter	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, }, and ~.
jp1base.serverHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkOS	Flow Plug-in	Determines the OS type of the JP1 authentication server or agent server.	--
1-1		Output OS type	Ascertains the OS of the JP1 authentication server.	Eliminate the cause of the error, and then re-execute the service.
1-2		Output OS type	Ascertains the agent server OS.	Eliminate the cause of the error, and then re-execute the service.
1-3		Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	osAddUser	Flow Plug-in	Adds an OS user and sets the group.	--
2-3		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
2-4		Flow Plug-in	Adds users to an agent server (or agent server domain).	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
2-4-1	osAddUser	Add OS user (Windows)	Adds users to an agent server (or agent server domain). Added users are shown in the Computer Management - System Tools - Local Users and Groups - Users. Also, the full names of OS users are shown on the screen under Full name and the OS user comments under Description.	Eliminate the cause of the error, and then re-execute the service.
2-4-2		Set group of OS user (Windows)	Adds users created in the groups of an agent server (or agent server domain). Added groups can be displayed in the Member Of tab in the user property by double-clicking an added user name in Computer Management - System Tools - Local Users and Groups - Users.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
2-5		Compatible Plug-in	Determines whether or not the OS is UNIX.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
2-6		Flow Plug-in	Adds users to a specified server (or server domain).	--
2-6-1		Add OS user (Linux)	Adds users to a specified server (or server domain). The added users add lines to the /etc/passwd file. Also, it is possible to access the OS user's home directory in the 6th column of the line of the added user in this file, the OS user's comments in the 5th column of the same line in this file, and the group ID of the OS user's group specified in the 4th column of the same line in this file. The group name of the corresponding group ID can be accessed in the /etc/group file.	Eliminate the cause of the error, and then re-execute the service.
2-6-2		Change password for OS user	Sets up the password of an added user.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3	jp1baseAddJp1user	Flow Plug-in	Adds a JP1 user name and sets its mapping information.	--
3-3		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3-4		Flow Plug-in	Adds JP1 user names.	--
3-4-1		Add JP1 user	Adds a JP1 user to an authentication server. Added users are listed in the JP1 user area in the User Mapping page of the JP1/Base Environment Settings dialog box.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3-4-2		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.
3-4-3		File-forwarding plug-in	Transfers a user permission level file to an authentication server. Transfers the JP1_UserLevel file at the path of the JP1/AO server's definition file storage	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-4-3	jp1baseAddJp1user	File-forwarding plug-in	folder to a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-4-4		Compatible Plug-in	Determines whether or not the OS of the JP1/AO server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
3-4-5		File-forwarding plug-in	Transfers a user permission level file to an authentication server. Transfers the JP1_UserLevel file at the path of the JP1/AO server's definition file storage folder to a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-4-6		Set JP1/ Base permissions	Configures JP1/Base operating permissions on a JP1 authentication server. The configured permission is shown on the list of Authority level for JP1 resource group area when a user name in the JP1 user area in the User Mapping page of the JP1/ Base Environment Settings dialog box is clicked.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-4-7		Delete file	Deletes a transferred file. Deletes a JP1_UserLevel file in a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-5		Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-6		Flow Plug-in	Configures JP1 user mapping information.	--
3-6-1		Change password management information in JP1/Base	Registers the passwords of OS users in JP1/Base. Users registered in password management are listed when the Set button is clicked in the Password management area in the User Mapping page of the JP1/Base Environment Settings dialog box.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-6-2		Add JP1/Base user mapping	Configures mapping of newly added JP1 users and newly added OS users. Configured JP1 user names and mapping definition host names are shown in the JP1 user area in the User Mapping page of the JP1/Base Environment Settings dialog box; when clicked, it displays the OS user names configured in List of OS users to be mapped area.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-7		Compatible Plug-in	Determines whether or not the OS is UNIX.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3-8		Flow Plug-in	Adds JP1 user names.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-8-1	jp1baseAddJp1user	Add JP1 user	Adds a JP1 user to a JP1 authentication server. The added JP1 user can be checked with the jbslistuser command.	Eliminate the cause of the error, delete the created OS users, and then re-execute the service.
3-8-2		File-forwarding plug-in	Transfers a user permission level file to a JP1 authentication server. Transfers the JP1_UserLevel file at the path of the JP1/AO server's definition file storage folder to a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-8-3		Set JP1/ Base permissions	Configures JP1/Base operating permissions on a JP1 authentication server. The configured permission can be checked with the jbslistacl command.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-8-4		Delete file	Deletes a transferred file. Deletes a JP1_UserLevel file in a temporary folder of an agent server.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-9		Compatible Plug-in	Determines whether or not the OS is UNIX.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.
3-10		Flow Plug-in	Configures JP1 user mapping information.	--
3-10-1		Add JP1/Base user mapping	Configures mapping of newly added JP1 users and newly added OS users. Configured JP1 user names, mapping definition host names, and configured OS user names are shown respectively in the 1st, 2nd, and 3rd columns of the jbsgetumap command results.	Eliminate the cause of the error, delete the created OS users and JP1 users, and then re-execute the service.

2.5.35 Change operational user

Function

This service template changes password for OS users and JP1 users, and updates password management information registered in JP1/Base (Windows).

Note that in a CentOS environment, only changing password for OS users is executable.

It is enabled in the following systems:

• Systems in which jobs are executed by an agent server in a job execution environment that uses JP1/AJS3.

• Systems in which automated actions are performed and commands are executed on an agent server in a monitoring environment that uses JP1/IM.

This service template assumes that the following servers are being used.

• JP1 authentication server

Servers running a JP1/Base authentication server. These manage JP1 user information.

• Agent server

Servers on which JP1/Base is installed, and that execute jobs and perform automated actions.

To update administrative users' information to the above systems, the following tasks are performed.

(1) Change the OS user password. (Agent server)

(2) Update the password management information registered in JP1/Base. (Agent server)

(3) Change the JP1 user password. (JP1 authentication server)

Note that when OS user is set, (1) and (2) are performed. When JP1 user is set, (3) is performed. If you set both OS user and JP1 user, (1), (2) and (3) are performed.

If any of the JP1/AO server, the JP1 authentication server and the agent server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "Change operational user(SYSTEM)" service template that executes with the system account.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of JP1/Base is running on the JP1 authentication server and the agent server:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(9) CentOS 7 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(10) CentOS 8 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The authentication server of the connection destination is set in JP1/Base on the agent server.

(2) To change the OS user password (or in the case of Windows, to update the password management information), specify the following properties:

common.targetHost

OS.osUserName

OS.osUserPassword

OS.osUserPasswordReEnter

OS.userType (Windows only)

(3) To change the JP1 user password, specify the following properties:

jp1base.certHost

jp1base.jp1UserName

jp1base.jp1UserPassword

jp1base.jp1UserPasswordNew

jp1base.jp1UserPasswordReEnter

(4) If JP1/Base on the agent server is in a cluster configuration, the service can only be executed in the active server environment. If the service was executed at least once on the active server and then a failover occurred, execute the service again by specifying the system environment settings and OS user information parameters, and leaving all the JP1 user information parameters blank.

Cautions

(1) To work with OS users of the domain environment, set property OS.userType to domain.

(2) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(3) If specifying multibyte characters and when the agent server OS is Windows, specify the following parameters to be the lengths indicated.

OS user name: 20 bytes

OS user password: 64 bytes

OS user password re-entry: 64 bytes

(4)In order to execute this service, the JP1/AO server (loopback address resolved by localhost) and the server that is the connection destination must be set as agentless connection destinations.

(5)When executing this service for a UNIX environment, make sure that the OS user exists in advance.

Version

03.00.00

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
System environment information	Specify the environment information of the agent server.	Y
OS user information	Specify the information for the OS user whose password is to be changed.	Y
JP1 authentication server information	Specify the JP1 authentication server information for the JP1 user to be added.	Y
JP1 user information	Specify the JP1 user information for the password to be changed.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.certHost	Host name of the JP1 authentication server	Specifies the host name of the JP1 authentication server. This must be specified if you want to change the OS user's password. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	O	JP1 authentication server information
jp1base.certHostLHostName	Logical host name of JP1 authentication server	Specify the logical host name of the JP1 authentication server (when the JP1 authentication server is in a cluster configuration).	Input	Disabled	O	JP1 authentication server information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Agent server host name	Specifies the host name or IP add. of the agent server. IPv6 are not supported. This must be specified if you want to change the OS user's password. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	O	System environment information
jp1base.jp1BaseLHostName	Logical host name of JP1/Base	Specify the logical host name of JP1/Base on the agent server (if JP1/Base is used in a cluster configuration).	Input	Disabled	O	System environment information
OS.osUserName	OS user name	Specifies the OS user name from the agent server. This must be specified if you want to change the password of the OS user.	Input	Disabled	O	OS user information
OS.osUserPassword	New password for OS user	Specifies the new password for the OS user.	Input	Disabled	O	OS user information
OS.osUserPasswordReEnter	Re-enter new password for OS user	Specifies again the new password for the OS user.	Input	Disabled	O	OS user information
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the agent server is running Windows.	Input	Disabled	O	OS user information
jp1base.jp1UserName	JP1 user name	Specifies the JP1 user name on the JP1 authentication server. This must be specified if you want to change the password for the JP1 user.	Input	Disabled	O	JP1 user information
jp1base.jp1UserPassword	JP1 user password	Specify the password of the JP1 user.	Input	Disabled	O	JP1 user information
jp1base.jp1UserPasswordNew	New JP1 user password	Specify a new password for a JP1 user.	Input	Disabled	O	JP1 user information
jp1base.jp1UserPasswordReEnter	Re-enter new password for JP1 user	Specifies again the new password for the JP1 user.	Input	Disabled	O	JP1 user information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.certHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.certHostLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

Property key	Characters that can be input
jp1base.jp1BaseLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.osUserName	A character string of no more than 20 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPassword	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPasswordReEnter	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userType	Select one of the following values: local,domain
jp1base.jp1UserName	A maximum of 31 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, @, _, ~.
jp1base.jp1UserPassword	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, } and ~.
jp1base.jp1UserPasswordNew	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, }, and ~.
jp1base.jp1UserPasswordReEnter	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, }, and ~.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkOS	Flow Plug-in	Determines the OS type of the JP1 authentication server or agent server.	--
1-1		Output OS type	Ascertains the OS of the JP1 authentication server.	Eliminate the cause of the error, and then re-execute the service.
1-2		Output OS type	Ascertains the agent server OS.	Eliminate the cause of the error, and then re-execute the service.
1-3		Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	osChangePassword	Flow Plug-in	Changes the password for an OS user.	--
2-3		Compatible Plug-in	Ascertains whether an OS user name has been specified.	Eliminate the cause of the error, and then re-execute the service.
2-3-1		Change password for OS user	Changes user passwords on an agent server (or server domain).	Eliminate the cause of the error, and then re-execute the service.
3	jp1baseChangeUserInfo	Flow Plug-in	Updates OS user information registered in JP1/Base.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-1	jp1baseChangeUserInfo	Compatible Plug-in	Ascertains whether an OS user name has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-2		Flow Plug-in	Updates OS user information registered in JP1/Base.	--
3-2-3		Compatible Plug-in	Determines whether or not the OS is Windows.	Set the value after changing to the new and old password of the JP1 user, and then re-execute the service.
3-2-4		Change password management information in JP1/Base	Changes passwords of mapping users of JP1/Base of a specified server.	Set the value after changing to the new and old password of the JP1 user, and then re-execute the service.
4	jp1baseChangePassword	Flow Plug-in	Changes the password for a JP1 user.	--
4-3		Compatible Plug-in	Ascertains whether a JP1 user name has been specified.	Eliminate the cause of the error, and then re-execute the service.
4-3-1		Change JP1 user password	Changes the JP1 user password on a specified authentication server.	Eliminate the cause of the error, and then re-execute the service.

2.5.36 Change operational user(SYSTEM)

Function

This service template changes password for OS users and JP1 users, and updates password management information registered in JP1/Base (Windows).

Note that in a CentOS environment, only changing password for OS users is executable.

It is enabled in the following systems:

• Systems in which jobs are executed by an agent server in a job execution environment that uses JP1/AJS3.

• Systems in which automated actions are performed and commands are executed on an agent server in a monitoring environment that uses JP1/IM.

This service template assumes that the following servers are being used.

• JP1 authentication server

Servers running a JP1/Base authentication server. These manage JP1 user information.

• Agent server

Servers on which JP1/Base is installed, and that execute jobs and perform automated actions.

To update administrative users' information to the above systems, the following tasks are performed.

(1) Change the OS user password. (Agent server)

(2) Update the password management information registered in JP1/Base. (Agent server)

(3) Change the JP1 user password. (JP1 authentication server)

Note that when OS user is set, (1) and (2) are performed. When JP1 user is set, (3) is performed. If you set both OS user and JP1 user, (1), (2) and (3) are performed.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following version of JP1/Base is running on the JP1 authentication server and the agent server:

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(9) CentOS 7 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(10) CentOS 8 (64-bit x86_64)

Note: Only changing OS user passwords is executable.

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) The authentication server of the connection destination is set in JP1/Base on the agent server.

(2) To change the OS user password (or in the case of Windows, to update the password management information), specify the following properties:

common.targetHost

OS.osUserName

OS.osUserPassword

OS.osUserPasswordReEnter

OS.userType (Windows only)

(3) To change the JP1 user password, specify the following properties:

jp1base.certHost

jp1base.jp1UserName

jp1base.jp1UserPassword

jp1base.jp1UserPasswordNew

jp1base.jp1UserPasswordReEnter

(4) If JP1/Base on the agent server is in a cluster configuration, the service can only be executed in the active server environment. If the service was executed at least once on the active server and then a failover occurred, execute the service again by specifying the system environment settings and OS user information parameters, and leaving all the JP1 user information parameters blank.

Cautions

(1) To work with OS users of the domain environment, set property OS.userType to domain.

(2) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(3) If specifying multibyte characters and when the agent server OS is Windows, specify the following parameters to be the lengths indicated.

OS user name: 20 bytes

OS user password: 64 bytes

OS user password re-entry: 64 bytes

(4)In order to execute this service, the JP1/AO server (loopback address resolved by localhost) and the server that is the connection destination must be set as agentless connection destinations.

(5)When executing this service for a UNIX environment, make sure that the OS user exists in advance.

Version

03.00.00

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
System environment information	Specify the environment information of the agent server.	Y
OS user information	Specify the information for the OS user whose password is to be changed.	Y
JP1 authentication server information	Specify the JP1 authentication server information for the JP1 user to be added.	Y
JP1 user information	Specify the JP1 user information for the password to be changed.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

　　R: The property must be specified.

　　O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.certHost	Host name of the JP1 authentication server	Specifies the host name of the JP1 authentication server. This must be specified if you want to change the OS user's password. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	O	JP1 authentication server information
jp1base.certHostLHostName	Logical host name of JP1 authentication server	Specify the logical host name of the JP1 authentication server (when the JP1 authentication server is in a cluster configuration).	Input	Disabled	O	JP1 authentication server information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Agent server host name	Specifies the host name or IP add. of the agent server. IPv6 are not supported. This must be specified if you want to change the OS user's password. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	O	System environment information
jp1base.jp1BaseLHostName	Logical host name of JP1/Base	Specify the logical host name of JP1/Base on the agent server	Input	Disabled	O	System environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.jp1BaseLHostName	Logical host name of JP1/Base	(if JP1/Base is used in a cluster configuration).	Input	Disabled	O	System environment information
OS.osUserName	OS user name	Specifies the OS user name from the agent server. This must be specified if you want to change the password of the OS user.	Input	Disabled	O	OS user information
OS.osUserPassword	New password for OS user	Specifies the new password for the OS user.	Input	Disabled	O	OS user information
OS.osUserPasswordReEnter	Re-enter new password for OS user	Specifies again the new password for the OS user.	Input	Disabled	O	OS user information
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the agent server is running Windows.	Input	Disabled	O	OS user information
jp1base.jp1UserName	JP1 user name	Specifies the JP1 user name on the JP1 authentication server. This must be specified if you want to change the password for the JP1 user.	Input	Disabled	O	JP1 user information
jp1base.jp1UserPassword	JP1 user password	Specify the password of the JP1 user.	Input	Disabled	O	JP1 user information
jp1base.jp1UserPasswordNew	New JP1 user password	Specify a new password for a JP1 user.	Input	Disabled	O	JP1 user information
jp1base.jp1UserPasswordReEnter	Re-enter new password for JP1 user	Specifies again the new password for the JP1 user.	Input	Disabled	O	JP1 user information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1base.certHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.certHostLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.jp1BaseLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.osUserName	A character string of no more than 20 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.

Property key	Characters that can be input
OS.osUserPassword	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, \`, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPasswordReEnter	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.userType	Select one of the following values: local,domain
jp1base.jp1UserName	A maximum of 31 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, @, _, ~.
jp1base.jp1UserPassword	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, } and ~.
jp1base.jp1UserPasswordNew	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, }, and ~.
jp1base.jp1UserPasswordReEnter	A character string of between 6 and 32 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', -, /, =, ?, @, [,], ^, _, {, }, and ~.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkOS	Flow Plug-in	Determines the OS type of the JP1 authentication server or agent server.	--
1-1		Output OS type	Ascertains the OS of the JP1 authentication server.	Eliminate the cause of the error, and then re-execute the service.
1-2		Output OS type	Ascertains the agent server OS.	Eliminate the cause of the error, and then re-execute the service.
1-3		Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	osChangePassword	Flow Plug-in	Changes the password for an OS user.	--
2-3		Compatible Plug-in	Ascertains whether an OS user name has been specified.	Eliminate the cause of the error, and then re-execute the service.
2-3-1		Change password for OS user	Changes user passwords on an agent server (or server domain).	Eliminate the cause of the error, and then re-execute the service.
3	jp1baseChangeUserInfo	Flow Plug-in	Updates OS user information registered in JP1/Base.	--
3-1		Compatible Plug-in	Ascertains whether an OS user name has been specified.	Eliminate the cause of the error, and then re-execute the service.
3-2		Flow Plug-in	Updates OS user information registered in JP1/Base.	--
3-2-3		Compatible Plug-in	Determines whether or not the OS is Windows.	Set the value after changing to the new and old password of

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-2-3	jp1baseChangeUserInfo	Compatible Plug-in	Determines whether or not the OS is Windows.	the JP1 user, and then re-execute the service.
3-2-4		Change password management information in JP1/Base	Changes passwords of mapping users of JP1/Base of a specified server.	Set the value after changing to the new and old password of the JP1 user, and then re-execute the service.
4	jp1baseChangePassword	Flow Plug-in	Changes the password for a JP1 user.	--
4-3		Compatible Plug-in	Ascertains whether a JP1 user name has been specified.	Eliminate the cause of the error, and then re-execute the service.
4-3-1		Change JP1 user password	Changes the JP1 user password on a specified authentication server.	Eliminate the cause of the error, and then re-execute the service.

2.6 Service templates for JP1 (reporting)

2.6.1 Get JP1/PFM report

Function

This service template acquires a JP1/PFM - RM report collected by JP1/PFM - Manage.

This service template assumes the following server:

• PFM management server

This is the server on which JP1/PFM - Web Console is installed.

The service template performs the following task:

(1) The service template outputs the JP1/PFM - RM report for a specified service ID from the PFM management server to a specified file in CSV format. The output format of the file is the same as the format of the results output by JP1/PFM's jpcrpt command.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products in the system executing the service template]

(1)Job Management Partner 1/PFM - Web Console 10-00 or later, or

JP1/PFM - Web Console 11-00 or later

(2)Job Management Partner 1/PFM - Manager 10-00 or later, or

JP1/PFM - Manager 11-00 or later

(3)Job Management Partner 1/PFM - Remote Monitor for Platform 10-00 or later, or

JP1/PFM - Remote Monitor for Platform 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions of prerequisite products in the system executing the service template]

(1) Job Management Partner 1/PFM - Manager and the target Job Management Partner 1/PFM - RM must be running.

(2) Job Management Partner 1/PFM's jpcrpt command must be specified correctly, in accordance with its usage conditions.

(3) Authentication for Job Management Partner 1/PFM - Manager is required when this service is run.

If an authentication key file has not been created, you must use the jpcmkkey command before you execute the command to create an authentication key file.

Cautions

(1) Outputting a large amount of report data might affect the system.

Limit the amount of output by adjusting settings, such as the input file reporting interval and the display period (start and end dates and times).

(2) Reports cannot be output in HTML format. Do not specify <html-output> in the input file definition.

(3) If you run this service in a Linux environment, do not use multi-byte characters in the properties. Also, do not use multi-byte characters in report folder names or report names for the Job Management Partner 1/PFM that is subject to report output.

(4) If the file name specified in the remote or the local system already exists, that file will be overwritten. Also, if reports are forwarded, the file in the remote system will be deleted. Therefore, make sure that you specify the correct file names.

(5) If there is no folder on the specified path in the remote system, such a folder will be created. A folder that is created will remain and will not be deleted; for this reason, you should delete unneeded folders periodically.

Version

03.00.00

Tags

Gather JP1 information,PFM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify the environment information for the PFM management server.	Y
Report acquisition information	Specify the report information to be retrieved.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.jp1pfmWebconHostName	JP1/PFM - Web Console host name	Specify the host name or IP addr. of the server where JP1/PFM - Web Console are installed. IPv6 is not supported. Specify the physical host name of primary server. In a cluster configuration, specify the logical host name.	Input	Disabled	R	Monitored system environment information
jp1pfm.inputFileNameLocal	Input file name(local)	Specifies the full path name of the source input file for transferring to the PFM management server.	Input	Disabled	R	Report acquisition information
jp1pfm.inputFileNameRemote	Input file name(remote)	Specifies the full path name of the file on the PFM management server for acquiring the report.	Input	Disabled	R	Report acquisition information
jp1pfm.reportOutputFileNameRemote	Report output file name(remote)	Specifies the full path name of the file on the PFM management server to which the report is to be output.	Input	Disabled	R	Report acquisition information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1pfm.serviceId	Service ID	Specifies the agent that is the report output target using the service ID.	Input	Disabled	R	Report acquisition information
common.transferLogFile	Whether to transfer the report file	Specifies whether to transfer the report. In case of transfer, deletes the file of the output file name (remote).	Input	Disabled	R	Report acquisition information
jp1pfm.reportOutputFileNameLocal	Report output file name(local)	Specifies the full path name of the file on the JP1/AO server for acquiring the report. Must be specified if the report is to be transferred to the JP1/AO server.	Input	Disabled	O	Report acquisition information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1pfm.jp1pfmWebconHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1pfm.inputFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.
jp1pfm.inputFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \.
jp1pfm.reportOutputFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \ or /.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1pfm.serviceId	A maximum of 258 characters can be entered. Characters that can be used include alphanumeric characters, as well as @ , [,] , . , and - .
common.transferLogFile	Select one of the following values: yes,no
jp1pfm.reportOutputFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	InputFileTransfer	Flow Plug-in	Transfers an input file.	--
1-3		Compatible Plug-in	Checks whether an input file has been specified.	Eliminate the cause of the error, and then re-execute the service.
1-4		File-forwarding plug-in	Transfers an input file.	Eliminate the cause of the error, and then re-execute the service.
2	outputReportJP1PFM	Flow Plug-in	Acquires a report.	--
2-1		Get report	Acquires a report.	Eliminate the cause of the error, and then re-execute the service.
3	outputFileTransfer	Flow Plug-in	Transfers a report.	--
3-1		Compatible Plug-in	Checks whether a file transfer occurred.	Eliminate the cause of the error, and then re-execute the service.
3-2		File-forwarding plug-in	If transfer is required, transfers a report.	Eliminate the cause of the error, and then re-execute the service.
4	osDeleteFile	Flow Plug-in	Deletes the report in cases where transfer is required.	--
4-1		Delete file	Deletes an input file.	Eliminate the cause of the error, and then re-execute the service.
4-2		Compatible Plug-in	Checks whether a file transfer occurred.	Eliminate the cause of the error, and then re-execute the service.
4-3		Delete file	Deletes an output file.	Eliminate the cause of the error, and then re-execute the service.

2.7 Service templates for JP1 (troubleshooting)

2.7.1 Get JP1/AJS and JP1/Base logs

Function

This service template runs the data collection tool of the specified server's JP1/Base and JP1/AJS3 - Manager (or JP1/AJS2 - Manager). Files generated by options can be transferred to the JP1/AO server.

This service template assumes that the following servers are being used.

• Job server

These are servers running JP1/AJS3 - Manager.

The following summarizes the processing.

(1) A folder for holding generated files (property OS.folderPathRemote) is created on the job server (remote).

(2) The data collection tool of the specified server's JP1/Base and JP1/AJS3 - Manager is executed in remote. The results of the data collection tool are stored in the folder created on the job server.

(3) When generated files are transferred to the JP1/AO server (local), a folder for holding the generated files (property OS.folderPathLocal\ajstemp) is created on the JP1/AO server (local), and the files are transferred from remote to local. If you want the generated files to be transferred to the JP1/AO server, set property common.transferLogFile to yes. The folder created on the job server is not deleted regardless of whether or not the created folder and generated files are transferred.

The following information is collected. Note that when 1st is specified for property jp1.informationLevel, the information of the primary data (the first folder or file created by the data collection tool) is transferred to the JP1/AO server. When 2nd is specified, the information of the primary and secondary data (the second folder or file created by the tool) is transferred to the JP1/AO server. Further, when 3rd is specified, the information of the primary and secondary data (the second folder or file) as well as the tertiary data (the third folder or file) is transferred to the JP1/AO server.

• All information that can be acquired by the data collection tool (no options specified) of JP1/AJS3 - Manager

• All information that can be acquired by the data collection tool (no options specified) of JP1/Base

The messages output by the data collection tool of JP1/AJS3 - Manager and by the data collection tool of JP1/Base are stored under folders created by the job server and named as follows:

• Messages output by the data collection tool of JP1/AJS3 - Manager: jp1ajsGetLog_result.log

• Messages output by the data collection tool of JP1/Base: jp1baseGetLog_result.log

Prerequisites

For the latest support information about [Required product for the system]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following products are running on the job server:

Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) If the OS of JP1/AJS3 - Manager is Windows, the output destination of the data collection command must be the default (%TEMP%\jp1ajs2\backlog).

(2) With this service, a folder on the JP1/AO side for storing collected files property is created under the name of ajstemp at the path specified in OS.folderPathLocal, and a storage folder is created on the job server side for collected files in property OS.folderPathRemote.

(3) If the job server's JP1/AJS3 - Manager is in a cluster configuration, specify the name of the physical host on which the logical host is running in property common.targetHost and the logical host name in property jp1ajs.jp1ajsLHostName.

(4) When the data collection tool result is transferred to a JP1/AO server, the JP1/AO server (loopback address resolved by localhost) and the server that will be the connection destination must be set as the agentless connection destination.

Cautions

(1) Do not run multiple instances of this service on the same server.

(2) If there is a folder named ajstemp at the path specified in property OS.folderPathLocal, it is generated again after the ajstemp folder is deleted.

(3) If there is a file with the same name as the folder specified in property OS.folderPathLocal or OS.folderPathRemote, the service ends abnormally.

(4) The total volume of data collected by the data collection tool varies greatly depending on the environment in which it is used. Estimate the volume before execution, and then check the available space on the machine you plan to use. See the release notes for the product in question regarding the size of data collected.

(5) When transferring files to the JP1/AO server, the service (the file forwarding plugin) might take a while to execute if the total size of the files is large.

(6) When you specify a logical host name, specify the length of the folder path so that it fulfills the following conditions.

• folder-path-(remote)-length <= 218 - {(logical-host-name-length) - 11} * 2

• folder-path-(local)-length <= 208 - {(logical-host-name-length) - 11} * 2

(7) Do not use environment variables in property OS.folderPathRemote or property OS.folderPathLocal.

(8) If yes is specified as the value of property common.transferLogFile, do not specify a blank as the value of property OS.folderPathLocal and property jp1.informationLevel. If a blank is specified, the service ends abnormally.

(9) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(10) If a service ends abnormally in the JP1/AJS troubleshooting information acquisition or JP1/Base troubleshooting information acquisition plugin, and the task log displays the message "Standard output of the KNAE08132-E command is larger than the upper limit, so processing was suspended (upper limit: 100 KB).", check the content of the following files.

• Messages output by the data collection tool of JP1/AJS3 - Manager: jp1ajsGetLog_result.log

• Messages output by the data collection tool of JP1/Base: jp1baseGetLog_result.log

Version

03.00.00

Tags

Troubleshoot JP1,AJS,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Business system environment information	Specify the environment information for the job server.	Y
Storage information for collected data	Specify the destination for the generated data and the level of data to transfer to the JP1/AO server.	Y

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Host name of the job server	Specify the host name or IP address of the job server. You cannot specify an IPv6 address.	Input	Disabled	R	Business system environment information
OS.folderPathRemote	Folder path (remote)	Specify the full path of the remote folder in which to temporarily store data collected by the data collection tool.	Input	Disabled	R	Storage information for collected data
jp1ajs.jp1ajsLHostName	JP1/AJS logical host name	Specify the logical host name of JP1/AJS (when using JP1/AJS in a cluster configuration).	Input	Disabled	O	Business system environment information
common.transferLogFile	Whether to transfer log file	Specifies whether or not to transfer results from the data collection tool to the JP1/AO server.	Input	Disabled	R	Storage information for collected data
OS.folderPathLocal	Folder path (local)	Specify the folder on the JP1/AO server in which to store data collected by the data collection tool. In case of transferring log file, it's mandatory.	Input	Disabled	O	Storage information for collected data
jp1.informationLevel	Level of information	Specify the level of information to be transferred to JP1/AO server, as "1st" (primary information), "2nd" (secondary information), or "3rd" (tertiary information). This property is mandatory when transferring log files.	Input	Disabled	O	Storage information for collected data

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.folderPathRemote	A character string of no more than 228 characters can be entered. It cannot include <, >, |, ;, &, %, ", *,), ` or a trailing \ and /.
jp1ajs.jp1ajsLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
common.transferLogFile	Select one of the following values: yes,no
OS.folderPathLocal	A character string of no more than 208 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", or a trailing \ or /.
jp1.informationLevel	Select one of the following values: 1st,2nd,3rd

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkOS	Flow Plug-in	Outputs the type of OS.	--
1-1		Output OS type	Outputs the type of OS of the job server.	Eliminate the cause of the error, and then re-execute the service.
1-2		Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	osCreateFolder	Flow Plug-in	Creates a folder.	--
2-1		Create folder	Creates a folder on a monitoring server.	Eliminate the cause of the error, and then re-execute the service.
3	getLogFile	Flow Plug-in	Acquires a log.	--
3-1		Get JP1/Base troubleshooting information	Acquires a JP1/Base log and stores it in a specified folder.	Eliminate the cause of the error, and then re-execute the service.
3-2		Get JP1/AJS troubleshooting information	Acquires a JP1/AJS log and stores it in a specified folder.	Eliminate the cause of the error, and then re-execute the service.
4	fileTransfer	Flow Plug-in	Transfers a file.	--
4-3		Compatible Plug-in	Ascertains whether a value matches the value indicating whether a log file transfer is required.	Eliminate the cause of the error, and then re-execute the service.
4-4		Flow Plug-in	Transfers a file.	--
4-4-1		Compatible Plug-in	Checks whether a JP1/AO server is Windows or not.	Eliminate the cause of the error, and then re-execute the service.
4-4-2		Flow Plug-in	--	--
4-4-2-1		Delete folder	Deletes a folder on the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-2		Flow Plug-in	Creates a folder.	--
4-4-2-2-1		Create folder	Creates a folder on a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-2-2		Create folder	Creates a folder on a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-2-5		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-2-6		Create folder	Creates a folder on a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3		Flow Plug-in	Transfers a file.	--
4-4-2-3-1		Compatible Plug-in	Checks whether a job server is Windows or not.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2		Flow Plug-in	If it is Windows, conducts file transfer processing.	--
4-4-2-3-2-1		Compatible Plug-in	Ascertains whether tertiary has been specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4-2-3-2-2-1	fileTransfer	Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-2-1-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-1-2		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-1-3		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-2-2-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-2-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-2-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-2-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-2-2-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-2-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-3		Compatible Plug-in	Ascertains whether secondary was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-4-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-4-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-4-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-4-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-5		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-5-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4-2-3-2-5-2	fileTransfer	File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-5-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-5-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-5-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-5-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-3		Compatible Plug-in	Checks whether a job server is UNIX or not.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4		Flow Plug-in	If it is UNIX, conducts file transfer processing.	--
4-4-2-3-4-1		Compatible Plug-in	Checks whether a job server is Linux or not.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2		Flow Plug-in	If it is Linux, conducts file transfer processing.	--
4-4-2-3-4-2-1		Compatible Plug-in	Ascertains whether tertiary has been specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-2-1		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-2-1-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-1-2		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-1-3		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-2-2-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-2-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-2-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4-2-3-4-2-2-2-4	fileTransfer	Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-2-2-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-2-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-3		Compatible Plug-in	Ascertains whether secondary was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-4-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-4-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-4-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-4-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-5		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-5-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-5-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-5-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-5-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-5-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-5-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-3		Compatible Plug-in	Checks whether a job server is Linux or not.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4-2-3-4-4	fileTransfer	Flow Plug-in	If it is not Linux, conducts file transfer processing.	--
4-4-2-3-4-4-1		Compatible Plug-in	Ascertains whether tertiary has been specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-2-1		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-2-1-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-1-2		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-1-3		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-2-2-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-2-2-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-3		Compatible Plug-in	Ascertains whether secondary was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4-2-3-4-4-4-3	fileTransfer	Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-4-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-4-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-4-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-5		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-5-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-5-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-5-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-5-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-5-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-5-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-3		Compatible Plug-in	Checks whether a JP1/AO server is Unix or not.	Eliminate the cause of the error, and then re-execute the service.
4-4-4		Flow Plug-in	--	--

2.7.2 Get JP1/IM and JP1/Base logs

Function

This service template runs the data collection tool of the specified server's JP1/Base and JP1/IM - Manager. Files generated by options can be transferred to the JP1/AO server.

This service template assumes that the following servers are being used.

• Monitoring server

These are servers running JP1/IM - Manager.

(1) A folder for holding generated files (property OS.folderPathRemote) is created on the monitoring server (remote).

(2) The data collection tool of the specified server's JP1/Base and JP1/IM - Manager is executed in remote. The results of the data collection tool are stored in the folder created on the monitoring server.

(3) During transfer of files generated on the JP1/AO server (local), a folder for holding generated files (property OS.folderPathLocal\immtemp) is created on the JP1/AO server (local), and the files are transferred from remote to local. If you want the generated files to be transferred to the JP1/AO server, set property common.transferLogFile to yes. The folder created on the monitoring server is not deleted regardless of whether or not the created folder and generated files are transferred.

The following information is collected. Note that when 1st is specified for property jp1.informationLevel, the information of the primary data (the first folder or file created by the data collection tool) is transferred to the JP1/AO server. When 2nd is specified, the information of the primary and secondary data (the second folder or file created by the tool) is transferred to the JP1/AO server.

• All information that can be acquired by the data collection tool (no options specified) of JP1/IM - Manager

• All information that can be acquired by the data collection tool (no options specified) of JP1/Base

The messages output by the data collection tool of JP1/IM - Manager and the data collection tool of JP1/Base are stored under folders created by the monitoring server, and named as follows:

• Messages output by the data collection tool of JP1/IM - Manager: jp1imGetLog_result.log

• Messages output by the data collection tool of JP1/Base: jp1baseGetLog_result.log

Prerequisites

For the latest support information about [Required product for the system]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) The following products are running on the monitoring server:

Job Management Partner 1/Integrated Management - Manager 09-00 or later, or

JP1/Integrated Management - Manager 11-00 or later

Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions of prerequisite products in the system executing the service template]

(1) With this service, a folder on the JP1/AO side for storing collected files is created under the name of immtempp at the path specified in property OS.folderPathLocal, and a storage folder is created on the monitoring server side for collected files in property OS.folderPathRemote.

(2) If the monitoring server's JP1/IM - Manage is in a cluster configuration, specify the name of the physical host on which the logical host is running in property common.targetHost, and the logical host name in property jp1im.jp1imLHostName.

(3) When the data collection tool result is transferred to a JP1/AO server, the JP1/AO server (loopback address resolved by localhost) and the server that is the connection destination must be set as agentless connection destinations.

Cautions

(1) Do not run multiple instances of this service on the same server.

(2) If there is a folder named immtemp at the path specified in property OS.folderPathLocal, it is generated again after the immtemp folder is deleted.

(3) If there is a file with the same name as the folder specified in property OS.folderPathLocal or OS.folderPathRemote, the service ends abnormally.

(4) The total volume of data collected by the data collection tool varies greatly depending on the environment in which it is used. Estimate the volume before execution, and then check the available space on the machine you plan to use. See the release notes for the product in question regarding the size of data collected.

(5) When transferring files to the JP1/AO server, the service (the file forwarding plugin) might take a while to execute if the total size of the files is large.

(6) When you specify a logical host name, specify the length of the folder path so that it fulfills the following conditions.

• folder-path-(remote)-length <= 218 - {(logical-host-name-length) - 11} * 2

• folder-path-(local)-length <= 208 - {(logical-host-name-length) - 11} * 2

(7) Do not use environment variables in property OS.folderPathRemote or property OS.folderPathLocal.

(8) If yes is specified as the value of property common.transferLogFile, do not specify a blank as the value of property OS.folderPathLocal and property jp1.informationLevel. If a blank is specified, the service ends abnormally.

(9) If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(10) If a service ends abnormally in the JP1/IM troubleshooting information acquisition or JP1/Base troubleshooting information acquisition plugin, and the task log displays the message "Standard output of the KNAE08132-E command is larger than the upper limit, so processing was suspended (upper limit: 100 KB).", check the content of the following files.

• Messages output by the data collection tool of JP1//IM - Manager: jp1imGetLog_result.log

• Messages output by the data collection tool of JP1/Base: jp1baseGetLog_result.log

Version

03.00.00

Tags

Troubleshoot JP1,IM,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitored system environment information	Specify the environment information for the monitoring server.	Y
Storage information for collected data	Specify the destination for the generated data and the level of data to transfer to the JP1/AO server.	Y

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.targetHost	Host name of the monitoring server	Specify the host name or IP address of the monitoring server. You cannot specify an IPv6 address.	Input	Disabled	R	Monitored system environment information
OS.folderPathRemote	Folder path (remote)	Specify the full path of the remote folder in which to temporarily store data collected by the data collection tool.	Input	Disabled	R	Storage information for collected data
jp1im.jp1imLHostName	JP1/IM logical host name	Specify the logical host name of JP1/IM (when using JP1/IM in a cluster configuration).	Input	Disabled	O	Monitored system environment information
common.transferLogFile	Whether to transfer log file	Specifies whether or not to transfer results from the data collection tool to the JP1/AO server.	Input	Disabled	R	Storage information for collected data
OS.folderPathLocal	Folder path (local)	Specify the folder on the JP1/AO server in which to store data collected by the data collection tool. In case of transferring log file, it's mandatory.	Input	Disabled	O	Storage information for collected data

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1.informationLevel	Level of information	Specify the level of information to be transferred to JP1/AO server, as "1st" (primary information) or "2nd" (secondary information). This property is mandatory when transferring log files.	Input	Disabled	O	Storage information for collected data

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.folderPathRemote	A character string of no more than 228 characters can be entered. It cannot include <, >, |, ;, &, %, ", *,), ` or a trailing \ and /.
jp1im.jp1imLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
common.transferLogFile	Select one of the following values: yes,no
OS.folderPathLocal	A character string of no more than 208 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", or a trailing \ or /.
jp1.informationLevel	Select one of the following values: 1st,2nd

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkOS	Flow Plug-in	Outputs the type of OS.	--
1-1		Output OS type	Outputs the type of OS of the monitoring server.	Eliminate the cause of the error, and then re-execute the service.
1-2		Output OS type	Outputs the OS of the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
2	osCreateFolder	Flow Plug-in	Creates a folder.	--
2-1		Create folder	Creates a folder on a monitoring server.	Eliminate the cause of the error, and then re-execute the service.
3	getLogFile	Flow Plug-in	Acquires a log.	--
3-1		Get JP1/Base troubleshooting information	Acquires a JP1/Base log and stores it in a specified folder.	Eliminate the cause of the error, and then re-execute the service.
3-2		Get JP1/IM troubleshooting information	Acquires a JP1/IM log and stores it in a specified folder.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4	fileTransfer	Flow Plug-in	Transfers a file.	--
4-3		Compatible Plug-in	Ascertains whether a value matches the value indicating whether a log file transfer is required.	Eliminate the cause of the error, and then re-execute the service.
4-4		Flow Plug-in	Transfers a file.	--
4-4-1		Compatible Plug-in	Checks whether JP1/AO server is Windows.	Eliminate the cause of the error, and then re-execute the service.
4-4-2		Flow Plug-in	--	--
4-4-2-1		Delete folder	Deletes a folder on the JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-2		Flow Plug-in	Creates a folder.	--
4-4-2-2-1		Create folder	Creates a folder on a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-2-2		Create folder	Creates a folder on a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-2-5		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-2-6		Create folder	Creates a folder on a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3		Flow Plug-in	Transfers a file.	--
4-4-2-3-1		Compatible Plug-in	Checks whether a monitoring server is Windows.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2		Flow Plug-in	If it is Windows, conducts file transfer processing.	--
4-4-2-3-2-1		Compatible Plug-in	Ascertains whether secondary was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-2-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-2-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-2-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-3		Flow Plug-in	Transfers collected files to a JP1/AO server.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4-2-3-2-3-1	fileTransfer	File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-3-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-3-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-3-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-2-3-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-2-3-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-3		Compatible Plug-in	Checks whether a monitoring server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4		Flow Plug-in	If it is UNIX, conducts file transfer processing.	--
4-4-2-3-4-1		Compatible Plug-in	Checks whether a monitoring server is Linux.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2		Flow Plug-in	If it is Linux, conducts file transfer processing.	--
4-4-2-3-4-2-1		Compatible Plug-in	Ascertains whether secondary was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-2-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-2-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-2-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-3		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-3-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-3-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4-2-3-4-2-3-3	fileTransfer	Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-3-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-2-3-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-2-3-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-3		Compatible Plug-in	Checks whether a monitoring server is not Linux.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4		Flow Plug-in	If it is not Linux, conducts file transfer processing.	--
4-4-2-3-4-4-2-1		Compatible Plug-in	Ascertains whether secondary was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-2-2-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2-4		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-2-2-4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-2-4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-3		Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3-4-4-2-3-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-3-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3-4-4-2-3-3		Compatible Plug-in	Ascertains whether a logical host name was specified.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4-2-3- 4-4-2-3- 4	fileTransfer	Flow Plug-in	Transfers collected files to a JP1/AO server.	--
4-4-2-3- 4-4-2-3- 4-1		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-2-3- 4-4-2-3- 4-2		File-forwarding plug-in	Transfers collected files to a JP1/AO server.	Eliminate the cause of the error, and then re-execute the service.
4-4-3		Compatible Plug-in	Checks whether JP1/AO server is Unix.	Eliminate the cause of the error, and then re-execute the service.
4-4-4		Flow Plug-in	--	--

2.7.3 Changing of the JP1 event action status

Function

Changes the action status of a JP1 event registered in the JP1/IM - Manager event database, or deletes a JP1 event from the Severe Event pages of JP1/IM - View.

This template is used to, for example, change the action status of a sent JP1 event to "Completed", and then delete the event from JP1/IM - View after error recovery.

This service template assumes the following servers as prerequisites:

- Monitoring server

- Server running JP1/IM - Manager

An outline of the processing is as follows:

(1) The action status of the JP1 event registered in the JP1/IM - Manager event database is changed.

To delete the JP1 event from the Severe Event pages of JP1/IM - View, set the jp1im.deleteSevereEventFromIMView property (indicating whether to delete an important event from JP1/IM-View) to "yes".

Specify one of the following important event action status keys to change the action status:

(Legend) Key: Changed action status

PROCESSED: Action-completed

PROCESSING: Processing

HELD: Pending

UNPROCESSED: Unprocessed

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Job Management Partner 1/Integrated Management - Manager 08-01 or later, or

JP1/Integrated Management - Manager 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for the required products for the service template execution system]

(1) JP1/IM - Manager is running.

Version

02.00.00

Tags

Configure JP1,IM

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Monitoring system environment information	Specify monitoring server environment information.	Y
JP1 important event information	Specify information about a JP1 event whose action status is to be changed.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1im.jp1imHostName	JP1/IM host name	Specifies the host name or IP address where JP1/IM is installed. IPv6 addresses are not supported. In the case of a cluster configuration, specify the physical host or logical host of the active server.	Input	Disabled	R	Monitoring system environment information
jp1im.jp1imLHostName	JP1/IM logical host name	Specify the logical host name of JP1/IM (when using JP1/IM in a cluster configuration).	Input	Disabled	O	Monitoring system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1im.serialNumber	Serial number for use in the event database	Specify the serial number of an important event that changes an action status for use in the event database. Up to 10 serial numbers can be specified for use in the event database. To specify two or more serial numbers, separate them with a comma.	Input	Disabled	R	JP1 important event information
jp1im.severeEventResponseStatusKey	Important event action status key	Specify a key value that indicates the action status of the important event.	Input	Disabled	R	JP1 important event information
jp1im.deleteSevereEventFromIMView	Important event deletion from JP1/IM-View	Specify whether to delete the specified important event from any JP1/IM - View window.	Input	Disabled	R	JP1 important event information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
jp1im.jp1imHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1im.jp1imLHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1im.serialNumber	This is a character string consisting of up to 109 numeric characters and commas (,).

Property key	Characters that can be input
jp1im.severeEventResponseStatusKey	Select one of the following values: PROCESSED,PROCESSING,HELD,UNPROCESSED
jp1im.deleteSevereEventFromIMView	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	jp1imChangeEventStatus	Changing the JP1 event action status	Changes the action status of a JP1 event.	Remove the cause of the error, and then execute the service again.

2.7.4 Registration of the JP1 event

Function

This service template registers a JP1 event to the agent server.

If a destination event server name is specified, this template confirms whether a JP1 event has reached the destination.

This template is used, for example, to register a problem during JP1/AO processing as a JP1 event to JP1/IM.

This service template assumes the following server as a prerequisite:

- Agent server

Server running JP1/Base

An outline of the processing is as follows:

(1) The JP1 event is registered to the agent server.

If a destination event server name is specified, it is confirmed whether a JP1 event has reached the destination.

The event level or severity of a registered JP1 event indicates the urgency of the event.

If a destination event server name is specified, it will first confirm three seconds later whether a JP1 event has reached the destination. Thereafter, it will continue to confirm whether the JP1 event has reached the destination, each time the number of seconds specified as the confirmation frequency elapses until it reaches the specified number of confirmation retries. The maximum confirmation time is expressed by "3 + (confirmation frequency) x (number of confirmation retries) seconds".

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for the required products for the service template execution system]

(1) The JP1/Base event service is running.

Cautions

(1) If you are executing this service for an environment where the OS running on the agent server is UNIX, do not use any multi-byte characters for properties.

(2) If specifying multi-byte characters for an environment where the OS running on the agent server is Windows, limit the length of the message property (jp1base.message) to a maximum of 1,023 bytes.

(3) If a destination event server name is specified and a KAJP1741-W message indicating that "the event has not reached the destination event server" is output to the task log, JP1 event sending continues to occur. If this happens, use JP1/IM - View on the host sending the JP1 event to confirm whether the JP1 event has reached the destination.

(4) To execute this service for a JP1/AO server, the set agent-less destination must be a JP1/AO server (having a loopback address to be resolved by "localhost").

Version

02.00.00

Tags

Configure JP1,Base

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
System environment information	Specify JP1/Base environment information	Y
JP1 event information	Specify JP1 event information to be registered.	Y
Information to be specified at the time of event sending	This property is used to specify the destination of the JP1 event to be registered. Specify this property as appropriate.	Y

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.jp1BaseHostName	JP1/Base host name	Specifies the host name or IP address of the server where JP1/Base is installed. IPv6 addresses are not supported. In the case of a cluster configuration, specify the logical host of the active server.	Input	Disabled	R	System environment information
jp1base.sourceEventServerName	Source event server name	Specifies event server of the logical host for a cluster configuration. When not specifying the destination event server name, registers the JP1 event in this event server. When specifying the server name, uses this event server to transfer the JP1 event.	Input	Disabled	O	System environment information
jp1base.eventID	Event ID	Specify the event ID of the JP1 event to be registered. Specify the ID in hexadecimals. If omitted, "0" is assumed.	Input	Disabled	O	JP1 event information
jp1base.message	Message	Specify the message text for the JP1 event to be registered.	Input	Disabled	O	JP1 event information
jp1base.eventLevel	Severity	Specify the severity of the JP1 event to be registered.	Input	Disabled	R	JP1 event information
jp1base.extendedAttributeName1	Extended attribute name 1	Specify the name of the extended attribute for the JP1 event to be registered.	Input	Disabled	O	JP1 event information
jp1base.extendedAttributeValue1	Extended attribute value 1	Specify the value of the extended attribute for the JP1 event to be registered. When extended attribute name 1 is specified, be sure to specify the value.	Input	Disabled	O	JP1 event information
jp1base.extendedAttributeName2	Extended attribute name 2	Specify the name of the extended attribute for the JP1 event to be registered.	Input	Disabled	O	JP1 event information
jp1base.extendedAttributeValue2	Extended attribute value 2	Specify the value of the extended attribute for the JP1 event to	Input	Disabled	O	JP1 event information

Property key	Property name	Description	I/O type	Shared	Required	Property group
jp1base.extendedAttributeValue2	Extended attribute value 2	be registered. When extended attribute name 2 is specified, be sure to specify the value.	Input	Disabled	O	JP1 event information
jp1base.destinationEventServerName	Destination event server name	To send the JP1 event to be registered to an event server, specify the destination event server.	Input	Disabled	O	Information to be specified at the time of event sending
jp1base.checkInterval	Confirmation frequency	Specifies the checking interval (sec.) if the registered JP1 event reached the specified destination event server. This interval plus the checking frequency is the maximum checking time. Always specify when specifying the destination event server name.	Input	Disabled	O	Information to be specified at the time of event sending
jp1base.checkCount	Number of confirmation retries	Specify the number of retries to confirm whether the registered JP1 event has reached the specified destination event server. If a destination event server name is specified, be sure to specify this parameter.	Input	Disabled	O	Information to be specified at the time of event sending

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
jp1base.jp1BaseHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
jp1base.sourceEventServerName	This is a character string consisting of up to 255 alphanumeric characters, along with . and -.
jp1base.eventID	This is a hexadecimal number of up to eight digits. Specify the ID between 0 and 1FFF or between 7FFF8000 and 7FFFFFFF.
jp1base.message	This is a character string of up to 1,023 characters. <>|; & " and ` are not allowed.
jp1base.eventLevel	Select one of the following values: Emergency,Alert,Critical,Error,Warning,Notice,Information,Debug
jp1base.extendedAttributeName1	This is a character string consisting of up to 32 alphanumeric characters (uppercase), along with _.
jp1base.extendedAttributeValue1	This is a character string of up to 1,024 characters. <>|; & and " are not allowed.
jp1base.extendedAttributeName2	This is a character string consisting of up to 32 alphanumeric characters (uppercase), along with _.
jp1base.extendedAttributeValue2	This is a character string of up to 1,024 characters. <>|; & and " are not allowed.
jp1base.destinationEventServerName	This is a character string consisting of up to 255 alphanumeric characters, along with . and -.
jp1base.checkInterval	This is an integer between 3 and 600.
jp1base.checkCount	This is an integer between 0 and 999.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	jp1baseSendEvent	Registration of a JP1 event	Registers the JP1 event.	If a destination event server name is specified and it cannot be confirmed whether an event has reached the destination, use JP1/IM - View on the destination event server to confirm whether the JP1 event has reached it. Otherwise, remove the cause of the error, and then execute the service again.

2.8 Service templates for OS (generic processing)

2.8.1 Execute Remote Command

Function

Executes commands stored on a specified server and outputs the results.

Assumptions about the server in this service template are as follows:

- Execution target server

This is the server where a version of Windows or Unix specified in the requirements is installed. The execution commands must already have been stored on the server.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

None.

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) HP-UX 11i V3 (IPF)

(13) Solaris 10 (SPARC), Solaris 11 (SPARC)

(14) AIX V6

(15) AIX V7

Cautions

(1) If the standard output result of the executed command exceeds 100 KB, the service ends abnormally.

(2) Up to 1,024 characters of the standard output result of the executed command are stored in property common.stdoutProperty; any output in excess of that is discarded.

(3) Interactive commands and script that seek user input and commands that do not end automatically using a GUI display or the like cannot be executed.

(4) If the OS running on the execution target server is Unix, the command is executed in the default locale defined in the agentless-connection target for the connected user. For details, see "Locale set for operation target devices during plug-in execution" and "Character set used for communication by this product during plug-in execution" in the this product manual.

(5) When using non-ASCII characters for the common.remoteCommand property and common.remoteCommandParameter property in non-Linux Unix servers, the requirements described in the Service Template Reference for execution of command lines containing non-ASCII characters in Unix must be satisfied.

(6) For other usage notes, see the usage notes of the General command plugin in the Service Template Reference.

Version

02.50.00

Tags

Execute Script,Linux,Windows,AIX,Solaris,HP-UX

Property list

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required
common.targetHost	Host name of execution target server	Specifies the host name or IP address of the execution target server. IPv6 addresses are not supported.	Input	Disabled	R
common.remoteCommand	Command	Specify the full path of the command to be executed on the execution target server. If the path contains a space, enclose the entire path in double quotation marks.	Input	Disabled	R

Property key	Property name	Description	I/O type	Shared	Required
common.remoteCommandParameter	Command parameters	Specify the parameters for the command to be executed on the execution target server. If a parameter contains a space, enclose the entire parameter in double quotation marks.	Input	Disabled	O

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.stdoutProperty	Standard output string	This property contains the character string output to standard output by the specified command.	Output	Disabled

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
common.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
common.remoteCommand	A character string of no more than 256 characters can be entered.
common.remoteCommandParameter	A character string of no more than 1024 characters can be entered.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	remoteHostCommandExe	General command plug-in	Executes a command on the remote execution target server and displays the results.	Eliminate the cause of the error, and then re-execute the service.

2.9 Service templates for OS (configuration)

2.9.1 Registering Chef Client

Function

This service template is used to register the Chef Client server to the Chef Server instance.

Before registration to the Chef Server instance, forward the client.rb file, validation.pem file, and crt file to the Chef-Client server.

The prerequisite server for this service template is as follows:

- Chef Client

The Chef Client instance is installed on this server.

The following is a processing outline:

(1) Forward the client.rb file to the Chef Client server.

Forward the client.rb file immediately under the /etc/chef/ directory.

(2) Forward the validation.pem file to the Chef Client server.

Forward the validation.pem file immediately under the /etc/chef/ directory.

(3) Forward the crt file to the Chef Client server if you specified the path (local) for the crt file (chef.crtFilePath property).

Forward the crt file immediately under the /etc/chef/trusted_certs directory.

(4) Register the Chef Client server in the Chef Server instance.

Execute the chef-client command on the Chef Client server to register the Chef Client server to the Chef Server instance.

Notes on property settings are as follows:

(1) If you specify a Windows folder for the folder path (local) of the crt file, specify a backslash (\) at the end of the path. If you specify a Linux directory, specify a forward slash (/) at the end of the

Prerequisites

For the latest support status of the following items, see the Release Notes: Prerequisite products within the system, prerequisite products on the service template execution target server, running OS for prerequisite products on the service template execution target server, and prerequisite products within the service template execution target system.

Prerequisite product within the system:

- JP1/Automatic Operation 12-00 or later

Prerequisite products on the service template execution target server:

- Chef Client 12.0

Running OS for prerequisite products on the service template execution target server:

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

Cautions

(1) In the step of registering the Chef Client server that executes the chef-client command, the output size for the task log might exceed 100 KB depending on the settings for the recipe. As a result, the service might terminate abnormally with a return value of 72. In that case, check the execution result for the recipe from Management Console for the Chef instance, for example.

Version

02.50.00

Tags

Configure OS,Chef

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Chef Client information	Specify Chef Client server information.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
chef.clientFilePath	client.rb file path (local)	Specify the client.rb file you want to transfer from the local server by using a full path.	Input	Disabled	R	Chef Client information
chef.validationFilePath	validation.pem file path (local)	Specify the validation.pem file you want to transfer from the local server by using a full path.	Input	Disabled	R	Chef Client information
chef.crtDirPath	crt directory path (local)	Specify the folder on the crt file to be transferred from the local server by using a full path.	Input	Disabled	O	Chef Client information
chef.crtFileName	crt file name	Specify the crt file name you want to transfer from the local server.	Input	Disabled	O	Chef Client information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
chef.chefClient	Host name of the Chef Client server	Specify the host name or IP address of the Chef Client server you want to register on the Chef Server instance. An IPv6 address cannot be used.	Input	Disab led	R	Chef Client information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
chef.clientFilePath	A string that has 256 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % /
chef.validationFilePath	A string that has 256 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % /
chef.crtDirPath	No more than 256 characters (excluding the following symbols: <, >, |, ;, *, ?, ", %, and &).
chef.crtFileName	No more than 256 characters (excluding the following symbols: <, >, |, ;, *, ?, ", %, /, \, and &).

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
chef.chefClient	256 or fewer alphanumeric characters, including hyphens (-) and periods (.).

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	sendClientFile	File-Forwarding Plug-in	The client.rb file is forwarded to the Chef Client server.	Remove the error cause, and then execute the processing from this step.
2	sendValidationFile	File-Forwarding Plug-in	The validation.pem file is forwarded to the Chef Client server.	Remove the error cause, and then execute the processing from this step.
3	JudgeValuePlugin	Judge Value Plug-in	Whether to forward the crt file to the Chef Client server is determined.	Remove the error cause, and then execute the processing from this step.
4	sendCrtFile	File-Forwarding Plug-in	The crt file is forwarded to the Chef Client server.	Remove the error cause, and then execute the processing from this step.
5	entryClient	General Command Plug-in	The chef-client command is executed, and the Chef Client server is registered on the Chef Server.	Remove the error cause, and then execute the processing from this step.

2.9.2 Registering the Puppet Enterprise Agent instance

Function

This service template is used to register the Puppet Enterprise Agent server to the Puppet Enterprise Master instance.

The prerequisite servers for this service template are as follows:

- Puppet Enterprise Master server

The Puppet Enterprise Master instance is installed on this server.

- Puppet Enterprise Agent server

The Puppet Enterprise Agent instance is installed on this server.

The following is a processing outline:

(1) Send the SSL certificate from the Puppet Enterprise Agent server to the Puppet Enterprise Master server.

Execute the "puppet agent -t" command on the Puppet Enterprise Agent server and send the SSL certificate to the Puppet Enterprise Master instance.

(2) Approve the SSL certificate of the Puppet Enterprise Agent instance on the Puppet Enterprise Master server.

Execute the puppet cert sign <SSL-certificate-name> command on the Puppet Enterprise Master server to approve the SSL certificate of the Puppet Enterprise Agent instance.

Use the name specified in the SSL certificate name of the Agent (puppet.puppetAgentCertNameproperty) as the name of the SSL certificate to approve. The SSL certificate name is usually the host name of the Puppet Enterprise Agent server.

(3) Check the registration to the Puppet Enterprise Master instance on the Puppet Enterprise Agent server.

Execute the "puppet agent -t" command on the Puppet Enterprise Agent server, and check the registration to the Puppet Enterprise Master instance.

(4) Check the registration result of step (3).

If the return value of (3) is 0, the system terminates normally.

If the return value of (3) is 2, directories and files might have been reconfigured for the setting of the Puppet Enterprise Agent instance on the Puppet Enterprise Agent server. Re-execute the "puppet agent -t" command to check whether communication with the Puppet Enterprise Master instance is enabled.

If the return value of (3) is other than 0 or 2, the system terminates abnormally.

Prerequisites

For the latest support status of the following items, see the Release Notes: Prerequisite products within the system, prerequisite products on the service template execution target server, running OS for prerequisite products on the service template execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 12-00 or later

Prerequisite products on the service template execution target server:

- Puppet Enterprise Master 3.8

- Puppet Enterprise Agent 3.8

Running OS for prerequisite products on the service template execution target server:

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

Cautions

(1) The standard output of the "puppet agent -t" command is not output to the task log in the following situations: (1) when sending an SSL certificate by executing the "puppet agent -t" command, (2) when registering an agent, and (3) when performing each connection confirmation step for an agent. To confirm the execution result of a manifest, confirm the report in, for example, the Web console of Puppet.

Version

02.50.00

Tags

Configure OS,Puppet

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Puppet Enterprise Agent information	Specify Puppet Enterprise Agent server information.	Y

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
puppet.puppetMasterServer	Host name of the Master server	Specify the host name or IP address of the Puppet Enterprise Master server on which you want to register the Puppet Enterprise Agent instance. An IPv6 address cannot be used.	Input	Disabled	R	Puppet Enterprise Agent information
puppet.puppetAgentServer	Host name of the Agent server	Specify the host name or IP address of the Puppet Enterprise Agent server on which you want to register the Puppet Enterprise Agent instance. An IPv6 address cannot be used.	Input	Disabled	R	Puppet Enterprise Agent information

Property key	Property name	Description	I/O type	Shared	Required	Property group
puppet.puppetAgentCertName	SSL certificate name of the Agent	Specify the name of the SSL certificate that the Puppet Enterprise Master instance approves.	Input	Disabled	R	Puppet Enterprise Agent information

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
puppet.puppetMasterServer	256 or fewer alphanumeric characters, including hyphens (-) and periods (.).
puppet.puppetAgentServer	256 or fewer alphanumeric characters, including hyphens (-) and periods (.).
puppet.puppetAgentCertName	63 or fewer alphanumeric characters, including hyphens (-), periods (.), and underscores (_).

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method
1	sendSslCertificate	General Command Plug-in	The SSL certificate is sent from the Puppet Enterprise Agent server to the Puppet Enterprise Master server.	Remove the error cause, and then execute the processing from this step.
2	signSslCertificate	General Command Plug-in	The SSL certificate of the Puppet Enterprise Agent is approved from the Puppet Enterprise Master server.	Remove the error cause, and then execute the processing from the next step if the SSL certificate has already been approved. If the SSL certificate is yet to be approved, execute the processing from this step. You can check the approval status of the SSL certificate by using the puppet cert list command.
3	checkAgentEntry	General Command Plug-in	The registration to the Puppet Enterprise Master is checked from the Puppet Enterprise Agent server.	Remove the error cause, and then execute the processing from this step.
4	JudgeValuePlugin	Judge Value Plug-in	The registration result of the Puppet Enterprise Agent server to the Puppet Enterprise Master is checked.	Remove the error cause, and then execute the processing from this step.
5	AbnormalEndPlugin	Abnormal-End Plug-in	Abnormal termination occurs because the registration of the Puppet Enterprise Agent server to the Puppet Enterprise Master failed.	Remove the error cause, and then execute the processing from this step.
6	JudgeValuePlugin2	Judge Value Plug-in	The registration result of the Puppet Enterprise Agent server to the Puppet Enterprise Master is checked.	Remove the error cause, and then execute the processing from this step.
7	AbnormalEndPlugin2	Abnormal-End Plug-in	Abnormal termination occurs because the registration of the Puppet Enterprise Agent server to the Puppet Enterprise Master failed.	Remove the error cause, and then execute the processing from this step.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
8	JudgeValuePlugin3	Judge Value Plug-in	The registration result of the Puppet Enterprise Agent server to the Puppet Enterprise Master is checked.	Remove the error cause, and then execute the processing from this step.
9	checkEntryReTry	General Command Plug-in	Communication with the Puppet Enterprise Master is checked from the Puppet Enterprise Agent server.	Remove the error cause, and then execute the processing from this step.

2.10 Service templates for OS (operation)

2.10.1 Get Lists of Users from Multiple Servers

Function

This service template acquires a list of Windows/UNIX users and, as a batch, a server list from a CSV file.

This service template assumes that the following servers are being used.

• Windows servers

• UNIX servers

The following tasks are performed.

(1) A list of Windows/UNIX servers is acquired from the specified column in the CSV file. State the column name in the first line of the CSV file. State the data in the 2nd through 100th lines. At least one column must state the host name or IP address.

(Example 1)

Host name

hostVM001

hostVM002

(Example 2)

Host name, comment

hostVM001,#Comment1

hostVM002,#Comment2

"172.16.254.7",#Comment3

(2) No more than 99 host names or IP addresses can be stated in a CSV file and the total character string length of host names or IP addresses + the host count cannot exceed 1,017 characters.

(3) The fields read are checked for the following conditions. If any of these conditions are met, the task fails.

(a) Do any fields exceed 1024 in character string length?

(b) Do any fields contain the following special characters?

, < > | ; & * ? ` % or a double quote (") not at an end of a field, or a backslash (\) at the end of a field

(c) Does any field contain a control character (0x00 through 0x1f)?

(4) An OS user list is output in text format to the specified file for each Windows/UNIX server. The name of the file is OS_Users_XXXX. Here, XXXX specifies the host name or IP address as stated in the string specified in the CSV file. For Windows, the output format of the file is the same as the output result of the net user command.

(5) The OS user list file is transferred to the folder specified by the local server. The transfer source file on the Windows/UNIX server is deleted.

If reading an CSV fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

If the JP1/AO server and the execution target server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "Get Lists of Users from Multiple Servers(SYSTEM)" service template that executes with the system account.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running for the Windows/UNIX server in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

None.

[OS running for the Windows/UNIX server in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for prerequisite products in the system]

None.

[Usage conditions of prerequisite products in the system executing the service template]

None.

Cautions

[Notes on CSV files]

- Notes when the local server is running in a Windows environment

(1) IP addresses in the CSV file must be enclosed in double quotation marks.

(2) Due to ODBC driver restrictions, the following characters cannot be used in CSV file names: [ ] ! `

(3) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

- Notes when the local server is running in a UNIX environment

(1) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

(2) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(3) Any number of single-byte spaces or tab characters at the beginning or end of a row in the CSV file are ignored.

[Other notes]

(1) In order to execute this service, the local server (loopback address resolved by localhost) and the server acquiring the list of OS users must be set as agentless connection destinations.

(2) If the OS of the server acquiring the list of OS users is UNIX, do not use multibyte characters in properties.

(3) If you specify multibyte characters and the OS of the server acquiring the list of OS users is Windows, specify a value for the Windows output folder (remote) property that is no longer than 248 bytes.

(4) If you specify multibyte characters, specify a value for the output folder name (local) property that is no longer than 256 bytes.

(5) Specify an integer value of 255 or less for the column number of the reading target file. Note that blank columns between data rows are also included in the number of columns.

(6) When the folder names specified as remote and local already exist, the existing folders are overwritten. Also, when there is a file by the same name in the folder, it too is overwritten. For this reason, exercise sufficient caution that folder names are specified correctly.

(7) If there is no folder at the path specified as remote, the folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Gather OS information,Linux,Windows,AIX

Property list

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disabled	R
OS.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a file fails (only applicable to Windows).	Input	Disabled	R

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required
OS.excelFileName	CSV file name (local)	Specifies the full path name of the CSV file where the list of servers is managed.	Input	Disabled	R
OS.Column1	Column number for the server names	Specifies the column number in the CSV file as a number from 1 through 255.	Input	Disabled	R
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the server acquiring the list of OS users is running Windows.	Input	Disabled	O
OS.listOutputFolderNameRemote_Windows	Output folder for Windows (remote)	Specifies the full path of the folder on the Windows server where the list of OS users is output. The remote file is deleted after the transfer. The output folder must be specified if the servers where the user list is acquired include a Windows server.	Input	Disabled	O
OS.listOutputDirectoryNameRemote_Linux	Output directory for UNIX (remote)	Specifies the full path of the folder on the UNIX server where the list of OS users is output. The remote file is deleted after the transfer. The output folder must be specified if the servers where the user list is acquired include a UNIX server.	Input	Disabled	O

Property key	Property name	Description	I/O type	Shared	Required
OS.listOutputFolderNameLocal	Output folder name (local)	Specifies the full path name of the file where the list of OS users is output.	Input	Disabled	R

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
OS.excelFileName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \.
OS.Column1	Only numbers can be entered.
OS.userType	Select one of the following values: local,domain
OS.listOutputFolderNameRemote_Windows	A character string of no more than 248 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \.
OS.listOutputDirectoryNameRemote_Linux	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \.
OS.listOutputFolderNameLocal	A character string of no more than 248 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetOsInfo	Output OS type	Outputs the OS of the local server.	Eliminate the cause of the error, and then re-execute the service.
2	osReadCSVExcelFileColumn	Get CSV data	Acquires a list of host names or IP addresses of Windows or UNIX servers from a CSV file.	Eliminate the cause of the error, and then re-execute the service.
3	osShowUsersAllLoop	Repeated-execution plug-in	Acquires lists of OS users iteratively from the acquired host names.	Eliminate the cause of the error, and then re-execute the service.

2.10.2 Get Lists of Users from Multiple Servers (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetOsInfo	Output OS type	Determines the OS.	Eliminate the cause of the error, and then re-execute the service.
2	CheckMacroValue1	Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
3	osGetUsersWindows	Flow Plug-in	Acquires a list of OS users from the Windows server.	--
3-1		Get list of OS users	Acquires OS users.	Eliminate the cause of the error, and then re-execute the service.
3-2		Compatible Plug-in	Determines whether or not the OS of the local server is Windows.	Eliminate the cause of the error, and then re-execute the service.
3-3		File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
3-4		Compatible Plug-in	Determines whether or not the OS of the local server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
3-5		File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
3-6		Delete file	Deletes temporary files.	Files remain in the target server. Delete them manually.
4	judgeOsUNIX	Compatible Plug-in	Determines whether the OS of the server get lists of OS users is UNIX.	Eliminate the cause of the error, and then re-execute the service.
5	osGetUsersUNIX	Flow Plug-in	Acquires a list of OS users from the UNIX server.	--
5-1		Get list of OS users	Acquires OS users.	Eliminate the cause of the error, and then re-execute the service.
5-2		Compatible Plug-in	Determines whether or not the OS of the local server is Windows.	Eliminate the cause of the error, and then re-execute the service.
5-3		File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
5-4		Compatible Plug-in	Determines whether or not the OS of the local server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
5-5		File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
5-6		Delete file	Deletes temporary files.	Files remain in the target server. Delete them manually.

2.10.3 Get Lists of Users from Multiple Servers(SYSTEM)

Function

This service template acquires a list of Windows/UNIX users and, as a batch, a server list from a CSV file.

This service template assumes that the following servers are being used.

• Windows servers

• UNIX servers

The following tasks are performed.

(1) A list of Windows/UNIX servers is acquired from the specified column in the CSV file. State the column name in the first line of the CSV file. State the data in the 2nd through 100th lines. At least one column must state the host name or IP address.

(Example 1)

Host name

hostVM001

hostVM002

(Example 2)

Host name, comment

hostVM001,#Comment1

hostVM002,#Comment2

"172.16.254.7",#Comment3

(2) No more than 99 host names or IP addresses can be stated in a CSV file and the total character string length of host names or IP addresses + the host count cannot exceed 1,017 characters.

(3) The fields read are checked for the following conditions. If any of these conditions are met, the task fails.

(a) Do any fields exceed 1024 in character string length?

(b) Do any fields contain the following special characters?

, < > | ; & * ? ` % or a double quote (") not at an end of a field, or a backslash (\) at the end of a field

(c) Does any field contain a control character (0x00 through 0x1f)?

(4) An OS user list is output in text format to the specified file for each Windows/UNIX server. The name of the file is OS_Users_XXXX. Here, XXXX specifies the host name or IP address as stated in the string specified in the CSV file. For Windows, the output format of the file is the same as the output result of the net user command.

(5) The OS user list file is transferred to the folder specified by the local server. The transfer source file on the Windows/UNIX server is deleted.

If reading an CSV fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running for the Windows/UNIX server in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

None.

[OS running for the Windows/UNIX server in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for prerequisite products in the system]

None.

[Usage conditions of prerequisite products in the system executing the service template]

None.

Cautions

[Notes on CSV files]

- Notes when the local server is running in a Windows environment

(1) IP addresses in the CSV file must be enclosed in double quotation marks.

(2) Due to ODBC driver restrictions, the following characters cannot be used in CSV file names: [ ] ! `

(3) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

- Notes when the local server is running in a UNIX environment

(1) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows including empty rows is 100 or more, the task terminates abnormally.

(2) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(3) Any number of single-byte spaces or tab characters at the beginning or end of a row in the CSV file are ignored.

[Other notes]

(1) In order to execute this service, the local server (loopback address resolved by localhost) and the server acquiring the list of OS users must be set as agentless connection destinations.

(2) If the OS of the server acquiring the list of OS users is UNIX, do not use multibyte characters in properties.

(3) If you specify multibyte characters and the OS of the server acquiring the list of OS users is Windows, specify a value for the Windows output folder (remote) property that is no longer than 248 bytes.

(4) If you specify multibyte characters, specify a value for the output folder name (local) property that is no longer than 256 bytes.

(5) Specify an integer value of 255 or less for the column number of the reading target file. Note that blank columns between data rows are also included in the number of columns.

(6) When the folder names specified as remote and local already exist, the existing folders are overwritten. Also, when there is a file by the same name in the folder, it too is overwritten. For this reason, exercise sufficient caution that folder names are specified correctly.

(7) If there is no folder at the path specified as remote, the folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

Execution privilege

Users who belong to the Administrator group

Version

03.10.00

Tags

Gather OS information,Linux,Windows,AIX

Property list

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required
OS.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disabled	R
OS.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a file fails (only applicable to Windows).	Input	Disabled	R

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required
OS.excelFileName	CSV file name (local)	Specifies the full path name of the CSV file where the list of servers is managed.	Input	Disabled	R
OS.Column1	Column number for the server names	Specifies the column number in the CSV file as a number from 1 through 255.	Input	Disabled	R
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the server acquiring the list of OS users is running Windows.	Input	Disabled	O
OS.listOutputFolderNameRemote_Windows	Output folder for Windows (remote)	Specifies the full path of the folder on the Windows server where the list of OS users is output. The remote file is deleted after the transfer. The output folder must be specified if the servers where the user list is acquired include a Windows server.	Input	Disabled	O
OS.listOutputDirectoryNameRemote_Linux	Output directory for UNIX (remote)	Specifies the full path of the folder on the UNIX server where the list of OS users is output. The remote file is deleted after the transfer. The output folder must be specified if the servers where the user list is acquired include a UNIX server.	Input	Disabled	O
OS.listOutputFolderNameLocal	Output folder name (local)	Specifies the full path name of the file where the list of OS users is output.	Input	Disabled	R

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
OS.excelFileName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \.
OS.Column1	Only numbers can be entered.
OS.userType	Select one of the following values: local,domain
OS.listOutputFolderNameRemote_Windows	A character string of no more than 248 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \.
OS.listOutputDirectoryNameRemote_Linux	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \.
OS.listOutputFolderNameLocal	A character string of no more than 248 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetOsInfo	Output OS type	Outputs the OS of the local server.	Eliminate the cause of the error, and then re-execute the service.
2	osReadCSVExcelFileColumn_Syste	Get CSV data(SYSTEM)	Acquires a list of host names or IP addresses of Windows or UNIX servers from a CSV file.	Eliminate the cause of the error, and then re-execute the service.
3	osShowUsersAllLoop	Repeated-execution plug-in	Acquires lists of OS users iteratively from the acquired host names.	Eliminate the cause of the error, and then re-execute the service.

2.10.4 Get Lists of Users from Multiple Servers(SYSTEM)(repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	osGetOsInfo	Output OS type	Determines the OS.	Eliminate the cause of the error, and then re-execute the service.
2	CheckMacroValue1	Compatible Plug-in	Determines whether or not the OS is Windows.	Eliminate the cause of the error, and then re-execute the service.
3	osGetUsersWindows	Flow Plug-in	Acquires a list of OS users from the Windows server.	--
3-1		Get list of OS users	Acquires OS users.	Eliminate the cause of the error, and then re-execute the service.
3-2		Compatible Plug-in	Determines whether or not the OS of the local server is Windows.	Eliminate the cause of the error, and then re-execute the service.
3-3		File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
3-4		Compatible Plug-in	Determines whether or not the OS of the local server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
3-5		File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
3-6		Delete file	Deletes temporary files.	Files remain in the target server. Delete them manually.
4	judgeOsUNIX	Compatible Plug-in	Determines whether the OS of the server get lists of OS users is UNIX.	Eliminate the cause of the error, and then re-execute the service.
5	osGetUsersUNIX	Flow Plug-in	Acquires a list of OS users from the UNIX server.	--
5-1		Get list of OS users	Acquires OS users.	Eliminate the cause of the error, and then re-execute the service.
5-2		Compatible Plug-in	Determines whether or not the OS of the local server is Windows.	Eliminate the cause of the error, and then re-execute the service.
5-3		File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
5-4		Compatible Plug-in	Determines whether or not the OS of the local server is UNIX.	Eliminate the cause of the error, and then re-execute the service.
5-5		File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
5-6		Delete file	Deletes temporary files.	Files remain in the target server. Delete them manually.

2.10.5 Get List of Users from Server

Function

This service template acquires a list of Windows/UNIX OS users.

This service template assumes that the following servers are being used.

• Windows servers

• UNIX servers

The following tasks are performed.

(1) An OS user list is acquired and output in text format to a specified file. For Windows, the output format of the file is the same as the output result of the net user command.

(2) The file is transferred to the folder specified by the local server. The transfer source file on the Windows/UNIX server is deleted.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

None.

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for prerequisite products in the system]

None.

[Usage conditions of prerequisite products in the system executing the service template]

None.

Cautions

(1)If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

(2) If you specify multibyte characters, and the OS of the server acquiring the list of OS users is Windows, specify a value for the output file name (remote) property that is no longer than 256 bytes.

(3) If you specify multibyte characters, specify a value for the output file name (local) property that is no longer than 256 bytes.

(4) If the file names specified for remote and local already exist, the existing files are overwritten. The file on the remote side is also deleted. For this reason, make sure that file names are specified correctly.

(5) If there is no folder at the path specified as remote, the folder is created. The created folder is left undeleted. If it is not used periodically, delete it.

Version

02.00.00

Tags

Gather OS information,Linux,Windows,AIX

Property list

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required
OS.targetHost	Windows/UNIX server host name	Specify the host name or IP address of a Windows or UNIX server from which an OS user list is to be obtained. IPv6 addresses are not supported.	Input	Disabled	R
OS.userType	OS user type	Specify "local" or "domain" as the OS user type. This property only takes effect when the agent server is running Windows.	Input	Disabled	O
OS.listOutputFileNameRemote	Output file name (remote)	Specifies the full path name of the file on the Windows server or UNIX server where the list of OS users is output. The remote file is deleted after the transfer.	Input	Disabled	R
OS.listOutputFileNameLocal	Output file name (local)	Specifies the local file name where the list of OS users is output.	Input	Disabled	R

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
OS.targetHost	This is a character string consisting of up to 255 alphanumeric characters, along with . and -.
OS.userType	Select one of the following values: local,domain
OS.listOutputFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \.
OS.listOutputFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, `, or a trailing \.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osShowUsers	Get list of OS users	Acquires a list of OS users from Windows or UNIX.	Eliminate the cause of the error, and then re-execute the service.
2	FileTransferPlugin	File-forwarding plug-in	Transfers lists of OS users.	Eliminate the cause of the error, and then re-execute the service.
3	osDeleteFile	Delete file	Deletes temporary files.	Files remain in the target server. Delete them manually.

2.11 Service templates for providing Plug-ins

2.11.1 Utility Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.10.02

Tags

--

3

JP1/AO Content Pack Service Templates

This chapter describes the service templates in the JP1/AO Content Pack.

3.1 List of JP1/AO Content Pack service templates

3.1.1 List of the service templates used for AWS (configuration)

No.	Service template name	Function	System configuration
1	Delete a virtual server	Deletes an instance from an Amazon EC2 environment. In addition, all network interfaces connected to the instance are deleted.	--
2	Add a virtual server (deploy)	Creates a virtual server in an Amazon EC2 environment. (In Amazon EC2, this is referred to as "starting an instance".)	--

(Legend)

    --: None.

3.1.2 List of the service templates used for AWS (operation)

No.	Service template name	Function	System configuration
1	Start virtual servers	Starts instances in an Amazon EC2 environment.	--
2	Stop virtual servers	Stops instances in an Amazon EC2 environment.	--

(Legend)

    --: None.

3.1.3 List of the service templates used for Hyper-V 2008 (configuration)

No.	Service template name	Function	System configuration
1	Delete a virtual server	Deletes a virtual server in the Hyper-V environment.	--
2	Add a virtual server (deploy/OS initial settings)	Creates a virtual server in the Hyper-V environment.	--
3	Add a virtual server (virtual disk)	Adds a disk to the virtual server in the Hyper-V environment.	--

(Legend)

    --: None.

3.1.4 List of the service templates used for Hyper-V 2008 (operation)

No.	Service template name	Function	System configuration
1	Start virtual servers	Starts multiple virtual servers in the Hyper-V environment.	--
2	Restart virtual servers	Restarts multiple virtual servers in the Hyper-V environment.	--
3	Obtain the virtual server information list	Obtains the virtual server information list in the Hyper-V environment.	--
4	Stop the virtual server	Performs a forced shutdown of multiple virtual server OSs in the Hyper-V environment.	--

(Legend)

    --: None.

3.1.5 List of the service templates used for Hyper-V 2012 (configuration)

No.	Service template name	Function	System configuration
1	Change virtual server specifications (CPU and memory)	Changes the values of virtual server specifications (CPU and memory) in a Hyper-V 2012 environment.	--
2	Delete virtual server	This service template deletes virtual servers in a Hyper-V2012 environment.	--
3	Add a virtual server (deploy/OS initial settings)	Creates a virtual server in a Hyper-V 2012 environment.	--
4	Add virtual server (virtual disk)	This service template creates a virtual disk in a Hyper-V2012 environment and then adds that virtual disk to a virtual server.	--

(Legend)

    --: None.

3.1.6 List of the service templates used for Hyper-V 2012 (operation)

No.	Service template name	Function	System configuration
1	Start virtual server	Starts multiple virtual servers in a Hyper-V 2012 environment.	--
2	Restart virtual server	This service template restarts multiple virtual servers in a Hyper-V2012 environment.	--
3	Obtain virtual server information list	This service template obtains a list of information about virtual servers in a Hyper-V2012 environment.	--
4	Stop virtual server	Shuts down multiple virtual servers in a Hyper-V 2012 environment.	--

(Legend)
   --: None.

3.1.7 List of the service templates used for Hyper-V 2016 (configuration)

No.	Service template name	Function	System configuration
1	Change virtual server specifications (CPU and memory)	Changes the values of virtual server specifications (CPU and memory) in a Hyper-V 2016 environment.	--
2	Delete virtual server	This service template deletes virtual servers in a Hyper-V2016 environment.	--
3	Add a virtual server (deploy/OS initial settings)	Creates a virtual server in a Hyper-V 2016 environment.	--
4	Add virtual server (virtual disk)	This service template creates a virtual disk in a Hyper-V2016 environment and then adds that virtual disk to a virtual server.	--

(Legend)
   --: None.

3.1.8 List of the service templates used for Hyper-V 2016 (operation)

No.	Service template name	Function	System configuration
1	Start virtual server	Starts multiple virtual servers in a Hyper-V 2016 environment.	--
2	Restart virtual server	This service template restarts multiple virtual servers in a Hyper-V2016 environment.	--
3	Obtain virtual server information list	This service template obtains a list of information about virtual servers in a Hyper-V2016 environment.	--
4	Stop virtual server	Shuts down multiple virtual servers in a Hyper-V 2016 environment.	--

(Legend)
   --: None.

3.1.9 List of the service templates used for OpenStack (configuration)

No.	Service template name	Function	System configuration
1	Delete a virtual server	Deletes instances in a KVM environment that is controlled by OpenStack. In addition, if floating IP addresses are set for instances, releases the assignment of floating IP addresses.	--
2	Delete a virtual server (virtual disk)	In a KVM environment that is controlled by OpenStack, this service template disconnects volumes that are connected to instances.	--

No.	Service template name	Function	System configuration
3	Addition of a virtual server (deployment/OS initial setup)	Creates a virtual server in a KVM environment managed by OpenStack. (In OpenStack, this is called "starting an instance".)	--
4	Add virtual server (virtual disk)	Adds a volume to an instance in a KVM environment managed by OpenStack.	--

(Legend)

--: None.

3.1.10 List of the service templates used for OpenStack (operation)

No.	Service template name	Function	System configuration
1	Back up volumes	Backs up volumes in a KVM environment managed by OpenStack.	--
2	Start virtual server	Starts an instance in KVM managed by OpenStack.	--
3	Obtain a virtual server information list	Acquires an instance information list contained in the specified project in a KVM environment that is controlled by OpenStack.	--

(Legend)

--: None.

3.1.11 List of the service templates used for OS (configuration)

No.	Service template name	Function	System configuration
1	Windows update program installation	Automatically installs update programs by using the Windows Update function.	--
2	Windows update program installation(SYSTEM)	Automatically installs update programs by using the Windows Update function.	--

(Legend)

--: None.

3.1.12 List of the service templates used for vSphere (configuration)

No.	Service template name	Function	System configuration
1	Script execution through the vCenter server	In a VMware vSphere environment, transmits the specified non-interactive script file from the target server to the guest OS on the virtual server, and then executes the script file on the guest OS. Scripts can be deleted after execution.	--

No.	Service template name	Function	System configuration
2	Modify Virtual Machine Configuration	Changes the specifications for a virtual server in a VMware vSphere environment.	3.3.7 System configuration of Modify Virtual Machine Configuration
3	Create Snapshot of Virtual Machine	The VMware vSphere environment allows a snapshot to be used to update the status of a virtual server.	3.3.8 System configuration of Create Snapshot of Virtual Machine
4	Delete Virtual Machine	Deletes a virtual server in a VMware vSphere environment.	3.3.4 System configuration of Delete Virtual Machine
5	Delete Datastore on VMware vSphere	Deletes a data store and LU in an environment consisting of VMware vSphere and HDvM.	3.3.6 System configuration of Delete Datastore on VMware vSphere
6	Remove Virtual Disk from Virtual Machine	Deletes a virtual server in a VMware vSphere environment.	3.3.5 System configuration of Remove Virtual Disk from Virtual Machine
7	Create Datastore on VMware vSphere	Creates an LU and a data store in an environment consisting of VMware vSphere and HDvM.	3.3.1 System configuration of Create Datastore on VMware vSphere
8	Deploy and Setup OS on Virtual Machine	Creates the virtual server in the VMware vSphere environment.	3.3.2 System configuration of Deploy and Setup OS on Virtual Machine
9	Add Virtual Disk to Virtual Machine	Adds a disk to a virtual server in a VMware vSphere environment.	3.3.3 System configuration of Add Virtual Disk

No.	Service template name	Function	System configuration
9	Add Virtual Disk to Virtual Machine	Adds a disk to a virtual server in a VMware vSphere environment.	to Virtual Machine

(Legend)

--: None.

3.1.13 List of the service templates used for vSphere (operation)

No.	Service template name	Function	System configuration
1	Get List of Storage Systems from Device Manager	Acquires a list of storage devices registered in HDvM.	3.3.16 System configuration of Get List of Storage Systems from Device Manager
2	Clone Virtual Machine	Creates a clone of a virtual server in the VMware vSphere environment.	3.3.17 System configuration of Clone Virtual Machine
3	Delete Cloned Virtual Machine	Deletes a clone of a virtual server in the VMware vSphere environment.	3.3.18 System configuration of Delete Cloned Virtual Machine
4	Migrate Virtual Machine	Migrates multiple virtual servers in a VMware vSphere environment.	3.3.12 System configuration of Migrate Virtual Machine
5	Start Virtual Machine	Starts multiple virtual servers in a VMware vSphere environment.	3.3.9 System configuration of Start Virtual Machine
6	Restart Virtual Machine	Restarts multiple virtual servers in a VMware vSphere environment.	3.3.11 System configuration of Restart Virtual Machine

No.	Service template name	Function	System configuration
7	Get List of Virtual Machines from VMware vSphere	Acquires a list of VMware vSphere virtual servers.	3.3.15 System configuration of Get List of Virtual Machines from VMware vSphere
8	Pre-check for Datastore Creation on VMware vSphere	Checks the environment prerequisites for adding a virtual server (creation of LU and data store)	3.3.13 System configuration of Pre-check for Datastore Creation on VMware vSphere
9	Pre-check for OS Deployment on Virtual Machine	Checks the environment prerequisites for adding a virtual server (deployment and OS initialization)	3.3.14 System configuration of Pre-check for OS Deployment on Virtual Machine
10	Stop Virtual Machine	Stops multiple virtual servers in a VMware vSphere environment.	3.3.10 System configuration of Stop Virtual Machine

3.1.14 List of the service templates used for providing Plug-ins

No.	Service template name	Function	System configuration
1	AWS Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--
2	HCS Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--
3	Hyper-V2008 Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--
4	Hyper-V2012 Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--
5	Hyper-V2016 Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--
6	OpenStack Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--

No.	Service template name	Function	System configuration
7	Oracle Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--
8	vSphere Components	Do not create or execute any service from this service template. This service template contains plug-ins for service template developers.	--

(Legend)

    --: None.

3.2 Usage examples of service templates relating to virtual servers

JP1/AO Content Pack provides the service templates that are required to build the environment of a virtual server.

This section describes assumed system configurations and examples of properties to be specified when using the following service templates:

- Create Datastore on VMware vSphere
- Migrate Virtual Machine

3.2.1 Usage example of Create Datastore on VMware vSphere service template

This section provides assumed system configurations and examples of properties to be specified when using the Create Datastore on VMware vSphere service template.

By using this service template, you can create a DP volume on a storage system or a data store on VMware vSphere ESXi (or VMware ESX Server).

Assumed system configuration

This service template assumes the following system configuration:

Web browser

    A terminal used to operate JP1/AO. The user uses this terminal to set property values in the service template.

IT operation automation server

    A server with JP1/AO and JP1/Base installed.

vCenter operation server

    A server with VMware vSphere Power CLI installed.

vCenter server

    A server with VMware vCenter Server installed.

HDvM CLI server

    A server with Hitachi Device Manager Software CLI installed.

HDvM server

    A server with Hitachi Device Manager installed.

Storage system

    A storage system managed by Hitachi Device Manager.

ESX server

    A server with VMware vSphere ESXi (or VMware ESX Server) installed. This server manages the virtualization server.

Figure 3–1: System configuration assumed for the Create Datastore on VMware vSphere service template
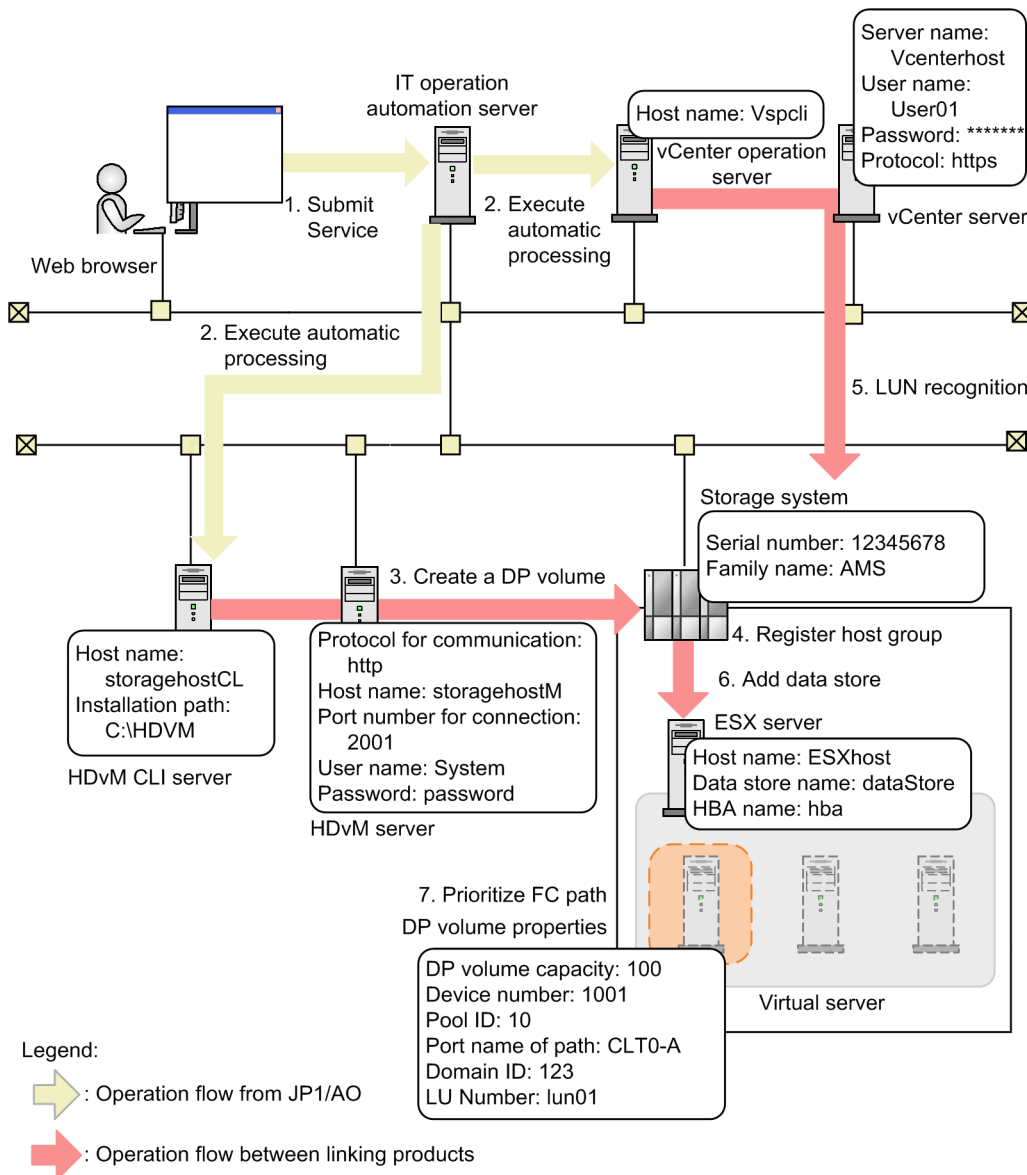
Processing flow

1. A user enters property values in the Web browser and submits the service for execution.

2. The IT operation automation server executes automatic processing on the HDvM CLI server and the vCenter operation server.

3. The HDvM CLI server creates one DP volume on the storage system.

4. The HDvM CLI server registers the created volume in the host group of the ESX server.

5. The vCenter operation server allows the ESX server to recognize the added H-LUN.

6. The vCenter operation server adds the data store to the ESX server.

7. From the vCenter operations server, set the FC path to the added data store to *Preferred*.

Example of specifying property values

To use the Create Datastore on VMware vSphere service template, a user must specify the appropriate property values for the user environment. Specify the property values in the **Service Definition** window and the **Submit Service** window.

Table 3–1: Example of property values specified in the Service Definition window (Create Datastore on VMware vSphere)

Property group	Property name	Property key	Description	Specification example
Virtual system environment information	Host name of Device Manager CLI server	hdvm.targetHost	Specify the host name or IP address of the server where Device Manager CLI is installed. You cannot specify an IPv6 address.	storagehostCL
	Installation path of Device Manager CLI	hdvm.cliInstallPath	Specify the installation path of Device Manager CLI.	C:\HDVM
	Protocol for HDvM communication	hdvm.hdvmProtocol	Specify the protocol (http or https) to use when connecting to Device Manager server.	http
	HDvM server host name	hdvm.hdvmHostName	Specify the host name or IP address of the Device Manager server.	storagehostM
	Port number for HDvM connection	hdvm.hdvmPortNumber	Specify the port number used to connect to the Device Manager server.	2001
	User name for HDvM connection	hdvm.hdvmUserName	Specify the user ID to use when connecting to Device Manager server.	System
	Password for HDvM connection	hdvm.hdvmPassword	Specify the password to use when connecting to Device Manager server.	password
	Host name of VMware vCenter control server	vmware.targetHost	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Vspcli
	VMware vCenter server name	vmware.vCenterServerName	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Vcenterhost
	User name for VMware vCenter Server connection	vmware.userName	Specify the user name to use when connecting to the VMware vCenter server.	User01
	Password for VMware vCenter Server connection	vmware.password	Specify the password to use when connecting to the VMware vCenter server.	password
	Protocol for VMware vCenter Server connection	vmware.protocol	Specify the protocol to use when connecting to the VMware vCenter server.	https
Storage information	Storage system serial number	hdvm.hdvmSerialNumber	Specify the serial number of the target storage system.	123456789
	Storage system family	hdvm.hdvmArrayFamily	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM, or VSP G1000.	AMS

Table 3–2: Example of property values specified in the Submit Service window (Create Datastore on VMware vSphere)

Property group	Property name	Property key	Description	Specification example
Storage information	DP volume (LU) capacity (in GB)	hdvm.hdvmCapacity	Specify the capacity of the DP volume (LU) in GB.	100
	DP volume (LU) device number	hdvm.hdvmDevNumber	Specify the device number of the DP volume (LU) as a decimal.	1001
	ID of DP pool	hdvm.hdvmPoolId	Specify the pool ID of the pool to be linked with the volume(LU) you are creating.	10
	Path port name	hdvm.hdvmPathPortName	Specify the port name of the path to the DP volume (LU).	CLT0-A
	Host group ID	hdvm.hdvmDomainId	Specifies the ID, in decimal or hexadecimal, of the host group where the DP volume (LU) is to be added. In the case of hexadecimal, the prefix "0x" must be used.	123
	LU number (LUN)	hdvm.hdvmLun	Specify the LU number (LUN).	127
Virtual environment information	ESX server name	vmware.vmHostName	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	ESXhost
	Datastore name	vmware.dataStoreName	Specify the datastore name.	datastore
	HBA name	vmware.hbaName	Specify the name of the preferred HBA, in the format displayed for the runtime name of the storage adapter in VMware vCenter Server. For example: vmhba0	hba

3.2.2 Usage example of Migrate Virtual Machine service template

This section provides assumed system configurations and examples of properties to be specified when using the Migrate Virtual Machine service template.

This template allows you to use vMotion to move a virtual server to another instance of VMware vSphere ESXi (or VMware ESX Server).

Assumed system configuration

This service template assumes the following system configuration:

Web browser
    A terminal used to operate JP1/AO. The user uses this terminal to set property values in the service template.

IT operation automation server
    A server with JP1/AO and JP1/Base installed.

vCenter operation server
    A server with VMware vSphere Power CLI installed.

vCenter server

A server with VMware vCenter Server installed.

ESX server

A server with VMware vSphere ESXi (or VMware ESX Server) installed. This server manages the virtualization server.

Virtual server

A virtual server managed by the ESX server. The Migrate Virtual Machine service template moves this virtual server.

Figure 3–2: System configuration assumed for the Migrate Virtual Machine service template
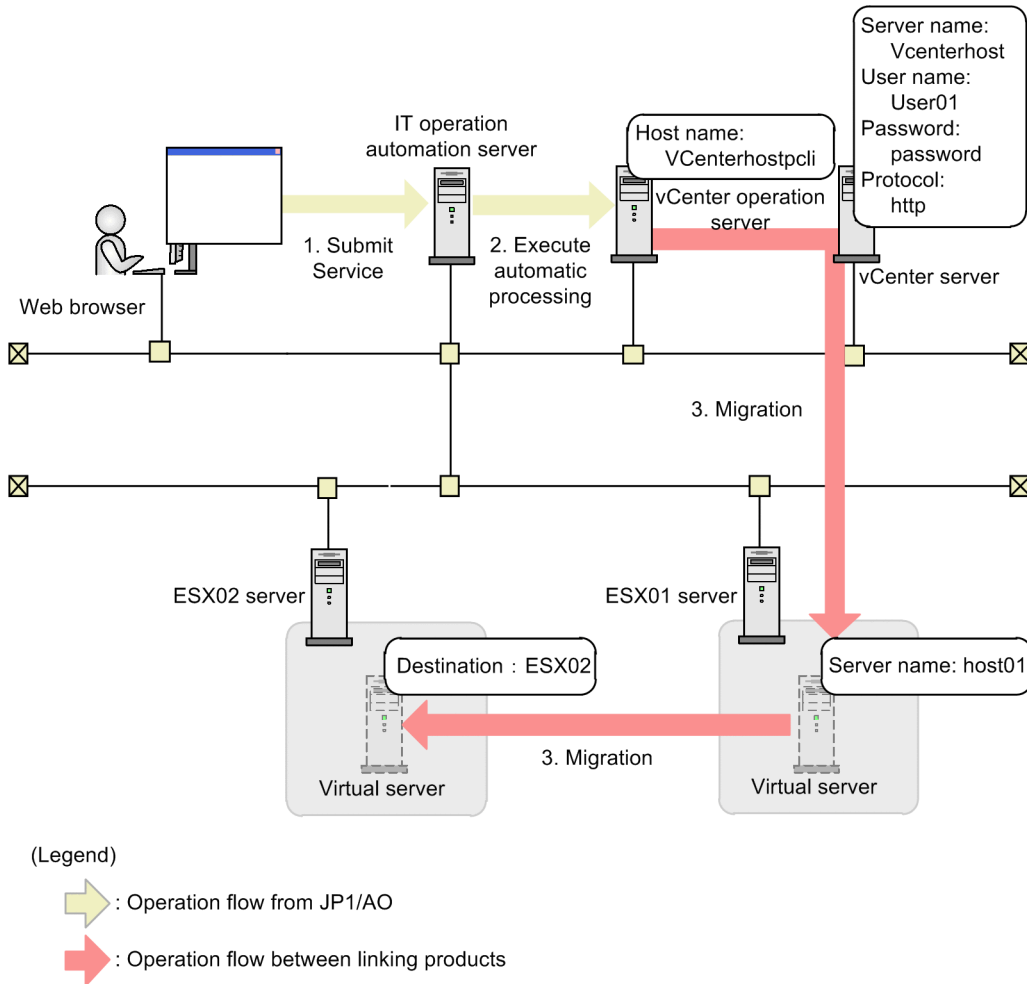
Processing flow

1. A user enters property values in the Web browser and submits the service for execution.

2. The IT operation automation server executes automated processing on the vCenter operation server.

3. The target virtual server is migrated from the ESX01 server to the ESX02 server.

   If the virtual server is on, a hot migration (migration with the power on) is performed. If the virtual server is off, a cold migration (migration with the power off) is performed.

Example of specifying property values

To use the Migrate Virtual Machine service template, a user must specify the appropriate property values for the user environment. Specify the property values in the **Service Definition** window and the **Submit Service** window.

Table 3–3: Example of property values specified in the Service Definition window (Migrate Virtual Machine)

Property group	Property name	Property key	Description	Specification example
Storage information	DP volume (LU) capacity (in GB)	hdvm.hdvmCapacity	Specify the capacity of the DP volume (LU) in GB.	100
	DP volume (LU) device number	hdvm.hdvmDevNumber	Specify the device number of the DP volume (LU) as a decimal.	1001
	ID of DP pool	hdvm.hdvmPoolId	Specify the pool ID of the pool to be linked with the volume(LU) you are creating.	10
	Path port name	hdvm.hdvmPathPortName	Specify the port name of the path to the DP volume (LU).	CLT0-A
	Host group ID	hdvm.hdvmDomainId	Specifies the ID, in decimal or hexadecimal, of the host group where the DP volume (LU) is to be added. In the case of hexadecimal, the prefix "0x" must be used.	123
	LU number (LUN)	hdvm.hdvmLun	Specify the LU number (LUN).	127
Virtual environment information	ESX server name	vmware.vmHostName	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	ESXhost
	Datastore name	vmware.dataStoreName	Specify the datastore name.	datastore
	HBA name	vmware.hbaName	Specify the name of the preferred HBA, in the format displayed for the runtime name of the storage adapter in VMware vCenter Server. For example: vmhba0	hba

Table 3–4: Example of property values specified in the Submit Service window (Migrate Virtual Machine)

Property group	Property name	Property key	Description	Specification example
Virtual server information	Virtual server name(s)	vmware.foreachVmName	Specify the virtual server name or names. Specify server names as they appear in VMware vCenter Server, not by host name. Separate multiple virtual servers with commas. The maximum number of virtual servers you can specify is 99.	host01
	Virtual server destination	vmware.destinationName	Specify the name of the destination VMware vSphere ESXi (or VMware ESX Server), resource pool, cluster, or folder.	ESX02

3.3 System configurations for JP1/AO Content Pack service templates

This section describes the system configuration of the following service templates for vSphere configuration and operation:

Service templates for vSphere (configuration):

- Create Datastore on VMware vSphere
- Deploy and Setup OS on Virtual Machine
- Add Virtual Disk to Virtual Machine
- Delete Virtual Machine
- Remove Virtual Disk from Virtual Machine
- Delete Datastore on VMware vSphere
- Modify Virtual Machine Configuration
- Create Snapshot of Virtual Machine

Service templates for vSphere (operation):

- Start Virtual Machine
- Stop Virtual Machine
- Restart Virtual Machine
- Migrate Virtual Machine
- Pre-check for Datastore Creation on VMware vSphere
- Pre-check for OS Deployment on Virtual Machine
- Get List of Virtual Machines from VMware vSphere
- Get List of Storage Systems from Device Manager
- Clone Virtual Machine
- Delete Cloned Virtual Machine

3.3.1 System configuration of Create Datastore on VMware vSphere

Figure 3–3: System configuration of Create Datastore on VMware vSphere
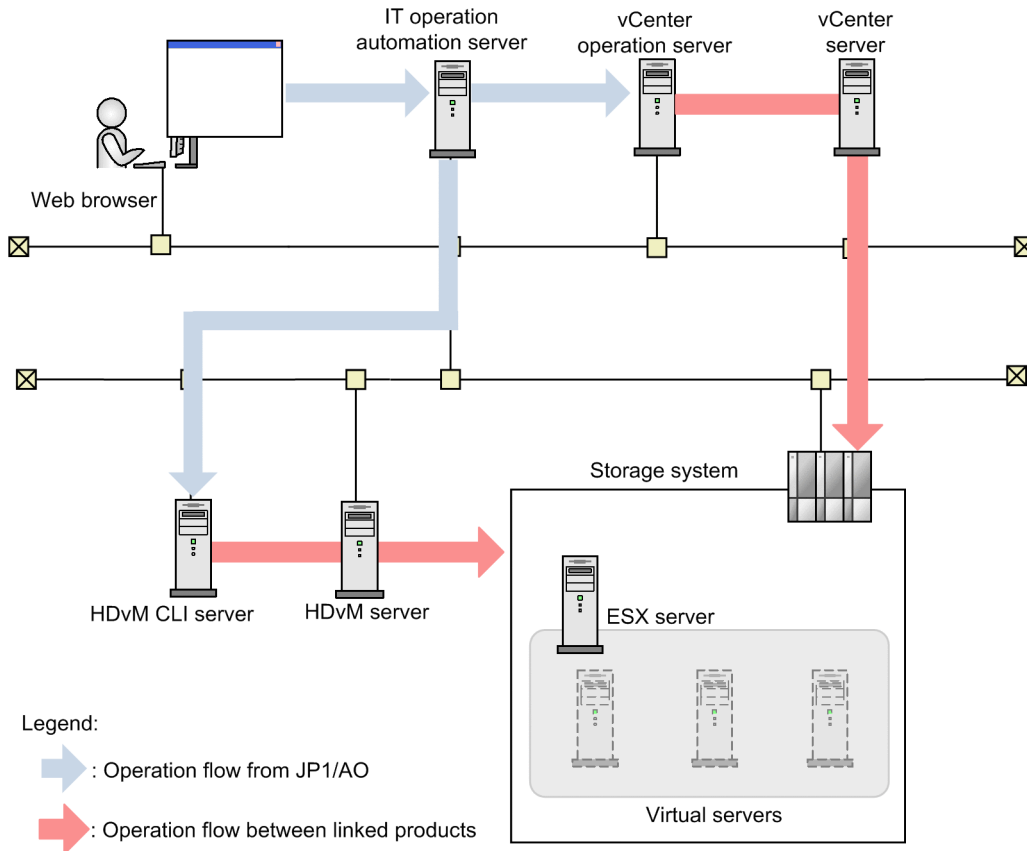
3.3.2 System configuration of Deploy and Setup OS on Virtual Machine

Figure 3–4: System configuration of Deploy and Setup OS on Virtual Machine
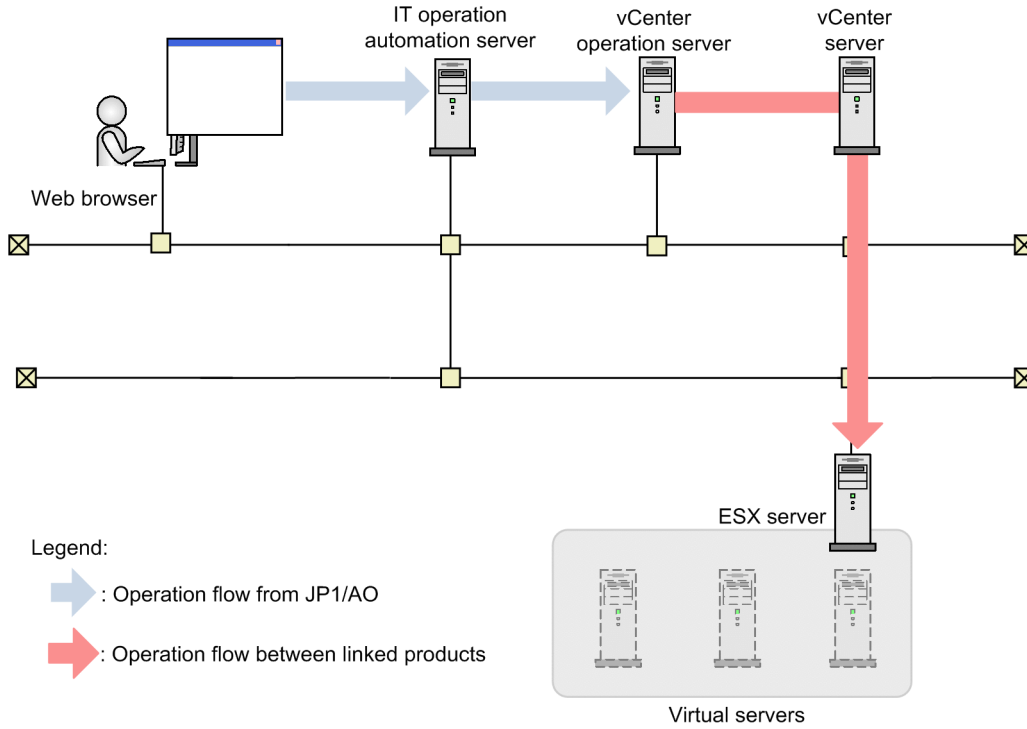
3.3.3 System configuration of Add Virtual Disk to Virtual Machine

Figure 3–5: System configuration of Add Virtual Disk to Virtual Machine
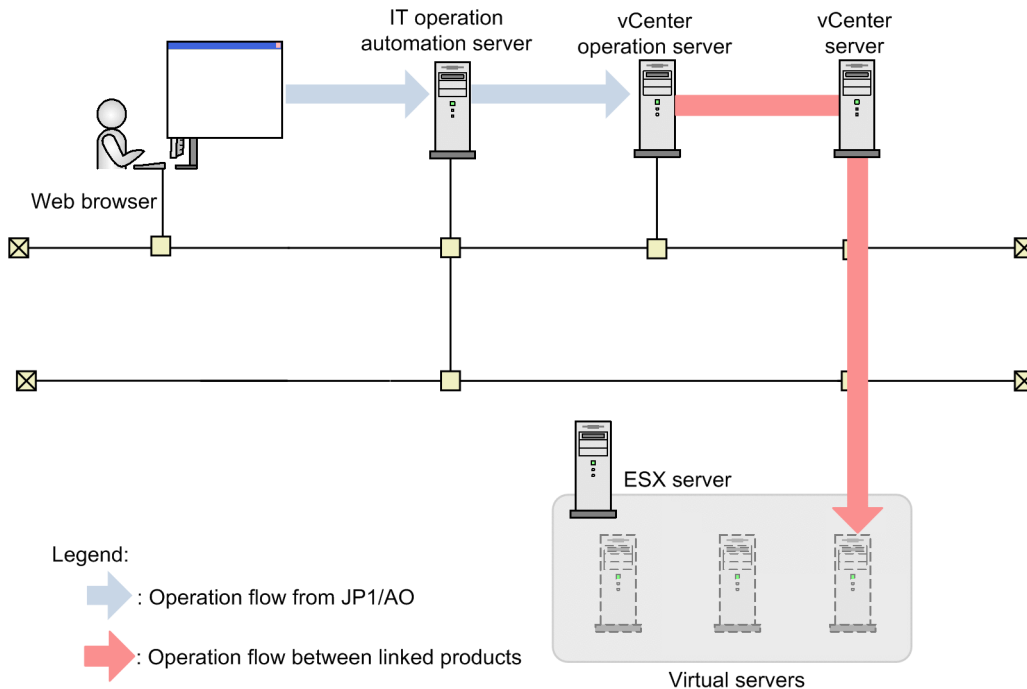
3.3.4 System configuration of Delete Virtual Machine

Figure 3–6: System configuration of Delete Virtual Machine
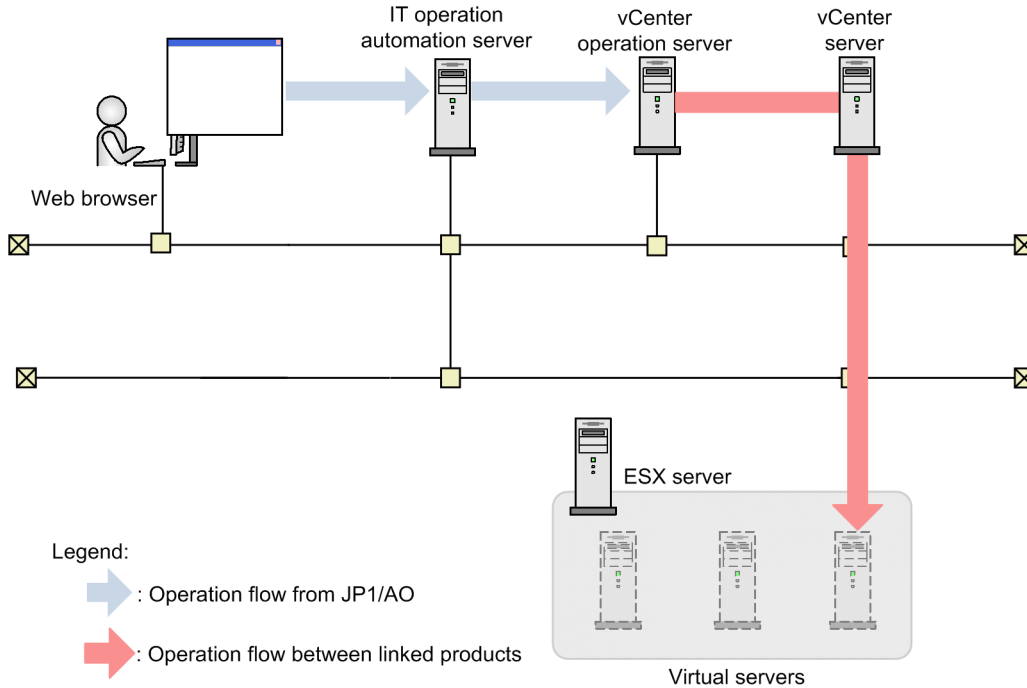
3.3.5 System configuration of Remove Virtual Disk from Virtual Machine

Figure 3–7: System configuration of Remove Virtual Disk from Virtual Machine
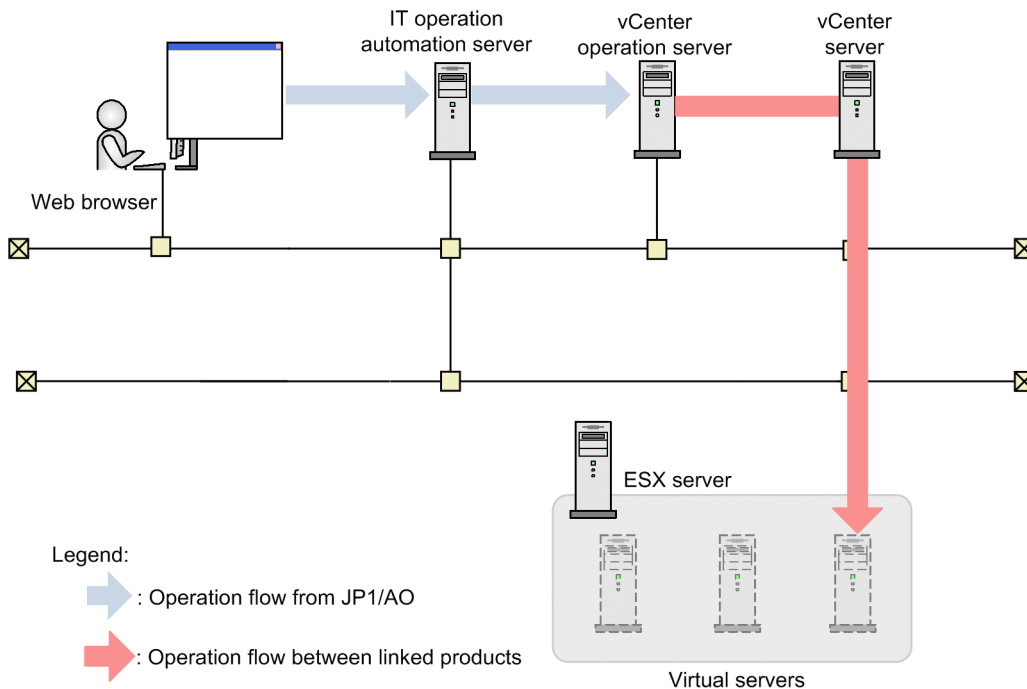
3.3.6 System configuration of Delete Datastore on VMware vSphere

Figure 3–8: System configuration of Delete Datastore on VMware vSphere

Legend:

→ : Operation flow from JP1/AO

→ : Operation flow between linked products
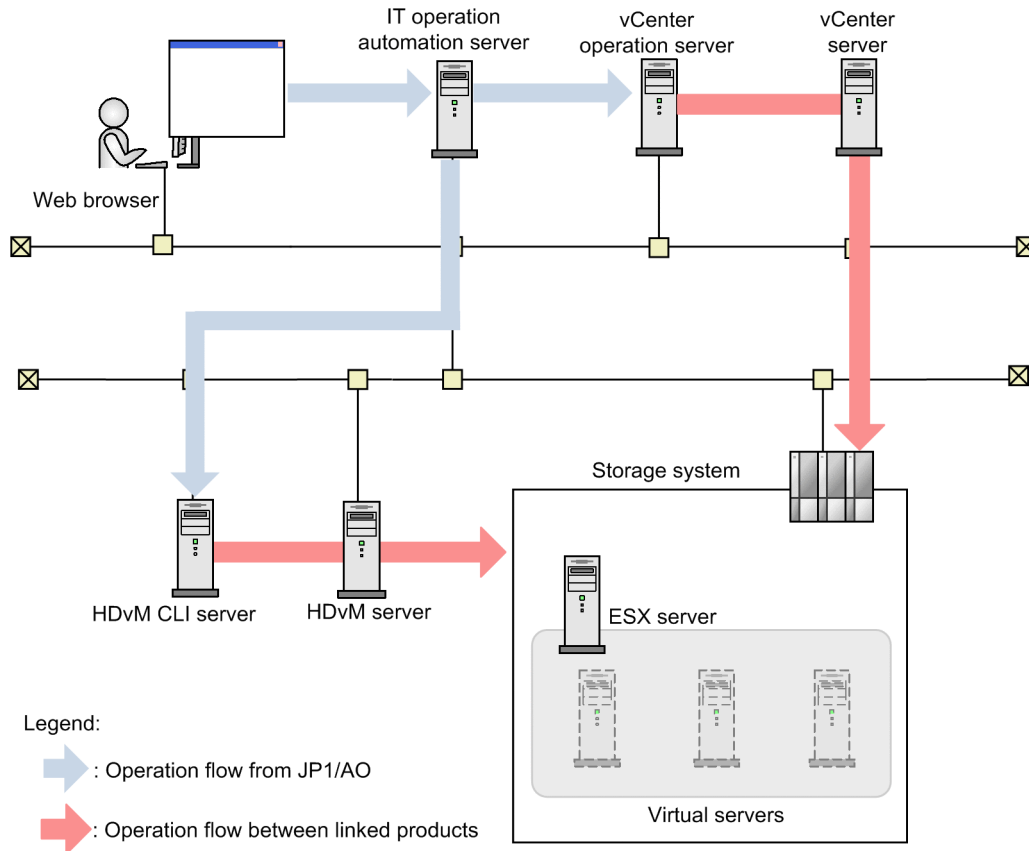
3.3.7 System configuration of Modify Virtual Machine Configuration

Figure 3–9: System configuration of Modify Virtual Machine Configuration
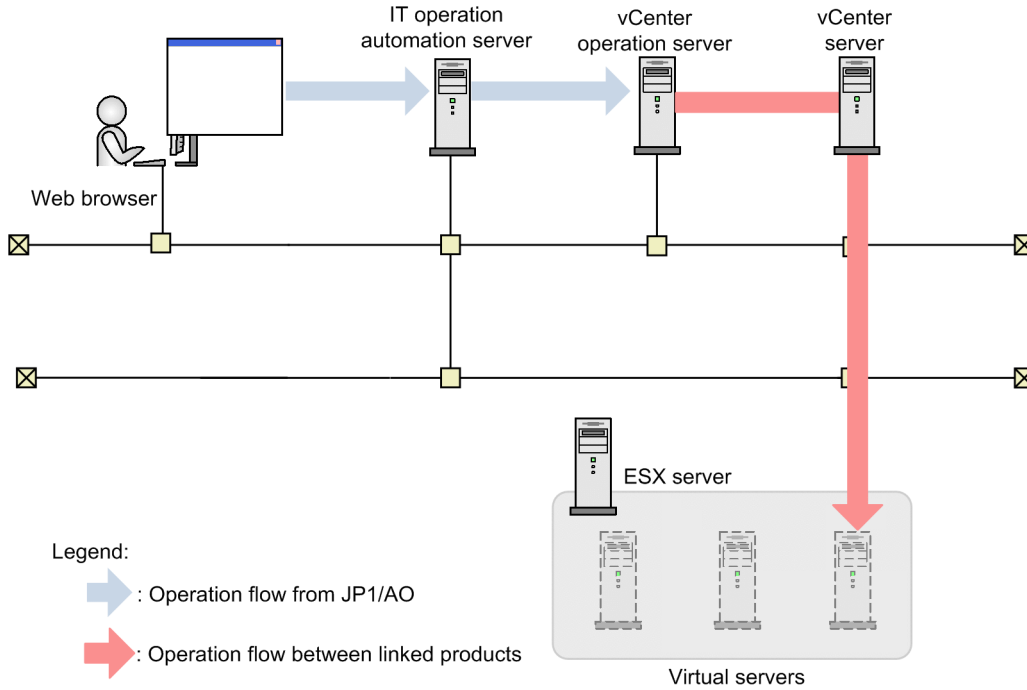
3.3.8 System configuration of Create Snapshot of Virtual Machine

Figure 3–10: System configuration of Create Snapshot of Virtual Machine
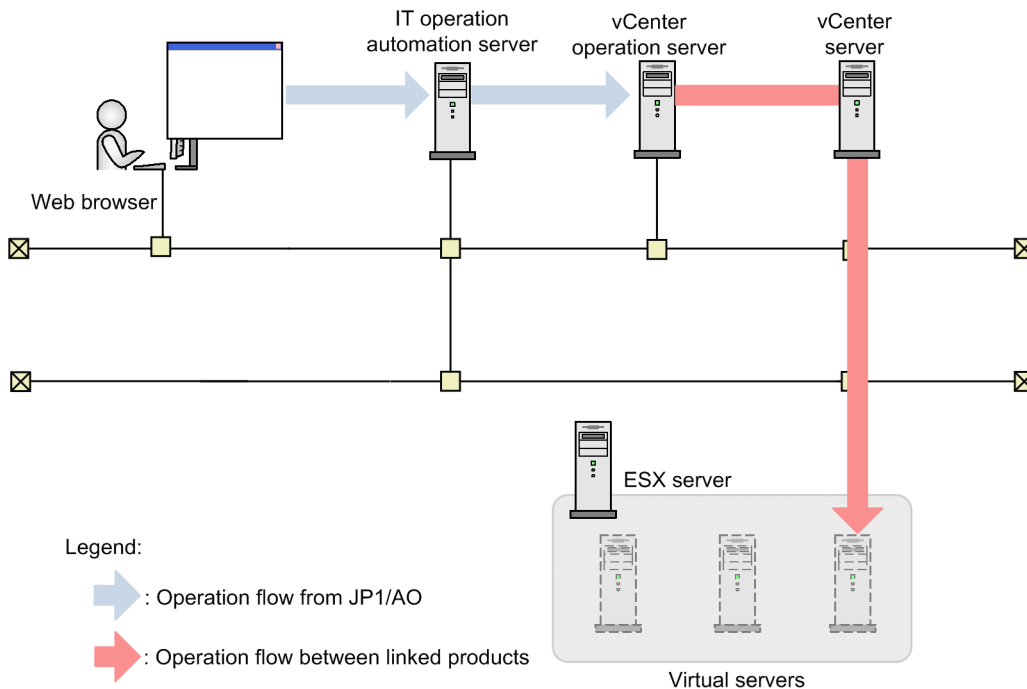
3.3.9 System configuration of Start Virtual Machine

Figure 3–11: System configuration of Start Virtual Machine
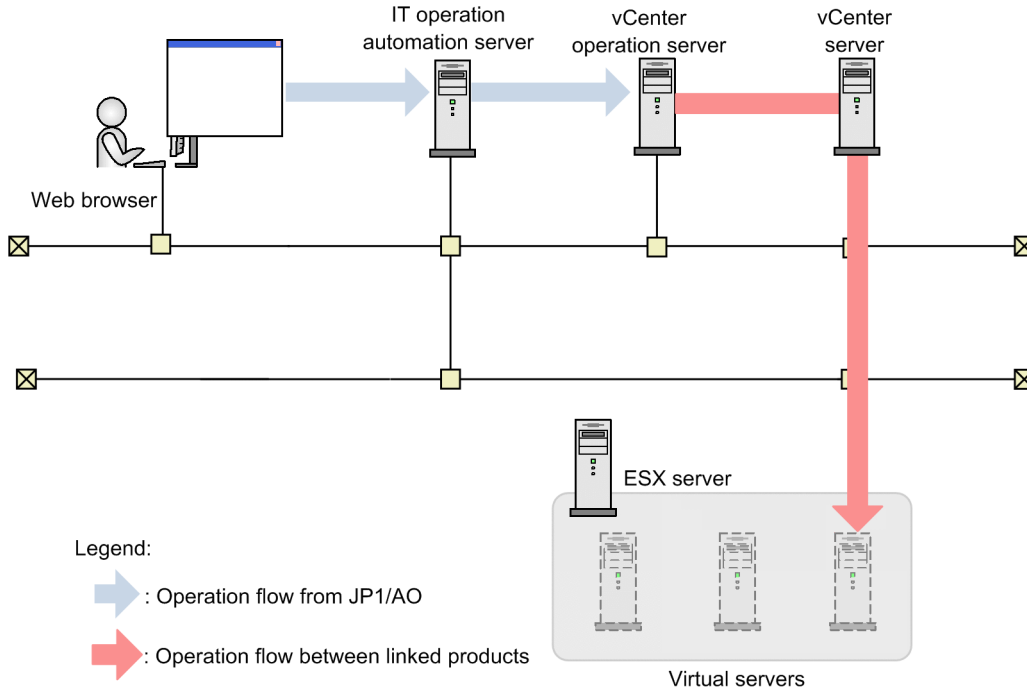
3.3.10 System configuration of Stop Virtual Machine

Figure 3–12: System configuration of Stop Virtual Machine
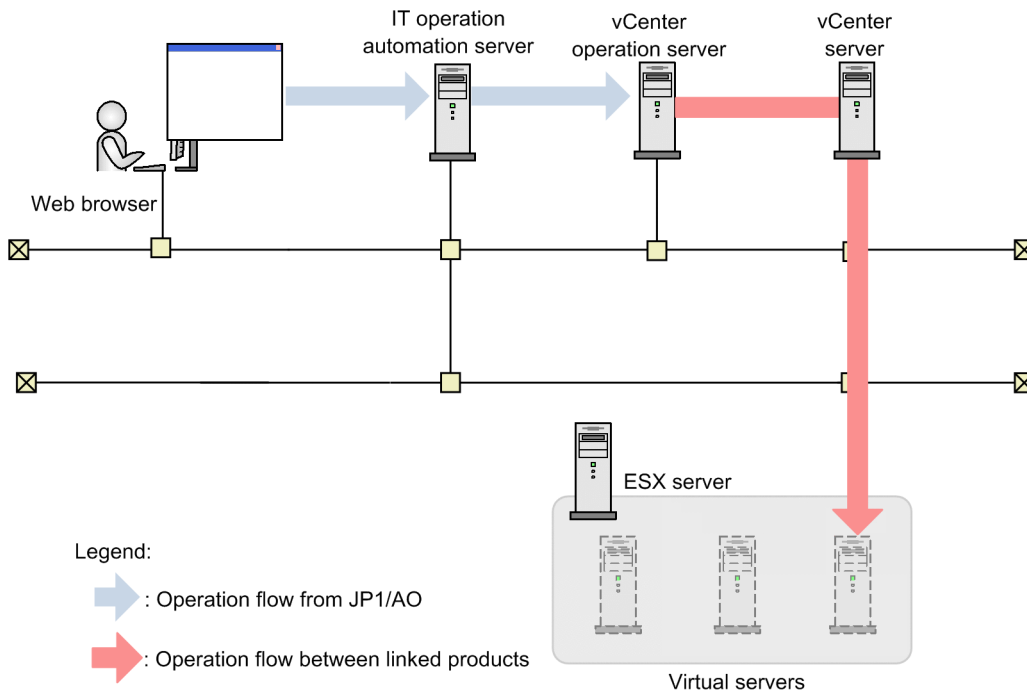
3.3.11 System configuration of Restart Virtual Machine

Figure 3–13: System configuration of Restart Virtual Machine
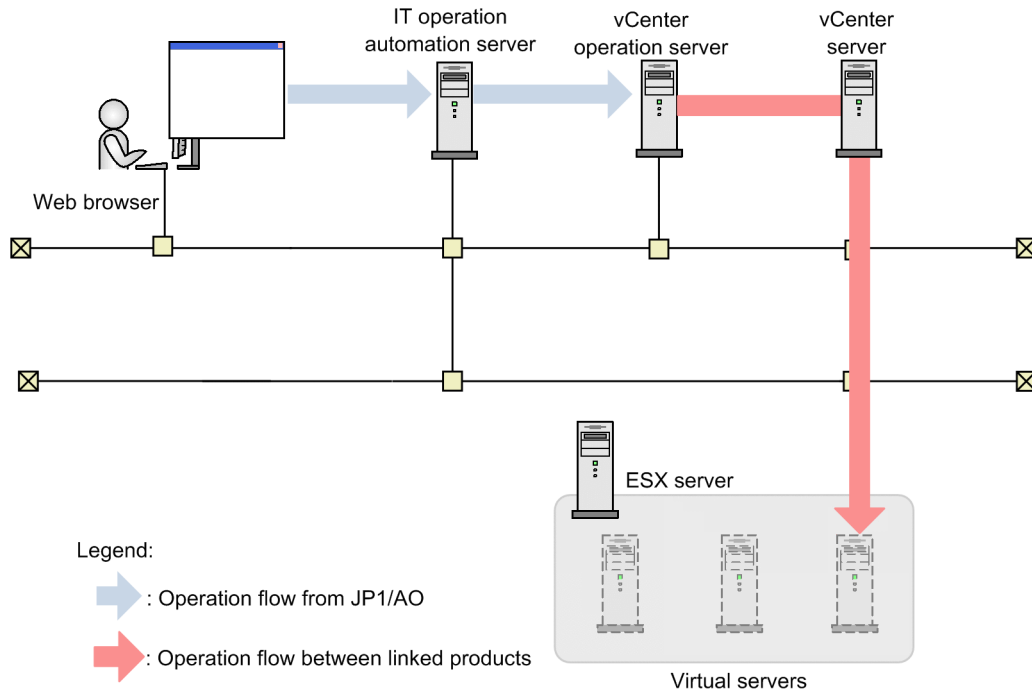
3.3.12 System configuration of Migrate Virtual Machine

Figure 3–14: System configuration of Migrate Virtual Machine
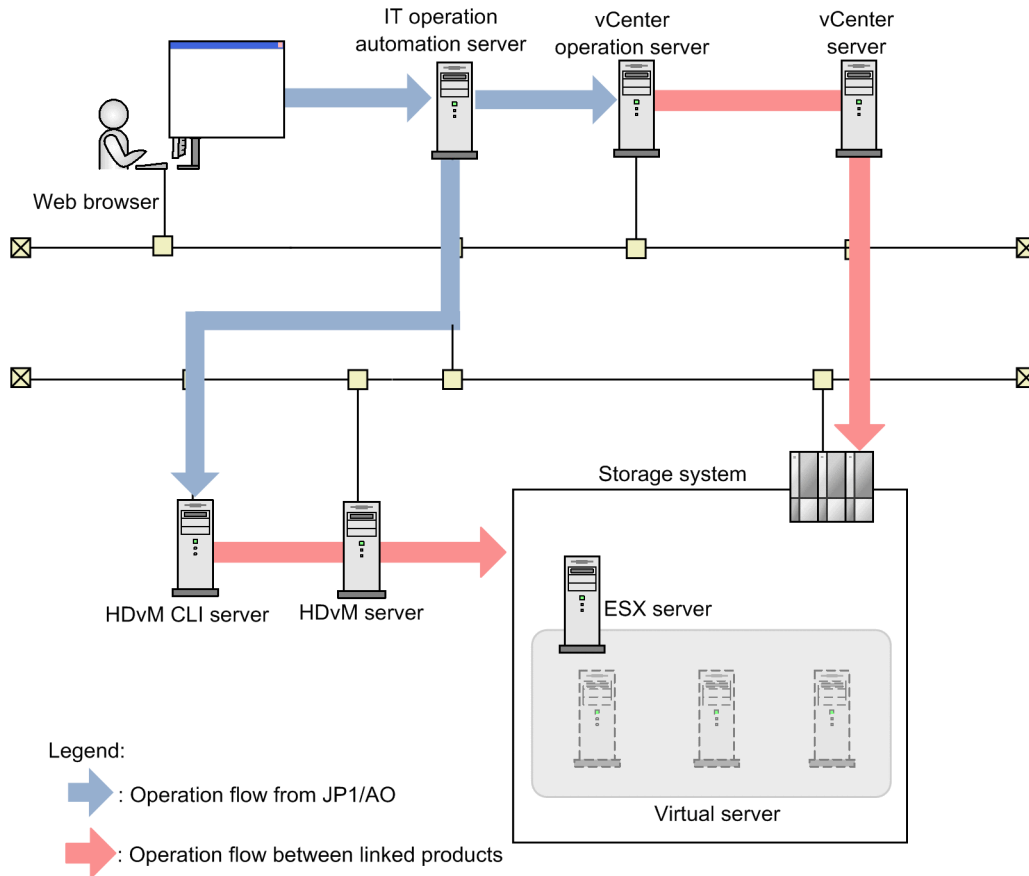
3.3.13 System configuration of Pre-check for Datastore Creation on VMware vSphere

Figure 3–15: System configuration of Pre-check for Datastore Creation on VMware vSphere
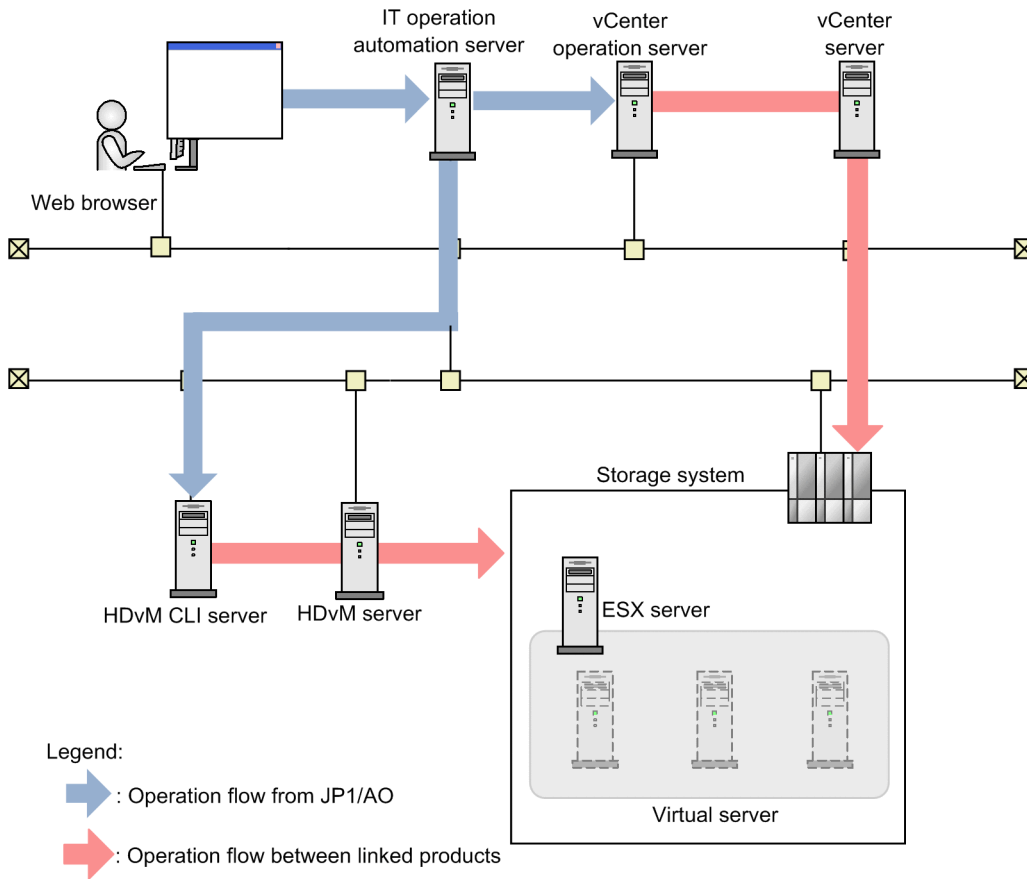
3.3.14 System configuration of Pre-check for OS Deployment on Virtual Machine

Figure 3–16: System configuration of Pre-check for OS Deployment on Virtual Machine
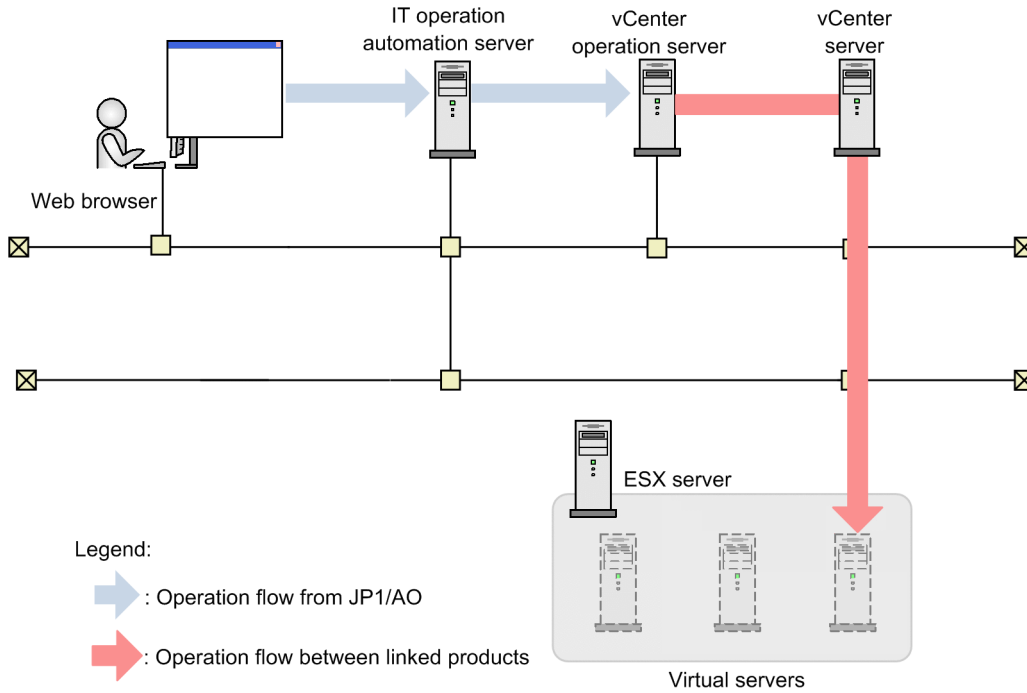
3.3.15 System configuration of Get List of Virtual Machines from VMware vSphere

Figure 3–17: System configuration of Get List of Virtual Machines from VMware vSphere
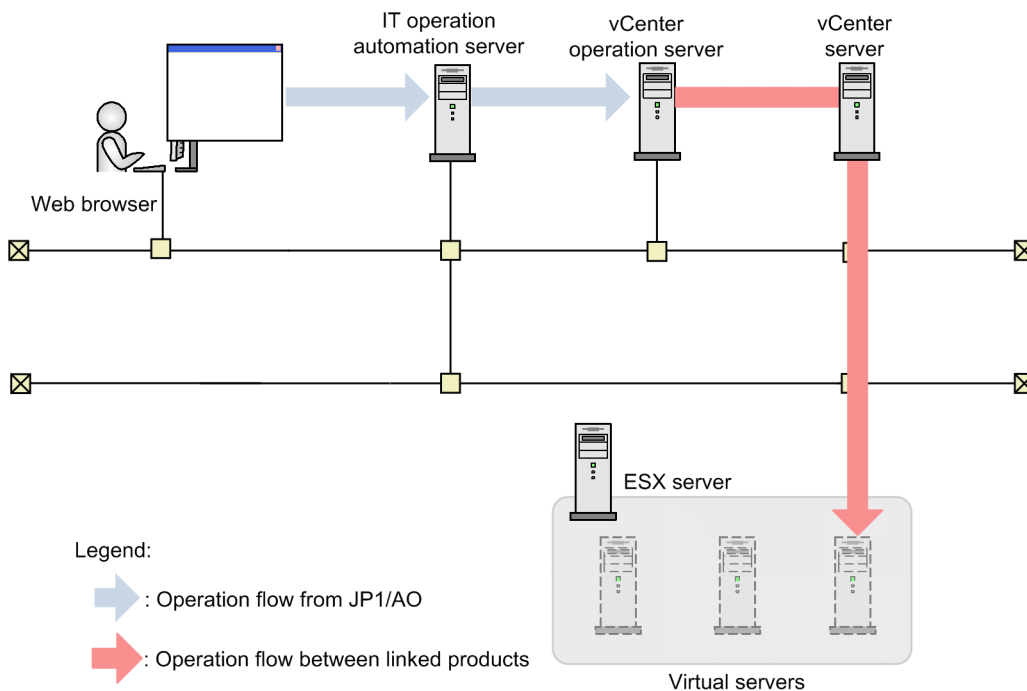
3.3.16 System configuration of Get List of Storage Systems from Device Manager

Figure 3–18: System configuration of Get List of Storage Systems from Device Manager

Legend:

→ : Operation flow from JP1/AO

→ : Operation flow between linked products
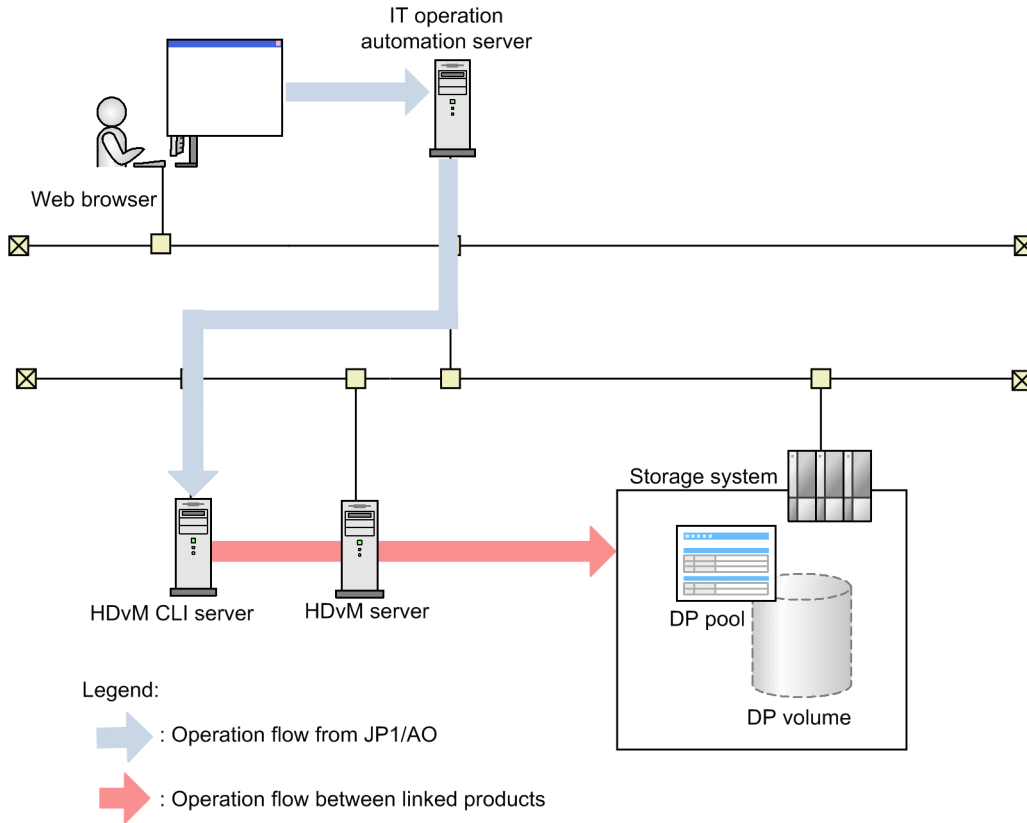
3.3.17 System configuration of Clone Virtual Machine

Figure 3–19: System configuration of Clone Virtual Machine
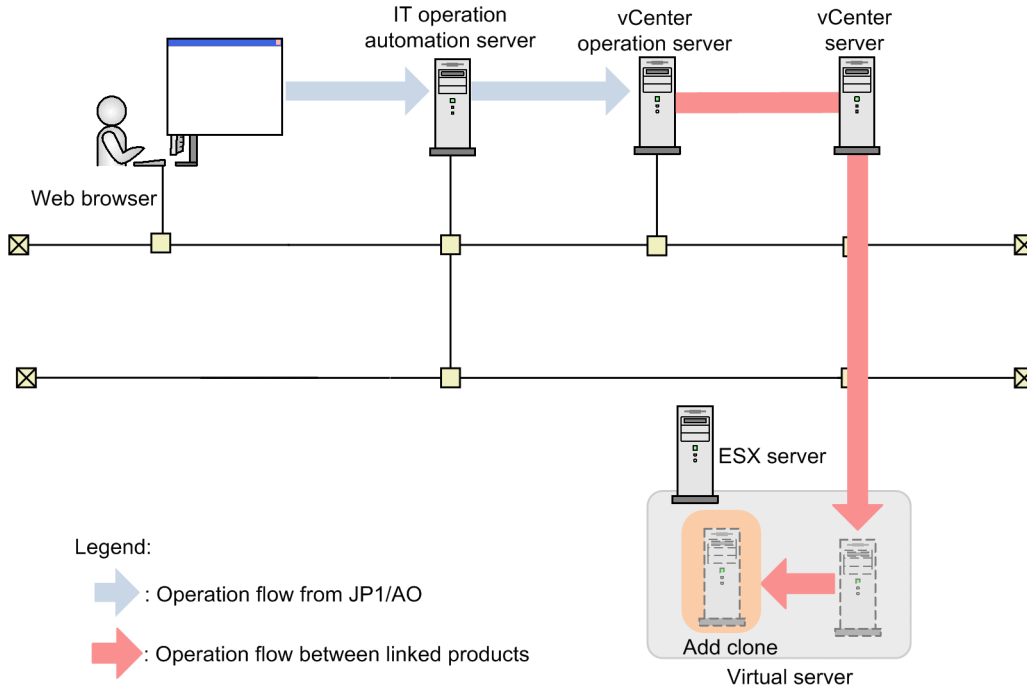
3.3.18 System configuration of Delete Cloned Virtual Machine

Figure 3–20: System configuration of Delete Cloned Virtual Machine
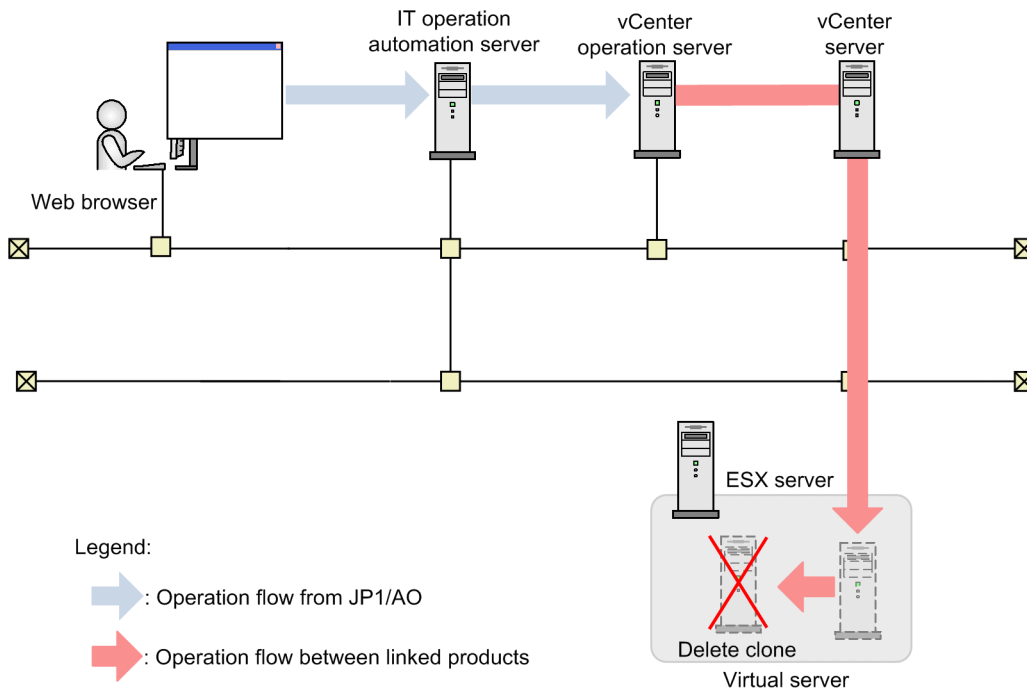
3.4 Service templates for AWS (configuration)

3.4.1 Delete a virtual server

Function

This service template can delete instances from an Amazon EC2 environment. In addition, the template can delete all network interfaces connected to the instance.

The required server is shown as follows:

- AWS control server (execution-target server)

This is a server on which AWS Tools for Windows PowerShell (hereinafter referred to as "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

General processing is as follows:

(1) Deletes an instance that was set to the instance ID (the aws.instanceId property)

(2) Deletes all network interfaces connected to the instance.

Notes on property settings are described as follows:

(1) To delete an instance, wait for seconds specified in the aws.checkInstanceDeletionInterval property that indicates an interval for checking the completion of deleting the instance, and then repeat the number of times specified in the aws.checkInstanceDeletionCount property that indicates how many times the completion of deleting the instance is checked. If necessary, modify the property values to adjust your system environment.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server for the service templates, supported OSs for the prerequisite products on the execution-target server for the service templates, and prerequisite products on the execution-target system for the service templates, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products on the execution-target server for the service template:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server for the service template:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system for the service template:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the prerequisite products in the execution-target system for the service template:

(1) Conditions for this product

- To execute this service, the execution-target server must have been set as the agentless connection destination. If you use a local server as the execution-target server, you need to specify a loopback address that can be resolved by "localhost".

Cautions

(1) An instance will be deleted even if a user logs in to the instance.

(2) The deleted instance will be displayed on the console for a certain duration, and its status can be obtained. However, the instance can no longer be started.

(3) If deleting an instance abnormally ends with the return value of 1 (/awsDeleteVM step), network interfaces that could not be deleted will remain.

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following actions:

- Deleting instances and obtaining instance statuses

- Deleting network interfaces and obtaining interface statuses.

Version

02.00.01

Tags

Delete VM,AWS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the AWS information.	Y
Instance information	Specify the information about the instance to be deleted.	Y

Property group	Description	Initial display
Execute option	This property checks the instance status when deleting instances. If necessary, modify the property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
aws.targetHost	Host name of the AWS control server	Specify the host name or IP address of the AWS control server. IPv6 address is not supported.	Input	Disabled	R	Virtual system environment information
aws.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	Input	Disabled	R	Virtual system environment information
aws.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	Input	Disabled	R	Virtual system environment information
aws.region	Region	Specify an AWS region that is a connection destination.	Input	Disabled	R	Virtual system environment information
aws.checkInstanceDeletionCount	Instance status (deleted) check count	Specify the number of times to check for instance deletion. The maximum waiting time is determined by combining this count and the instance status (deleted) check interval. This property is also used to check the completion of deleting network interfaces.	Input	Disabled	R	Execute option
aws.checkInstanceDeletionInterval	Instance status (deleted) check interval	Specifies an interval in seconds to check if an instance is deleted. This property is also used to check the completion of deleting network interfaces.	Input	Disabled	R	Execute option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
aws.instanceId	Instance ID	Specify the ID of the instance.	Input	Disabled	R	Instance information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
aws.targetHost	No more than 256 single-byte alphanumeric characters, periods (.), or hyphens (-).
aws.accessKeyId	No more than 64 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).
aws.secretAccessKey	No more than 128 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).
aws.region	No more than 32 single-byte alphanumeric characters or hyphens (-).
aws.checkInstanceDeletionCount	An integer from 1 to 2,147,483,647.
aws.checkInstanceDeletionInterval	An integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
aws.instanceId	No more than 32 single-byte alphanumeric characters or hyphens (-).

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	awsDeleteVM	awsDeleteVM	Deletes an instance from an Amazon EC2 environment.	After removing the cause of the error, run the service again. If an error with the return value of 1 occurs, the service does not need to be run again. However, the remaining network interfaces might need to be deleted as required.

3.4.2 Add a virtual server (deploy)

Function

This service template can start and stop instances in an Amazon EC2 environment.

The required server is shown below:

- AWS control server (execution-target server)

This is a server on which AWS Tools for Windows PowerShell (hereinafter referred to as "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

General processing is as follows:

(1) Starting an instance

Specify the AMI ID (the aws.amiId property) and the instance type (the aws.instanceType property). As options, a key pair name (the aws.keyPairName property), the security group ID (the aws.securityGroupId property), the subnet ID for the first one (the aws.subnetId1 property), and the private IP address for the first one (the aws.privateIpAddress1 property) can be set.

(2) If you specify a subnet ID for the second one (the aws.subnetId2 property), a network interface is added to the started instance, and the second private IP address is assigned.

The second private IP address is automatically assigned within the range of the subnet that was set to the subnet ID for the second one. However, if you specify the private IP address for the second one (the aws.privateIpAddress2 property), the specified value is assigned.

(3) The instance is stopped if you set "yes" to the aws.stopInstanceEnabled property that defines whether to stop the instance.

Notes on property settings are described as follows:

(1) If you do not specify a key pair name (the aws.keyPairName property), no key pair is set to the instance.

(2) If you do not specify a security group ID (the aws.securityGroupId property), the default security ID is set.

(3) If you do not specify a subnet ID for the first one (the aws.subnetId1 property), the default subnet ID is set.

(4) If you do not specify a private IP address for the first one (the aws.privateIpAddress1 property), an IP address is automatically assigned within the range of the subnet that was set to the subnet ID for the first one.

(5) If you specify a subnet ID for the second one (the aws.subnetId2 property) but do not specify a private IP address for the second one (the aws.privateIpAddress2 property), an IP address is automatically assigned within the range of the subnet that was set to the subnet ID for the second one.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server for the service templates, supported OSs for the prerequisite products on the execution-target server for the service templates, and prerequisite products on the execution-target system for the service templates, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products on the execution-target server for the service template:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server for the service template:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system for the service template:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the prerequisite products in the execution-target system for the service template:

(1) Conditions for setting an Amazon EC2 environment

- The AMI used for starting instances must have been created.

(2) Conditions for this product

- To execute this service, the execution-target server must have been set as the agentless connection destination. If you use a local server as the execution-target server, you need to specify a loopback address that can be resolved by "localhost".

Cautions

(1) IP addresses in use or out of range cannot be used for the IP addresses below. If you make use of these, the task will abnormally end.

- Private IP address for the first one (the aws.privateIpAddress1 property)

- Private IP address for the second one (the aws.privateIpAddress2 property)

(2) If starting an instance abnormally ends with the return value of 1 (/awsCreateVM step), the started instance will remain. If starting an instance abnormally ends with the return value of 2, the created network interface will remain in addition to the started instance.

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following actions:

- Starting and stopping instances, along with obtaining instance statuses

- Creating and connecting network interfaces, along with obtaining interface statuses

Version

02.00.00

Tags

Add VM,AWS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the AWS information.	Y
Instance information	Specify the information about the instance to be started.	Y
Execute option	This property checks the instance status when starting and stopping instances. If necessary, modify the property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
aws.targetHost	Host name of the AWS control server	Specify the host name or IP address of the AWS control server. IPv6 address is not supported.	Input	Disabled	R	Virtual system environment information
aws.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	Input	Disabled	R	Virtual system environment information
aws.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	Input	Disabled	R	Virtual system environment information
aws.region	Region	Specify an AWS region that is a connection destination.	Input	Disabled	R	Virtual system environment information
aws.checkInstanceEnabledCount	Instance status (started) check count	Specify the number of times to check for instance start. The maximum waiting time is determined by combining this count and the instance status (started) check interval. This property is also used to check the completion of adding network interfaces.	Input	Disabled	R	Execute option
aws.checkInstanceEnabledInterval	Instance status (started) check interval	Specifies an interval in seconds to check if an instance is started. This property is also used to check the completion of adding network interfaces.	Input	Disabled	R	Execute option
aws.stopInstanceEnabled	Whether to stop the instance	Specify whether to stop the running instance. If yes is selected, the running instance stops.	Input	Disabled	R	Instance information
aws.checkInstanceDisabledCount	Instance status (stopped) check count	Specify the number of times to check for an instance stop. The maximum waiting time is determined from this count and the instance status (stopped) check interval. This property	Input	Disabled	O	Execute option

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
aws.checkInstanceDisabl edCount	Instance status (stopped) check count	is mandatory if the property for stopping an instance is set to "yes".	Input	Disab led	O	Execute option
aws.checkInstanceDisabl edInterval	Instance status (stopped) check interval	Specifies an interval in seconds to check if an instance is stopped. If you specify "yes" to the property for stopping an instance, you must specify this property.	Input	Disab led	O	Execute option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
aws.amiId	AMI ID	Specify an AMI ID used for instance start.	Input	Disab led	R	Instance information
aws.instanceType	Instance type	Specify an instance type used for instance start.	Input	Disab led	R	Instance information
aws.keyPairName	Key pair name	Specify a key pair name used for the instance. If this property is omitted, no key pair name is set for the instance.	Input	Disab led	O	Instance information
aws.securityGroupId	Security group ID	Specify the ID of the security group to which the instance is assigned. If this property is omitted, the instance is assigned to a default security group. To specify multiple security groups, separate their IDs by using a comma.	Input	Disab led	O	Instance information
aws.subnetId1	Subnet ID 1	Specify the ID of the subnet that indicates the range of the first private IP address assigned to the instance. If this property is omitted, a default subnet is assigned.	Input	Disab led	O	Instance information
aws.privateIpAddress1	Private IP address 1	Specify the first private IP address assigned to the instance. IPv6 address is not supported. If this property is omitted, an IP address within the range determined by the subnet corresponding to the specified subnet ID 1 is automatically assigned.	Input	Disab led	O	Instance information
aws.subnetId2	Subnet ID 2	Specify the ID of the subnet that indicates the range of the second private IP address assigned to the instance. This property is required when the second IP address is set. If this property is omitted, the second IP address is not set.	Input	Disab led	O	Instance information

Property key	Property name	Description	I/O type	Shared	Required	Property group
aws.privateIpAddress2	Private IP address 2	Specify the second private IP address assigned to the instance (IPv4 only). This property takes effect when subnet ID 2 is specified. By default, an IP address within the range determined by the specified subnet ID 2 is assigned.	Input	Disabled	O	Instance information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
aws.instanceIdOutput	Instance ID	Stores the ID of the instance.	Output	Disabled
aws.instanceIPaddress	Instance IP address	Stores the instance IP address. If multiple IP addresses are set for the instance, the IP addresses are output in comma-separated format.	Output	Disabled
aws.networkInterfaceId	Network interface ID	If subnet ID 2 is specified, the ID of the network interface added to the instance is stored.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
aws.targetHost	No more than 256 single-byte alphanumeric characters, periods (.), or hyphens (-).
aws.accessKeyId	No more than 64 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).
aws.secretAccessKey	No more than 128 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).
aws.region	No more than 32 single-byte alphanumeric characters or hyphens (-).
aws.checkInstanceEnabledCount	An integer from 1 to 2,147,483,647.
aws.checkInstanceEnabledInterval	An integer from 1 to 60.
aws.stopInstanceEnabled	Select one of the following values: yes,no
aws.checkInstanceDisabledCount	An integer from 1 to 2,147,483,647.
aws.checkInstanceDisabledInterval	An integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
aws.amiId	No more than 32 single-byte alphanumeric characters or hyphens (-).
aws.instanceType	No more than 32 single-byte alphanumeric characters or periods (.).
aws.keyPairName	No more than 255 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).

Property key	Characters that can be input
aws.securityGroupId	No more than 256 single-byte alphanumeric characters, hyphens (-), or commas (,).
aws.subnetId1	No more than 32 single-byte alphanumeric characters or hyphens (-).
aws.privateIpAddress1	No more than 15 single-byte numeric characters or periods (.).
aws.subnetId2	No more than 32 single-byte alphanumeric characters or hyphens (-).
aws.privateIpAddress2	No more than 15 single-byte numeric characters or periods (.).

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	awsCreateVM	awsCreateVM	Creates a virtual server in an Amazon EC2 environment. (In Amazon EC2, this is referred to as "starting instances".)	After removing the cause of the error, run the service again.
2	checkPropertyValue	checkPropertyValue	Assesses whether to stop the started instance.	--
3	awsShutdownVM	awsShutdownVM	Shuts down a virtual server an the Amazon EC2 environment. (In Amazon EC2, this is referred to as "stopping instances".)	After removing the cause of the error, execute it from this step onward.

3.5 Service templates for AWS (operation)

3.5.1 Start virtual servers

Function

This service template can start instances in an Amazon EC2 environment.

The required server is shown as follows:

- AWS control server (execution-target server)

This is a server on which AWS Tools for Windows PowerShell (hereinafter referred to as "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

General processing is as follows:

(1) Obtain the instance status.

(2) Start the instance if the instance is stopped. If the instance is already running, skip the processing for starting the instance.

Perform the above processing in parallel with the instances specified to the instance IDs (the aws.foreachInstanceId property).

Notes on property settings are described as follows:

(1) To start an instance, wait for the seconds specified in the aws.checkInstanceEnabledInterval property that indicates an interval for checking the completion of starting an instance, and then repeat the number of times specified in the aws.checkInstanceEnabledCount property that indicates how many checks are performed for the completion of starting the instance. If necessary, modify the property values to adjust your system environment.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server for the service templates, supported OSs for the prerequisite products on the execution-target server for the service templates, and prerequisite products on the execution-target system for the service templates, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products on the execution-target server for the service template:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server for the service template:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system for the service template:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the prerequisite products in the execution-target system for the service template:

(1) Conditions for this product

- To execute this service, the execution-target server must have been set as the agentless connection destination. If you use a local server as the execution-target server, you need to specify a loopback address that can be resolved by "localhost".

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following actions:

- Starting instances and obtaining instance statuses

Version

02.00.00

Tags

Control VM,AWS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the AWS information.	Y
Instance information	Specify the information about the instance to be started.	Y
Execute option	This property checks the instance status when starting instances. If necessary, modify the property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

 R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
aws.targetHost	Host name of the AWS control server	Specify the host name or IP address of the AWS control server. IPv6 address is not supported.	Input	Disabled	R	Virtual system environment information
aws.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	Input	Disabled	R	Virtual system environment information
aws.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	Input	Disabled	R	Virtual system environment information
aws.region	Region	Specify an AWS region that is a connection destination.	Input	Disabled	R	Virtual system environment information
aws.checkInstanceEnabledCount	Instance status (started) check count	Specify the number of times to check for instance start. The maximum waiting time is determined by combining this count and the instance status (started) check interval.	Input	Disabled	R	Execute option
aws.checkInstanceEnabledInterval	Instance status (started) check interval	Specify the interval (in seconds) to check for instance start.	Input	Disabled	R	Execute option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
aws.foreachInstanceId	Instance ID (multiple selection allowed)	Specify an instance ID or instance IDs. To specify multiple IDs, separate them by using a comma. Up to 99 IDs can be specified.	Input	Disabled	R	Instance information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
aws.targetHost	No more than 256 single-byte alphanumeric characters, periods (.), or hyphens (-).
aws.accessKeyId	No more than 64 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).

Property key	Characters that can be input
aws.secretAccessKey	No more than 128 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).
aws.region	No more than 32 single-byte alphanumeric characters or hyphens (-).
aws.checkInstanceEnabledCount	An integer from 1 to 2,147,483,647.
aws.checkInstanceEnabledInterval	An integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
aws.foreachInstanceId	No more than 1,024 single-byte alphanumeric characters, hyphens (-), or commas (,).

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOnVMAws	powerOnVMAws	Repeats start processing as many times as the number of specified instances.	After removing the cause of the error, run the service again.

3.5.2 Start virtual servers (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	awsGetVMState	awsGetVMState	Obtains the status of an instance in an Amazon EC2 environment.	After removing the cause of the error, run the service again.
2	JudgeValuePlugin	JudgeValuePlug-in	Assess if the status of the instance is "running".	--
3	awsPowerOnVM	awsPowerOnVM	Starts an instance in an Amazon EC2 environment.	After removing the cause of the error, run the service again.

3.5.3 Stop virtual servers

Function

This service template can stop instances in an Amazon EC2 environment.

The required server is shown as follows:

- AWS control server (execution-target server)

This is a server on which AWS Tools for Windows PowerShell (hereinafter referred to as "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

General processing is as follows:

(1) Obtain the instance status.

(2) Stop the instance if the instance is running. If the instance is already stopped, skip processing for stopping the instance.

Perform the above processing in parallel with the instances specified to the instance IDs (the aws.foreachInstanceId property).

Notes on property settings are described as follows:

(1) To stop an instance, wait for the seconds specified in the aws.checkInstanceDisabledInterval property that indicates the interval for checking the completion of stopping an instance, and then repeat the number of times specified in the aws.checkInstanceDisabledCount property that indicates how many checks are performed for the completion of stopping the instance. If necessary, modify the property values to adjust your system environment.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server for the service templates, supported OSs for the prerequisite products on the execution-target server for the service templates, and prerequisite products on the execution-target system for the service templates, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products on the execution-target server for the service template:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server for the service template:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system for the service template:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the prerequisite products in the execution-target system for the service template:

(1) Conditions for this product

- To execute this service, the execution-target server must have been set as the agentless connection destination. If you use a local server as the execution-target server, you need to specify a loopback address that can be resolved by "localhost".

Cautions

(1) If you execute this service, data being edited by the instance will not be saved.

(2) An instance will be stopped even if a user logs in to the instance.

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following actions:

- Stopping instances and obtaining instance statuses

Version

02.00.00

Tags

Control VM,AWS

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the AWS information.	Y
Instance information	Specify the information about the instance to be stopped.	Y
Execute option	This property checks the instance status when stopping instances. If necessary, modify the property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
aws.targetHost	Host name of the AWS control server	Specify the host name or IP address of the AWS	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
aws.targetHost	Host name of the AWS control server	control server. IPv6 address is not supported.	Input	Disab led	R	Virtual system environment information
aws.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	Input	Disab led	R	Virtual system environment information
aws.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	Input	Disab led	R	Virtual system environment information
aws.region	Region	Specify an AWS region that is a connection destination.	Input	Disab led	R	Virtual system environment information
aws.checkInstanceDisabl edCount	Instance status (stopped) check count	Specify the number of times to check for instance stop. The maximum waiting time is determined by combining this count and the instance status (stopped) check interval.	Input	Disab led	R	Execute option
aws.checkInstanceDisabl edInterval	Instance status (stopped) check interval	Specify the interval (in seconds) to check for instance stop.	Input	Disab led	R	Execute option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
aws.foreachInstanceId	Instance ID (multiple selection allowed)	Specify an instance ID or instance IDs. To specify multiple IDs, separate them by using a comma. Up to 99 IDs can be specified.	Input	Disab led	R	Instance information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
aws.targetHost	No more than 256 single-byte alphanumeric characters, periods (.), or hyphens (-).
aws.accessKeyId	No more than 64 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).
aws.secretAccessKey	No more than 128 single-byte alphanumeric characters or single-byte symbols (excluding the following symbols: <, >, |, ", ', ;, and &).
aws.region	No more than 32 single-byte alphanumeric characters or hyphens (-).
aws.checkInstanceDisabledCount	An integer from 1 to 2,147,483,647.

Property key	Characters that can be input
aws.checkInstanceDisabledInterval	An integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
aws.foreachInstanceId	No more than 1,024 single-byte alphanumeric characters, hyphens (-), or commas (,).

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOffVMAws	powerOffVMAws	Repeats stop processing as many times as the number of specified instances.	After removing the cause of the error, run the service again.

3.5.4 Stop virtual servers (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	awsGetVMState	awsGetVMState	Obtains the status of an instance in an Amazon EC2 environment.	After removing the cause of the error, run the service again.
2	JudgeValuePlugin	JudgeValuePlug-in	Assesses if the status of the instance is "stopped".	--
3	awsShutdownVM	awsShutdownVM	Shuts down a virtual server an the Amazon EC2 environment. (In Amazon EC2, this is referred to as "stopping instances".)	After removing the cause of the error, run the service again.

3.6 Service templates for Hyper-V 2008 (configuration)

3.6.1 Delete a virtual server

Function

This service template deletes a virtual server in the Hyper-V environment.

The assumptions about the server in this service template are shown below.

- Hyper-V server

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

An overview of the processing is as follows.

(1) The state of the virtual server is obtained.

(2) A check is performed that the virtual server is in the stopping complete state.

If the virtual server is in the startup complete or stopping complete state, the process is continued, but in other states (startup in progress, stopping in progress, paused, or acquiring snapshot), the task is abnormally terminated without performing any operations on the virtual server.

If the virtual server state is not startup complete, the User-Response Wait Plugin is executed to check whether shutdown has been performed.

If "Shutdown" was selected in the user response wait GUI, the virtual server is shut down.

If "Cancel" was selected, or a timeout occurred in the response wait, the task is abnormally terminated without performing any operation on the virtual server.

When the virtual server OS is shut down, a wait is performed for the number of seconds specified in the hyperv.checkVmStateDisabledInterval property, and the operation for checking the virtual server state is repeated for the count specified in the hyperv.checkVmStateDisabledCount property. Adjust the values of each property based on your usage environment.

(3) The virtual server is deleted.

The virtual server is deleted from the Hyper-V server. When the virtual server is deleted, the snapshot is also deleted.

If "yes" was selected in the hyperv.vHardDiskDeletePermanently property, all virtual disk files (adjustable size/fixed size/differential) assigned to the selected virtual server will be deleted. Disks and files assigned to the pass-through (physical) disks, floppy disks, and CD/DVDs and other sources are not deleted. If a virtual disk (differential) is assigned, the virtual disk used as the parent (base) of the virtual disk (differential) is not deleted.

If deleting of the virtual disk files on the virtual server failed, the file deletion process is aborted, and the task is abnormally terminated.

(4) A list of the virtual disk files of the virtual server is output.

If the hyperv.vhdListOutputFileNameRemote property and hyperv.vhdListOutputFileNameLocal property were specified, a list of paths of the virtual disk files assigned to the virtual server that will be deleted from the Hyper-V server is output in CSV format, the file is transferred to a local disk, and the remote file is deleted. If a virtual disk (differential) is assigned, the virtual disk used as the parent of the virtual disk (differential) is not included.

If the hyperv.vhdListOutputFileNameRemote property only is specified, a list of paths of the virtual disk files is output in CSV format, but the file is not transferred to a local disk.

The items in the output CSV file are shown below.

The items are separated by commas in the output file.

(a) Existence of virtual disk files (Header name: Existence)

This outputs whether the assigned virtual disk files exist when executing deletion of a virtual server. The values of the items are shown below.

Found: Existence of file was confirmed.

NotFound: A file was set, but it could not be found.

(b) File deletion result (Header name: DeleteResult)

If "yes" was selected in the hyperv.vHardDiskDeletePermanently property, the deletion execution result for the virtual disk files is output. If "no" was selected, "Skipped" is output. The values of the items are shown below.

Completed: File deletion was successful.

Failed: File deletion failed.

Skipped: File deletion was not performed.

(c) File path (Header name: FilePath)

Regardless of the content of (a) and (b), the path is output for the virtual disk files that were set in the Hyper-V server.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

Job Management Partner 1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS of Hyper-V Server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

(2) Prerequisite OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions of prerequisite products in the system executing the service template]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled in the target virtual server.

- Operating system shutdown

(3) The virtual server must be in a completely stopped state.

Cautions

(1) Do not execute multiple instances of this service simultaneously for the same virtual server.

(2) If an operation (such as a snapshot operation) was performed where the path of the virtual disk file cannot be referenced from the virtual server setting information, the virtual disk files are not deleted. In this case, delete them manually.

(3) If an HTML tag is specified for the UserResponseplugin.dialogText property, the tag and attribute that can be specified are identical to those for the User-Response Wait Plugin. For details, see the topics explained in "User-Response Wait Plugin" in this product manual.

(4) If a file that is set for the hyperv.vhdListOutputFileNameRemote property or hyperv.vhdListOutputFileNameLocal property already exists, the existing file is overwritten. Also, the files on the remote side are deleted. For this reason, carefully check that there are no mistakes in the specified file name.

(5) If a folder with the path specified at the hyperv.vhdListOutputFileNameRemote property does not exist, the folder is created. The created folder remains and is not deleted. Delete unused folders on a regular basis.

(6) The file is output to the remote location even if an error occurs when deleting the virtual server or virtual disk files if the hyperv.vhdListOutputFileNameRemote property was specified, or if the hyperv.vhdListOutputFileNameLocal property is not specified. The file that was output remains and is not deleted. For this reason, delete any unused files.

(7) This service does not delete the registration information of the virtual server from the service and application of the failover cluster manager. Delete manually based on user operation.

(8) If "Shutdown" was selected in the user response wait GUI, the virtual server OS is forced to shut down. File data that was being edited in the virtual server is not saved.

Version

03.00.00

Tags

Delete VM,Hyper-V 2008

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the Hyper-V server information.	Y
Virtual server information	Specify the information of the virtual server that will be deleted.	Y
User response wait options	This is the option for user responses when the virtual server is running. Make any changes as needed.	N
Options at execution	This is the property for virtual server state confirmation. Make any changes as needed.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait options
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait options
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait options
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User response wait options
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User response wait options
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user	Input	Disabled	O	User response wait options

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.encodeType	Encoding	response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User response wait options
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User response wait options
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User response wait options
hyperv.checkVmStateDisabledCount	Virtual server status (stopping complete) check count	Specifies the number of times to check whether virtual server stopping is complete. This value combined with the check interval for the virtual server status (stopping complete) determines the maximum wait time.	Input	Disabled	R	Options at execution
hyperv.checkVmStateDisabledInterval	Virtual server status (stopping complete) check interval	Specifies the interval in seconds between checks for whether virtual server stopping is complete.	Input	Disabled	R	Options at execution
hyperv.checkJobShutdownCount	Job monitoring count (InitiateShutdown method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobShutdownInterval	Monitor interval (InitiateShutdown method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobDelVMCount	Job monitoring count (DestroyVirtualSystem method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (DestroyVirtualSystem method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobDelVMInterval	Job monitoring interval (DestroyVirtualSystem method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (DestroyVirtualSystem method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkJobDelSnapshotCount	Job monitoring count (RemoveVirtualSystemSnapshotTree method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (RemoveVirtualSystemSnapshotTree method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobDelSnapshotInterval	Monitor interval (RemoveVirtualSystemSnapshotTree method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (RemoveVirtualSystemSnapshotTree method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information
hyperv.vHardDiskDeletePermanently	Deletion of virtual disk file required	Specifies whether to delete virtual disk file used for the virtual server.	Input	Disabled	R	Virtual server information
hyperv.vhdListOutputFileNameRemote	Output file name (remote)	Specifies, as a full path, the temporary file name for when the virtual disk file list used by the virtual server is output to the Hyper-V server.	Input	Disabled	O	Virtual server information
hyperv.vhdListOutputFileNameLocal	Output file name (local)	Specifies, as a full path, the file name of the local server that obtains the virtual disk file list.	Input	Disabled	O	Virtual server information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.

Property key	Characters that can be input
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.
hyperv.checkVmStateDisabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateDisabledInterval	Enter an integer from 1 to 60.
hyperv.checkJobShutdownCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobShutdownInterval	Enter an integer from 1 to 60.
hyperv.checkJobDelVMCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobDelVMInterval	Enter an integer from 1 to 60.
hyperv.checkJobDelSnapshotCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobDelSnapshotInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.vHardDiskDeletePermanently	Select one of the following values: yes,no
hyperv.vhdListOutputFileNameRemote	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.vhdListOutputFileNameLocal	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % or a trailing \ or /

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method	
1	hypervGetVMState	Obtain the virtual server status	Obtains the virtual server state in the Hyper-V environment.	Check the virtual server state.	
2	hypervCheckVMState	Flow Plug-in	Checks the virtual server state, and if startup is completed, confirmation is sent to the user.	--	
2-3		Compatible Plug-in	Determines if the virtual server is in the "Start completed" state.	After removing the cause of the error, run the service again.	
2-4		Flow Plug-in	Shuts down the virtual server.	--	
2-4-1		User-Response Wait Plug-in	Checks if the virtual server is to be shut down.	After removing the cause of the error, run the service again.	

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
2-4-2	hypervCheckVMState	Judge ReturnCode Plug-in	Determines if the return value of the component waiting for a user response is 1.	After removing the cause of the error, run the service again.
2-4-3		Abnormal-End Plug-in	Makes the jobnet an error.	After removing the cause of the error, run the service again.
2-4-4		Shut down a virtual server	Shuts down a virtual server in the Hyper-V environment.	After removing the cause of the error, run the service again.
3	DeleteVM	Flow Plug-in	Deletes a virtual server	--
3-1		Delete a virtual server	Deletes a virtual server in the Hyper-V environment.	If the virtual server is not deleted, remove the cause of the error and then execute the service again. When the virtual server is deleted, check if the virtual disk file exists, or when the virtual disk file list has been output, refer to the file with the Hyper-V server, and manually delete the virtual disk file as needed.
4	outputFileTransfer	Flow Plug-in	Transfers the virtual disk file list.	--
4-3		Compatible Plug-in	Checks if the output file name (remote) of the virtual disk file list is specified.	If the virtual disk file list has been output, the list remains on the Hyper-V server. Delete it manually.
4-4		Flow Plug-in	Transfers the virtual disk file list.	--
4-4-3		Compatible Plug-in	Checks if the output file name (local) of the virtual disk file list is specified.	The virtual disk file list remains on the Hyper-V server. Delete it manually.
4-4-4		Flow Plug-in	Transfers the virtual disk file list.	--
4-4-4-1		File-Forwarding Plug-in	Transfers the remote temporary file to an output file specified locally.	The virtual disk file list remains on the Hyper-V server. Delete it manually.
4-4-4-2		Delete file	Deletes the remote temporary file.	The virtual disk file list remains on the Hyper-V server. Delete it manually.

3.6.2 Add a virtual server (deploy/OS initial settings)

Function

This service template uses an exported virtual server to add a virtual server to the Hyper-V environment.

The assumptions about the server in this service template are shown below.

- Hyper-V server

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

- Exported virtual server

This is the virtual server exported from Hyper-V and the set of configuration files for the virtual server.

- Storage server

This is a server that stores the exported virtual server that is used as the copy source.

An overview of the processing is as follows.

(1) A virtual server is created in the Hyper-V server.

1. The exported virtual server is copied to the import target.

2. The import function is used to create a virtual server in the Hyper-V server.

A new unique ID is created for the new virtual server that is created.

If a folder already exists at the path specified for the import target, that folder is used.

(2) The connection target virtual switch (for management) of the virtual server is set.

The virtual switch (for management) is set to the NIC for establishing communication with the local server.

Connection target virtual switches that were already set to the exported virtual server are overwritten by the specified virtual switches.

Set a virtual switch for management that is capable of communication with the local server to the first NIC. For the second to fourth NICs, set virtual switches for management and applications based on user operation.

If the number of specified virtual switches exceeds the number of NICs held by the virtual server, the settings for virtual switches not assigned to NICs are invalid.

(3) The response file for OS customization is created and assigned.

1. The virtual disk of the virtual server is mounted to the Hyper-V server.

2. A response file for OS customization is created on the mounted virtual disk.

3. The virtual disk is unmounted from the Hyper-V server.

(4) The virtual server is started, and the initial information of the virtual server is set.

1. Set the initial information for the OS (such as computer name and company name).

Set the computer name, company name, organization name, and time zone for the initial settings of the OS.

2. Set the IP address of the virtual server.

Up to 4 IP addresses can be set for the virtual server. For the first IP address (for management), set the IP address for managing the virtual server that was deployed. For the second to fourth IP addresses for the second, third, and fourth NICs, set IP addresses for management and applications based on user operation. Some of the settings use the management IP address to connect to the OS and make the settings. Depending on the number of NICs held by the virtual server, the setting order of the IP addresses are shown below:

- When the virtual server has one NIC

Set the IP addresses that were specified first in the order of IP address (for management)>IP address (for second NIC)>IP address (for third NIC)>IP address (for fourth NIC). Note that the other IP addresses are discarded.

- When virtual server has two or more NICs

Set the IP addresses in the order of IP address (for management)>IP address (for second NIC)>IP address (for third NIC)>IP address (for fourth NIC). If a specified IP address is blank, set without leaving empty space. For example, if the specified IP addresses are IP address (for management), IP address (for second NIC), and IP address (for fourth NIC) (without any IP address (for third NIC)), the IP address (for fourth NIC) is set to the third NIC of the virtual machine. Note that, if the number of entered IP addresses exceeds the number of NICs held by the virtual server, the excess IP addresses are discarded.

(5) The connection target virtual switches (for the second to fourth NICs) of the virtual server are set.

Connection target virtual switches that were already set to the exported virtual server are overwritten by the specified virtual switches.

Set a virtual switch for management that is capable of communication with the local server to the first NIC. For the second to fourth NICs, set virtual switches for management and applications based on user operation.

If the number of specified virtual switches exceeds the number of NICs held by the virtual server, the settings for virtual switches not assigned to NICs are invalid.

(6) A static route is set when the IP address (for management) set to the virtual server OS is specified and multiple IP addresses are specified for the virtual server.

(7) The process for joining the domain is performed when DOMAIN is selected in the OS.selectWorkgroupDomain selection list, and a domain name, domain user name, and domain password were specified.

The important points for the property settings are shown below.

(1) Entry and re-entry of the OS user password are required. If both are not entered, "Password123" is set as the password. Also, if the two values do not match, "Password123" is set as the password.

(2) When WORKGROUP is selected in the OS.selectWorkgroupDomain selection list, the workgroup name can be specified using a maximum of 15 bytes. If the workgroup name exceeds 16 bytes, "WORKGROUP" is set.

(3) When DOMAIN is selected in the OS.selectWorkgroupDomain selection list, the domain name, domain user name, and domain password are required. If one of these is not specified, or if joining of the domain failed, "WORKGROUP" is set as the workgroup.

(4) Specify the IP address, subnet mask. If one of these items is not specified, none of these items are set.

(5) If no virtual switch is specified, the virtual switch connection is disconnected.

(6) Specify the destination IP address, subnet mask, and default gateway for the static route at the same time. If one of these items is not specified, the static route is not set.

(7) The time zones that can be specified are shown below.

Tokyo Standard Time

China Standard Time

GMT Standard Time

Pacific Standard Time

Eastern Standard Time

US Eastern Standard Time

Central Standard Time

Central America Standard Time

US Mountain Standard Time

Mountain Standard Time

Alaskan Standard Time

Hawaiian Standard Time

Singapore Standard Time

India Standard Time

If this is not specified, the time zone that was set to the exported virtual server is inherited.

(8) The locales that can be specified are shown below.

ja-JP

en-US

zh-CN

(9) The OS names that can be specified are shown below.

Windows Server 2008 R2

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

Job Management Partner 1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS of Hyper-V Server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

(2) Prerequisite OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions of prerequisite products in the system executing the service template]

(1) Setting requirements for Hyper-V server

- Virtual switch must be set.

- The virtual switch name must be unique within the Hyper-V server.

- The exported virtual server used during deployment must be already created.

(2) Setting requirements for exported virtual server used during deployment

- The following Hyper-V Integration Service must be enabled.

1. Data Exchange

- The following settings must have been made in the virtual server before exporting from the Hyper-V server.

1. The administrator password must be left blank.

2. The network settings must have been deleted.

If the network adapter information of the virtual host is set, the settings below must be made blank before setting to [Obtain an IP address automatically] or [Obtain DNS server address automatically].

- IP address

- Subnet mask

- Default gateway

- Preferred DNS server

- Alternate DNS server

3. Sysprep must be used to initialize the OS information.

During the initialization process, select the following options.

From the System Cleanup Action drop down, select [Enter System Out of Box Experience (OOBE)].

Select the [Generalize] check box.

- The settings allow agentless connections.

- The NICs must be already set (up to a maximum of four).

- The firewall allows ICMP (echo) replies.

- If the storage server is separate from the Hyper-V server, shared settings were made from the Hyper-V server to the folder where the exported virtual server is stored.

- No legacy network adapter is set.

- No snapshot or differencing disk is created.

(3) Setting requirements for virtual server

- The virtual server name must be unique within the Hyper-V server.

(4) this product requirements

- The authentication information for the local server (loopback address resolved by "localhost"), Hyper-V server, and deployed virtual server IP address (for management) must be registered beforehand to Connection Destinations in Administration tab.

Cautions

(1) If the virtual switch is not specified, the connection target virtual switch information of the NIC is deleted, and the virtual switch is in a disconnected state. Always specify the virtual switch when setting.

(2) Do not enter values that cannot be set as IP addresses for the IP address that is set for the virtual server OS. For example, network addresses, broadcast addresses, and special addresses such as "0.0.0.0" and "255.255.255.255" cannot be specified. If one of these addresses is entered, an error will occur in the deployment of the virtual server. Also, for the IP address (for management), enter an IP address capable of communication with the local server. Even if the address is correct, the virtual server might fail to deploy.

(3) While the virtual server is being deployed, do not operate the virtual server using another service. This could cause deployment of the virtual server to fail. Also, do not operate the virtual server directly from the Hyper-V server.

(4) The IP address is set as described in "Functions", but depending on the order that the NICs were set in the virtual server OS, the IP addresses might not be set properly. Make sure that the IP addresses were set after the virtual server is created. If the IP addresses were not set properly, change them manually.

(5) The IP address that is set for the virtual server must not duplicate the IP address of any other server. If another server has the same IP address, the NIC of the virtual server might become invalid, and the task abnormally terminated.

(6) Do not set the information that is set for creating the virtual server beforehand to the exported virtual server. If the computer name/host name or IP address are already set to the exported virtual server, creation of the virtual server might fail. If creation fails (one example of failure is an error occurring in the static route process), delete the virtual server, recreate an exported virtual server without setting the computer name, host name, and IP address, and then execute this service again.

(7) If deploying to Windows Server 2008 R2 Hyper-V based on a virtual server created by Windows Server 2008 R2 SP1 Hyper-V, disable both Microsoft RemoteFX and the dynamic memory.

(8) If deployment failed, the response file used in the virtual server OS initial settings and IP address settings might remain without being deleted from the system drive of the virtual server. Check the task log, and either delete the response file or virtual server.

(9) If a folder with the path specified at the import target does not exist, the folder is created.

(10) If a virtual disk file still remains in the folder of the path specified at the import target, the task is abnormally terminated. Check the folder of the path specified at the import target, and either delete the virtual disk or specify another path.

(11) This service does not register the deployed virtual server to the service and application of the failover cluster manager. Register manually based on user operation.

(12) When the virtual disk of the virtual server is mounted to the Hyper-V server, an available drive letter on the Hyper-V server is temporarily assigned. As a result, if there are no available drive letters on the Hyper-V server, an error occurs in the virtual disk mounting process, and the task is abnormally terminated. Execute this service after first confirming the number of drives used by the virtual disks of the exported virtual server and that drive letters are available on the Hyper-V server.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Add VM,Hyper-V 2008

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the Hyper-V information.	Y
Virtual server information	Specify the information of the virtual server that will be added.	Y
OS information	Specify the OS information that is set for the virtual server.	Y
Network information	Specify the network information of the virtual server.	Y
Options at execution	These are the properties for status confirmation when making the OS initial settings of the virtual server. Make any changes as needed.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
hyperv.userName	User name for connecting to storage server	Specifies the user name for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	Input	Disabled	O	Virtual server information
hyperv.password	Password for connecting to storage server	Specifies the password for connecting to the storage server. Specify this property if the	Input	Disabled	O	Virtual server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.password	Password for connecting to storage server	storage server is a server other than the Hyper-V server.	Input	Disabled	O	Virtual server information
windows.orgName	Organization name (company name)	Specifies the organization name that is set for the virtual server OS.	Input	Disabled	R	OS information
windows.ownerName	Name (owner name)	Specifies the name (owner name) that is set for the virtual server OS.	Input	Disabled	R	OS information
OS.selectWorkgroupDomain	Workgroup/ domain selection	Specifies whether the virtual server belongs to a workgroup or domain.	Input	Disabled	R	OS information
OS.workgroupNameDomainName	Workgroup/domain name	Specifies the workgroup name or domain name where the virtual server belongs. Specify the workgroup name using a maximum of 15 characters. Specify the domain name using a maximum of 63 characters.	Input	Disabled	R	OS information
OS.domainUserName	Domain user name	Specifies the user name of the domain where the virtual server belongs. This must be entered if "DOMAIN" was selected in the Workgroup/domain selection.	Input	Disabled	O	OS information
OS.domainUserPassword	Domain password	Specifies the password of the domain where the virtual server belongs. This must be entered if "DOMAIN" was selected in the Workgroup/domain selection.	Input	Disabled	O	OS information
OS.subnetMaskMan	Subnet mask (management LAN)	Specify the subnet mask for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.defaultGWMan	Default gateway (management LAN)	Specify the default gateway for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.dnsMan	DNS server IP address (management LAN)	Specifies the IP address of the DNS server of the management LAN that is set for the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
hyperv.virtualSwitchMan	Virtual switch name (for management)	Specifies the virtual switch name (for management) set for the NIC (for management) that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask2	Subnet mask (for second NIC)	Specify the 2nd subnet mask for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.defaultGW2	Default gateway (for second NIC)	Specify the 2nd default gateway for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.dns2	DNS server IP address (for second NIC)	Specifies the IP address of the DNS server that is set for the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	Input	Disabled	O	Network information
hyperv.virtualSwitch2	Virtual switch name (for second NIC)	Specifies the virtual switch name (for second NIC) set for the second NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask3	Subnet mask (for third NIC)	Specifies the subnet mask that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.defaultGW3	Default gateway (for third NIC)	Specifies the default gateway that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.dns3	DNS server IP address (for third NIC)	Specifies the IP address of the DNS server that is set for the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	Input	Disabled	O	Network information
hyperv.virtualSwitch3	Virtual switch name (for third NIC)	Specifies the virtual switch name (for third NIC) set for the third NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask4	Subnet mask (for fourth NIC)	Specifies the subnet mask that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.defaultGW4	Default gateway (for fourth NIC)	Specifies the default gateway that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.dns4	DNS server IP address (for fourth NIC)	Specifies the IP address of the DNS server that is set for the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	Input	Disabled	O	Network information
hyperv.virtualSwitch4	Virtual switch name (for fourth NIC)	Specifies the virtual switch name (for fourth NIC) set for the fourth NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.destIPAddress	Destination IP of static route	Specifies the destination IP address of the static route. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.subnetMaskStaticRoute	Subnet mask (static route)	Specify the subnet mask for the static route. You cannot specify an IPv6 address.	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.defaultGWStaticRoute	Default gateway (static route)	Specify the default gateway for the static route. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Options at execution
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Options at execution
hyperv.checkVmStateDisabledCount	Virtual server status (stopping complete) check count	Specifies the number of times to check whether virtual server stopping is complete. This value combined with the check interval for the virtual server status (stopping complete) determines the maximum wait time.	Input	Disabled	R	Options at execution
hyperv.checkVmStateDisabledInterval	Virtual server status (stopping complete) check interval	Specifies the interval in seconds between checks for whether virtual server stopping is complete.	Input	Disabled	R	Options at execution
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specifies, in milliseconds, the wait time for the response to the ICMP echo request which is executed after virtual server startup when the network connection check is performed.	Input	Disabled	R	Options at execution
hyperv.checkJobStateCountNewSw	Job monitoring count (ModifyVirtualSystemResources method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (ModifyVirtualSystemResources method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobStateIntervalNewSw	Monitor interval (ModifyVirtualSystemResources method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (ModifyVirtualSystemResources method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobStateCountGetVm	Job monitoring count (GetVirtualSystemImportSettingData method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (GetVirtualSystemImportSettingData method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobStateIntervalGetVm	Monitor interval (GetVirtualSystemImportSettingData method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V	Input	Disabled	R	Options at execution

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkJobStateIntervalGetVm	Monitor interval (GetVirtualSystemImportSettingData method)	for processing (GetVirtualSystemImportSettingData method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobStateCountNewVm	Job monitoring count (ImportVirtualSystemEx method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (ImportVirtualSystemEx method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobStateIntervalNewVm	Monitor interval (ImportVirtualSystemEx method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (ImportVirtualSystemEx method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobPowerOnCount	Job monitoring count (RequestStateChange method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (RequestStateChange method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobPowerOnInterval	Job monitoring interval (RequestStateChange method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (RequestStateChange method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobShutdownCount	Job monitoring count (InitiateShutdown method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobShutdownInterval	Monitor interval (InitiateShutdown method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobStateCountGetDriveList	Job monitoring count (Win32_LogicalDisk method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobStateIntervalGetDriveList	Job monitoring interval (Win32_LogicalDisk method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method).	Input	Disabled	R	Options at execution

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.checkJobStateInt ervalGetDriveList	Job monitoring interval (Win32_LogicalDisk method)	You do not need to change the value of this property.	Input	Disab led	R	Options at execution

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disab led	R	Virtual server information
hyperv.exportedVmNam e	Path of exported virtual server folder	Specifies the folder name, as a full path, of the exported virtual server that is used as the copy source of the virtual server. If the storage server is a server other than the Hyper-V server, specify the path in UNC syntax.	Input	Disab led	R	Virtual server information
hyperv.importFolderPath	Import target	Specifies the full path of the folder where the virtual server is stored.	Input	Disab led	R	Virtual server information
windows.operatingSyste m	Operating system	Specifies the operating system (OS) of the virtual server.	Input	Disab led	R	Virtual server information
OS.computerName	Computer/host name	Specifies the OS computer name (host name).	Input	Disab led	R	OS information
OS.osUserPassword	Administrator password	Specifies the administrator password that is set for the OS. If nothing is entered, "Password123" is set.	Input	Disab led	O	OS information
OS.osUserPasswordReE nter	Re-enter administrator password	Re-enter the administrator password that is set for the OS. If nothing is entered, "Password123" is set.	Input	Disab led	O	OS information
OS.productKey	OS product key	Specifies the product key of the OS. This is entered in the format "XXXXX-XXXXX-XXXXX-XXXXX-XXXXX".	Input	Disab led	O	OS information
OS.ipAddressMan	IP address (management LAN)	Specify the IP address for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disab led	O	Network information
OS.ipAddress2	IP address (for second NIC)	Specify the 2nd IP address for the virtual server. You cannot specify an IPv6 address.	Input	Disab led	O	Network information
OS.ipAddress3	IP address (for third NIC)	Specifies the IP address that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disab led	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.ipAddress4	IP address (for fourth NIC)	Specifies the IP address that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.timeZoneWin	Time zone	Specifies the time zone that is set for the virtual server OS.	Input	Disabled	O	OS information
OS.systemLocale	System locale	Specifies the system locale that is set for the OS of the virtual server.	Input	Disabled	R	OS information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.userName	Enter up to 20 halfwidth alphanumeric characters and symbols. The following characters are not allowed: < > | ; & ' " * ? [ ] ` / : = , + \ @ %
hyperv.password	Enter up to 127 halfwidth alphanumeric characters and symbols. The following characters are not allowed: < > | ; & ' " * ? [ ] ` %
windows.orgName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
windows.ownerName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, or %.
OS.selectWorkgroupDomain	Select one of the following values: WORKGROUP,DOMAIN
OS.workgroupNameDomainName	Enter up to 63 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
OS.domainUserName	A maximum of 20 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, \, @ or %.
OS.domainUserPassword	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.
OS.subnetMaskMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.dnsMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.virtualSwitchMan	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGW2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .

Property key	Characters that can be input
OS.dns2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.virtualSwitch2	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.defaultGW3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.dns3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
hyperv.virtualSwitch3	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.defaultGW4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.dns4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
hyperv.virtualSwitch4	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.destIPAddress	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.subnetMaskStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.
hyperv.checkVmStateDisabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateDisabledInterval	Enter an integer from 1 to 60.
common.icmpEchoTimeout	Integer between 1 and 214783647 can be entered.
hyperv.checkJobStateCountNewSw	Enter an integer from 1 to 2147483647.
hyperv.checkJobStateIntervalNewSw	Enter an integer from 1 to 60.
hyperv.checkJobStateCountGetVm	Enter an integer from 1 to 2147483647.
hyperv.checkJobStateIntervalGetVm	Enter an integer from 1 to 60.
hyperv.checkJobStateCountNewVm	Enter an integer from 1 to 2147483647.
hyperv.checkJobStateIntervalNewVm	Enter an integer from 1 to 60.
hyperv.checkJobPowerOnCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobPowerOnInterval	Enter an integer from 1 to 60.
hyperv.checkJobShutdownCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobShutdownInterval	Enter an integer from 1 to 60.

Property key	Characters that can be input
hyperv.checkJobStateCountGetDriveList	Enter an integer from 1 to 2147483647.
hyperv.checkJobStateIntervalGetDriveList	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.exportedVmName	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.importFolderPath	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
windows.operatingSystem	Select one of the following values: Windows Server 2008 R2
OS.computerName	Enter up to 15 halfwidth alphanumeric characters. You can also use hyphens (-).
OS.osUserPassword	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \.
OS.osUserPasswordReEnter	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, &, `, or a trailing \.
OS.productKey	A maximum of 29 characters can be entered. Characters that can be used include alphanumeric characters, as well as -.
OS.ipAddressMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.ipAddress2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.ipAddress3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.ipAddress4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.timeZoneWin	Select one of the following values: Tokyo Standard Time, China Standard Time, GMT Standard Time, Pacific Standard Time, Eastern Standard Time, US Eastern Standard Time, Central Standard Time, Central America Standard Time, US Mountain Standard Time, Mountain Standard Time, Alaskan Standard Time, Hawaiian Standard Time, Singapore Standard Time, India Standard Time
OS.systemLocale	Select one of the following values: ja-JP,en-US,zh-CN

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hypervCreateVM	Create a virtual server	Creates a virtual server from an exported virtual server in the Hyper-V environment.	After removing the cause of the error, run the service again. If a virtual server is already created in the Hyper-V server, run the virtual server delete service, and then run this service again.
2	hypervSetVirtualSwitchMan	Virtual server virtual switch settings	Sets the virtual switch for establishing communication with the local server.	Check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
3	hypervCreateAnsFile	Flow Plug-in	Assigns the response file in the virtual server.	--
3-1		Mount a virtual disk	Mounts the virtual disk on the Hyper-V server.	After removing the cause of the error, if the virtual disk is mounted on the Hyper-V server, manually unmount it. Run the virtual server delete service, and then run this service again.
3-2		Create a response file	Creates a response file to initialize the OS and set the IP address for the virtual server in the Hyper-V environment.	After removing the cause of the error, if the virtual disk is mounted on the Hyper-V server, manually unmount it. Run the virtual server delete service, and then run this service again.
3-3		Unmount a virtual disk	Unmounts the virtual disk from the Hyper-V server.	After removing the cause of the error, if the virtual disk is mounted on the Hyper-V server, manually unmount it. Run the virtual server delete service, and then run this service again.
4	hypervPowerOnVM	Flow Plug-in	Makes the virtual server OS initial settings (computer name, company name, organization name) and IP address settings, and starts the virtual server.	--
4-1		Start a virtual server	Starts a virtual server in the Hyper-V environment.	Remove the cause of the error, run the virtual server delete service, and then run this service again.
4-4		Compatible Plug-in	Determines if the IP address is set for the NIC.	Check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
4-5		Flow Plug-in	Check the network connection between the local server and the virtual server, and set the IP addresses for the second to the fourth NICs.	--
4-5-1		Send ICMP echo request message	Issues an ICMP echo request to the virtual server whose power has been turned ON.	Check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
4-5-4		Compatible Plug-in	Determines if the second to fourth NICs need to be set.	Check the task log, and remove the cause of the error. After that, run

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-5-4	hypervPowerOnVM	Compatible Plug-in	Determines if the second to fourth NICs need to be set.	the virtual server delete service, and then run this service again.
4-5-5		Flow Plug-in	Sets the second to fourth NICs.	--
4-5-5-1		Obtain the MAC address of an NIC	Obtains the MAC address of the NIC for management.	Check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
4-5-5-2		Virtual server virtual switch settings	Disconnects the virtual switch to the second to fourth NICs.	Check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
4-5-5-3		Windows network settings	Sets the IP address for the second to fourth NICs.	Log in to the Hyper-V server and check the settings of the virtual server. After that, log in to the virtual server and check the settings of the virtual server. Manually set the virtual server as needed. Or, check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
5	hypervSetVirtualSwitchBiz	Virtual server virtual switch settings (for second to fourth NICs)	Sets the virtual switch to the second to fourth NICs.	--
5-1		Compatible Plug-in	Determines if the IP address is set for the NIC.	Log in to the Hyper-V server and check the settings of the virtual server. After that, log in to the virtual server and check the settings of the virtual server. Manually set the virtual server as needed. Or, check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
5-2		Flow Plug-in	Sets the virtual switch to the second to fourth NICs.	--
5-2-1		Compatible Plug-in	Determines if the second to fourth NICs need to be set.	Log in to the Hyper-V server and check the settings of the virtual server. After that, log in to the virtual server and check the settings of the virtual server. Manually set the virtual server as needed. Or, check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
5-2-2		Flow Plug-in	Sets the virtual switch to the second to fourth NICs.	--

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method
5-2-2-1	hypervSetVirtualSwitchBiz	Obtain the MAC address of an NIC	Obtains the MAC address of the second to fourth NICs.	Log in to the Hyper-V server and check the settings of the virtual server. After that, log in to the virtual server and check the settings of the virtual server. Manually set the virtual server as needed. Or, check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
5-2-2-2		Virtual server virtual switch settings	Sets the virtual switch to the second to fourth NICs.	Log in to the Hyper-V server and check the settings of the virtual server. After that, log in to the virtual server and check the settings of the virtual server. Manually set the virtual server as needed. Or, check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
5-3		Compatible Plug-in	Determines if the IP address is set for the NIC.	Log in to the Hyper-V server and check the settings of the virtual server. After that, log in to the virtual server and check the settings of the virtual server. Manually set the virtual server as needed. Or, check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
5-4		Virtual server virtual switch settings	Sets the virtual switch to the second to fourth NICs.	Log in to the Hyper-V server and check the settings of the virtual server. After that, log in to the virtual server and check the settings of the virtual server. Manually set the virtual server as needed. Or, check the task log, and remove the cause of the error. After that, run the virtual server delete service, and then run this service again.
6	osSetStaticRoute	Flow Plug-in	Sets the static route in the virtual server OS.	--
6-3		Compatible Plug-in	Determines if the static route needs to be set.	Check the task log and log in to the virtual server to remove the cause of the error. Manually set the virtual server as needed.
6-4		Flow Plug-in	Check with the OS of the virtual server to see that the IP address for administration is set.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
6-4-3	osSetStaticRoute	Compatible Plug-in	Check with the OS of the virtual server to see if the IP address for administration is set.	Check the task log and log in to the virtual server to remove the cause of the error. Manually set the virtual server as needed.
6-4-4		Set static route	Sets the static route in the virtual server OS.	Check the task log and log in to the virtual server to remove the cause of the error. Manually set the virtual server as needed.
7	hypervJoinDomain	Flow Plug-in	Performs the process for joining the domain.	--
7-1		Compatible Plug-in	Check with the OS of the virtual server to see if the IP address for administration is set.	Check the task log and log in to the virtual server to remove the cause of the error. Manually set the virtual server as needed.
7-2		Flow Plug-in	Performs the process for joining the domain.	--
7-2-3		Compatible Plug-in	Determines if the process for joining the domain is required.	Check the task log and log in to the virtual server to remove the cause of the error. Manually set the virtual server as needed.
7-2-4		Flow Plug-in	Checks if the process for joining the domain is successful.	--
7-2-4-1		Windows network settings	Performs the process for joining the domain.	--
7-2-4-4		Compatible Plug-in	Determines if the process for joining the domain is successful.	Check the task log and log in to the virtual server to remove the cause of the error. Manually set the virtual server as needed.
7-2-4-5		Flow Plug-in	Restarts a virtual server in the Hyper-V environment.	--
7-2-4-5-1		Shut down a virtual server	Shuts down a virtual server in the Hyper-V environment.	Check the task log and log in to the virtual server to remove the cause of the error. Manually set the virtual server as needed.
7-2-4-5-2		Start a virtual server	Starts a virtual server in the Hyper-V environment.	Check the task log and log in to the virtual server to remove the cause of the error. Manually set the virtual server as needed.

3.6.3 Add a virtual server (virtual disk)

Function

This service template adds a disk to a virtual server in the Hyper-V environment.

The assumptions about the server in this service template are shown below.

- Hyper-V server

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

An overview of the processing is as follows.

(1) The state of the virtual server is obtained.

(2) A check is performed that the virtual server is in the stopping complete state.

If the virtual server is in the startup complete or stopping complete state, the process is continued, but in other states (startup in progress, stopping in progress, paused, or acquiring snapshot), the task is abnormally terminated without performing any operations on the virtual server.

If the virtual server state is not startup complete, the User-Response Wait Plugin is executed to check whether shutdown has been performed.

If "Shutdown" was selected in the user response wait GUI, the virtual server is shut down.

If "Cancel" was selected, or a timeout occurred in the response wait, the task is abnormally terminated without performing any operation on the virtual server.

When the virtual server OS is shut down, a wait is performed for the number of seconds specified in the hyperv.checkVmStateDisabledInterval property, and the operation for checking the virtual server state is repeated for the count specified in the hyperv.checkVmStateDisabledCount property. Adjust the values of each property based on your usage environment.

(3) A virtual disk is added to the virtual server.

Although a virtual disk (adjustable size/fixed size) can be added to the virtual server, a virtual disk (differential) and pass-through (physical) disk cannot be added.

A new virtual disk file is created at the path specified in the hyperv.vhdPath property.

The virtual disk can be added to the SCSI controller, but it cannot be added to the IDE controller.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

Job Management Partner 1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS of Hyper-V Server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

(2) Prerequisite OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions of prerequisite products in the system executing the service template]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled in the target virtual server.

- Operating system shutdown

(3) The virtual server must be in a completely stopped state.

(4) A SCSI controller must be in the virtual server.

Cautions

(1) This service template does not initialize the virtual disk that was added to the virtual server. If necessary, log into the virtual server OS and perform initialization of the disk.

(2) Do not execute multiple instances of this service simultaneously for the same virtual server.

(3) If an HTML tag is specified for the UserResponseplugin.dialogText property, the tag and attribute that can be specified are identical to those for the User-Response Wait Plugin. For details, see the topics explained in "User-Response Wait Plugin" in this product manual.

(4) Virtual disk files that were already created in the Hyper-V server cannot be added.

(5) If "Shutdown" was selected in the user response wait GUI, the virtual server OS is forced to shut down. File data that was being edited in the virtual server is not saved.

Version

03.00.00

Tags

Modify VM,Hyper-V 2008

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the Hyper-V server information.	Y
Virtual disk information	Specify the information of the virtual disk that will be added.	Y
User response wait options	This is the option for user responses when the virtual server is running. Make any changes as needed.	N

Property group	Description	Initial display
Options at execution	This is the property for virtual server state confirmation. Make any changes as needed.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait options
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait options
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait options
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User response wait options
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User response wait options
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User response wait options
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported	Input	Disabled	O	User response wait options

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.dialogText	Additional dialog box text	HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User response wait options
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User response wait options
hyperv.checkVmStateDisabledCount	Virtual server status (stopping complete) check count	Specifies the number of times to check whether virtual server stopping is complete. This value combined with the check interval for the virtual server status (stopping complete) determines the maximum wait time.	Input	Disabled	R	Options at execution
hyperv.checkVmStateDisabledInterval	Virtual server status (stopping complete) check interval	Specifies the interval in seconds between checks for whether virtual server stopping is complete.	Input	Disabled	R	Options at execution
hyperv.checkJobShutdownCount	Job monitoring count (InitiateShutdown method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobShutdownInterval	Monitor interval (InitiateShutdown method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobNewVhdCount	Monitor count (CreateDynamic/ FixedVirtualHardDisk)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (CreateDynamicVirtualHardDisk/ CreateFixedVirtualHardDisk method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobNewVhdInterval	Monitor interval (CreateDynamic/ FixedVirtualHardDisk)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (CreateDynamicVirtualHardDisk/ CreateFixedVirtualHardDisk method). You do not need to change the value of this property.	Input	Disabled	R	Options at execution
hyperv.checkJobAssignSCSICount	Monitor count (AddVirtualSystemResources method, Add hard drive)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (AddVirtualSystemResources method, Add hard drive). You do	Input	Disabled	R	Options at execution

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.checkJobAssignS CSICount	Monitor count (AddVirtualSystemReso urces method, Add hard drive)	not need to change the value of this property.	Input	Disab led	R	Options at execution
hyperv.checkJobAssignS CSIInterval	Monitor interval (AddVirtualSystemReso urces, Add hard drive)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (AddVirtualSystemResources method, Add hard drive). You do not need to change the value of this property.	Input	Disab led	R	Options at execution
hyperv.checkJobJoinCou nt	Monitor count (AddVirtualSystemReso urces, Connect to disk)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (AddVirtualSystemResources method, Connect to disk). You do not need to change the value of this property.	Input	Disab led	R	Options at execution
hyperv.checkJobJoinInte rval	Monitor interval (AddVirtualSystemReso urces, Connect to disk)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (AddVirtualSystemResources method, Connect to disk). You do not need to change the value of this property.	Input	Disab led	R	Options at execution

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disab led	R	Virtual disk information
hyperv.vHardDiskType	Virtual disk type	Specifies the virtual disk type. Specify one of the following: dynamic (an adjustable-size virtual disk is created) or fixed (a fixed-size virtual disk is created).	Input	Disab led	R	Virtual disk information
hyperv.scsiControllerNu mber	SCSI controller number	Specifies the SCSI controller number of the virtual server that adds the virtual disk. Specify the SCSI controller number as an integer from 0 in the order that the SCSI controllers were added to the virtual server (displayed in the Hyper-V Manager).	Input	Disab led	R	Virtual disk information
hyperv.scsiLocationNum ber	SCSI controller location number	Specifies the location number of the SCSI controller of the virtual server that adds the virtual	Input	Disab led	R	Virtual disk information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.scsiLocationNum ber	SCSI controller location number	disk. Specify the SCSI controller location number as an integer for the unused locations of SCSI controllers that were added to the virtual server.	Input	Disab led	R	Virtual disk information
hyperv.vhdPath	Virtual disk file path	Specifies, as a full path, the path of the virtual disk file to be created. Specify vhd as the extension of the virtual disk file. Virtual disk files that have already been created cannot be specified.	Input	Disab led	R	Virtual disk information
hyperv.capacity	Size (GB)	Specifies the size of the virtual disk, in gigabytes (GB).	Input	Disab led	R	Virtual disk information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.
hyperv.checkVmStateDisabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateDisabledInterval	Enter an integer from 1 to 60.
hyperv.checkJobShutdownCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobShutdownInterval	Enter an integer from 1 to 60.
hyperv.checkJobNewVhdCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobNewVhdInterval	Enter an integer from 1 to 60.
hyperv.checkJobAssignSCSICount	Enter an integer from 1 to 2147483647.
hyperv.checkJobAssignSCSIInterval	Enter an integer from 1 to 60.
hyperv.checkJobJoinCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobJoinInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.vHardDiskType	Select one of the following values: Dynamic,Fixed
hyperv.scsiControllerNumber	Enter an integer from 0 to 3.
hyperv.scsiLocationNumber	Enter an integer from 0 to 63.
hyperv.vhdPath	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.capacity	Enter an integer from 1 to 2040.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hypervGetVMState	Obtain the virtual server status	Obtains the virtual server state in the Hyper-V environment.	Check the virtual server state.
2	hypervCheckVMState	Flow Plug-in	Checks the virtual server state, and if startup is completed, confirmation is sent to the user.	--
2-3		Compatible Plug-in	Determines if the virtual server is in the "Start completed" state.	After removing the cause of the error, run the service again.
2-4		Flow Plug-in	Shuts down the virtual server.	--
2-4-1		User-Response Wait Plug-in	Checks if the virtual server is to be shut down.	After removing the cause of the error, run the service again.
2-4-2		Judge ReturnCode Plug-in	Determines if the return value of the component waiting for a user response is 1.	After removing the cause of the error, run the service again.
2-4-3		Abnormal-End Plug-in	Makes the jobnet an error.	After removing the cause of the error, run the service again.
2-4-4		Shut down a virtual server	Shuts down a virtual server in the Hyper-V environment.	After removing the cause of the error, run the service again.
3	AddDisk	Flow Plug-in	Adds a disk to the virtual server.	--
3-1		Add a disk to the virtual server	Adds a disk to the virtual server in the Hyper-V environment.	If the virtual disk file has been created, delete it manually. If the location for the SCSI controller of the virtual server is being used and the path of the virtual disk file is not specified, delete the hard drive from the SCSI controller to release the location for the SCSI controller from being used.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-1	AddDisk	Add a disk to the virtual server	Adds a disk to the virtual server in the Hyper-V environment.	And then run this service again.

3.7 Service templates for Hyper-V 2008 (operation)

3.7.1 Start virtual servers

Function

This service template starts multiple virtual servers in the Hyper-V environment.

The following servers are required for this service template:

- Hyper-V server

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

The following is an overview of the process:

(1) The status of the virtual server is obtained. For details, see "List of statuses of virtual servers managed by Hyper-V" in this product manual.

(2) If the virtual server is in the stopping complete status, the virtual server is started. If the status is startup complete, the process for starting the virtual server is skipped. In cases where the status is something other than startup complete or stopping complete, an error occurs in the processing of the relevant virtual server.

(3) When the network connection check is performed, the IP address (IPv4) that was set to the started virtual server is obtained, and then an ICMP echo request is sent to the virtual server that was started from the local server to check the network connection.

The above processing is performed in parallel for the specified virtual server group.

When the virtual server is started, a wait is performed for the number of seconds specified in the hyperv.checkVmStateEnabledInterval property, and the operation for checking the virtual server state is repeated for the count specified in the hyperv.checkVmStateEnabledCount property. Adjust the values of each property based on your usage environment.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1)Product requirements for Hyper-V server

- Windows Server 2008 R2 Hyper-V

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS of Hyper-V Server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

(2) Prerequisite OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions of prerequisite products in the system executing the service template]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled in the target virtual server:

- Data Exchange

(3) When the network connection check is executed, the local server (loopback address resolved by "localhost") must be set as an agentless connection target.

(4) When the network connection check is executed, the firewall of the target virtual server must allow ICMP (echo) replies.

Cautions

(1) When the network connection check is executed, all IP addresses might be unobtainable immediately after the virtual server is started in certain system environments. For this reason, regardless of whether the virtual server is started, the task might be terminated abnormally without being able to perform the network connection check for all IP addresses (IPv4) that were set to the virtual server by the osSendIcmp component. Specify the number of seconds for the hyperv.waitTime property that specifies the wait time from startup of the virtual server until obtaining of the IP addresses is started, and then make adjustments so that all IP addresses can be obtained.

(2) When the network connection check is performed, configure the settings so that the total length of the IP addresses (IPv4) that are set to all NICs of the virtual server does not exceed 1024 characters#1. If the total length of the IP addresses (IPv4) exceeds 1024 characters, an error might occur in the osSendIcmp component, and the task might terminate abnormally.

#1: The maximum length of one IP address (IPv4) is 16 characters (including the comma when listing multiple addresses).

(3) When the network connection check is performed, adjust the common.icmpEchoTimeout property based on the usage environment.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Control VM,Hyper-V 2008

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the Hyper-V information.	Y
Virtual server information	Specify the information of the virtual server that will be started.	Y
Check network connection	This is the property for the network connection check after the virtual server is started. Make any changes as needed.	N
Execution options	This is the property for the state check when starting the virtual server. Make any changes as needed.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
hyperv.waitTime	Wait time before starting to obtain IP address	When performing a network connectivity check, specifies the amount of time, in seconds, after the virtual server starts to wait before starting to obtain the IP address.	Input	Disabled	R	Check network connection
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specifies, in milliseconds, the wait time for the response to the ICMP echo request which is executed after virtual server startup when the network connection check is performed.	Input	Disabled	R	Check network connection
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Execution options
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Execution options
hyperv.checkJobPowerOnCount	Job monitoring count (RequestStateChange method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (RequestStateChange method). You do not need to change the value of this property.	Input	Disabled	R	Execution options

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkJobPowerOnInterval	Job monitoring interval (RequestStateChange method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (RequestStateChange method). You do not need to change the value of this property.	Input	Disabled	R	Execution options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.) If specifying multiple names, separate them with commas. You can specify up to 99 names.	Input	Disabled	R	Virtual server information
hyperv.checkNetworkConnection	Check network connectivity	Specifies whether to check network connectivity after starting a virtual server.	Input	Disabled	R	Check network connection

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.waitTime	Enter an integer from 0 to 3600.
common.icmpEchoTimeout	Integer between 1 and 214783647 can be entered.
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.
hyperv.checkJobPowerOnCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobPowerOnInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \ / :
hyperv.checkNetworkConnection	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOnVMhyperV	Repeated Execution Plug-in	Starts multiple virtual servers.	After removing the cause of the error, run the service again.

3.7.2 Start the virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hypervGetVMState	Obtain the virtual server status	Obtains the virtual server status in the Hyper-V environment.	After removing the cause of the error, run the service again.
2	hypervPowerOnVM	Starts a virtual server	Starts a virtual server in the Hyper-V environment.	--
2-3		Compatible Plug-in	Determines if the virtual server is in a state other than "Start completed".	After removing the cause of the error, run the service again.
2-4		JP1/AO Custom Job	If the virtual server is in a state other than "Start completed", starts the virtual server.	After removing the cause of the error, run the service again.
3	hypervCheckNetwor k	Check the network connection	Checks whether the network is connected.	--
3-3		Compatible Plug-in	Determines if "yes" is specified for confirmation of the network connection.	After removing the cause of the error, run the service again.
3-4		Flow Plug-in	If "yes" is specified for confirmation of the network connection, checks the network connection.	--
3-4-1		JP1/AO Custom Job	Obtains the IP address of the virtual server that has started.	After removing the cause of the error, run the service again.
3-4-2		JP1/AO Custom Job	Issues an ICMP echo request to the virtual server that has started.	Depending on the state of the system environment, the virtual server might successfully start but the network connection check might fail, possibly causing the task to end abnormally. Check if the virtual server has started. When

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
3-4-2	hypervCheckNetwork	JP1/AO Custom Job	Issues an ICMP echo request to the virtual server that has started.	executing the service again, check the notes and remove the cause of the error before doing so.

3.7.3 Restart virtual servers

Function

This service template restarts multiple virtual servers in the Hyper-V environment.

The following servers are required for this service template:

- Hyper-V server

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

An overview of the processing is as follows.

(1) If the virtual server is in the startup complete status#1, the virtual server is restarted. If the virtual server is in a status other than startup complete, an error occurs in the process of the relevant virtual server.

(2) When the network connection check is performed, the IP address (IPv4) that was set to the restarted virtual server is obtained, and then an ICMP echo request is sent to the virtual server that was started from the local server to check the network connection.

The above processing is performed in parallel for the specified virtual server group.

When the virtual server is restarted, first, a wait is performed for the count specified in the hyperv.checkVmStateDisabledInterval property, and the operation for checking that the virtual server is in the stopping complete state is repeated for the count specified in the hyperv.checkVmStateDisabledCount property. Next, a wait is performed for the number of seconds specified in the hyperv.checkVmStateEnabledInterval property, and the operation for checking that the virtual server is in the startup complete state is repeated for the count specified in the hyperv.checkVmStateEnabledCount property. Adjust the values of each property based on your usage environment.

#1: For details on the virtual server status, see "List of statuses of virtual servers managed by Hyper-V" in this product manual.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS of Hyper-V Server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

(2) Prerequisite OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions of prerequisite products in the system executing the service template]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled in the target virtual server:

- Operating system shutdown

- Data Exchange

(3) When the network connection check is executed, the local server (loopback address resolved by "localhost") must be set as an agentless connection target.

(4) When the network connection check is executed, the firewall of the target virtual server must allow ICMP (echo) replies.

Cautions

(1) This service performs a forced shutdown of the specified virtual server OS. When this service is executed, file data that was being edited in the virtual server is not saved.

(2) When the network connection check is executed, all IP addresses might be unobtainable immediately after the virtual server is started in certain system environments. For this reason, regardless of whether the virtual server is started, the task might be terminated abnormally without being able to perform the network connection check for all IP addresses (IPv4) that were set to the virtual server by the osSendIcmp component. Specify the number of seconds for the hyperv.waitTime property that specifies the wait time from startup of the virtual server until obtaining of the IP addresses is started, and then make adjustments so that all IP addresses can be obtained.

(3) When the network connection check is performed, configure the settings so that the total length of the IP addresses (IPv4) that are set to all NICs of the virtual server does not exceed 1024 characters#1. If the total length of the IP addresses (IPv4) exceeds 1024 characters, an error might occur in the osSendIcmp component, and the task might terminate abnormally.

#1: The maximum length of one IP address (IPv4) is 16 characters (including the comma when listing multiple addresses).

(4) When the network connection check is performed, adjust the common.icmpEchoTimeout property based on the usage environment.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Control VM,Hyper-V 2008

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the Hyper-V information.	Y
Virtual server information	Specify the information of the virtual server that will be restarted.	Y
Check network connection	This is the property for the network connection check after the virtual server is restarted. Make any changes as needed.	N
Execution options	This is the property for the state check when restarting the virtual server. Make any changes as needed.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
hyperv.waitTime	Wait time before starting to obtain IP address	Specifies, in seconds, the wait time from completion of virtual server restart until obtaining of the IP address is started when the network connection check is performed.	Input	Disabled	R	Check network connection
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specifies, in milliseconds, the wait time for the response to the ICMP echo request which is executed after virtual server restart when the network connection check is performed.	Input	Disabled	R	Check network connection
hyperv.checkVmStateDisabledCount	Virtual server status (stopping complete) check count	Specifies the number of times to check whether virtual server stopping is complete. This value combined with the check interval for the virtual server status	Input	Disabled	R	Execution options

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkVmStateDisabledCount	Virtual server status (stopping complete) check count	(stopping complete) determines the maximum wait time.	Input	Disabled	R	Execution options
hyperv.checkVmStateDisabledInterval	Virtual server status (stopping complete) check interval	Specifies the interval in seconds between checks for whether virtual server stopping is complete.	Input	Disabled	R	Execution options
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Execution options
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Execution options
hyperv.checkJobShutdownCount	Job monitoring count (InitiateShutdown method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Execution options
hyperv.checkJobShutdownInterval	Monitor interval (InitiateShutdown method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Execution options
hyperv.checkJobPowerOnCount	Job monitoring count (RequestStateChange method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (RequestStateChange method). You do not need to change the value of this property.	Input	Disabled	R	Execution options
hyperv.checkJobPowerOnInterval	Job monitoring interval (RequestStateChange method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (RequestStateChange method). You do not need to change the value of this property.	Input	Disabled	R	Execution options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.) If specifying multiple names,	Input	Disabled	R	Virtual server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	separate them with commas. You can specify up to 99 names.	Input	Disabled	R	Virtual server information
hyperv.checkNetworkConnection	Check network connectivity	Specifies whether the network connection check is performed after restarting the virtual server.	Input	Disabled	R	Check network connection

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.waitTime	Enter an integer from 0 to 3600.
common.icmpEchoTimeout	Integer between 1 and 214783647 can be entered.
hyperv.checkVmStateDisabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateDisabledInterval	Enter an integer from 1 to 60.
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.
hyperv.checkJobShutdownCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobShutdownInterval	Enter an integer from 1 to 60.
hyperv.checkJobPowerOnCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobPowerOnInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \ / :
hyperv.checkNetworkConnection	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	rebootVMhyperV	Repeated Execution Plug-in	Restarts multiple virtual servers.	After removing the cause of the error, run the service again.

3.7.4 Restart a virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hypervShutdownVM	Shut down a virtual server	Shuts down a virtual server in the Hyper-V environment.	After removing the cause of the error, run the service again.
2	hypervPowerOnVM	Start a virtual server	Starts a virtual server in the Hyper-V environment.	After removing the cause of the error, run the service again.
3	hypervCheckNetwork	Flow Plug-in	Checks whether the network is connected.	--
3-3		Compatible Plug-in	Determines if "yes" is specified for confirmation of the network connection.	After removing the cause of the error, run the service again.
3-4		Flow Plug-in	If "yes" is specified for confirmation of the network connection, checks the network connection.	--
3-4-1		Get virtual server IP address	Obtains the IP address of the virtual server that has started.	After removing the cause of the error, run the service again.
3-4-2		Send ICMP echo request message	Issues an ICMP echo request to the virtual server that has started.	Depending on the state of the system environment, the virtual server might successfully start but the network connection check might fail, possibly causing the task to end abnormally. Check if the virtual server has started. When executing the service again, check the notes and remove the cause of the error before doing so.

3.7.5 Obtain the virtual server information list

Function

This service template obtains the virtual server information list in the Hyper-V environment.

The following servers are required for this service template:

- Hyper-V server

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

An overview of the processing is as follows.

(1) The virtual server information list is output to a specified remote temporary file in CSV format. The encoding format of the output file uses the default encoding of the Hyper-V server system.

(2) The remote temporary file is transferred to a specified local output file.

(3) The remote temporary file is deleted.

The items in the output CSV file are shown below.

The items are separated by commas in the output file.

(a) Hyper-V server name (Header name: HostName)

(b) Virtual server name (Header name: VmName)

(c) Virtual server status#1 (Header name: VmState)

(d) Number of virtual server CPUs#2 (Header name: NumCpu)

(e) Virtual server memory size (MB)#3 (Header name: MemoryMB)

#1: For details on the virtual server status, see "List of statuses of virtual servers managed by Hyper-V" in this product manual.

#2: The value for the number of CPUs is the number of virtual processors assigned to the virtual server.

#3: If dynamic memory is set to the virtual server, this is the value of the startup RAM.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS of Hyper-V Server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

(2) Prerequisite OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions of prerequisite products in the system executing the service template]

(1) The virtual server name must be unique within the Hyper-V server.

Cautions

(1) If a file name specified remotely or locally already exists, the existing file is overwritten. Also, the files on the remote side are deleted. For this reason, carefully check that there are no mistakes in the specified file name.

(2) If a folder with the path specified remotely does not exist, the folder is created. The created folder remains and is not deleted. Delete unused folders on a regular basis.

Version

02.00.00

Tags

Gather VM information,Hyper-V 2008

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the Hyper-V information.	Y
Output file storage information	Specify the storage location of the output file.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.listOutputFileNameRemote	Output file name (remote)	Specifies, as a full path, the temporary file name for when virtual server information is output to the Hyper-V server.	Input	Disabled	R	Output file storage information
hyperv.listOutputFileNameLocal	Output file name (local)	Specifies, as a full path, the file name of the local server that obtains the virtual server information.	Input	Disabled	R	Output file storage information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.listOutputFileNameRemote	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.listOutputFileNameLocal	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % or a trailing \ or /

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in			
		Plug-in name	Description		Error recovery method
1	hypervGetInfo	Obtain a virtual server information list	Outputs the virtual server information list to a temporary file of Hyper-V server.		After removing the cause of the error, run the service again.
2	fileTransferPlugin	File-Forwarding Plug-in	Transfers the remote temporary file to an output file specified locally.		The file transfer failed. Transfer and then delete the temporary file in the Hyper-V server specified in the hyperv.listOutputFileNameRemote property.
3	osDeleteFile	Delete file	Deletes the remote temporary file.		The file specified in the hyperv.listOutputFileNameRemote property in the Hyper-V server still remains. Delete it manually.

3.7.6 Stop the virtual server

Function

This service template performs a forced shutdown of the OSs of multiple virtual servers in the Hyper-V environment.

The following servers are required for this service template:

- Hyper-V server

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

An overview of the processing is as follows.

(1) The status of the virtual server is obtained. For details, see "List of statuses of virtual servers managed by Hyper-V" in this product manual.

(2) If the virtual server is in the startup complete status, shut down the virtual server OS. If the status is stopping complete, the process for shutting down the virtual server OS is skipped. In cases where the status is something other than startup complete or stopping complete, an error occurs in the process of the relevant virtual server.

The above processing is performed in parallel for the specified virtual server group.

When the virtual server OS is shut down, a wait is performed for the number of seconds specified in the hyperv.checkVmStateDisabledInterval property, and the operation for checking the virtual server status is repeated for the count specified in the hyperv.checkVmStateDisabledCount property. Adjust the values of each property based on your usage environment.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS of Hyper-V Server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

(2) Prerequisite OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions of prerequisite products in the system executing the service template]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled in the target virtual server:

- Operating system shutdown

Cautions

(1) This service performs a forced shutdown of the specified virtual server OS. When this service is executed, file data that was being edited in the virtual server is not saved.

Version

03.00.00

Tags

Control VM,Hyper-V 2008

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the Hyper-V information.	Y
Virtual server information	Specify the information of the virtual server that will be stopped.	Y
Execution options	This is the property for the state check when stopping the virtual server. Make any changes as needed.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
hyperv.checkVmStateDisabledCount	Virtual server status (stopping complete) check count	Specifies the number of times to check whether virtual server stopping is complete. This value combined with the check interval for the virtual server status (stopping complete) determines the maximum wait time.	Input	Disabled	R	Execution options
hyperv.checkVmStateDisabledInterval	Virtual server status (stopping complete) check interval	Specifies the interval in seconds between checks for whether virtual server stopping is complete.	Input	Disabled	R	Execution options

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkJobShutdownCount	Job monitoring count (InitiateShutdown method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Execution options
hyperv.checkJobShutdownInterval	Monitor interval (InitiateShutdown method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	Input	Disabled	R	Execution options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.) If specifying multiple names, separate them with commas. You can specify up to 99 names.	Input	Disabled	R	Virtual server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.checkVmStateDisabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateDisabledInterval	Enter an integer from 1 to 60.
hyperv.checkJobShutdownCount	Enter an integer from 1 to 2147483647.
hyperv.checkJobShutdownInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < >	; & ' " * ? [ ] ` % \ / :

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOffVMhyperV	Repeated Execution Plug-in	Performs a forced shutdown of multiple virtual server OSs.	After removing the cause of the error, run the service again.

3.7.7 Stop the virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hypervGetVMState	Obtain the virtual server status	Obtains the virtual server status in the Hyper-V environment.	After removing the cause of the error, run the service again.
2	hypervShutdownVM	Flow Plug-in	Shuts down a virtual server in the Hyper-V environment.	--
2-1		Branch by property value plug-in	Determines if the virtual server is in a state other than "Stop completed".	After removing the cause of the error, run the service again.
2-2		Shut down a virtual server	If the virtual server is in a state other than "Stop completed", shuts down the virtual server.	After removing the cause of the error, run the service again.

3.8 Service templates for Hyper-V 2012 (configuration)

3.8.1 Change virtual server specifications (CPU and memory)

Function

This service template changes the specified resource settings (CPU and memory) of a virtual server in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) The service asks whether CPU and memory settings are to be changed. If you do not want to change either the CPU settings or the memory settings, the service ends abnormally.

(2) The service makes sure that the virtual server is stopped.

If the virtual server is running, the User-Response Wait plug-in is executed to check whether the virtual server is to be shut down.

Users who have Modify permission can use this plug-in to specify an email destination, message, timeout value, and information to be displayed.

If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the virtual server shuts down.

If you select "Cancel" or a timeout occurs while waiting for a response, the service ends abnormally without changing the virtual server specifications.

(3) The target settings for the CPU and memory resources of the virtual server are changed.The settings that can be changed are listed below.

CPU settings that can be changed:

- Number of virtual processors

- Number of reserved virtual processor resources

- Maximum number of virtual processor resources

- Relative Weight setting of virtual processor resources

- Processor compatibility

- Maximum number of processors that can be used on a NUMA node

- Maximum number of NUMA nodes that can be used by a socket

Memory settings that can be changed:

- Startup RAM (MB)

- Whether to enable dynamic memory

- Minimum RAM for dynamic memory (MB)

- Maximum RAM for dynamic memory (MB)

- Buffer for dynamic memory

- Memory weight

- Maximum size of memory available on a NUMA node (MB)

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products in the service-template execution system, and OSs of prerequisite products in the service-template execution system.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2012 Hyper-V or Windows Server 2012 R2 Hyper-V

OSs of prerequisite products in the service-template execution system:

(1) Prerequisite OS for the Hyper-V server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using the prerequisite products in the service-template execution system:

(1) The name of each virtual server must be unique within a single Hyper-V server.

Cautions

(1) Do not execute multiple instances of this service simultaneously on the same virtual server.

(2) You can use certain HTML tags when specifying the property UserResponseplugin.dialogText. The tags and attributes that can be used are the same as those that can be used for the User-Response Wait plug-in. For details, see the topic about the User-Response Wait plug-in in this product manual.

(3) The maximum number of virtual processors that can be set for a virtual server differs depending on the Hyper-V server.

(4) The values that can be specified for the memory-related settings of a virtual server differ depending on the Hyper-V server.

(5) If the service ends abnormally, some CPU or memory settings might have been changed.

(6) If you select "yes" for the property hyperv.selectVmCpuChange and then execute the service without entering a value for any CPU-related setting, the service ends abnormally. Similarly, if you select "yes" for the property hyperv.selectVmMemoryChange and then execute the service without entering a value for any memory-related setting, the service ends abnormally.

(7) If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the virtual server shuts down. Data in the files that are currently being edited on the virtual server will not be saved.

Version

03.00.00

Tags

Modify VM,Hyper-V 2012

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual-system environment information	Specify information about Hyper-V 2012.	Y
Virtual server information	Specify information about the virtual server whose specifications are to be changed and whether items to be changed exist.	Y
Virtual server CPU settings	These settings are the CPU settings that can be changed for the virtual server. To change the settings, specify a value for at least one property.	N
Virtual server memory settings	These settings are the memory settings that can be changed for the virtual server. To change the settings, specify a value for at least one property.	N
User response wait option	The option is used for user response after the virtual server starts. If necessary, change the value of this option.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

   R: The property must be specified.

   O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual-system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait option
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait option
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait option
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User response wait option
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User response wait option
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User response wait option
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User response wait option
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User response wait option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information
hyperv.selectVmCpuChange	Whether to change the virtual server CPU settings	If you want to change the virtual server CPU settings, select "yes". If you do not want to change the virtual server CPU settings, select "no".	Input	Disabled	R	Virtual server information
hyperv.selectVmMemoryChange	Whether to change the virtual server memory settings	If you want to change the virtual server memory settings, select "yes". If you do not want to change the virtual server memory settings, select "no".	Input	Disabled	R	Virtual server information
hyperv.cpuCount	Number of virtual processors	Specify the number of virtual processors to be set on a virtual server. Specify an integer of 1 or greater.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuReserve	Number of reserved virtual processor resources	Specify the number of virtual processor resources reserved by each virtual server. Specify an integer that does not exceed "Maximum number of virtual processor resources" within the range from 0 to 100.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuMaximum	Maximum number of virtual processor resources	Specify the maximum number of virtual processor resources that can be used by each virtual server. Specify an integer that is equal to or greater than "Number of reserved virtual processor resources" within the range from 0 to 100.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuRelativeWeight	Relative weight of virtual processor resources	Specify the relative weight of virtual processor resources among virtual servers. Specify an integer in the range from 0 to 10,000.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuCompatibilityForMigrationEnabled	Processor compatibility	To enable processor compatibility, specify "true". To disable processor compatibility, specify "false". If specification is omitted, the current setting does not change.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuMaximumCountPerNumaNode	Maximum number of processors that can be used on a NUMA node	Specify the maximum number of processors that can be used on a virtual NUMA (Non-Uniform Memory Architecture) node. Specify an integer of 1 or greater.	Input	Disabled	O	Virtual server CPU settings
hyperv.nodeMaximumCountPerNumaSocket	Maximum number of NUMA nodes that can be used by a socket	Specify the maximum number of virtual NUMA (Non-Uniform Memory Architecture) nodes that	Input	Disabled	O	Virtual server CPU settings

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.nodeMaximumCountPerNumaSocket	Maximum number of NUMA nodes that can be used by a socket	can be used by one socket. Specify an integer of 1 or greater.	Input	Disabled	O	Virtual server CPU settings
hyperv.memoryStartupMegaBytes	Startup RAM (MB)	Specify (in MB) the amount of memory to be used during the startup of the virtual server. Specify an integer of 8 or greater that is a multiple of 2.	Input	Disabled	O	Virtual server memory settings
hyperv.dynamicMemoryEnabled	Whether to enable dynamic memory	To enable dynamic memory on the virtual server, specify "true". To disable dynamic memory on the virtual server, specify "false". If specification is omitted, the current setting does not change.	Input	Disabled	O	Virtual server memory settings
hyperv.dynamicMemoryMinimumMegaBytes	Minimum RAM for dynamic memory (MB)	Specify (in MB) the minimum amount of dynamic memory. Specify a multiple of 2 in the range from 8 to the "Startup RAM" value. Specify this item only when dynamic memory is enabled.	Input	Disabled	O	Virtual server memory settings
hyperv.dynamicMemoryMaximumMegaBytes	Maximum RAM for dynamic memory (MB)	Specify (in MB) the maximum amount of dynamic memory. Specify a multiple of 2 that is not smaller than 8 and the "Startup RAM" value. Specify this item only when dynamic memory is enabled.	Input	Disabled	O	Virtual server memory settings
hyperv.dynamicMemoryBuffer	Buffer for dynamic memory	Specify the percentage of memory to be reserved as the buffer for dynamic memory of Hyper-V. Specify an integer in the range from 5 to 2,000. Specify this item only when dynamic memory is enabled.	Input	Disabled	O	Virtual server memory settings
hyperv.memoryPriority	Memory weight	Specify the priority that is applied when available memory is allocated to multiple virtual servers. Specify an integer in the range from 0 to 100.	Input	Disabled	O	Virtual server memory settings
hyperv.memoryMaximumAmountMegaBytesPerNumaNode	Maximum size of memory available on a NUMA node (MB)	Specify (in MB) the maximum amount of memory that can be used on a virtual NUMA (Non-Uniform Memory Architecture) node. Specify an integer of 8 or greater.	Input	Disabled	O	Virtual server memory settings

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

Property key	Characters that can be input
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.selectVmCpuChange	Select one of the following values: yes,no
hyperv.selectVmMemoryChange	Select one of the following values: yes,no
hyperv.cpuCount	Integer of 1 or greater
hyperv.cpuReserve	An integer in the range from 0 to 100
hyperv.cpuMaximum	An integer in the range from 0 to 100
hyperv.cpuRelativeWeight	An integer in the range from 0 to 10,000
hyperv.cpuCompatibilityForMigrationEnabled	Select one of the following values: true,false
hyperv.cpuMaximumCountPerNumaNode	Integer of 1 or greater
hyperv.nodeMaximumCountPerNumaSocket	Integer of 1 or greater
hyperv.memoryStartupMegaBytes	Integer of 8 or greater
hyperv.dynamicMemoryEnabled	Select one of the following values: true,false
hyperv.dynamicMemoryMinimumMegaBytes	Integer of 8 or a greater
hyperv.dynamicMemoryMaximumMegaBytes	Integer of 8 or greater
hyperv.dynamicMemoryBuffer	An integer in the range from 5 to 2,000
hyperv.memoryPriority	An integer in the range from 0 to 100
hyperv.memoryMaximumAmountMegaBytesPerNumaNode	Integer of 8 or greater

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkVmSpecChange	Flow Plug-in	Checks whether the virtual server specifications (CPU and memory) need to be changed. If both of the properties hyperv.selectVmCpuChange and hyperv.selectVmMemoryChange are set to "no", the service terminates abnormally.	--
1-1		Judge Value Plug-in	Checks whether the property hyperv.selectVmCpuChange is set to "no".	After removing the cause of the error, run the service again.
1-2		Flow Plug-in	Checks whether the virtual server specifications (CPU and memory) need to be changed.	--
1-2-1		Judge Return Code Plug-in	Checks whether the property hyperv.selectVmMemoryChange is set to "no".	After removing the cause of the error, run the service again.
1-2-2		Abnormal-End Plug-in	Terminates the service abnormally if the virtual server specifications (CPU and memory) do not need to be changed.	Check the settings of the properties hyperv.selectVmCpuChange and hyperv.selectVmMemoryChange. To run the service, "yes" must be selected for one of these properties.
2	checkHyperv2012V MState	Flow Plug-in	Checks the status of a virtual server. If it is still running, the plug-in asks the user whether the virtual server is to be stopped.	--
2-1		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
2-2		Judge Value Plug-in	Checks whether the specified virtual server has stopped.	After removing the cause of the error, run the service again.
2-3		Flow Plug-in	Asks the user whether the virtual server is to be stopped. If the user chooses to stop it, this plug-in shuts down the virtual server.	--
2-3-1		User-Response Wait Plug-in	Asks the user whether the virtual server is to be stopped, and then waits for the user's response.	After removing the cause of the error, run the service again.
2-3-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
2-3-3		Judge Value Plug-in	Checks whether the virtual server needs to be shut down.	After removing the cause of the error, run the service again.
2-3-4		Shut down virtual server	Shuts down a virtual server.	After removing the cause of the error, run the service again.
3	changeHyperV2012 VMSpec	Flow Plug-in	Changes the virtual server specifications.	--
3-1		Judge Value Plug-in	Judges whether to change the memory settings of a virtual server.	After removing the cause of the error, run the service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-2	changeHyperV2012 VMSpec	Change virtual server memory settings	Changes the memory settings of a virtual server.	After removing the cause of the error, run the service again.
3-3		Judge Value Plug-in	Judges whether to change the CPU settings of a virtual server.	After removing the cause of the error, run the service again.
3-4		Change virtual server CPU settings	Changes the CPU settings of a virtual server.	Part of the CPU settings or memory settings of the virtual server might have been changed. After checking the task log and removing the cause of the error, run the service again.

3.8.2 Delete virtual server

Function

This service template deletes virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) The task obtains the status of the virtual server.

(2) The task confirms that the virtual server is not running.

If the virtual server is not running, the task continues processing. In all other cases, the task executes the User-Response Wait plug-in to check whether the virtual server is to be shut down.

If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the running virtual server is shut down. If you select "Shutdown" for a virtual server that is not running, the task terminates abnormally without performing any operations on the virtual server.

If you select "Cancel" or the wait for a user response times out, the task terminates abnormally without performing any operations on the virtual server.

(3) The task deletes the virtual server.

The virtual server is deleted from the Hyper-V server. At this time, all snapshots for that virtual server are also deleted.

If you select "yes" from the selection list for the property hyperv.vHardDiskDeletePermanently, the task deletes all (dynamic, fixed, and differential) virtual disk files that are allocated to the virtual server that is to be deleted. The task does not delete disks or files that are allocated to pass-through (physical) disks, floppy disks, CDs or DVDs. If differential

virtual disks are allocated to the virtual server, the task does not delete the virtual disks that are used as the parents of those differential virtual disks.

If the attempt to delete virtual disk files on the virtual server fails, the file deletion processing stops, and the task terminates abnormally.

(4) The task outputs a list of virtual disk files on the virtual server.

If the properties hyperv.vhdListOutputFileNameRemote and hyperv.vhdListOutputFileNameLocal are specified, the task outputs a CSV file that lists the paths of the virtual disk files allocated to the virtual server that is to be deleted from the Hyper-V server. The task then transfers the CSV file to the local PC and deletes the CSV file from the remote PC. If differential virtual disks are allocated to the virtual server, the virtual disks that are used as the parents of those differential virtual disks are not included in the CSV file.

If only the property hyperv.vhdListOutputFileNameRemote is specified, the task outputs a CSV file that lists the paths of the virtual disk files, but does not transfer the CSV file to the local PC.

The following items are output to the file in CSV (comma-separated value) format:

(a) Whether virtual disk files exist (header name: Existence)

Depending on whether virtual disk files are allocated to the virtual server when the server is deleted, one of the following values is output:

Found: Existence of virtual disk files was confirmed.

NotFound: Virtual disk files were set up, but their existence could not be confirmed.

(b) File deletion result (header name: DeleteResult)

If you select "yes" from the selection list for the property hyperv.vHardDiskDeletePermanently, the task outputs the result of deleting the virtual disk files. If you select "no", "Skipped" is output. For the deletion result, one of the following values is output:

Completed: File deletion finished successfully.

Failed: File deletion failed.

Skipped: File deletion was not performed.

(c) File path (header name: FilePath)

The paths of the virtual disk files set for the Hyper-V server are output, regardless of the values in (a) and (b).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the system executing the service template:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

Supported OSs for the prerequisite products in the system executing the service template:

(1) OS of the Hyper-V server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

(2) OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) The following service of Hyper-V Integration Services must be enabled on the target virtual server:

- Operating System Shutdown

Cautions

(1) Do not concurrently execute multiple instances of this service on the same virtual server.

(2) If you previously performed an operation (such as a snapshot-related operation) to make the path of a virtual disk file invisible in the virtual server settings, this service will not delete that virtual disk file. In such a case, manually delete the virtual disk file.

(3) You can specify HTML tags for the property UserResponseplugin.dialogText. The specifiable tags and attributes are the same as those for the User-Response Wait plug-in. For details, see the topic about the User-Response Wait plug-in in this product manual.

(4) If you specify an existing file for the property hyperv.vhdListOutputFileNameRemote or hyperv.vhdListOutputFileNameLocal, the existing file is overwritten. In addition, the file on the remote PC will be deleted, so make sure the specified file name is correct.

(5) If you specify a path that includes non-existent folders for the property hyperv.vhdListOutputFileNameRemote, those folders are automatically created but not automatically deleted. Periodically delete these folders if they are unnecessary.

(6) If you specify the property hyperv.vhdListOutputFileNameRemote, a file is output to the remote PC even if the property hyperv.vhdListOutputFileNameLocal is not specified or if an error occurs during the deletion of the virtual server or virtual disk file. Because this service does not delete the output file, manually delete the file if it is unnecessary.

(7) This service does not delete the registration information of virtual servers from any services and applications of the failover cluster manager. Manually delete the registration information based on the user operational requirements.

(8) If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the OS of the virtual server is forcibly shut down. Data in files that are being edited on the virtual server will not be saved.

Version

03.00.00

Tags

Delete VM,Hyper-V 2012

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify information about the Hyper-V server.	Y
Virtual server information	Specify information about the virtual server to be deleted.	Y
Output file storage information	If necessary, specify the storage destination for the file to be output.	N
User-response wait option	This option is used when user response is required after a virtual server is started. Change the settings of this option as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

   R: The property must be specified.

   O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait option

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait option
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User-response wait option
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User-response wait option
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User-response wait option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information
hyperv.vHardDiskDeletePermanently	Deletion of virtual disk file required	Specifies whether to delete virtual disk file used for the virtual server.	Input	Disabled	R	Virtual server information
hyperv.vhdListOutputFileNameRemote	Output file name (remote)	Specifies, as a full path, the temporary file name for when the virtual disk file list used by the virtual server is output to the Hyper-V server.	Input	Disabled	O	Output file storage information
hyperv.vhdListOutputFileNameLocal	Output file name (local)	Specifies the name of the file (in full-path format) that contains the list of virtual disk files to be saved to the local server.	Input	Disabled	O	Output file storage information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

Property key	Characters that can be input
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.vHardDiskDeletePermanently	Select one of the following values: yes,no
hyperv.vhdListOutputFileNameRemote	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.vhdListOutputFileNameLocal	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % or a trailing \ or /

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2012CheckVMState	Flow Plug-in	Checks the status of a virtual server. If the virtual server is running, this plug-in asks the user whether the virtual server is to be stopped.	--
1-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
1-3		Judge Value Plug-in	Checks whether a virtual server has stopped.	After removing the cause of the error, run the service again.
1-4		Flow Plug-in	Asks the user whether the virtual server is to be stopped. If the user chooses to stop it, this plug-in shuts down the virtual server.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1-4-1	hyperv2012CheckVMState	User-Response Wait Plug-in	Asks the user whether the virtual server is to be stopped, and then waits for the user's response.	After removing the cause of the error, run the service again.
1-4-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
1-4-3		Judge Value Plug-in	Checks whether a virtual server has stopped.	After removing the cause of the error, run the service again.
1-4-4		Shut down virtual server	Shuts down a virtual server.	After removing the cause of the error, run the service again.
2	hyperv2012DeleteVM	Delete virtual server	Deletes a virtual server.	If the virtual server has not been deleted, remove the cause of the error, and then run the service again. If the virtual server has been deleted, check whether virtual disk files exist. If a list of virtual disk files was output, check the files on the Hyper-V server. If necessary, manually delete the virtual disk files.
3	outputFileTransfer	Flow Plug-in	Forwards a list of virtual disk files.	--
3-1		Judge Value Plug-in	Checks whether the name of the file (remote) where the list of virtual disk files is to be output is specified.	If a list of virtual disk files was output, this list remains on the Hyper-V server. Manually delete this list.
3-2		Flow Plug-in	Forwards a list of virtual disk files.	--
3-2-1		Judge Value Plug-in	Checks whether the name of the file (local) where the list of virtual disk files is to be output is specified.	If a list of virtual disk files was output, this list remains on the Hyper-V server. Manually delete this list.
3-2-2		Flow Plug-in	Forwards a list of virtual disk files.	--
3-2-2-1		File-Forwarding Plug-in	Forwards the remote temporary file to the specified local output file.	A list of virtual disk files remains on the Hyper-V server. Manually delete this list.
3-2-2-2		Delete file	Deletes the remote temporary file.	A list of virtual disk files remains on the Hyper-V server. Manually delete this list.

3.8.3 Add a virtual server (deploy/OS initial settings)

Function

This service template uses an exported virtual server to add a new virtual server in a Hyper-V environment.

The following describes the servers that this service template requires:

- Hyper-V server

A server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

- Exported virtual server

A virtual server and its full set of configuration files

- Container server

A server that contains an exported virtual server to be replicated.

The following provides a processing overview:

(1) A virtual server is created on the Hyper-V server.

1. Replicate a virtual server from an already exported one in the import destination folder.

2. Create a virtual server by using the import function on the Hyper-V server.

Assign a new unique ID to the new virtual server you create.

If the specified import destination folder already exists, the folder is used as is.

(2) The virtual server's connection destination (management-use) virtual switch is set up.

You must set up a management-use virtual switch for a NIC to establish communication with the local server.

If a connection-destination virtual switch has already been set on the exported virtual server, the switch is replaced by the specified one.

For the first NIC, set up a management-use virtual switch that can communicate with the local server. For the second to fourth NICs, set a management-use or operation-use virtual switch according to the user operating requirements.

If the number of specified virtual switches exceeds the number of NICs on the virtual server, only the virtual switches allocated to NICs are enabled.

(3) A response file to be used for OS customization is created and deployed.

1. Mount the virtual disk of the virtual server to the Hyper-V server.

2. On the mounted virtual disk, create a response file to be used for OS customization.

3. Unmount the virtual disk from the Hyper-V server.

(4) The virtual server starts, and the initial settings on the virtual server are specified.

1. Specify the initial OS settings (such as the computer name and company name).

Set the computer name, company name, organization name, and time zone as the initial OS settings.

2. Set IP addresses for the virtual server.

A virtual server can have a maximum of four IP addresses. For the first IP address (management-use IP address), set an IP address for managing the deployed virtual server. For the second to fourth IP addresses, set an IP management-use IP

address or operation-use IP address according to the user operating requirements. Some settings require connection to the OS by using a management-use IP address. The order in which IP addresses are set differs depending on the number of NICs installed on the virtual server, as shown below.

- When only one NIC is installed on the virtual server

The IP address to be set for the NIC is determined based on the following priority: IP address for management > second IP address > third IP address > fourth IP address. Among the specified IP addresses, only the one with the highest priority is set and the others are discarded.

- When two or more NICs are installed on the virtual server

Specified IP addresses are allocated to the NICs in the following order: management-use IP address > second IP address > third IP address > fourth IP address. Specification of blank IP addresses is skipped. For example, if the management-use IP address, second IP address, and fourth IP address are specified (that is, the third IP address is not specified), the fourth IP address is allocated to the third NIC on the virtual server. If the number of specified IP addresses exceeds the number of NICs installed on the virtual server, the IP addresses that are not allocated to NICs are discarded.

(5) The virtual server's (second to fourth) connection-destination virtual switches are set.

The connection-destination virtual switches that have already been set on the exported virtual server are replaced with the specified ones.

For the first NIC, set a management-use virtual switch that can communicate with the local server. For the second to fourth NICs, set a management-use or operation-use virtual switch according to the user operating requirements.

If the number of specified virtual switches exceeds the number of NICs installed on the virtual server, only the virtual switches allocated to NICs are enabled.

(6) If the management-use IP address to be set in the OS of the virtual server is specified and two or more IP addresses are set for the virtual server, a static route is set.

(7) If DOMAIN is selected from the selection list for the OS.selectWorkgroupDomain property, and the domain name, domain user name, and domain password are specified, processing to join the domain is executed.

The following provides notes on setting properties:

(1) The OS user password must be entered twice (the second entry is for confirmation). If the OS user password is not entered twice, "Password123" is set as the password. This password is also set if the first entered and second entered passwords do not match.

(2) If WORKGROUP is selected from the selection list for OS.selectWorkgroupDomain, the maximum length of the specifiable workgroup name is 15 bytes. If you specify a workgroup name longer than 15 bytes, the string "WORKGROUP" is set, instead of the specified name.

(3) If DOMAIN is selected from the selection list for the OS.selectWorkgroupDomain property, the domain name, domain user name, and domain password are required. If any values for these items are missing or domain participation fails, "WORKGROUP" is set as the workgroup name.

(4) Be sure to specify both the IP address and subnet mask. If you do not specify both of these items, the IP address, subnet mask and default gateway are not set.

(5) If the virtual switch specification is missing, connections to the virtual switches are not established.

(6) For the static route, specify the destination IP address, subnet mask and default gateway. If any of these items are missing, the static route is not set.

(7) Specifiable time zones are as follows:

- Tokyo Standard Time

- China Standard Time

- GMT Standard Time

- Pacific Standard Time

- Eastern Standard Time

- US Eastern Standard Time

- Central Standard Time

- Central America Standard Time

- US Mountain Standard Time

- Mountain Standard Time

- Alaskan Standard Time

- Hawaiian Standard Time

- Singapore Standard Time

- India Standard Time

If no time zone is specified, the time zone set in the exported virtual server is used.

(8) Specifiable locales are as follows:

- ja-JP

- en-US

- zh-CN

(9) Specifiable OS names are as follows:

- Windows Server 2008 R2

- Windows Server 2012

- Windows Server 2012 R2

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products in the service-template execution system, and OSs of prerequisite products in the service-template execution system.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2012 Hyper-V or Windows Server 2012 R2 Hyper-V

OSs of prerequisite products in the service-template execution system:

(1) Prerequisite OS for the Hyper-V server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using the prerequisite products in the service-template execution system:

(1) Conditions related to the settings on the Hyper-V server

- Virtual switch settings must have been specified.

- Each virtual switch name must be unique within the Hyper-V server.

- An exported virtual server to be deployed must have been created.

(2) Conditions related to the exported virtual server to be deployed

(2-1) The following service of Hyper-V Integration Service must be enabled:

- Data Exchange

(2-2) Before a virtual server is exported from the Hyper-V server, the virtual server must satisfy the following conditions:

1) The administrator user password is blank.

2) The network settings are deleted.

If the network adapter settings have been specified on the virtual host, make sure that the values of the following settings are blank, and then set [Obtain an IP address automatically] and [Obtain DNS server address automatically]:

- IP address

- Subnet mask

- Default gateway

- Preferred DNS server

- Alternate DNS server

3) The OS settings must have been initialized by using Sysprep.

Also, the following conditions must be satisfied:

- [Enter System Out of Box Experience (OOBE)] is selected from the [System Cleanup Action] drop-down list.

- The [Generalize] check box is selected.

(2-3) Agentless connection must be possible.

(2-4) A maximum of four NICs must be set up.

- Connections with virtual switches must be closed.

(2-5) The firewall must permit ICMP (ECHO) replies.

(2-6) If the container server and the Hyper-V server are different, the folder containing the virtual server exported from the Hyper-V server must be a shared folder.

(2-7) No legacy network adapter must be set.

(2-8) Snapshots and differential disks must not be created.

(3) Conditions related to the settings on the virtual server

- The virtual server name must be unique within the Hyper-V server.

(4) Conditions related to this product settings

- For the following addresses, authentication information must have been set in the agentless connection definition on the [Management] tab: the local server address (a loopback address that can be resolved from the name "localhost"), Hyper-V server address, and the management-use IP address of the virtual server to be deployed.

Cautions

(1) If no virtual switch is specified, the connection-destination virtual switch information of the relevant NIC is deleted. As a result, the NIC is disconnected from the virtual switch. Be sure to specify all necessary virtual switches.

(2) For IP addresses to be set in the OS of the virtual server, enter only values that are treated as IP addresses. For example, you must not specify special addresses such as a network address, broadcast address, "0.0.0.0", or "255.255.255.255". If you enter such a special address, deployment of the virtual server fails. In addition, for management-use IP addresses, enter IP addresses that allow communication with the local server. If you enter an address that is correct but does not allow communication with the local server, deployment might fail.

(3) While the virtual server is being deployed, make sure that other services do not operate the virtual server. If other services operate the virtual server that is being deployed, deployment might fail. Direct operation from the Hyper-V server is also prohibited.

(4) IP addresses are set as described in the Function Specifications. However, depending on the order in which NICs are set in the OS of the virtual server, IP addresses might not be set as intended. Therefore, after the virtual server has been created, check whether IP addresses are set as intended. If IP addresses are not set as intended, correct the settings manually.

(5) Make sure that IP addresses set on the virtual server are not being used by other servers. If an IP address that is set on another server is set, no NICs on the virtual server are enabled, sometimes causing the task to terminate abnormally.

(6) Make sure that the settings to be specified during creation of the virtual server to be deployed have not been set on the exported virtual server. If the computer name, host name, or IP address has already been set on the exported virtual server, virtual server creation might fail (for example, an error occurs in static-route related processing). If creation fails, delete the virtual server, re-create an exported virtual server on which the computer name, host name, or IP address is not set, and then re-execute this service.

(7) If deployment fails, the response file used to specify the initial OS settings and IP addresses on the virtual server might remain on the system drive of the virtual server. If a response file remains, check for the relevant response file in the task log, and delete the file. Alternatively, delete the virtual server.

(8) If folders in the specified import destination path do not exist, they are created.

(9) If virtual disk files remain in folders in the specified import destination path, the task terminates abnormally. Check the folders in the specified path, and then delete them or specify another path.

(10) This service does not register virtual servers deployed for any services and applications of the failover cluster manager. Register those servers manually according to the user operating requirements.

(11) When virtual disks on a virtual server are mounted to the Hyper-V server, available drive letters on the Hyper-V server are temporarily locked. If there are no available drive letters, an error occurs when the virtual disk is being mounted, and the task terminates abnormally. Before you execute this service, make sure that there are as many available drive letters on the Hyper-V server as the number of drives used by the virtual disks on the exported virtual server.

(12) If the generation number of the exported virtual server is 2, for the hyperv.scsiDiskLocation property, specify the location of the SCSI controller in which the virtual server's system disk is set. If the location of the system disk differs from the location specified for that property, a search for the system disk takes place. In this case, therefore, a longer time might be required to complete deployment.

(13) If the OS of the virtual server is Windows Server 2012 or Windows Server 2012 R2, the system waits for initial OS setup to finish. Therefore, a few more minutes are required for the task to terminate than in other OSs. We recommend that you do not change the value of the hyperv.osSettingWaitTime property from the default value. Note, however, that if the wait time specified for the property is not long enough, the next step might start before the initial OS setup finishes, causing the task to terminate abnormally.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Add VM,Hyper-V 2012

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify Hyper-V information.	Y
Virtual server information	Specify the information about the virtual server to be added.	Y
OS information	Specify the OS information to be set on the virtual server.	Y
Network information	Specify the network information for the virtual server.	Y
Run-time option	The property for checking the status before specifying the initial OS settings on the virtual server. Change the option, if necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
hyperv.userName	User name for connecting to storage server	Specifies the user name for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	Input	Disabled	O	Virtual server information
hyperv.password	Password for connecting to storage server	Specifies the password for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	Input	Disabled	O	Virtual server information
windows.orgName	Organization name (company name)	Specify the organization name to be set in the OS of the virtual server.	Input	Disabled	R	OS information
windows.ownerName	Name (owner name)	Specify the owner name to be set in the OS of the virtual server.	Input	Disabled	R	OS information
OS.selectWorkgroupDomain	Select workgroup/domain	Select which type of entity you want the virtual server to belong to: workgroup or domain.	Input	Disabled	R	OS information
OS.workgroupNameDomainName	Workgroup/domain name	Specify the name of the workgroup or domain that the virtual server belongs to. The workgroup name can have a maximum of 15 characters. The domain name can have a maximum of 63 characters.	Input	Disabled	R	OS information
OS.domainUserName	Domain user name	Specify the user name for the domain that the virtual server belongs to. This item must be specified if DOMAIN is selected as the type of entity that you want the virtual server to belong to.	Input	Disabled	O	OS information
OS.domainUserPassword	Domain password	Specify the password for the domain that the virtual server belongs to. This item must be specified if DOMAIN is selected as the type of entity that you want the virtual server to belong to.	Input	Disabled	O	OS information
OS.subnetMaskMan	Subnet mask (management LAN)	Specify the subnet mask for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.defaultGWMan	Default gateway (management LAN)	Specify the default gateway for the management LAN of the	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.defaultGWMan	Default gateway (management LAN)	virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.dnsMan	DNS server IP address (management LAN)	Specify the IP address of the DNS server connected to the management LAN to be set on the virtual server. Do not specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.virtualSwitchMan	Virtual switch name (for management)	Specifies the virtual switch name (for management) set for the NIC (for management) that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask2	Subnet mask (for second NIC)	Specify the 2nd subnet mask for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.defaultGW2	Default gateway (for second NIC)	Specify the 2nd default gateway for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.dns2	DNS server IP address (for second NIC)	Specify the IP address of the DNS server to be set for the second NIC recognized by the OS of the virtual server. Do not specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.virtualSwitch2	Virtual switch name (for second NIC)	Specifies the virtual switch name (for second NIC) set for the second NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask3	Subnet mask (for third NIC)	Specifies the subnet mask that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.defaultGW3	Default gateway (for third NIC)	Specifies the default gateway that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.dns3	DNS server IP address (for third NIC)	Specify the IP address of the DNS server to be set for the third NIC recognized by the OS of the virtual server. Do not specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.virtualSwitch3	Virtual switch name (for third NIC)	Specifies the virtual switch name (for third NIC) set for the third NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask4	Subnet mask (for fourth NIC)	Specifies the subnet mask that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.defaultGW4	Default gateway (for fourth NIC)	Specifies the default gateway that is set for the fourth NIC recognized by the OS on the	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.defaultGW4	Default gateway (for fourth NIC)	virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.dns4	DNS server IP address (for fourth NIC)	Specify the IP address of the DNS server to be set for the fourth NIC recognized by the OS of the virtual server. Do not specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.virtualSwitch4	Virtual switch name (for fourth NIC)	Specifies the virtual switch name (for fourth NIC) set for the fourth NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.destIPAddress	Destination IP of static route	Specify the static-route destination IP address. Do not specify an IPv6 address.	Input	Disabled	O	Network information
OS.subnetMaskStaticRoute	Subnet mask (static route)	Specify the subnet mask for the static route. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.defaultGWStaticRoute	Default gateway (static route)	Specify the default gateway for the static route. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.scsiDiskLocation	SCSI controller location	Specify the location of the SCSI controller for which a system disk has been set. This property takes effect only if the generation number of the exported virtual server is 2.	Input	Disabled	R	Run-time option
hyperv.osSettingWaitTime	Wait time before initial OS setup finishes	Specify in seconds the time to wait before initial OS setup finishes.	Input	Disabled	R	Run-time option
common.icmpEchoTimeout	Timeout period for ICMP echo requests	To check network connectivity, specify in milliseconds the time to wait for a reply to an ICMP echo request performed after the virtual server starts.	Input	Disabled	R	Run-time option
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Run-time option
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Run-time option
hyperv.checkJobStateCountGetDriveList	Job monitoring count (Win32_LogicalDisk method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	Input	Disabled	R	Run-time option

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkJobStateIntervalGetDriveList	Job monitoring interval (Win32_LogicalDisk method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information
hyperv.exportedVmName	Path of exported virtual server folder	Specifies the folder name, as a full path, of the exported virtual server that is used as the copy source of the virtual server. If the storage server is a server other than the Hyper-V server, specify the path in UNC syntax.	Input	Disabled	R	Virtual server information
hyperv.importFolderPath	Import target	Specifies the full path of the folder where the virtual server is stored.	Input	Disabled	R	Virtual server information
windows.operatingSystem	Operating system	Specifies the operating system (OS) of the virtual server.	Input	Disabled	R	Virtual server information
OS.computerName	Computer/host name	Specify the computer name (host name) in the OS.	Input	Disabled	R	OS information
OS.osUserPassword	Administrator password	Enter the administrator password to be set in the OS. If you enter nothing, "Password123" is set.	Input	Disabled	O	OS information
OS.osUserPasswordReEnter	Enter administrator password again	Re-enter the administrator password to be set in the OS. If you enter nothing, "Password123" is set.	Input	Disabled	O	OS information
OS.productKey	OS product key	Specify the OS product key in the following format: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX	Input	Disabled	O	OS information
OS.ipAddressMan	IP address (management LAN)	Specify the IP address for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.ipAddress2	IP address (for second NIC)	Specify the 2nd IP address for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.ipAddress3	IP address (for third NIC)	Specifies the IP address that is set for the third NIC recognized by	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.ipAddress3	IP address (for third NIC)	the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.ipAddress4	IP address (for fourth NIC)	Specifies the IP address that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.timeZoneWin	Time zone	Specify the time zone to be set in the OS of the virtual server.	Input	Disabled	O	OS information
OS.systemLocale	System locale	Specifies the system locale that is set for the OS of the virtual server.	Input	Disabled	R	OS information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.userName	Enter up to 20 halfwidth alphanumeric characters and symbols. The following characters are not allowed: < > | ; & ' " * ? [ ] ` / : = , + \ @ %
hyperv.password	Enter up to 127 halfwidth alphanumeric characters and symbols. The following characters are not allowed: < > | ; & ' " * ? [ ] ` %
windows.orgName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
windows.ownerName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, or %.
OS.selectWorkgroupDomain	Select one of the following values: WORKGROUP,DOMAIN
OS.workgroupNameDomainName	Enter up to 63 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
OS.domainUserName	A maximum of 20 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, \, @ or %.
OS.domainUserPassword	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.
OS.subnetMaskMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.dnsMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.virtualSwitchMan	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .

Property key	Characters that can be input
OS.defaultGW2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.dns2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.virtualSwitch2	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.defaultGW3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.dns3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
hyperv.virtualSwitch3	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.defaultGW4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.dns4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
hyperv.virtualSwitch4	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.destIPAddress	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.subnetMaskStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.scsiDiskLocation	An integer in the range from 0 to 63
hyperv.osSettingWaitTime	An integer in the range from 0 to 2,147,483,647
common.icmpEchoTimeout	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.
hyperv.checkJobStateCountGetDriveList	Enter an integer from 1 to 2147483647.
hyperv.checkJobStateIntervalGetDriveList	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :

Property key	Characters that can be input
hyperv.exportedVmName	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.importFolderPath	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
windows.operatingSystem	Select one of the following values: Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2
OS.computerName	Enter up to 15 halfwidth alphanumeric characters. You can also use hyphens (-).
OS.osUserPassword	A character string of no more than 64 characters can be entered. It cannot include < , > , |, ;, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPasswordReEnter	A character string of no more than 64 characters can be entered. It cannot include < , > , |, ;, &, *, ?, ", %, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.productKey	A maximum of 29 characters can be entered. Characters that can be used include alphanumeric characters, as well as -.
OS.ipAddressMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.ipAddress2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.ipAddress3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.ipAddress4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.timeZoneWin	Select one of the following values: Tokyo Standard Time, China Standard Time, GMT Standard Time, Pacific Standard Time, Eastern Standard Time, US Eastern Standard Time, Central Standard Time, Central America Standard Time, US Mountain Standard Time, Mountain Standard Time, Alaskan Standard Time, Hawaiian Standard Time, Singapore Standard Time, India Standard Time
OS.systemLocale	Select one of the following values: ja-JP, en-US, zh-CN

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2012CreateVM	Create a virtual server	Creates a virtual server from an exported virtual server in a Hyper-V environment.	After checking the task log and removing the cause of the error, run the service again. If virtual servers were already created on the Hyper-V server, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
2	hyperv2012SetVirtualSwitchMan	Virtual server virtual switch settings	Sets up a virtual switch for establishing a connection with the local server.	After checking the task log and removing the cause of the error,

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method	
2	hyperv2012SetVirtualSwitchMan	Virtual server virtual switch settings	Sets up a virtual switch for establishing a connection with the local server.	delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.	
3	hyperv2012CreateAnsFile	Flow Plug-in	Deploys a response file on a virtual server.	--	
3-1		Mount a virtual disk	Mounts a virtual disk on the Hyper-V server.	After checking the task log and removing the cause of the error, manually unmount any virtual disks mounted on the Hyper-V server. Then, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.	
3-2		Create a response file	Creates a response file for specifying the initial OS settings and IP addresses for a virtual server in a Hyper-V environment.	After checking the task log and removing the cause of the error, manually unmount any virtual disks mounted on the Hyper-V server. Then, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.	
3-3		Unmount a virtual disk	Unmounts a virtual disk from the Hyper-V server.	After checking the task log and removing the cause of the error, manually unmount any virtual disks mounted on the Hyper-V server. Then, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.	
4	hyperv2012PowerOnVM	Flow Plug-in	Specifies the initial OS settings (computer name, company name, and organization name) and IP addresses for a virtual server, and then starts the virtual server.	--	
4-1		Starts a virtual server	Starts a virtual server in a Hyper-V environment.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.	
4-2		Judge Value Plug-in	Judges whether wait time is necessary for the completion of the initial OS settings.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.	
4-3		Execute wait	Waits for the completion of the initial OS settings if wait time is necessary.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.	

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4	hyperv2012PowerOnVM	Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-5		Flow Plug-in	Checks whether the local server and virtual servers are connected to the network, and then sets IP addresses for the second to fourth NICs.	--
4-5-1		Send ICMP echo request message	Issues an ICMP echo request to a virtual server that is turned on.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-5-2		Judge Value Plug-in	Judges whether the second to fourth NICs need to be set up.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-5-3		Flow Plug-in	Sets up the second to fourth NICs.	--
4-5-3-1		Obtain the MAC address of an NIC	Obtains the MAC address of the management NIC.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-5-3-2		Virtual server virtual switch settings	Closes the connections between the virtual switches and the second to fourth NICs.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-5-3-3		Windows network settings	Sets IP addresses for the second to fourth NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5	hyperv2012SetVirtualSwitchBiz	Flow Plug-in	Sets up virtual switches for the second to fourth NICs.	--
5-1		Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
5-1	hyperv2012SetVirtualSwitchBiz	Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5-2		Flow Plug-in	Sets up virtual switches for the second to fourth NICs.	--
5-2-1		Judge Value Plug-in	Judges whether the second to fourth NICs need to be set up.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5-2-2		Flow Plug-in	Sets up virtual switches for the second to fourth NICs.	--
5-2-2-1		Obtain the MAC address of NICs	Obtains the MAC addresses of the second to fourth NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5-2-2-2		Virtual server virtual switch settings	Sets up virtual switches for the second to fourth NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5-3		Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
5-3	hyperv2012SetVirtualSwitchBiz	Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	the virtual disks set on those virtual servers, and then run this service again.
5-4		Virtual server virtual switch settings	Sets up virtual switches for the second to fourth NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
6	osSetStaticRoute	Flow Plug-in	Sets a static route on the OS of a virtual server.	--
6-1		Judge Value Plug-in	Judges whether multiple NICs are set up on the virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
6-2		Flow Plug-in	Confirms that multiple IP addresses are set on the OS of the virtual server.	--
6-2-1		Judge Value Plug-in	Judges whether multiple IP addresses are set in the OS of the virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
6-2-2		Flow Plug-in	Confirms that management IP addresses are set on the OS of the virtual server.	--
6-2-2-1		Judge Value Plug-in	Judges whether management IP addresses are set on the OS of the virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
6-2-2-2		Set static route	Sets a static route on the OS of a virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7	hyperv2012JoinDomain	Flow Plug-in	Joins a domain.	--
7-1		Judge Value Plug-in	Judges whether management IP addresses are set on the OS of the virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2		Flow Plug-in	Joins a domain.	--
7-2-1		Judge Value Plug-in	Judges whether it is necessary to join a domain.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2-2		Flow Plug-in	Checks whether the processing to join a domain was successful.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
7-2-2-1	hyperv2012JoinDomain	Windows network settings	Joins a domain.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2-2-2		Judge Value Plug-in	Judges whether the processing to join a domain was successful.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2-2-3		Flow Plug-in	Restarts a virtual server in a Hyper-V environment.	--
7-2-2-3-1		Shut down a virtual server	Shuts down a virtual server in a Hyper-V environment.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2-2-3-2		Start a virtual server	Starts a virtual server in a Hyper-V environment.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.

3.8.4 Add virtual server (virtual disk)

Function

This service template creates a virtual disk in a Hyper-V environment and then adds that virtual disk to a virtual server.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) The task obtains the status of the virtual server.

(2) The task confirms that the virtual server is not running.

If the virtual server is not running, the task continues processing. In all other cases, the task executes the User-Response Wait plug-in to check whether the virtual server is to be shut down.

If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the virtual server is shut down. If you select "Shutdown" for a virtual server that is not running, the task terminates abnormally without performing any operations on the virtual server.

If you select "Cancel" or the response-wait processing times out, the task terminates abnormally without performing any operations on the virtual server.

(3) The task creates a virtual disk file in the Hyper-V environment.

The task can create dynamic (variable-size) or fixed (fixed-size) virtual disks. It cannot create differential virtual disks or pass-through (physical) disks.

If you specify the property hyperv.vHardDiskFolderPath, a new virtual disk file is created in the folder path specified by the property. If you do not specify this property, a new virtual disk is saved in the default virtual-disk storage folder set on the Hyper-V server.

If you specify a path that includes non-existent folders, those folders are automatically created.

(4) The task connects the virtual disk to the virtual server.

You can add virtual disks to a SCSI controller but not to an IDE controller.

The method for connecting a virtual disk to a SCSI controller varies depending on whether the SCSI controller ID number (the property hyperv.scsiControllerNumber) and SCSI controller location number (the property hyperv.scsiLocationNumber) are specified.

- If neither the SCSI controller ID number nor SCSI controller location number is specified

The Hyper-V server automatically connects the virtual disk to an available SCSI controller.

- If only the SCSI controller ID number is specified

The Hyper-V server automatically connects the virtual disk to any location (0 to 63) of the specified SCSI controller.

- If only the SCSI controller location number is specified

The Hyper-V server automatically connects the virtual disk to the specified SCSI controller location of an available SCSI controller (0 to 3).

- If both the SCSI controller ID number and SCSI controller location number are specified

The virtual disk is connected to the specified location of the specified SCSI controller.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the system executing the service template:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

Supported OSs for the prerequisite products in the system executing the service template:

(1) OS of the Hyper-V server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

(2) OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) The following service of Hyper-V Integration Services must be enabled on the target virtual server:

- Operating System Shutdown

(3) There must be an available SCSI controller on the virtual server.

Cautions

(1) This service template does not initialize the virtual disks that are added to the virtual server. If necessary, log in to the OS of the virtual server and initialize the disks.

(2) Do not concurrently execute multiple instances of this service on the same virtual server.

(3) You can specify HTML tags for the property UserResponseplugin.dialogText. The specifiable tags and attributes are the same as those for the User-Response Wait plug-in. For details, see the topic about the User-Response Wait plug-in in this product manual.

(4) You cannot add any virtual disk files that have already been created on a Hyper-V server.

(5) If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the OS of the virtual server is forcibly shut down. Data in files that are being edited on the virtual server will not be saved.

(6) If another virtual disk is already connected to the specified SCSI controller location of the specified SCSI controller, this task terminates abnormally.

(7) For second-generation virtual servers, you can add only virtual disks that are in VHDX file format. If you attempt to connect a created VHD file to a second-generation virtual server, this task terminates abnormally.

Version

03.00.00

Tags

Modify VM,Hyper-V 2012

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify information about the Hyper-V server.	Y

Property group	Description	Initial display
Virtual server information	Specify information about the virtual server to which a virtual disk is to be added.	Y
Virtual disk information	Specify information about the virtual disk to be created.	Y
Virtual disk connection information	Specify information about the SCSI controller to which the virtual disk is to be connected. Specify this information only if you want to use a specific SCSI controller.	N
User-response wait option	This option is used when user response is required after a virtual server is started. Change the settings of this option as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disab led	R	Virtual system environment information
UserResponsePlugin.toA ddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disab led	O	User-response wait option
UserResponsePlugin.ccA ddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disab led	O	User-response wait option
UserResponsePlugin.bcc Address	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disab led	O	User-response wait option
UserResponsePlugin.mai lSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disab led	O	User-response wait option
UserResponsePlugin.mai lBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disab led	O	User-response wait option
UserResponsePlugin.enc odeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can	Input	Disab led	O	User-response wait option

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.encodeType	Encoding	specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User-response wait option
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User-response wait option
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User-response wait option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information
hyperv.vHardDiskName	Virtual Disk File Name	Specify the file name of the virtual disk to be created. Specify "vhd" or "vhdx" as the file extension.	Input	Disabled	R	Virtual disk information
hyperv.vHardDiskFolderPath	Virtual disk storage folder path	Specify the full path to the folder that stores the created virtual disk. If you omit this specification, the virtual disk is stored in the virtual disk folder specified for the Hyper-V server.	Input	Disabled	O	Virtual disk information
hyperv.vHardDiskType	Virtual disk type	Specifies the virtual disk type. Specify one of the following: dynamic (an adjustable-size virtual disk is created) or fixed (a fixed-size virtual disk is created).	Input	Disabled	R	Virtual disk information
hyperv.capacity	Size (GB)	Specifies the size of the virtual disk, in gigabytes (GB).	Input	Disabled	R	Virtual disk information
hyperv.scsiControllerNumber	SCSI controller number	Specifies the SCSI controller number of the virtual server that adds the virtual disk. Specify the SCSI controller number as an integer from 0 in the order that the SCSI controllers were added to the virtual server (displayed in the Hyper-V Manager).	Input	Disabled	O	Virtual disk connection information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.scsiLocationNumber	SCSI controller location number	Specifies the location number of the SCSI controller of the virtual server that adds the virtual disk. Specify the SCSI controller location number as an integer for the unused locations of SCSI controllers that were added to the virtual server.	Input	Disabled	O	Virtual disk connection information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
hyperv.attachScsiControllerNumber	Connected SCSI controller number	Outputs the number of the SCSI controller to which the virtual disk file is connected.	Output	Disabled
hyperv.attachScsiLocationNumber	Location Number of the Connected SCSI Controller	Outputs the location number of the SCSI controller to which the virtual disk file is connected.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.vHardDiskName	A string of 255 or fewer characters. The following characters cannot be used: <, >, |, ;, &, *, ?, ", %, /, ', [,], `, :, \
hyperv.vHardDiskFolderPath	A string of 247 or fewer characters. The string cannot end in a yen sign (\), and the following characters cannot be used: <, >, |, ;, &, *, ?, ", %, /, ', [,], `

Property key	Characters that can be input
hyperv.vHardDiskType	Select one of the following values: Dynamic,Fixed
hyperv.capacity	Enter an integer from 1 to 2040.
hyperv.scsiControllerNumber	Select one of the following values: 0,1,2,3
hyperv.scsiLocationNumber	Enter an integer from 0 to 63.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2012CheckVMState	Flow Plug-in	Checks the status of a virtual server. If the virtual server is running, this plug-in asks the user whether the virtual server is to be stopped.	--
1-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
1-3		Judge Value Plug-in	Checks whether a virtual server has stopped.	After removing the cause of the error, run the service again.
1-4		Flow Plug-in	Asks the user whether the virtual server is to be stopped. If the user chooses to stop it, this plug-in shuts down the virtual server.	--
1-4-1		User-Response Wait Plug-in	Asks the user whether the virtual server is to be stopped, and then waits for the user's response.	After removing the cause of the error, run the service again.
1-4-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
1-4-3		Judge Value Plug-in	Checks whether a virtual server has stopped.	After removing the cause of the error, run the service again.
1-4-4		Shut down virtual server	Shuts down a virtual server.	After removing the cause of the error, run the service again.
2	hyperv2012CreateVDisk	Create virtual disk	Creates a virtual disk.	After removing the cause of the error, run the service again.
3	hyperv2012AttachVDisk	Connect virtual disk	Connects a virtual disk to a virtual server.	If an error occurs, directly connect the created virtual disk on the Hyper-V server, or delete the virtual server. Then, remove the cause of the error, and then run the service again.

3.9 Service templates for Hyper-V 2012 (operation)

3.9.1 Start virtual server

Function

This service template starts multiple virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual servers

Virtual servers managed by Hyper-V

The following is an overview of the processing:

(1) The status of a virtual server is obtained.

(2) If the virtual server is stopped, it is started. If the virtual server is already running, the processing to start the virtual server is skipped. In all other cases, processing for that virtual server ends in an error.

(3) If the network connection check is enabled, the IP address (IPv4) set for the virtual server that was started is obtained. Then the local server sends an ICMP echo request to that server to check whether it is connected to the network.

The above processing is performed in parallel for the specified virtual servers.

Before a virtual server is started, a check of the virtual server status is performed for the number of times specified by the property hyperv.checkVmStateEnabledCount, at the interval specified (in seconds) by the property hyperv.checkVmStateEnabledInterval. Adjust the values of these properties based on your environmental requirements.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products in the service-template execution system, and OSs of prerequisite products in the service-template execution system.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2012 Hyper-V or Windows Server 2012 R2 Hyper-V

OSs of prerequisite products in the service-template execution system:

(1) Prerequisite OS for the Hyper-V server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using the prerequisite products in the service-template execution system:

(1) The name of each virtual server must be unique within a single Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled on the target virtual server:

- Data Exchange

(3) If the network connection check is enabled, you must specify the address of the connection destination for agentless monitoring. Make sure to specify a loopback address that can be resolved from the name "localhost".

(4) If the network connection check is enabled, the firewall for the target virtual server must permit ICMP (ECHO) replies.

Cautions

(1) When the network connection check is performed, depending on the system environment, the task might not be able to obtain all IP addresses immediately after the virtual servers are started. As a result, even if all virtual servers are running, the plug-in osSendIcmp might not be able to confirm network connection for all IP addresses (IPv4) set on the virtual servers, and the task might end abnormally. To ensure that all IP addresses can be obtained, adjust the value (in seconds) of the property hyperv.waitTime, which specifies the amount of time to wait between starting a virtual server to obtaining an IP address.

(2) To perform the network connection check, make sure that the total length of the IP addresses (IPv4) set for all NICs on a virtual server does not exceed 1,024 characters (#1). If the total length exceeds 1,024 characters, an error might occur in the plug-in osSendIcmp, causing the task to end abnormally.

#1: The maximum length of one IP address (IPv4) including the comma used as an address separator is 16 characters.

(3) If you enable the network connection check, adjust the value of the property common.icmpEchoTimeout based on your environmental requirements.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Control VM,Hyper-V 2012

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual-system environment information	Specify information about Hyper-V 2012.	Y
Virtual server information	Specify information about the virtual server to be started.	Y
Network connection check	This property is used to check the network connection after the virtual server is started. If necessary, change the value of this property.	N
Run-time option	This property is used to check statuses before virtual servers are started. If necessary, change the value of this property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual-system environment information
hyperv.waitTime	Wait time before starting to obtain IP address	When performing a network connectivity check, specifies the amount of time, in seconds, after the virtual server starts to wait before starting to obtain the IP address.	Input	Disabled	R	Network connection check
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specify in milliseconds how long the service waits for a reply to an ICMP echo request sent to confirm startup of a virtual server.	Input	Disabled	R	Network connection check
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Run-time option
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	If specifying multiple names, separate them with commas. You can specify up to 99 names.	Input	Disabled	R	Virtual server information
hyperv.checkNetworkConnection	Check network connectivity	Specifies whether to check network connectivity after starting a virtual server.	Input	Disabled	R	Network connection check

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.waitTime	Enter an integer from 0 to 3600.
common.icmpEchoTimeout	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \ / :
hyperv.checkNetworkConnection	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method
1	powerOnVMhyperV 2012	Repeated Execution Plug-in	Starts multiple virtual servers.	After removing the cause of the error, run the service again.

3.9.2 Start virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2012GetVMState	Obtain virtual server status	Obtains the status of a virtual server in a Hyper-V environment.	After removing the cause of the error, run the service again.
2	hyperv2012PowerOnVM	Flow Plug-in	Starts a virtual server in a Hyper-V environment.	--
2-1		Judge Value Plug-in	Judges whether the virtual server is running.	After removing the cause of the error, run the service again.
2-2		Start virtual server	Starts the virtual server if it is not running.	After removing the cause of the error, run the service again.
3	hyperv2012CheckNetwork	Flow Plug-in	Checks whether the network is connected.	--
3-1		Judge Value Plug-in	Judges whether "yes" is specified for the network connection check.	After removing the cause of the error, run the service again.
3-2		Flow Plug-in	If "yes" is specified for the network connection check, this plug-in performs the network connection check.	--
3-2-1		Judge Value Plug-in	Judges whether a value greater than 0 is specified for the time to wait before obtaining an IP address.	After removing the cause of the error, run the service again.
3-2-2		Execution wait	If a value greater than 0 is specified for the wait time, this plug-in waits for the specified time before obtaining an IP address.	After removing the cause of the error, run the service again.
3-2-3		Obtain virtual server IP address	Obtains the IP address of a virtual server that was started.	After removing the cause of the error, run the service again.
3-2-4		Send ICMP echo request message	Issues an ICMP echo request to a virtual server that was started.	Depending on the status of the system environment, the virtual server might start successfully but the network connection check might fail, causing the task to terminate abnormally. Check whether the virtual server is running. To run the service again, first read the notes and remove the cause of the error.

3.9.3 Restart virtual server

Function

This service template restarts multiple virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) For a virtual server that is running, this service template restarts the virtual server. For a virtual server in any state other than the running state, processing for that virtual server ends in an error.

(2) If the network connectivity check is enabled, this service template obtains the IP address (IPv4) set for the restarted virtual server. Then, network connectivity is checked by sending an ICMP echo request from the local server to the restarted virtual server.

The above processing is executed in parallel for the specified virtual servers.

After a virtual server starts, a status check is performed for that server for the number of times specified by the property hyperv.checkVmStateEnabledCount, at the interval (in seconds) specified by the property hyperv.checkVmStateEnabledInterval. Adjust the values of these properties based on the environmental requirements.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the system executing the service template:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

Supported OSs for the prerequisite products in the system executing the service template:

(1) OS of the Hyper-V server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

(2) OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) The following services of Hyper-V Integration Services must be enabled on the target virtual server:

- Operating System Shutdown

- Data Exchange

(3) If the network connectivity check is enabled, the local server (the loopback address resolved from the name "localhost") must be set as the agentless connection destination.

(4) If the network connectivity check is enabled, the firewall of the target virtual server must permit ICMP (ECHO) replies.

(5) The virtual server must be running.

Cautions

(1) This service forcibly shuts down the OS of the specified virtual server. When this service is executed, data in files that are being edited on the virtual server will not be saved.

(2) If the network connectivity check is enabled, depending on the system environment, the service might not be able to obtain all IP addresses immediately after the virtual server starts. For this reason, even if the virtual server is running, the task might terminate abnormally, because the plug-in osSendIcmp cannot check network connectivity for all IPv4 addresses set on the virtual server. To ensure that all IP addresses are obtained, adjust the number of seconds specified for the property hyperv.waitTime, which determines the amount of time to wait after the virtual server starts before obtaining IP addresses.

(3) If the network connectivity check is enabled, make sure that the total length of all IPv4 addresses set for the NICs of the virtual server does not exceed 1,024 characters#. If the total length exceeds 1,024 characters, an error might occur in the plug-in osSendIcmp, and the task might terminate abnormally.

#: The maximum length for each IPv4 address is 16 characters (including the comma used to delimit the IP address).

(4) If the network connectivity check is enabled, adjust the value of the property common.icmpEchoTimeout based on the environmental requirements.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Control VM,Hyper-V 2012

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify information about Hyper-V.	Y
Virtual server information	Specify information about the virtual server to be restarted.	Y
Network connectivity check	This property is related to the network connectivity check that is performed after a virtual server is restarted. Change the settings of this property as necessary.	N

Property group	Description	Initial display
Run-time option	This property is related to the status check that is performed when a virtual server is restarted. Change the settings of this property as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
hyperv.waitTime	Wait time before starting to obtain IP address	When the network connectivity check is enabled, this specifies the amount of time (in seconds) to wait before starting the acquisition of IP addresses after the virtual server restarts.	Input	Disabled	R	Network connectivity check
common.icmpEchoTimeout	Timeout period for ICMP echo requests	When the network connectivity check is enabled, this specifies the amount of time (in milliseconds) to wait for a response to an ICMP echo request issued after the virtual server restarts.	Input	Disabled	R	Network connectivity check
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Run-time option
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.) If specifying multiple names, separate them with commas. You can specify up to 99 names.	Input	Disabled	R	Virtual server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkNetworkConnection	Check network connectivity	Specifies whether to check the network connectivity after a virtual server restarts.	Input	Disabled	R	Network connectivity check

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.waitTime	Enter an integer from 0 to 3600.
common.icmpEchoTimeout	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \ / :
hyperv.checkNetworkConnection	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	rebootVMhyperV2012	Repeated Execution Plug-in	Restarts multiple virtual servers.	After removing the cause of the error, run the service again.

3.9.4 Restart virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2012ShutdownVM	Shut down virtual server	Shuts down a virtual server if it is running.	After removing the cause of the error, run the service again.
2	hyperv2012PowerOnVM	Start virtual server	Starts a virtual server if it has stopped.	After removing the cause of the error, start the virtual server, and then run the service again.
3	hyperv2012CheckNetwork	Flow Plug-in	Checks whether the network is connected.	--
3-1		Judge Value Plug-in	Judges whether "yes" is specified for the network connection check.	After removing the cause of the error, run the service again.
3-2		Flow Plug-in	If "yes" is specified for the network connection check, this plug-in performs the network connection check.	--
3-2-1		Judge Value Plug-in	Judges whether a value greater than 0 is specified for the wait time for obtaining an IP address.	After removing the cause of the error, run the service again.
3-2-2		Execution wait	Waits for the specified time before obtaining an IP address if a value greater than 0 is specified for the wait time.	After removing the cause of the error, run the service again.
3-2-3		Obtain virtual server IP address	Obtains the IP address of a virtual server that was started.	After removing the cause of the error, run the service again.
3-2-4		Send ICMP echo request message	Issues an ICMP echo request to a virtual server that was started.	Depending on the status of the system environment, the virtual server might start successfully, but the network connection check might fail, causing the task to terminate abnormally. Check whether the virtual server is running. To run the service again, first read the notes and remove the cause of the error.

3.9.5 Obtain virtual server information list

Function

This service template obtains a list of information about virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) A list of virtual server information is output to a temporary file in CSV format on the specified remote PC. The file is encoded in the default encoding of the system on the Hyper-V server.

(2) The temporary file on the remote PC is transferred to an output file on the local PC.

(3) The temporary file on the remote PC is deleted.

The following items are output to the file in CSV (comma-separated value) format:

(a) Name of the Hyper-V server (header name: ComputerName)

(b) Name of the virtual server (header name: VMName)

(c) State of the virtual server (header name: State)

(d) CPU usage (%) of a virtual server (header name: CPUUsage)

(e) Size of the memory (in MB) allocated to the virtual server# (header name: MemoryAssigned)

(f) Running time of the virtual server (header name: Uptime)

(g) Status of the virtual server (header name: Status)

(h) Number of virtual processors on the virtual server (header name: ProcessorCount)

(i) Startup RAM (in MB) of the virtual server (header name: MemoryStartup)

(j) Whether dynamic memory is enabled on the virtual server (header name: DynamicMemoryEnabled)

#: Size of the memory (in MB) that is actually used by the virtual server

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the system executing the service template:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

Supported OSs for the prerequisite products in the system executing the service template:

(1) OS of the Hyper-V server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

(2) OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

None.

Cautions

(1) If you specify an existing file for the remote or local file, the existing file will be overwritten. In addition, the file on the remote PC will be deleted, so make sure the specified file name is correct.

(2) If you specify a remote file path that includes non-existent folders, those folders are automatically created. These folders are not automatically deleted. Periodically delete these folders if they are unnecessary.

(3) If two or more virtual servers have the same name, you will not be able to distinguish these virtual servers in the output CSV file.

Version

02.00.00

Tags

Gather VM information,Hyper-V 2012

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify information about the Hyper-V server.	Y
Output file storage information	Specify the storage destination for the file to be output.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.listOutputFileNameRemote	Output file name (remote)	Specifies, as a full path, the temporary file name for when virtual server information is output to the Hyper-V server.	Input	Disabled	R	Output file storage information
hyperv.listOutputFileNameLocal	Output file name (local)	Specifies the name of the file (in full-path format) that contains the virtual server information to be saved to the local server.	Input	Disabled	R	Output file storage information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.listOutputFileNameRemote	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < >	; & * ? " % / ' [ ] `
hyperv.listOutputFileNameLocal	Enter no more than 256 characters. Do not include the following characters: < >	; & * ? " % or a trailing \ or /

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2012GetVMInfo	Obtain virtual server information list	Outputs a list of virtual server information to a temporary file on the Hyper-V server.	After removing the cause of the error, run the service again.
2	FileTransferPlugin	File-Forwarding Plug-in	Forwards a remote temporary file to the specified local output file.	Forward the temporary file from the Hyper-V server to the local server, and then delete the temporary file from the Hyper-V server.
3	osDeleteFile	Delete file	Deletes a remote temporary file.	Manually delete the temporary file from the Hyper-V server.

3.9.6 Stop virtual server

Function

This service template shuts down the OSs of multiple virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual servers

Virtual servers managed by Hyper-V

The following is an overview of the processing:

(1) The status of a virtual server is obtained.

(2) If the virtual server is running, the OS of that virtual server is shut down. If the virtual server is stopped, the processing to shut down the OS is skipped. In all other cases, processing for that virtual server fails.

The above processing is performed in parallel for the specified virtual servers.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products in the service-template execution system, and OSs of prerequisite products in the service-template execution system.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2012 Hyper-V or Windows Server 2012 R2 Hyper-V

OSs of prerequisite products in the service-template execution system:

(1) Prerequisite OS for the Hyper-V server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using the prerequisite products in the service-template execution system:

(1) The name of each virtual server must be unique within a single Hyper-V server.

(2) The following service of Hyper-V Integration Service on the target virtual server must be enabled:

- Shut down operating system

Cautions

(1) If you execute this service, the data of files that are currently being edited on the virtual server will not be saved.

Version

03.00.00

Tags

Control VM,Hyper-V 2012

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual-system environment information	Specify information about Hyper-V 2012.	Y
Virtual server information	Specify information about the virtual server to be stopped.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual-system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.) If specifying multiple names, separate them with commas. You can specify up to 99 names.	Input	Disabled	R	Virtual server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \ / :

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOffVMhyperV 2012	Repeated Execution Plug-in	Shuts down the OSs of multiple virtual servers.	After removing the cause of the error, run the service again.

3.9.7 Stop virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2012GetVMState	Obtain virtual server status	Obtains the status of a virtual server in a Hyper-V environment.	After removing the cause of the error, run the service again.
2	hyperv2012ShutdownVM	Flow Plug-in	Shuts down a virtual server in a Hyper-V environment.	--
2-1		Judge Value Plug-in	Judges whether the virtual server has stopped.	After removing the cause of the error, run the service again.
2-2		Shut down virtual server	Shuts down the virtual server if it has not stopped.	After removing the cause of the error, run the service again.

3.10 Service templates for Hyper-V 2016 (configuration)

3.10.1 Change virtual server specifications (CPU and memory)

Function

This service template changes the specified resource settings (CPU and memory) of a virtual server in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) The service asks whether CPU and memory settings are to be changed. If you do not want to change either the CPU settings or the memory settings, the service ends abnormally.

(2) The service makes sure that the virtual server is stopped.

If the virtual server is running, the User-Response Wait plug-in is executed to check whether the virtual server is to be shut down.

Users who have Modify permission can use this plug-in to specify an email destination, message, timeout value, and information to be displayed.

If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the virtual server shuts down.

If you select "Cancel" or a timeout occurs while waiting for a response, the service ends abnormally without changing the virtual server specifications.

(3) The target settings for the CPU and memory resources of the virtual server are changed.The settings that can be changed are listed below.

CPU settings that can be changed:

- Number of virtual processors

- Number of reserved virtual processor resources

- Maximum number of virtual processor resources

- Relative Weight setting of virtual processor resources

- Processor compatibility

- Maximum number of processors that can be used on a NUMA node

- Maximum number of NUMA nodes that can be used by a socket

Memory settings that can be changed:

- Startup RAM (MB)

- Whether to enable dynamic memory

- Minimum RAM for dynamic memory (MB)

- Maximum RAM for dynamic memory (MB)

- Buffer for dynamic memory

- Memory weight

- Maximum size of memory available on a NUMA node (MB)

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products in the service-template execution system, and OSs of prerequisite products in the service-template execution system.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2016 Hyper-V

OSs of prerequisite products in the service-template execution system:

(1) Prerequisite OS for the Hyper-V server

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using the prerequisite products in the service-template execution system:

(1) The name of each virtual server must be unique within a single Hyper-V server.

Cautions

(1) Do not execute multiple instances of this service simultaneously on the same virtual server.

(2) You can use certain HTML tags when specifying the property UserResponseplugin.dialogText. The tags and attributes that can be used are the same as those that can be used for the User-Response Wait plug-in. For details, see the topic about the User-Response Wait plug-in in this product manual.

(3) The maximum number of virtual processors that can be set for a virtual server differs depending on the Hyper-V server.

(4) The values that can be specified for the memory-related settings of a virtual server differ depending on the Hyper-V server.

(5) If the service ends abnormally, some CPU or memory settings might have been changed.

(6) If you select "yes" for the property hyperv.selectVmCpuChange and then execute the service without entering a value for any CPU-related setting, the service ends abnormally. Similarly, if you select "yes" for the property hyperv.selectVmMemoryChange and then execute the service without entering a value for any memory-related setting, the service ends abnormally.

(7) If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the virtual server shuts down. Data in the files that are currently being edited on the virtual server will not be saved.

Version

03.00.00

Tags

Modify VM,Hyper-V 2016

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual-system environment information	Specify Hyper-V information.	Y
Virtual server information	Specify information about the virtual server whose specifications are to be changed and whether items to be changed exist.	Y
Virtual server CPU settings	These settings are the CPU settings that can be changed for the virtual server. To change the settings, specify a value for at least one property.	N
Virtual server memory settings	These settings are the memory settings that can be changed for the virtual server. To change the settings, specify a value for at least one property.	N
User response wait option	The option is used for user response after the virtual server starts. If necessary, change the value of this option.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual-system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait option
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait option
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User response wait option
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User response wait option
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User response wait option
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User response wait option
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User response wait option
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User response wait option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information
hyperv.selectVmCpuChange	Whether to change the virtual server CPU settings	If you want to change the virtual server CPU settings, select "yes". If you do not want to change the virtual server CPU settings, select "no".	Input	Disabled	R	Virtual server information
hyperv.selectVmMemoryChange	Whether to change the virtual server memory settings	If you want to change the virtual server memory settings, select "yes". If you do not want to change the virtual server memory settings, select "no".	Input	Disabled	R	Virtual server information
hyperv.cpuCount	Number of virtual processors	Specify the number of virtual processors to be set on a virtual server. Specify an integer of 1 or greater.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuReserve	Number of reserved virtual processor resources	Specify the number of virtual processor resources reserved by each virtual server. Specify an integer that does not exceed "Maximum number of virtual processor resources" within the range from 0 to 100.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuMaximum	Maximum number of virtual processor resources	Specify the maximum number of virtual processor resources that can be used by each virtual server. Specify an integer that is equal to or greater than "Number of reserved virtual processor resources" within the range from 0 to 100.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuRelativeWeight	Relative weight of virtual processor resources	Specify the relative weight of virtual processor resources among virtual servers. Specify an integer in the range from 0 to 10,000.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuCompatibilityForMigrationEnabled	Processor compatibility	To enable processor compatibility, specify "true". To disable processor compatibility, specify "false". If specification is omitted, the current setting does not change.	Input	Disabled	O	Virtual server CPU settings
hyperv.cpuMaximumCountPerNumaNode	Maximum number of processors that can be used on a NUMA node	Specify the maximum number of processors that can be used on a virtual NUMA (Non-Uniform Memory Architecture) node. Specify an integer of 1 or greater.	Input	Disabled	O	Virtual server CPU settings
hyperv.nodeMaximumCountPerNumaSocket	Maximum number of NUMA nodes that can be used by a socket	Specify the maximum number of virtual NUMA (Non-Uniform Memory Architecture) nodes that	Input	Disabled	O	Virtual server CPU settings

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.nodeMaximumCountPerNumaSocket	Maximum number of NUMA nodes that can be used by a socket	can be used by one socket. Specify an integer of 1 or greater.	Input	Disabled	O	Virtual server CPU settings
hyperv.memoryStartupMegaBytes	Startup RAM (MB)	Specify (in MB) the amount of memory to be used during the startup of the virtual server. Specify an integer of 8 or greater that is a multiple of 2.	Input	Disabled	O	Virtual server memory settings
hyperv.dynamicMemoryEnabled	Whether to enable dynamic memory	To enable dynamic memory on the virtual server, specify "true". To disable dynamic memory on the virtual server, specify "false". If specification is omitted, the current setting does not change.	Input	Disabled	O	Virtual server memory settings
hyperv.dynamicMemoryMinimumMegaBytes	Minimum RAM for dynamic memory (MB)	Specify (in MB) the minimum amount of dynamic memory. Specify a multiple of 2 in the range from 8 to the "Startup RAM" value. Specify this item only when dynamic memory is enabled.	Input	Disabled	O	Virtual server memory settings
hyperv.dynamicMemoryMaximumMegaBytes	Maximum RAM for dynamic memory (MB)	Specify (in MB) the maximum amount of dynamic memory. Specify a multiple of 2 that is not smaller than 8 and the "Startup RAM" value. Specify this item only when dynamic memory is enabled.	Input	Disabled	O	Virtual server memory settings
hyperv.dynamicMemoryBuffer	Buffer for dynamic memory	Specify the percentage of memory to be reserved as the buffer for dynamic memory of Hyper-V. Specify an integer in the range from 5 to 2,000. Specify this item only when dynamic memory is enabled.	Input	Disabled	O	Virtual server memory settings
hyperv.memoryPriority	Memory weight	Specify the priority that is applied when available memory is allocated to multiple virtual servers. Specify an integer in the range from 0 to 100.	Input	Disabled	O	Virtual server memory settings
hyperv.memoryMaximumAmountMegaBytesPerNumaNode	Maximum size of memory available on a NUMA node (MB)	Specify (in MB) the maximum amount of memory that can be used on a virtual NUMA (Non-Uniform Memory Architecture) node. Specify an integer of 8 or greater.	Input	Disabled	O	Virtual server memory settings

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

Property key	Characters that can be input
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.selectVmCpuChange	Select one of the following values: yes,no
hyperv.selectVmMemoryChange	Select one of the following values: yes,no
hyperv.cpuCount	Integer of 1 or greater
hyperv.cpuReserve	An integer in the range from 0 to 100
hyperv.cpuMaximum	An integer in the range from 0 to 100
hyperv.cpuRelativeWeight	An integer in the range from 0 to 10,000
hyperv.cpuCompatibilityForMigrationEnabled	Select one of the following values: true,false
hyperv.cpuMaximumCountPerNumaNode	Integer of 1 or greater
hyperv.nodeMaximumCountPerNumaSocket	Integer of 1 or greater
hyperv.memoryStartupMegaBytes	Integer of 8 or greater
hyperv.dynamicMemoryEnabled	Select one of the following values: true,false
hyperv.dynamicMemoryMinimumMegaBytes	Integer of 8 or a greater
hyperv.dynamicMemoryMaximumMegaBytes	Integer of 8 or greater
hyperv.dynamicMemoryBuffer	An integer in the range from 5 to 2,000
hyperv.memoryPriority	An integer in the range from 0 to 100
hyperv.memoryMaximumAmountMegaBytesPerNumaNode	Integer of 8 or greater

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	checkVmSpecChange	Flow Plug-in	Checks whether the virtual server specifications (CPU and memory) need to be changed. If both of the properties hyperv.selectVmCpuChange and hyperv.selectVmMemoryChange are set to "no", the service terminates abnormally.	--
1-1		Judge Value Plug-in	Checks whether the property hyperv.selectVmCpuChange is set to "no".	After removing the cause of the error, run the service again.
1-2		Flow Plug-in	Checks whether the virtual server specifications (CPU and memory) need to be changed.	--
1-2-1		Judge Return Code Plug-in	Checks whether the property hyperv.selectVmMemoryChange is set to "no".	After removing the cause of the error, run the service again.
1-2-2		Abnormal-End Plug-in	Terminates the service abnormally if the virtual server specifications (CPU and memory) do not need to be changed.	Check the settings of the properties hyperv.selectVmCpuChange and hyperv.selectVmMemoryChange. To run the service, "yes" must be selected for one of these properties.
2	checkHyperv2016VMState	Flow Plug-in	Checks the status of a virtual server. If it is still running, the plug-in asks the user whether the virtual server is to be stopped.	--
2-1		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
2-2		Judge Value Plug-in	Checks whether the specified virtual server has stopped.	After removing the cause of the error, run the service again.
2-3		Flow Plug-in	Asks the user whether the virtual server is to be stopped. If the user chooses to stop it, this plug-in shuts down the virtual server.	--
2-3-1		User-Response Wait Plug-in	Asks the user whether the virtual server is to be stopped, and then waits for the user's response.	After removing the cause of the error, run the service again.
2-3-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
2-3-3		Judge Value Plug-in	Checks whether the virtual server needs to be shut down.	After removing the cause of the error, run the service again.
2-3-4		Shut down virtual server	Shuts down a virtual server.	After removing the cause of the error, run the service again.
3	changeHyperV2016VMSpec	Flow Plug-in	Changes the virtual server specifications.	--
3-1		Judge Value Plug-in	Judges whether to change the memory settings of a virtual server.	After removing the cause of the error, run the service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-2	changeHyperV2016 VMSpec	Change virtual server memory settings	Changes the memory settings of a virtual server.	After removing the cause of the error, run the service again.
3-3		Judge Value Plug-in	Judges whether to change the CPU settings of a virtual server.	After removing the cause of the error, run the service again.
3-4		Change virtual server CPU settings	Changes the CPU settings of a virtual server.	Part of the CPU settings or memory settings of the virtual server might have been changed. After checking the task log and removing the cause of the error, run the service again.

3.10.2 Delete virtual server

Function

This service template deletes virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) The task obtains the status of the virtual server.

(2) The task confirms that the virtual server is not running.

If the virtual server is not running, the task continues processing. In all other cases, the task executes the User-Response Wait plug-in to check whether the virtual server is to be shut down.

If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the running virtual server is shut down. If you select "Shutdown" for a virtual server that is not running, the task terminates abnormally without performing any operations on the virtual server.

If you select "Cancel" or the wait for a user response times out, the task terminates abnormally without performing any operations on the virtual server.

(3) The task deletes the virtual server.

The virtual server is deleted from the Hyper-V server. At this time, all snapshots for that virtual server are also deleted.

If you select "yes" from the selection list for the property hyperv.vHardDiskDeletePermanently, the task deletes all (dynamic, fixed, and differential) virtual disk files that are allocated to the virtual server that is to be deleted. The task does not delete disks or files that are allocated to pass-through (physical) disks, floppy disks, CDs or DVDs. If differential

virtual disks are allocated to the virtual server, the task does not delete the virtual disks that are used as the parents of those differential virtual disks.

If the attempt to delete virtual disk files on the virtual server fails, the file deletion processing stops, and the task terminates abnormally.

(4) The task outputs a list of virtual disk files on the virtual server.

If the properties hyperv.vhdListOutputFileNameRemote and hyperv.vhdListOutputFileNameLocal are specified, the task outputs a CSV file that lists the paths of the virtual disk files allocated to the virtual server that is to be deleted from the Hyper-V server. The task then transfers the CSV file to the local PC and deletes the CSV file from the remote PC. If differential virtual disks are allocated to the virtual server, the virtual disks that are used as the parents of those differential virtual disks are not included in the CSV file.

If only the property hyperv.vhdListOutputFileNameRemote is specified, the task outputs a CSV file that lists the paths of the virtual disk files, but does not transfer the CSV file to the local PC.

The following items are output to the file in CSV (comma-separated value) format:

(a) Whether virtual disk files exist (header name: Existence)

Depending on whether virtual disk files are allocated to the virtual server when the server is deleted, one of the following values is output:

Found: Existence of virtual disk files was confirmed.

NotFound: Virtual disk files were set up, but their existence could not be confirmed.

(b) File deletion result (header name: DeleteResult)

If you select "yes" from the selection list for the property hyperv.vHardDiskDeletePermanently, the task outputs the result of deleting the virtual disk files. If you select "no", "Skipped" is output. For the deletion result, one of the following values is output:

Completed: File deletion finished successfully.

Failed: File deletion failed.

Skipped: File deletion was not performed.

(c) File path (header name: FilePath)

The paths of the virtual disk files set for the Hyper-V server are output, regardless of the values in (a) and (b).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the system executing the service template:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2016 Hyper-V

Supported OSs for the prerequisite products in the system executing the service template:

(1) OS of the Hyper-V server

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

(2) OS of the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) The following service of Hyper-V Integration Services must be enabled on the target virtual server:

- Operating System Shutdown

Cautions

(1) Do not concurrently execute multiple instances of this service on the same virtual server.

(2) If you previously performed an operation (such as a snapshot-related operation) to make the path of a virtual disk file invisible in the virtual server settings, this service will not delete that virtual disk file. In such a case, manually delete the virtual disk file.

(3) You can specify HTML tags for the property UserResponseplugin.dialogText. The specifiable tags and attributes are the same as those for the User-Response Wait plug-in. For details, see the topic about the User-Response Wait plug-in in this product manual.

(4) If you specify an existing file for the property hyperv.vhdListOutputFileNameRemote or hyperv.vhdListOutputFileNameLocal, the existing file is overwritten. In addition, the file on the remote PC will be deleted, so make sure the specified file name is correct.

(5) If you specify a path that includes non-existent folders for the property hyperv.vhdListOutputFileNameRemote, those folders are automatically created but not automatically deleted. Periodically delete these folders if they are unnecessary.

(6) If you specify the property hyperv.vhdListOutputFileNameRemote, a file is output to the remote PC even if the property hyperv.vhdListOutputFileNameLocal is not specified or if an error occurs during the deletion of the virtual server or virtual disk file. Because this service does not delete the output file, manually delete the file if it is unnecessary.

(7) This service does not delete the registration information of virtual servers from any services and applications of the failover cluster manager. Manually delete the registration information based on the user operational requirements.

(8) If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the OS of the virtual server is forcibly shut down. Data in files that are being edited on the virtual server will not be saved.

Version

03.00.00

Tags

Delete VM,Hyper-V 2016

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify Hyper-V information.	Y
Virtual server information	Specify information about the virtual server to be deleted.	Y
Output file storage information	If necessary, specify the storage destination for the file to be output.	N
User-response wait option	This option is used when user response is required after a virtual server is started. Change the settings of this option as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait option

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait option
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User-response wait option
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User-response wait option
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User-response wait option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information
hyperv.vHardDiskDeletePermanently	Deletion of virtual disk file required	Specifies whether to delete virtual disk file used for the virtual server.	Input	Disabled	R	Virtual server information
hyperv.vhdListOutputFileNameRemote	Output file name (remote)	Specifies, as a full path, the temporary file name for when the virtual disk file list used by the virtual server is output to the Hyper-V server.	Input	Disabled	O	Output file storage information
hyperv.vhdListOutputFileNameLocal	Output file name (local)	Specifies the name of the file (in full-path format) that contains the list of virtual disk files to be saved to the local server.	Input	Disabled	O	Output file storage information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

Property key	Characters that can be input
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.vHardDiskDeletePermanently	Select one of the following values: yes,no
hyperv.vhdListOutputFileNameRemote	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.vhdListOutputFileNameLocal	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % or a trailing \ or /

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2016CheckVMState	Flow Plug-in	Checks the status of a virtual server. If the virtual server is running, this plug-in asks the user whether the virtual server is to be stopped.	--
1-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
1-3		Judge Value Plug-in	Checks whether a virtual server has stopped.	After removing the cause of the error, run the service again.
1-4		Flow Plug-in	Asks the user whether the virtual server is to be stopped. If the user chooses to stop it, this plug-in shuts down the virtual server.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1-4-1	hyperv2016CheckVMState	User-Response Wait Plug-in	Asks the user whether the virtual server is to be stopped, and then waits for the user's response.	After removing the cause of the error, run the service again.
1-4-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
1-4-3		Judge Value Plug-in	Checks whether a virtual server has stopped.	After removing the cause of the error, run the service again.
1-4-4		Shut down virtual server	Shuts down a virtual server.	After removing the cause of the error, run the service again.
2	hyperv2016DeleteVM	Delete virtual server	Deletes a virtual server.	If the virtual server has not been deleted, remove the cause of the error, and then run the service again. If the virtual server has been deleted, check whether virtual disk files exist. If a list of virtual disk files was output, check the files on the Hyper-V server. If necessary, manually delete the virtual disk files.
3	outputFileTransfer	Flow Plug-in	Forwards a list of virtual disk files.	--
3-1		Judge Value Plug-in	Checks whether the name of the file (remote) where the list of virtual disk files is to be output is specified.	If a list of virtual disk files was output, this list remains on the Hyper-V server. Manually delete this list.
3-2		Flow Plug-in	Forwards a list of virtual disk files.	--
3-2-1		Judge Value Plug-in	Checks whether the name of the file (local) where the list of virtual disk files is to be output is specified.	If a list of virtual disk files was output, this list remains on the Hyper-V server. Manually delete this list.
3-2-2		Flow Plug-in	Forwards a list of virtual disk files.	--
3-2-2-1		File-Forwarding Plug-in	Forwards the remote temporary file to the specified local output file.	A list of virtual disk files remains on the Hyper-V server. Manually delete this list.
3-2-2-2		Delete file	Deletes the remote temporary file.	A list of virtual disk files remains on the Hyper-V server. Manually delete this list.

3.10.3 Add a virtual server (deploy/OS initial settings)

Function

This service template uses an exported virtual server to add a new virtual server in a Hyper-V environment.

The following describes the servers that this service template requires:

- Hyper-V server

A server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

- Exported virtual server

A virtual server and its full set of configuration files

- Container server

A server that contains an exported virtual server to be replicated.

The following provides a processing overview:

(1) A virtual server is created on the Hyper-V server.

1. Replicate a virtual server from an already exported one in the import destination folder.

2. Create a virtual server by using the import function on the Hyper-V server.

Assign a new unique ID to the new virtual server you create.

If the specified import destination folder already exists, the folder is used as is.

(2) The virtual server's connection destination (management-use) virtual switch is set up.

You must set up a management-use virtual switch for a NIC to establish communication with the local server.

If a connection-destination virtual switch has already been set on the exported virtual server, the switch is replaced by the specified one.

For the first NIC, set up a management-use virtual switch that can communicate with the local server. For the second to fourth NICs, set a management-use or operation-use virtual switch according to the user operating requirements.

If the number of specified virtual switches exceeds the number of NICs on the virtual server, only the virtual switches allocated to NICs are enabled.

(3) A response file to be used for OS customization is created and deployed.

1. Mount the virtual disk of the virtual server to the Hyper-V server.

2. On the mounted virtual disk, create a response file to be used for OS customization.

3. Unmount the virtual disk from the Hyper-V server.

(4) The virtual server starts, and the initial settings on the virtual server are specified.

1. Specify the initial OS settings (such as the computer name and company name).

Set the computer name, company name, organization name, and time zone as the initial OS settings.

2. Set IP addresses for the virtual server.

A virtual server can have a maximum of four IP addresses. For the first IP address (management-use IP address), set an IP address for managing the deployed virtual server. For the second to fourth IP addresses, set an IP management-use IP

address or operation-use IP address according to the user operating requirements. Some settings require connection to the OS by using a management-use IP address. The order in which IP addresses are set differs depending on the number of NICs installed on the virtual server, as shown below.

- When only one NIC is installed on the virtual server

The IP address to be set for the NIC is determined based on the following priority: IP address for management > second IP address > third IP address > fourth IP address. Among the specified IP addresses, only the one with the highest priority is set and the others are discarded.

- When two or more NICs are installed on the virtual server

Specified IP addresses are allocated to the NICs in the following order: management-use IP address > second IP address > third IP address > fourth IP address. Specification of blank IP addresses is skipped. For example, if the management-use IP address, second IP address, and fourth IP address are specified (that is, the third IP address is not specified), the fourth IP address is allocated to the third NIC on the virtual server. If the number of specified IP addresses exceeds the number of NICs installed on the virtual server, the IP addresses that are not allocated to NICs are discarded.

(5) The virtual server's (second to fourth) connection-destination virtual switches are set.

The connection-destination virtual switches that have already been set on the exported virtual server are replaced with the specified ones.

For the first NIC, set a management-use virtual switch that can communicate with the local server. For the second to fourth NICs, set a management-use or operation-use virtual switch according to the user operating requirements.

If the number of specified virtual switches exceeds the number of NICs installed on the virtual server, only the virtual switches allocated to NICs are enabled.

(6) If the management-use IP address to be set in the OS of the virtual server is specified and two or more IP addresses are set for the virtual server, a static route is set.

(7) If DOMAIN is selected from the selection list for the OS.selectWorkgroupDomain property, and the domain name, domain user name, and domain password are specified, processing to join the domain is executed.

The following provides notes on setting properties:

(1) The OS user password must be entered twice (the second entry is for confirmation). If the OS user password is not entered twice, "Password123" is set as the password. This password is also set if the first entered and second entered passwords do not match.

(2) If WORKGROUP is selected from the selection list for OS.selectWorkgroupDomain, the maximum length of the specifiable workgroup name is 15 bytes. If you specify a workgroup name longer than 15 bytes, the string "WORKGROUP" is set, instead of the specified name.

(3) If DOMAIN is selected from the selection list for the OS.selectWorkgroupDomain property, the domain name, domain user name, and domain password are required. If any values for these items are missing or domain participation fails, "WORKGROUP" is set as the workgroup name.

(4) Be sure to specify both the IP address and subnet mask. If you do not specify both of these items, the IP address, subnet mask and default gateway are not set.

(5) If the virtual switch specification is missing, connections to the virtual switches are not established.

(6) For the static route, specify the destination IP address, subnet mask and default gateway. If any of these items are missing, the static route is not set.

(7) Specifiable time zones are as follows:

- Tokyo Standard Time

- China Standard Time

- GMT Standard Time

- Pacific Standard Time

- Eastern Standard Time

- US Eastern Standard Time

- Central Standard Time

- Central America Standard Time

- US Mountain Standard Time

- Mountain Standard Time

- Alaskan Standard Time

- Hawaiian Standard Time

- Singapore Standard Time

- India Standard Time

If no time zone is specified, the time zone set in the exported virtual server is used.

(8) Specifiable locales are as follows:

- ja-JP

- en-US

- zh-CN

(9) Specifiable OS names are as follows:

- Windows Server 2012

- Windows Server 2012 R2

- Windows Server 2016

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products in the service-template execution system, and OSs of prerequisite products in the service-template execution system.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2016 Hyper-V

OSs of prerequisite products in the service-template execution system:

(1) Prerequisite OS for the Hyper-V server

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using the prerequisite products in the service-template execution system:

(1) Conditions related to the settings on the Hyper-V server

- Virtual switch settings must have been specified.

- Each virtual switch name must be unique within the Hyper-V server.

- An exported virtual server to be deployed must have been created.

(2) Conditions related to the exported virtual server to be deployed

(2-1) The following service of Hyper-V Integration Service must be enabled:

- Data Exchange

(2-2) Before a virtual server is exported from the Hyper-V server, the virtual server must satisfy the following conditions:

1) The administrator user password is blank.

2) The network settings are deleted.

If the network adapter settings have been specified on the virtual host, make sure that the values of the following settings are blank, and then set [Obtain an IP address automatically] and [Obtain DNS server address automatically]:

- IP address

- Subnet mask

- Default gateway

- Preferred DNS server

- Alternate DNS server

3) The OS settings must have been initialized by using Sysprep.

Also, the following conditions must be satisfied:

- [Enter System Out of Box Experience (OOBE)] is selected from the [System Cleanup Action] drop-down list.

- The [Generalize] check box is selected.

(2-3) Agentless connection must be possible.

(2-4) A maximum of four NICs must be set up.

- Connections with virtual switches must be closed.

(2-5) The firewall must permit ICMP (ECHO) replies.

(2-6) If the container server and the Hyper-V server are different, the folder containing the virtual server exported from the Hyper-V server must be a shared folder.

(2-7) No legacy network adapter must be set.

(2-8) Snapshots and differential disks must not be created.

(3) Conditions related to the settings on the virtual server

- The virtual server name must be unique within the Hyper-V server.

(4) Conditions related to this product settings

- For the following addresses, authentication information must have been set in the agentless connection definition on the [Management] tab: the local server address (a loopback address that can be resolved from the name "localhost"), Hyper-V server address, and the management-use IP address of the virtual server to be deployed.

Cautions

(1) If no virtual switch is specified, the connection-destination virtual switch information of the relevant NIC is deleted. As a result, the NIC is disconnected from the virtual switch. Be sure to specify all necessary virtual switches.

(2) For IP addresses to be set in the OS of the virtual server, enter only values that are treated as IP addresses. For example, you must not specify special addresses such as a network address, broadcast address, "0.0.0.0", or "255.255.255.255". If you enter such a special address, deployment of the virtual server fails. In addition, for management-use IP addresses, enter IP addresses that allow communication with the local server. If you enter an address that is correct but does not allow communication with the local server, deployment might fail.

(3) While the virtual server is being deployed, make sure that other services do not operate the virtual server. If other services operate the virtual server that is being deployed, deployment might fail. Direct operation from the Hyper-V server is also prohibited.

(4) IP addresses are set as described in the Function Specifications. However, depending on the order in which NICs are set in the OS of the virtual server, IP addresses might not be set as intended. Therefore, after the virtual server has been created, check whether IP addresses are set as intended. If IP addresses are not set as intended, correct the settings manually.

(5) Make sure that IP addresses set on the virtual server are not being used by other servers. If an IP address that is set on another server is set, no NICs on the virtual server are enabled, sometimes causing the task to terminate abnormally.

(6) Make sure that the settings to be specified during creation of the virtual server to be deployed have not been set on the exported virtual server. If the computer name, host name, or IP address has already been set on the exported virtual server, virtual server creation might fail (for example, an error occurs in static-route related processing). If creation fails, delete the virtual server, re-create an exported virtual server on which the computer name, host name, or IP address is not set, and then re-execute this service.

(7) If deployment fails, the response file used to specify the initial OS settings and IP addresses on the virtual server might remain on the system drive of the virtual server. If a response file remains, check for the relevant response file in the task log, and delete the file. Alternatively, delete the virtual server.

(8) If folders in the specified import destination path do not exist, they are created.

(9) If virtual disk files remain in folders in the specified import destination path, the task terminates abnormally. Check the folders in the specified path, and then delete them or specify another path.

(10) This service does not register virtual servers deployed for any services and applications of the failover cluster manager. Register those servers manually according to the user operating requirements.

(11) When virtual disks on a virtual server are mounted to the Hyper-V server, available drive letters on the Hyper-V server are temporarily locked. If there are no available drive letters, an error occurs when the virtual disk is being mounted, and the task terminates abnormally. Before you execute this service, make sure that there are as many available drive letters on the Hyper-V server as the number of drives used by the virtual disks on the exported virtual server.

(12) If the generation number of the exported virtual server is 2, for the hyperv.scsiDiskLocation property, specify the location of the SCSI controller in which the virtual server's system disk is set. If the location of the system disk differs from the location specified for that property, a search for the system disk takes place. In this case, therefore, a longer time might be required to complete deployment.

(13) We recommend that you do not change the value of the hyperv.osSettingWaitTime property from the default value. Note, however, that if the wait time specified for the property is not long enough, the next step might start before the initial OS setup finishes, causing the task to terminate abnormally.

(14) In this service template, drive letter of drive connected to the deployed virtual server may be changed, in order to initialize the system information of the OS by sysprep. So that the drive letter may not match between the deployed virtual server and template of the virtual server. Also if the application has been installed on the drive where the drive letter has been changed, there is a possibility that the application may not work correctly.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Add VM,Hyper-V 2016

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify Hyper-V information.	Y
Virtual server information	Specify the information about the virtual server to be added.	Y
OS information	Specify the OS information to be set on the virtual server.	Y
Network information	Specify the network information for the virtual server.	Y
Run-time option	The property for checking the status before specifying the initial OS settings on the virtual server. Change the option, if necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
hyperv.userName	User name for connecting to storage server	Specifies the user name for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	Input	Disabled	O	Virtual server information
hyperv.password	Password for connecting to storage server	Specifies the password for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	Input	Disabled	O	Virtual server information
windows.orgName	Organization name (company name)	Specify the organization name to be set in the OS of the virtual server.	Input	Disabled	R	OS information
windows.ownerName	Name (owner name)	Specify the owner name to be set in the OS of the virtual server.	Input	Disabled	R	OS information
OS.selectWorkgroupDomain	Select workgroup/domain	Select which type of entity you want the virtual server to belong to: workgroup or domain.	Input	Disabled	R	OS information
OS.workgroupNameDomainName	Workgroup/domain name	Specify the name of the workgroup or domain that the virtual server belongs to. The workgroup name can have a maximum of 15 characters. The domain name can have a maximum of 63 characters.	Input	Disabled	R	OS information
OS.domainUserName	Domain user name	Specify the user name for the domain that the virtual server belongs to. This item must be specified if DOMAIN is selected as the type of entity that you want the virtual server to belong to.	Input	Disabled	O	OS information
OS.domainUserPassword	Domain password	Specify the password for the domain that the virtual server belongs to. This item must be specified if DOMAIN is selected as the type of entity that you want the virtual server to belong to.	Input	Disabled	O	OS information
OS.subnetMaskMan	Subnet mask (management LAN)	Specify the subnet mask for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.defaultGWMan	Default gateway (management LAN)	Specify the default gateway for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.dnsMan	DNS server IP address (management LAN)	Specify the IP address of the DNS server connected to the management LAN to be set on the virtual server. Do not specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.virtualSwitchMan	Virtual switch name (for management)	Specifies the virtual switch name (for management) set for the NIC (for management) that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask2	Subnet mask (for second NIC)	Specify the 2nd subnet mask for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.defaultGW2	Default gateway (for second NIC)	Specify the 2nd default gateway for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.dns2	DNS server IP address (for second NIC)	Specify the IP address of the DNS server to be set for the second NIC recognized by the OS of the virtual server. Do not specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.virtualSwitch2	Virtual switch name (for second NIC)	Specifies the virtual switch name (for second NIC) set for the second NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask3	Subnet mask (for third NIC)	Specifies the subnet mask that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.defaultGW3	Default gateway (for third NIC)	Specifies the default gateway that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.dns3	DNS server IP address (for third NIC)	Specify the IP address of the DNS server to be set for the third NIC recognized by the OS of the virtual server. Do not specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.virtualSwitch3	Virtual switch name (for third NIC)	Specifies the virtual switch name (for third NIC) set for the third NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.subnetMask4	Subnet mask (for fourth NIC)	Specifies the subnet mask that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.defaultGW4	Default gateway (for fourth NIC)	Specifies the default gateway that is set for the fourth NIC	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.defaultGW4	Default gateway (for fourth NIC)	recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.dns4	DNS server IP address (for fourth NIC)	Specify the IP address of the DNS server to be set for the fourth NIC recognized by the OS of the virtual server. Do not specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.virtualSwitch4	Virtual switch name (for fourth NIC)	Specifies the virtual switch name (for fourth NIC) set for the fourth NIC that is set for the virtual server.	Input	Disabled	O	Network information
OS.destIPAddress	Destination IP of static route	Specify the static-route destination IP address. Do not specify an IPv6 address.	Input	Disabled	O	Network information
OS.subnetMaskStaticRoute	Subnet mask (static route)	Specify the subnet mask for the static route. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.defaultGWStaticRoute	Default gateway (static route)	Specify the default gateway for the static route. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
hyperv.scsiDiskLocation	SCSI controller location	Specify the location of the SCSI controller for which a system disk has been set. This property takes effect only if the generation number of the exported virtual server is 2.	Input	Disabled	R	Run-time option
hyperv.osSettingWaitTime	Wait time before initial OS setup finishes	Specify in seconds the time to wait before initial OS setup finishes.	Input	Disabled	R	Run-time option
common.icmpEchoTimeout	Timeout period for ICMP echo requests	To check network connectivity, specify in milliseconds the time to wait for a reply to an ICMP echo request performed after the virtual server starts.	Input	Disabled	R	Run-time option
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Run-time option
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Run-time option
hyperv.checkJobStateCountGetDriveList	Job monitoring count (Win32_LogicalDisk method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	Input	Disabled	R	Run-time option

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Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkJobStateIntervalGetDriveList	Job monitoring interval (Win32_LogicalDisk method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information
hyperv.exportedVmName	Path of exported virtual server folder	Specifies the folder name, as a full path, of the exported virtual server that is used as the copy source of the virtual server. If the storage server is a server other than the Hyper-V server, specify the path in UNC syntax.	Input	Disabled	R	Virtual server information
hyperv.importFolderPath	Import target	Specifies the full path of the folder where the virtual server is stored.	Input	Disabled	R	Virtual server information
windows.operatingSystem	Operating system	Specifies the operating system (OS) of the virtual server.	Input	Disabled	R	Virtual server information
OS.computerName	Computer/host name	Specify the computer name (host name) in the OS.	Input	Disabled	R	OS information
OS.osUserPassword	Administrator password	Enter the administrator password to be set in the OS. If you enter nothing, "Password123" is set.	Input	Disabled	O	OS information
OS.osUserPasswordReEnter	Enter administrator password again	Re-enter the administrator password to be set in the OS. If you enter nothing, "Password123" is set.	Input	Disabled	O	OS information
OS.productKey	OS product key	Specify the OS product key in the following format: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX	Input	Disabled	O	OS information
OS.ipAddressMan	IP address (management LAN)	Specify the IP address for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.ipAddress2	IP address (for second NIC)	Specify the 2nd IP address for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.ipAddress3	IP address (for third NIC)	Specifies the IP address that is set for the third NIC recognized by	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.ipAddress3	IP address (for third NIC)	the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.ipAddress4	IP address (for fourth NIC)	Specifies the IP address that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.timeZoneWin	Time zone	Specify the time zone to be set in the OS of the virtual server.	Input	Disabled	O	OS information
OS.systemLocale	System locale	Specifies the system locale that is set for the OS of the virtual server.	Input	Disabled	R	OS information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.userName	Enter up to 20 halfwidth alphanumeric characters and symbols. The following characters are not allowed: < > | ; & ' " * ? [ ] ` / : = , + \ @ %
hyperv.password	Enter up to 127 halfwidth alphanumeric characters and symbols. The following characters are not allowed: < > | ; & ' " * ? [ ] ` %
windows.orgName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
windows.ownerName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, or %.
OS.selectWorkgroupDomain	Select one of the following values: WORKGROUP,DOMAIN
OS.workgroupNameDomainName	Enter up to 63 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
OS.domainUserName	A maximum of 20 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, \, @ or %.
OS.domainUserPassword	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.
OS.subnetMaskMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.dnsMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.virtualSwitchMan	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .

Property key	Characters that can be input
OS.defaultGW2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.dns2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.virtualSwitch2	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.defaultGW3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.dns3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
hyperv.virtualSwitch3	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.subnetMask4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.defaultGW4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.dns4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
hyperv.virtualSwitch4	Enter a character string of up to 63 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \
OS.destIPAddress	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.subnetMaskStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
hyperv.scsiDiskLocation	An integer in the range from 0 to 63
hyperv.osSettingWaitTime	An integer in the range from 0 to 2,147,483,647
common.icmpEchoTimeout	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.
hyperv.checkJobStateCountGetDriveList	Enter an integer from 1 to 2147483647.
hyperv.checkJobStateIntervalGetDriveList	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :

Property key	Characters that can be input
hyperv.exportedVmName	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.importFolderPath	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
windows.operatingSystem	Select one of the following values: Windows Server 2012, Windows Server 2012 R2, Windows Server 2016
OS.computerName	Enter up to 15 halfwidth alphanumeric characters. You can also use hyphens (-).
OS.osUserPassword	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPasswordReEnter	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.productKey	A maximum of 29 characters can be entered. Characters that can be used include alphanumeric characters, as well as -.
OS.ipAddressMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.ipAddress2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.ipAddress3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.ipAddress4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.timeZoneWin	Select one of the following values: Tokyo Standard Time, China Standard Time, GMT Standard Time, Pacific Standard Time, Eastern Standard Time, US Eastern Standard Time, Central Standard Time, Central America Standard Time, US Mountain Standard Time, Mountain Standard Time, Alaskan Standard Time, Hawaiian Standard Time, Singapore Standard Time, India Standard Time
OS.systemLocale	Select one of the following values: ja-JP, en-US, zh-CN

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2016CreateVM	Create a virtual server	Creates a virtual server from an exported virtual server in a Hyper-V environment.	After checking the task log and removing the cause of the error, run the service again. If virtual servers were already created on the Hyper-V server, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
2	hyperv2016SetVirtualSwitchMan	Virtual server virtual switch settings	Sets up a virtual switch for establishing a connection with the local server.	After checking the task log and removing the cause of the error,

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
2	hyperv2016SetVirtualSwitchMan	Virtual server virtual switch settings	Sets up a virtual switch for establishing a connection with the local server.	delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
3	hyperv2016CreateAnsFile	Flow Plug-in	Deploys a response file on a virtual server.	--
3-1		Mount a virtual disk	Mounts a virtual disk on the Hyper-V server.	After checking the task log and removing the cause of the error, manually unmount any virtual disks mounted on the Hyper-V server. Then, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
3-2		Create a response file	Creates a response file for specifying the initial OS settings and IP addresses for a virtual server in a Hyper-V environment.	After checking the task log and removing the cause of the error, manually unmount any virtual disks mounted on the Hyper-V server. Then, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
3-3		Unmount a virtual disk	Unmounts a virtual disk from the Hyper-V server.	After checking the task log and removing the cause of the error, manually unmount any virtual disks mounted on the Hyper-V server. Then, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4	hyperv2016PowerOnVM	Flow Plug-in	Specifies the initial OS settings (computer name, company name, and organization name) and IP addresses for a virtual server, and then starts the virtual server.	--
4-1		Starts a virtual server	Starts a virtual server in a Hyper-V environment.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-2		Execute wait	Waits for the completion of the initial OS settings if wait time is necessary.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-3		Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
4-4	hyperv2016PowerOnVM	Flow Plug-in	Checks whether the local server and virtual servers are connected to the network, and then sets IP addresses for the second to fourth NICs.	--
4-4-1		Send ICMP echo request message	Issues an ICMP echo request to a virtual server that is turned on.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-4-2		Judge Value Plug-in	Judges whether the second to fourth NICs need to be set up.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-4-3		Flow Plug-in	Sets up the second to fourth NICs.	--
4-4-3-1		Obtain the MAC address of an NIC	Obtains the MAC address of the management NIC.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-4-3-2		Virtual server virtual switch settings	Closes the connections between the virtual switches and the second to fourth NICs.	After checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
4-4-3-3		Windows network settings	Sets IP addresses for the second to fourth NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5	hyperv2016SetVirtualSwitchBiz	Flow Plug-in	Sets up virtual switches for the second to fourth NICs.	--
5-1		Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method
5-1	hyperv2016SetVirtualSwitchBiz	Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	virtual servers, and then run this service again.
5-2		Flow Plug-in	Sets up virtual switches for the second to fourth NICs.	--
5-2-1		Judge Value Plug-in	Judges whether the second to fourth NICs need to be set up.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5-2-2		Flow Plug-in	Sets up virtual switches for the second to fourth NICs.	--
5-2-2-1		Obtain the MAC address of NICs	Obtains the MAC addresses of the second to fourth NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5-2-2-2		Virtual server virtual switch settings	Sets up virtual switches for the second to fourth NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
5-3		Judge Value Plug-in	Judges whether IP addresses are set for the NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
5-4	hyperv2016SetVirtualSwitchBiz	Virtual server virtual switch settings	Sets up virtual switches for the second to fourth NICs.	Log in to the Hyper-V server and check the virtual server settings. Next, log in to the virtual server and check the virtual server settings. If necessary, manually set up the virtual server. Alternatively, after checking the task log and removing the cause of the error, delete the virtual servers and the virtual disks set on those virtual servers, and then run this service again.
6	osSetStaticRoute	Flow Plug-in	Sets a static route on the OS of a virtual server.	--
6-1		Judge Value Plug-in	Judges whether multiple NICs are set up on the virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
6-2		Flow Plug-in	Confirms that multiple IP addresses are set on the OS of the virtual server.	--
6-2-1		Judge Value Plug-in	Judges whether multiple IP addresses are set in the OS of the virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
6-2-2		Flow Plug-in	Confirms that management IP addresses are set on the OS of the virtual server.	--
6-2-2-1		Judge Value Plug-in	Judges whether management IP addresses are set on the OS of the virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
6-2-2-2		Set static route	Sets a static route on the OS of a virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7	hyperv2016JoinDomain	Flow Plug-in	Joins a domain.	--
7-1		Judge Value Plug-in	Judges whether management IP addresses are set on the OS of the virtual server.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2		Flow Plug-in	Joins a domain.	--
7-2-1		Judge Value Plug-in	Judges whether it is necessary to join a domain.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2-2		Flow Plug-in	Checks whether the processing to join a domain was successful.	--
7-2-2-1		Windows network settings	Joins a domain.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
7-2-2-2	hyperv2016JoinDomain	Judge Value Plug-in	Judges whether the processing to join a domain was successful.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2-2-3		Flow Plug-in	Restarts a virtual server in a Hyper-V environment.	--
7-2-2-3-1		Shut down a virtual server	Shuts down a virtual server in a Hyper-V environment.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.
7-2-2-3-2		Start a virtual server	Starts a virtual server in a Hyper-V environment.	Check the task log, log in to the virtual server, and then remove the cause of the error. If necessary, manually set up the virtual server.

3.10.4 Add virtual server (virtual disk)

Function

This service template creates a virtual disk in a Hyper-V environment and then adds that virtual disk to a virtual server.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) The task obtains the status of the virtual server.

(2) The task confirms that the virtual server is not running.

If the virtual server is not running, the task continues processing. In all other cases, the task executes the User-Response Wait plug-in to check whether the virtual server is to be shut down.

If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the virtual server is shut down. If you select "Shutdown" for a virtual server that is not running, the task terminates abnormally without performing any operations on the virtual server.

If you select "Cancel" or the response-wait processing times out, the task terminates abnormally without performing any operations on the virtual server.

(3) The task creates a virtual disk file in the Hyper-V environment.

The task can create dynamic (variable-size) or fixed (fixed-size) virtual disks. It cannot create differential virtual disks or pass-through (physical) disks.

If you specify the property hyperv.vHardDiskFolderPath, a new virtual disk file is created in the folder path specified by the property. If you do not specify this property, a new virtual disk is saved in the default virtual-disk storage folder set on the Hyper-V server.

If you specify a path that includes non-existent folders, those folders are automatically created.

(4) The task connects the virtual disk to the virtual server.

You can add virtual disks to a SCSI controller but not to an IDE controller.

The method for connecting a virtual disk to a SCSI controller varies depending on whether the SCSI controller ID number (the property hyperv.scsiControllerNumber) and SCSI controller location number (the property hyperv.scsiLocationNumber) are specified.

- If neither the SCSI controller ID number nor SCSI controller location number is specified

The Hyper-V server automatically connects the virtual disk to an available SCSI controller.

- If only the SCSI controller ID number is specified

The Hyper-V server automatically connects the virtual disk to any location (0 to 63) of the specified SCSI controller.

- If only the SCSI controller location number is specified

The Hyper-V server automatically connects the virtual disk to the specified SCSI controller location of an available SCSI controller (0 to 3).

- If both the SCSI controller ID number and SCSI controller location number are specified

The virtual disk is connected to the specified location of the specified SCSI controller.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the system executing the service template:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2016 Hyper-V

Supported OSs for the prerequisite products in the system executing the service template:

(1) OS of the Hyper-V server

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

(2) OS of the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) The following service of Hyper-V Integration Services must be enabled on the target virtual server:

- Operating System Shutdown

(3) There must be an available SCSI controller on the virtual server.

Cautions

(1) This service template does not initialize the virtual disks that are added to the virtual server. If necessary, log in to the OS of the virtual server and initialize the disks.

(2) Do not concurrently execute multiple instances of this service on the same virtual server.

(3) You can specify HTML tags for the property UserResponseplugin.dialogText. The specifiable tags and attributes are the same as those for the User-Response Wait plug-in. For details, see the topic about the User-Response Wait plug-in in this product manual.

(4) You cannot add any virtual disk files that have already been created on a Hyper-V server.

(5) If you select "Shutdown" from the GUI of the User-Response Wait plug-in, the OS of the virtual server is forcibly shut down. Data in files that are being edited on the virtual server will not be saved.

(6) If another virtual disk is already connected to the specified SCSI controller location of the specified SCSI controller, this task terminates abnormally.

(7) For second-generation virtual servers, you can add only virtual disks that are in VHDX file format. If you attempt to connect a created VHD file to a second-generation virtual server, this task terminates abnormally.

Version

03.00.00

Tags

Modify VM,Hyper-V 2016

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify Hyper-V information.	Y
Virtual server information	Specify information about the virtual server to which a virtual disk is to be added.	Y
Virtual disk information	Specify information about the virtual disk to be created.	Y
Virtual disk connection information	Specify information about the SCSI controller to which the virtual disk is to be connected. Specify this information only if you want to use a specific SCSI controller.	N

Property group	Description	Initial display
User-response wait option	This option is used when user response is required after a virtual server is started. Change the settings of this option as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait option
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait option
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait option
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User-response wait option
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported	Input	Disabled	O	User-response wait option

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
UserResponsePlugin.dial ogText	Additional dialog box text	HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disab led	O	User-response wait option
UserResponsePlugin.res ponseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disab led	R	User-response wait option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disab led	R	Virtual server information
hyperv.vHardDiskName	Virtual Disk File Name	Specify the file name of the virtual disk to be created. Specify "vhd" or "vhdx" as the file extension.	Input	Disab led	R	Virtual disk information
hyperv.vHardDiskFolder Path	Virtual disk storage folder path	Specify the full path to the folder that stores the created virtual disk. If you omit this specification, the virtual disk is stored in the virtual disk folder specified for the Hyper-V server.	Input	Disab led	O	Virtual disk information
hyperv.vHardDiskType	Virtual disk type	Specifies the virtual disk type. Specify one of the following: dynamic (an adjustable-size virtual disk is created) or fixed (a fixed-size virtual disk is created).	Input	Disab led	R	Virtual disk information
hyperv.capacity	Size (GB)	Specifies the size of the virtual disk, in gigabytes (GB).	Input	Disab led	R	Virtual disk information
hyperv.scsiControllerNu mber	SCSI controller number	Specifies the SCSI controller number of the virtual server that adds the virtual disk. Specify the SCSI controller number as an integer from 0 in the order that the SCSI controllers were added to the virtual server (displayed in the Hyper-V Manager).	Input	Disab led	O	Virtual disk connection information
hyperv.scsiLocationNum ber	SCSI controller location number	Specifies the location number of the SCSI controller of the virtual server that adds the virtual disk. Specify the SCSI controller location number as an integer for the unused locations of SCSI controllers that were added to the virtual server.	Input	Disab led	O	Virtual disk connection information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
hyperv.attachScsiControllerNumber	Connected SCSI controller number	Outputs the number of the SCSI controller to which the virtual disk file is connected.	Output	Disabled
hyperv.attachScsiLocationNumber	Location Number of the Connected SCSI Controller	Outputs the location number of the SCSI controller to which the virtual disk file is connected.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.vmName	Enter a character string of up to 100 characters. The character string must not start with a space, end with a space or period (.), or contain the following characters: < > | ; & ' " * ? [ ] ` , % \ / :
hyperv.vHardDiskName	A string of 255 or fewer characters. The following characters cannot be used: <, >, |, ;, &, *, ?, ", %, /, ', [,], `, :, \
hyperv.vHardDiskFolderPath	A string of 247 or fewer characters. The string cannot end in a yen sign (\), and the following characters cannot be used: <, >, |, ;, &, *, ?, ", %, /, ', [,], `
hyperv.vHardDiskType	Select one of the following values: Dynamic,Fixed
hyperv.capacity	Enter an integer from 1 to 2040.
hyperv.scsiControllerNumber	Select one of the following values: 0,1,2,3
hyperv.scsiLocationNumber	Enter an integer from 0 to 63.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2016CheckVMState	Flow Plug-in	Checks the status of a virtual server. If the virtual server is running, this plug-in asks the user whether the virtual server is to be stopped.	--
1-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
1-3		Judge Value Plug-in	Checks whether a virtual server has stopped.	After removing the cause of the error, run the service again.
1-4		Flow Plug-in	Asks the user whether the virtual server is to be stopped. If the user chooses to stop it, this plug-in shuts down the virtual server.	--
1-4-1		User-Response Wait Plug-in	Asks the user whether the virtual server is to be stopped, and then waits for the user's response.	After removing the cause of the error, run the service again.
1-4-2		Obtain virtual server status	Obtains the status of the specified virtual server.	After removing the cause of the error, run the service again.
1-4-3		Judge Value Plug-in	Checks whether a virtual server has stopped.	After removing the cause of the error, run the service again.
1-4-4		Shut down virtual server	Shuts down a virtual server.	After removing the cause of the error, run the service again.
2	hyperv2016CreateVDisk	Create virtual disk	Creates a virtual disk.	After removing the cause of the error, run the service again.
3	hyperv2016AttachVDisk	Connect virtual disk	Connects a virtual disk to a virtual server.	If an error occurs, directly connect the created virtual disk on the Hyper-V server, or delete the virtual server. Then, remove the cause of the error, and then run the service again.

3.11 Service templates for Hyper-V 2016 (operation)

3.11.1 Start virtual server

Function

This service template starts multiple virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual servers

Virtual servers managed by Hyper-V

The following is an overview of the processing:

(1) The status of a virtual server is obtained.

(2) If the virtual server is stopped, it is started. If the virtual server is already running, the processing to start the virtual server is skipped. In all other cases, processing for that virtual server ends in an error.

(3) If the network connection check is enabled, the IP address (IPv4) set for the virtual server that was started is obtained. Then the local server sends an ICMP echo request to that server to check whether it is connected to the network.

The above processing is performed in parallel for the specified virtual servers.

Before a virtual server is started, a check of the virtual server status is performed for the number of times specified by the property hyperv.checkVmStateEnabledCount, at the interval specified (in seconds) by the property hyperv.checkVmStateEnabledInterval. Adjust the values of these properties based on your environmental requirements.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products in the service-template execution system, and OSs of prerequisite products in the service-template execution system.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2016 Hyper-V

OSs of prerequisite products in the service-template execution system:

(1) Prerequisite OS for the Hyper-V server

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using the prerequisite products in the service-template execution system:

(1) The name of each virtual server must be unique within a single Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled on the target virtual server:

- Data Exchange

(3) If the network connection check is enabled, you must specify the address of the connection destination for agentless monitoring. Make sure to specify a loopback address that can be resolved from the name "localhost".

(4) If the network connection check is enabled, the firewall for the target virtual server must permit ICMP (ECHO) replies.

Cautions

(1) When the network connection check is performed, depending on the system environment, the task might not be able to obtain all IP addresses immediately after the virtual servers are started. As a result, even if all virtual servers are running, the plug-in osSendIcmp might not be able to confirm network connection for all IP addresses (IPv4) set on the virtual servers, and the task might end abnormally. To ensure that all IP addresses can be obtained, adjust the value (in seconds) of the property hyperv.waitTime, which specifies the amount of time to wait between starting a virtual server to obtaining an IP address.

(2) To perform the network connection check, make sure that the total length of the IP addresses (IPv4) set for all NICs on a virtual server does not exceed 1,024 characters (#1). If the total length exceeds 1,024 characters, an error might occur in the plug-in osSendIcmp, causing the task to end abnormally.

#1: The maximum length of one IP address (IPv4) including the comma used as an address separator is 16 characters.

(3) If you enable the network connection check, adjust the value of the property common.icmpEchoTimeout based on your environmental requirements.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Control VM,Hyper-V 2016

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual-system environment information	Specify Hyper-V information.	Y
Virtual server information	Specify information about the virtual server to be started.	Y
Network connection check	This property is used to check the network connection after the virtual server is started. If necessary, change the value of this property.	N
Run-time option	This property is used to check statuses before virtual servers are started. If necessary, change the value of this property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual-system environment information
hyperv.waitTime	Wait time before starting to obtain IP address	When performing a network connectivity check, specifies the amount of time, in seconds, after the virtual server starts to wait before starting to obtain the IP address.	Input	Disabled	R	Network connection check
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specify in milliseconds how long the service waits for a reply to an ICMP echo request sent to confirm startup of a virtual server.	Input	Disabled	R	Network connection check
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Run-time option
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	Input	Disabled	R	Virtual server information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	If specifying multiple names, separate them with commas. You can specify up to 99 names.	Input	Disab led	R	Virtual server information
hyperv.checkNetworkCo nnection	Check network connectivity	Specifies whether to check network connectivity after starting a virtual server.	Input	Disab led	R	Network connection check

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.waitTime	Enter an integer from 0 to 3600.
common.icmpEchoTimeout	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \ / :
hyperv.checkNetworkConnection	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOnVMhyperV 2016	Repeated Execution Plug-in	Starts multiple virtual servers.	After removing the cause of the error, run the service again.

3.11.2 Start virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2016GetVMState	Obtain virtual server status	Obtains the status of a virtual server in a Hyper-V environment.	After removing the cause of the error, run the service again.
2	hyperv2016PowerOnVM	Flow Plug-in	Starts a virtual server in a Hyper-V environment.	--
2-1		Judge Value Plug-in	Judges whether the virtual server is running.	After removing the cause of the error, run the service again.
2-2		Start virtual server	Starts the virtual server if it is not running.	After removing the cause of the error, run the service again.
3	hyperv2016CheckNetwork	Flow Plug-in	Checks whether the network is connected.	--
3-1		Judge Value Plug-in	Judges whether "yes" is specified for the network connection check.	After removing the cause of the error, run the service again.
3-2		Flow Plug-in	If "yes" is specified for the network connection check, this plug-in performs the network connection check.	--
3-2-1		Judge Value Plug-in	Judges whether a value greater than 0 is specified for the time to wait before obtaining an IP address.	After removing the cause of the error, run the service again.
3-2-2		Execution wait	If a value greater than 0 is specified for the wait time, this plug-in waits for the specified time before obtaining an IP address.	After removing the cause of the error, run the service again.
3-2-3		Obtain virtual server IP address	Obtains the IP address of a virtual server that was started.	After removing the cause of the error, run the service again.
3-2-4		Send ICMP echo request message	Issues an ICMP echo request to a virtual server that was started.	Depending on the status of the system environment, the virtual server might start successfully but the network connection check might fail, causing the task to terminate abnormally. Check whether the virtual server is running. To run the service again, first read the notes and remove the cause of the error.

3.11.3 Restart virtual server

Function

This service template restarts multiple virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) For a virtual server that is running, this service template restarts the virtual server. For a virtual server in any state other than the running state, processing for that virtual server ends in an error.

(2) If the network connectivity check is enabled, this service template obtains the IP address (IPv4) set for the restarted virtual server. Then, network connectivity is checked by sending an ICMP echo request from the local server to the restarted virtual server.

The above processing is executed in parallel for the specified virtual servers.

After a virtual server starts, a status check is performed for that server for the number of times specified by the property hyperv.checkVmStateEnabledCount, at the interval (in seconds) specified by the property hyperv.checkVmStateEnabledInterval. Adjust the values of these properties based on the environmental requirements.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the system executing the service template:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2016 Hyper-V

Supported OSs for the prerequisite products in the system executing the service template:

(1) OS of the Hyper-V server

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

(2) OS of the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) The following services of Hyper-V Integration Services must be enabled on the target virtual server:

- Operating System Shutdown

- Data Exchange

(3) If the network connectivity check is enabled, the local server (the loopback address resolved from the name "localhost") must be set as the agentless connection destination.

(4) If the network connectivity check is enabled, the firewall of the target virtual server must permit ICMP (ECHO) replies.

(5) The virtual server must be running.

Cautions

(1) This service forcibly shuts down the OS of the specified virtual server. When this service is executed, data in files that are being edited on the virtual server will not be saved.

(2) If the network connectivity check is enabled, depending on the system environment, the service might not be able to obtain all IP addresses immediately after the virtual server starts. For this reason, even if the virtual server is running, the task might terminate abnormally, because the plug-in osSendIcmp cannot check network connectivity for all IPv4 addresses set on the virtual server. To ensure that all IP addresses are obtained, adjust the number of seconds specified for the property hyperv.waitTime, which determines the amount of time to wait after the virtual server starts before obtaining IP addresses.

(3) If the network connectivity check is enabled, make sure that the total length of all IPv4 addresses set for the NICs of the virtual server does not exceed 1,024 characters#. If the total length exceeds 1,024 characters, an error might occur in the plug-in osSendIcmp, and the task might terminate abnormally.

#: The maximum length for each IPv4 address is 16 characters (including the comma used to delimit the IP address).

(4) If the network connectivity check is enabled, adjust the value of the property common.icmpEchoTimeout based on the environmental requirements.

Execution privilege

Built-in Administrator

Version

03.00.00

Tags

Control VM,Hyper-V 2016

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify Hyper-V information.	Y
Virtual server information	Specify information about the virtual server to be restarted.	Y
Network connectivity check	This property is related to the network connectivity check that is performed after a virtual server is restarted. Change the settings of this property as necessary.	N

Property group	Description	Initial display
Run-time option	This property is related to the status check that is performed when a virtual server is restarted. Change the settings of this property as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information
hyperv.waitTime	Wait time before starting to obtain IP address	When the network connectivity check is enabled, this specifies the amount of time (in seconds) to wait before starting the acquisition of IP addresses after the virtual server restarts.	Input	Disabled	R	Network connectivity check
common.icmpEchoTimeout	Timeout period for ICMP echo requests	When the network connectivity check is enabled, this specifies the amount of time (in milliseconds) to wait for a response to an ICMP echo request issued after the virtual server restarts.	Input	Disabled	R	Network connectivity check
hyperv.checkVmStateEnabledCount	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	Input	Disabled	R	Run-time option
hyperv.checkVmStateEnabledInterval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.) If specifying multiple names, separate them with commas. You can specify up to 99 names.	Input	Disabled	R	Virtual server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.checkNetworkConnection	Check network connectivity	Specifies whether to check the network connectivity after a virtual server restarts.	Input	Disabled	R	Network connectivity check

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).
hyperv.waitTime	Enter an integer from 0 to 3600.
common.icmpEchoTimeout	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledCount	Enter an integer from 1 to 2147483647.
hyperv.checkVmStateEnabledInterval	Enter an integer from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \ / :
hyperv.checkNetworkConnection	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	rebootVMhyperV2016	Repeated Execution Plug-in	Restarts multiple virtual servers.	After removing the cause of the error, run the service again.

3.11.4 Restart virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2016ShutdownVM	Shut down virtual server	Shuts down a virtual server if it is running.	After removing the cause of the error, run the service again.
2	hyperv2016PowerOnVM	Start virtual server	Starts a virtual server if it has stopped.	After removing the cause of the error, start the virtual server, and then run the service again.
3	hyperv2016CheckNetwork	Flow Plug-in	Checks whether the network is connected.	--
3-1		Judge Value Plug-in	Judges whether "yes" is specified for the network connection check.	After removing the cause of the error, run the service again.
3-2		Flow Plug-in	If "yes" is specified for the network connection check, this plug-in performs the network connection check.	--
3-2-1		Judge Value Plug-in	Judges whether a value greater than 0 is specified for the wait time for obtaining an IP address.	After removing the cause of the error, run the service again.
3-2-2		Execution wait	Waits for the specified time before obtaining an IP address if a value greater than 0 is specified for the wait time.	After removing the cause of the error, run the service again.
3-2-3		Obtain virtual server IP address	Obtains the IP address of a virtual server that was started.	After removing the cause of the error, run the service again.
3-2-4		Send ICMP echo request message	Issues an ICMP echo request to a virtual server that was started.	Depending on the status of the system environment, the virtual server might start successfully, but the network connection check might fail, causing the task to terminate abnormally. Check whether the virtual server is running. To run the service again, first read the notes and remove the cause of the error.

3.11.5 Obtain virtual server information list

Function

This service template obtains a list of information about virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following is an overview of the processing:

(1) A list of virtual server information is output to a temporary file in CSV format on the specified remote PC. The file is encoded in the default encoding of the system on the Hyper-V server.

(2) The temporary file on the remote PC is transferred to an output file on the local PC.

(3) The temporary file on the remote PC is deleted.

The following items are output to the file in CSV (comma-separated value) format:

(a) Name of the Hyper-V server (header name: ComputerName)

(b) Name of the virtual server (header name: VMName)

(c) State of the virtual server (header name: State)

(d) CPU usage (%) of a virtual server (header name: CPUUsage)

(e) Size of the memory (in MB) allocated to the virtual server# (header name: MemoryAssigned)

(f) Running time of the virtual server (header name: Uptime)

(g) Status of the virtual server (header name: Status)

(h) Number of virtual processors on the virtual server (header name: ProcessorCount)

(i) Startup RAM (in MB) of the virtual server (header name: MemoryStartup)

(j) Whether dynamic memory is enabled on the virtual server (header name: DynamicMemoryEnabled)

#: Size of the memory (in MB) that is actually used by the virtual server

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the system executing the service template:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2016 Hyper-V

Supported OSs for the prerequisite products in the system executing the service template:

(1) OS of the Hyper-V server

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

(2) OS of the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

None.

Cautions

(1) If you specify an existing file for the remote or local file, the existing file will be overwritten. In addition, the file on the remote PC will be deleted, so make sure the specified file name is correct.

(2) If you specify a remote file path that includes non-existent folders, those folders are automatically created. These folders are not automatically deleted. Periodically delete these folders if they are unnecessary.

(3) If two or more virtual servers have the same name, you will not be able to distinguish these virtual servers in the output CSV file.

Version

02.12.00

Tags

Gather VM information,Hyper-V 2016

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify Hyper-V information.	Y
Output file storage information	Specify the storage destination for the file to be output.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disabled	R	Virtual system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hyperv.listOutputFileNameRemote	Output file name (remote)	Specifies, as a full path, the temporary file name for when virtual server information is output to the Hyper-V server.	Input	Disabled	R	Output file storage information
hyperv.listOutputFileNameLocal	Output file name (local)	Specifies the name of the file (in full-path format) that contains the virtual server information to be saved to the local server.	Input	Disabled	R	Output file storage information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.listOutputFileNameRemote	Enter a character string of up to 256 characters. The character string must not end with a backslash (\) or contain the following characters: < > | ; & * ? " % / ' [ ] `
hyperv.listOutputFileNameLocal	Enter no more than 256 characters. Do not include the following characters: < > | ; & * ? " % or a trailing \ or /

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method	
1	hyperv2016GetVMInfo	Obtain virtual server information list	Outputs a list of virtual server information to a temporary file on the Hyper-V server.	After removing the cause of the error, run the service again.	
2	FileTransferPlugin	File-Forwarding Plug-in	Forwards a remote temporary file to the specified local output file.	Forward the temporary file from the Hyper-V server to the local server, and then delete the temporary file from the Hyper-V server.	
3	osDeleteFile	Delete file	Deletes a remote temporary file.	Manually delete the temporary file from the Hyper-V server.	

3.11.6 Stop virtual server

Function

This service template shuts down the OSs of multiple virtual servers in a Hyper-V environment.

This service template requires the following servers:

- Hyper-V server

A server on which Hyper-V is installed

- Virtual servers

Virtual servers managed by Hyper-V

The following is an overview of the processing:

(1) The status of a virtual server is obtained.

(2) If the virtual server is running, the OS of that virtual server is shut down. If the virtual server is stopped, the processing to shut down the OS is skipped. In all other cases, processing for that virtual server fails.

The above processing is performed in parallel for the specified virtual servers.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products in the service-template execution system, and OSs of prerequisite products in the service-template execution system.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2016 Hyper-V

OSs of prerequisite products in the service-template execution system:

(1) Prerequisite OS for the Hyper-V server

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using the prerequisite products in the service-template execution system:

(1) The name of each virtual server must be unique within a single Hyper-V server.

(2) The following service of Hyper-V Integration Service on the target virtual server must be enabled:

- Shut down operating system

Cautions

(1) If you execute this service, the data of files that are currently being edited on the virtual server will not be saved.

Version

03.00.00

Tags

Control VM,Hyper-V 2016

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual-system environment information	Specify Hyper-V information.	Y
Virtual server information	Specify information about the virtual server to be stopped.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

  R: The property must be specified.

  O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.targetHost	Hyper-V server host name	Specifies the host name or IP address of the Hyper-V server. IPv6 addresses are not supported.	Input	Disab led	R	Virtual-system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
hyperv.foreachVmName	Virtual server names (multiple names can be specified)	Specifies one or more names for the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.) If specifying multiple names, separate them with commas. You can specify up to 99 names.	Input	Disab led	R	Virtual server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hyperv.targetHost	Enter up to 256 halfwidth alphanumeric characters. You can also use periods (.) and hyphens (-).

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hyperv.foreachVmName	Enter a character string of up to 1024 characters. The following characters are not allowed: < > | ; & ' " * ? [ ] ` % \ / :

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOffVMhyperV 2016	Repeated Execution Plug-in	Shuts down the OSs of multiple virtual servers.	After removing the cause of the error, run the service again.

3.11.7 Stop virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	hyperv2016GetVMState	Obtain virtual server status	Obtains the status of a virtual server in a Hyper-V environment.	After removing the cause of the error, run the service again.
2	hyperv2016ShutdownVM	Flow Plug-in	Shuts down a virtual server in a Hyper-V environment.	--
2-1		Judge Value Plug-in	Judges whether the virtual server has stopped.	After removing the cause of the error, run the service again.
2-2		Shut down virtual server	Shuts down the virtual server if it has not stopped.	After removing the cause of the error, run the service again.

3.12 Service templates for OpenStack (configuration)

3.12.1 Delete a virtual server

Function

This service template deletes instances in a KVM environment that is controlled by OpenStack. In addition, if floating IP addresses are set for instances, the service template releases the assignment of floating IP addresses.

The OpenStack-related terms used in this document are the names displayed in the OpenStack Dashboard. The OpenStack-related terms are:

- Identity

Displayed as "identity" or "KeyStone"

- Project

Displayed as "project" or "tenant"

- Volume

Displayed as "volume" or "block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes the REST API on the OpenStack server

- Instance

An instance that is managed by the OpenStack server or by KVM. A general virtual server.

An overview of the processing is as follows:

(1) This service template deletes instances.

The instance names specified by the user are used.

Points to note concerning property settings:

(1) When instances are deleted, this service template waits for the number of seconds that has been specified for the openstack.checkInstanceDeletionInterval property, and then repeats the operation to check the status of the instance the number of times that has been specified for the openstack.checkInstanceDeletionCount property. Adjust the value of each property, according to the environment in use.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Prerequisite products for the OpenStack server

- OpenStack

(2) Virtualization environment that manages instances

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OSs for instances

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(2) Prerequisite OSs for the OpenStack control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Note that environments where Server Core is installed are excluded.

[Usage conditions of prerequisite products in the system executing the service template]

(1) Conditions related to instances

- Each instance name must be unique in a single project.

Cautions

(1) If volumes are connected to instances, the connected volumes are not deleted.

(2) If volumes are connected to instances, when the instances are deleted, make sure that the connected volumes are unmounted. If the instances are deleted in a state in which the volumes have been mounted, the file system might become corrupted.

Execution privilege

admin privileges

Version

02.00.00

Tags

Delete VM,OpenStack

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Cloud platform environment information	Specify OpenStack information.	Y
Instance information	Specify instance information.	Y
Runtime options	Properties for a status check that is performed when instances are deleted. Change the properties as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.targetHost	Host name of the OpenStack control server	Specify the host name or IP address of the OpenStack control server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	--
openstack.identityServerHostName	Host name of the Identity server	Specify the host name or IP address of the Identity server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	--
openstack.userName	User name for logging in to the Identity server	Specify the user name for logging in to the Identity server.	Input	Disabled	R	--
openstack.password	Password for logging in to the Identity server	Specify the password for logging in to the Identity server.	Input	Disabled	R	--
openstack.protocol	Identity server connection protocol	Specify the protocol that is used to connect to the Identity server.	Input	Disabled	R	--
openstack.portNumber	Port number for connecting to the Identity server	Specify the port number for logging in to the Identity server.	Input	Disabled	R	--

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.projectName	Project name	Specify a project name.	Input	Disabled	R	--
openstack.checkInstanceDeletionCount	Confirmation count for deleting instances	Specify the number of times to confirm that the instance has been deleted. The value of this parameter combined with the confirmation interval for deleting instances is used as the maximum wait time.	Input	Disabled	R	--
openstack.checkInstanceDeletionInterval	Confirmation interval for deleting instances	Specify the interval (in seconds) for confirming that the instance has been deleted.	Input	Disabled	R	--

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.instanceName	Instance name	Specify the instance name. Note that the name you specify here is the display name of the instance in OpenStack, and is different from a host name in the OS.	Input	Disabled	R	--

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
openstack.targetHost	--
openstack.identityServerHostName	--
openstack.userName	--
openstack.password	--
openstack.protocol	Select one of the following values: http,https
openstack.portNumber	--
openstack.projectName	--
openstack.checkInstanceDeletionCount	--
openstack.checkInstanceDeletionInterval	--

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
openstack.instanceName	--

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	openstackDeleteVM	Delete a virtual server	Deletes instances.	Check the task log, remove the cause of the error, and then run this service again if instances remain.

3.12.2 Delete a virtual server (virtual disk)

Function

This service template disconnects volumes that are connected to instances in a KVM environment that is controlled by OpenStack.

The OpenStack-related terms used in this document are the names displayed in the OpenStack Dashboard. The OpenStack-related terms are:

- Identity

Displayed as "identity" or "KeyStone"

- Project

Displayed as "project" or "tenant"

- Volume

Displayed as "volume" or "block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes the REST API on the OpenStack server

- Instance

An instance that is managed by the OpenStack server or by KVM. A general virtual server.

An overview of the processing is as follows:

(1) This service template disconnects volumes that are connected to instances.

This service template uses instance and volume names that have been specified by the user.

(2) The volumes can be deleted optionally.

This service template uses the volume names that have been specified by the user to delete the volumes.

Points to note concerning property settings:

(1) When volumes are disconnected, this service template waits the number of seconds that has been specified for the openstack.checkVolumeDetachmentInterval property, and then repeats the operation to check the status of the volumes the number of times that has been specified for the openstack.checkVolumeDetachmentCount property. Adjust the value of each property, according to the environment in use.

(2) When volumes are deleted, this service template waits the number of seconds that has been specified for the openstack.checkVolumeDeletionInterval property, and then repeats the operation to check the status of the volumes the number of times that has been specified for the openstack.checkVolumeDeletionCount property. Adjust the volume of each property, according to the environment in use.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the release notes.

[Required product in the system]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Prerequisite products for an OpenStack server

- OpenStack

(2) Virtualization environment that manages instances

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OSs for instances

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(2) Prerequisite OSs for the OpenStack control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Note that environments where Server Core is installed are excluded.

[Usage conditions of prerequisite products in the system executing the service template]

(1) Conditions related to instances

- Each instance name must be unique in a single project.

(2) Conditions related to volumes

- Each volume name must be unique in a single project.

Cautions

(1) When you disconnect volumes, make sure that they are unmounted. If volumes being mounted are disconnected, the file system might become corrupted.

(2) If specified instances and volumes exist together, the volumes are deleted even if no connection relation exists between the instances and volumes. Therefore, make sure that the specified volume names are correct.

Execution privilege

admin privileges

Version

02.00.00

Tags

Modify VM,OpenStack

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Cloud platform environment information	Specify OpenStack information.	Y
Instance information	Specify instance information.	Y
Volume information	Specify information about volumes that are disconnected from instances.	Y
Runtime options	Properties for a status check that is performed when instances are deleted. Change the properties as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
    R: The property must be specified.
    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.targetHost	Host name of the OpenStack control server	Specify the host name or IP address of the OpenStack control	Input	Disabled	R	--

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
openstack.targetHost	Host name of the OpenStack control server	server. Make sure that you do not specify an IPv6 address.	Input	Disab led	R	--
openstack.identityServer HostName	Host name of the Identity server	Specify the host name or IP address of the Identity server. Make sure that you do not specify an IPv6 address.	Input	Disab led	R	--
openstack.userName	User name for logging in to the Identity server	Specify the user name for logging in to the Identity server.	Input	Disab led	R	--
openstack.password	Password for logging in to the Identity server	Specify the password for logging in to the Identity server.	Input	Disab led	R	--
openstack.protocol	Identity server connection protocol	Specify the protocol that is used to connect to the Identity server.	Input	Disab led	R	--
openstack.portNumber	Port number for connecting to the Identity server	Specify the port number for logging in to the Identity server.	Input	Disab led	R	--
openstack.projectName	Project name	Specify a project name.	Input	Disab led	R	--
openstack.deleteVolume Enabled	Whether to delete volumes	After disconnecting the volume, specify whether to delete the volume. If Yes is selected, the volume is deleted.	Input	Disab led	R	--
openstack.checkVolume DetachmentCount	Volume disconnection check count	Specify the number of times to check whether a volume has been disconnected. This value and the volume disconnection check interval determine the maximum wait time.	Input	Disab led	R	--
openstack.checkVolume DetachmentInterval	Volume disconnection check interval	Specify in seconds the interval at which to check whether a volume has been disconnected.	Input	Disab led	R	--
openstack.checkVolume DeletionCount	Volume deletion check count	Specify the number of times to check whether a volume has been deleted. This value and the volume deletion check interval determine the maximum wait time.	Input	Disab led	R	--
openstack.checkVolume DeletionInterval	Volume deletion check interval	Specify in seconds the interval at which to check whether a volume has been deleted.	Input	Disab led	R	--

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
openstack.instanceName	Instance name	Specify the instance name. Note that the name you specify here is the display name of the instance in OpenStack, and is different from a host name in the OS.	Input	Disab led	R	--

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.volumeName	Volume name	Specify the name of a volume to be disconnected from an instance.	Input	Disabled	R	--

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
openstack.targetHost	--
openstack.identityServerHostName	--
openstack.userName	--
openstack.password	--
openstack.protocol	Select one of the following values: http,https
openstack.portNumber	--
openstack.projectName	--
openstack.deleteVolumeEnabled	Select one of the following values: yes,no
openstack.checkVolumeDetachmentCount	--
openstack.checkVolumeDetachmentInterval	--
openstack.checkVolumeDeletionCount	--
openstack.checkVolumeDeletionInterval	--

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
openstack.instanceName	--
openstack.volumeName	--

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	openstackDetachVolume	Disconnect volumes	Disconnects volumes from instances.	Check the task log, remove the cause of the error, and then run this service again.
2	JudgeValuePlugin	Judge Value Plug-in	Judges whether to delete a volume.	--
3	openstackDeleteVolume	Delete volumes	Deletes volumes.	Check the task log, and then remove the case of the error.

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3	openstackDeleteVolu me	Delete volumes	Deletes volumes.	If the volumes have not been deleted, delete the volume manually.

3.12.3 Addition of a virtual server (deployment/OS initial setup)

Function

This service template starts an instance from a server image in a KVM environment managed by OpenStack.

The OpenStack-related terms used in this document are names displayed in the OpenStack Dashboard. These terms are as follows:

- Identity

Displayed as "Identity" or "KeyStone".

- Instance type

Displayed as an instance type or flavor.

- Project

Displayed as a project or tenant.

To use this service template, the following servers are required:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance (a normal virtual server) managed by the OpenStack server and by KVM

The following is an overview of the processing:

(1) An instance is started from a server image.

1. The server image, instance name, instance type, and networks (for management and job execution) are specified. Optionally, key pairs and security groups can also be specified.

2. The OpenStack DHCP function is used to assign an IP address dynamically during OS startup.

3. If the property openstack.floatingIpOption is specified, a floating IP address is assigned.

(2) The OS initial settings are specified.

1. The computer name is specified. Optionally, the time zone and DNS suffix can also be specified.

Note the following regarding the specification of properties:

(1) To assign a floating IP address to an instance, select "yes" from the list for the property openstack.floatingIpOption, and then specify the floating IP address for the property openstack.floatingIpAddress. If you do not specify a floating address, the first floating IP address obtained from the floating IP address pool for the network specified by the property openstack.networkNameExt will be set.

(2) If you omit the property openstack.securityGroupName, "default" is set for the security group name.

(3) Make sure to specify the properties OS.destIPAddress, OS.subnetMaskStaticRoute, and OS.defaultGWStaticRoute. If you omit any of these properties, no static route will be set.

(4) Specifiable time zones are as follows:

America/Adak

America/Anchorage

America/Boise

America/Chicago

America/Denver

America/Detroit

America/Indiana/Indianapolis

America/Indiana/Knox

America/Indiana/Marengo

America/Indiana/Petersburg

America/Indiana/Tell_City

America/Indiana/Vevay

America/Indiana/Vincennes

America/Indiana/Winamac

America/Juneau

America/Kentucky/Monticello

America/Los_Angeles

America/Louisville

America/Menominee

America/Monterrey

America/Montevideo

America/New_York

America/Nome

America/North_Dakota/Beulah

America/North_Dakota/Center

America/North_Dakota/New_Salem

America/Phoenix

America/Shiprock

America/Tijuana

America/Vancouver

America/Yakutat

Asia/Chongqing

Asia/Hong_Kong

Asia/Kolkata

Asia/Macau

Asia/Shanghai

Asia/Singapore

Asia/Tokyo

Etc/UTC

Europe/London

Pacific/Honolulu

If no time zone is specified, the time zone set for the server image is used.

(5) When specifying the property OS.dnsSuffix, make sure to add the DNS suffix to the file /etc/resolv.conf.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products for the execution-target server:

(1)Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The net-tools package must be installed.

(2)Prerequisite OS for the OpenStack server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the system executing the service template:

(1) Conditions for using the prerequisite products in the execution-target system:

- In the subnet settings of the network to which the instance is connected, DHCP must be enabled so that an IP address can be assigned dynamically.

- The server image used to start the instance must already be created.

- The instance type used to start the instance must already be created.

- The network used to start the instance must already be created.

- The image name must be unique within the project.

- The instance type name must be unique within the project.

- The network name must be unique within the project.

(2) Conditions related to the server image used to start the instance

- Agentless connection must be possible.

- The firewall must permit ICMP (ECHO) replies.

(3) Conditions related to instances

- The names of instances within the same project must be unique.

(4) Conditions related to this product

- To use an internal network for communication between the local server and an instance, you must first register the certificate information for the IP address to be assigned from the IP address pool to the instance. Make sure the IP address is registered for the agentless connection-destination definition in the [Management] tab.

- To use an external network for communication between the local server and an instance, you must first register the certificate information for the IP address to be assigned from the floating IP address pool to the instance. Make sure the IP address is registered for the agentless connection-destination definition in the [Management] tab.

Cautions

(1) Do not operate an instance during instance startup. If you do so, instance startup might fail. In addition, do not directly operate an instance from the OpenStack server.

(2) To use an external network for communication with the local server, select "yes" from the list for the property openstack.floatingIpOption. If you select "no", the task terminates abnormally, because the local server cannot access the instance.

(3) If you select "yes" from the list for the property openstack.floatingIpOption, make sure to specify the property openstack.networkNameExt. If you omit the property openstack.networkNameExt, the task terminates abnormally, because the external network from which the floating IP address is to be obtained cannot be identified.

(4) If you select "https" from the list for the property openstack.protocol, make sure the certificate for the OpenStack server is a public certificate. If it is not a public certificate, the task terminates abnormally, because the authenticity of the certificate cannot be verified.

(5) If the instance OS is Red Hat Enterprise Linux 5, you might be unable to set America, North_Dakota, or Beulah for the time zone. Before setting America, North_Dakota, or Beulah for the time zone, check whether they can be set for the instance OS.

Execution privilege

(1) The following authority is required for the user who logs in to the OpenStack server.

Admin privileges

Version

03.00.00

Tags

Add VM,OpenStack

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Cloud platform environment information	Specify the OpenStack information.	Y

Property group	Description	Initial display
Instance information	Specify the information about the instance to be started.	Y
OS information	Specify the OS information for the instance.	Y
Floating IP address information	Specify information about the floating IP address to be assigned to the instance.	Y
Run-time option	The property for checking the status before starting the instance. Change this option, if necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.targetHost	Host name of the OpenStack control server	Specify the host name or IP address of the OpenStack control server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	Cloud platform environment information
openstack.identityServerHostName	Host name of the Identity server	Specify the host name or IP address of the Identity server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	Cloud platform environment information
openstack.userName	User name for logging in to the Identity server	Specify the user name for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.password	Password for logging in to the Identity server	Specify the password for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.protocol	Identity server connection protocol	Specify the protocol that is used to connect to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.portNumber	Port number for connecting to the Identity server	Specify the port number for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.projectName	Project name	Specify the name of the project that starts the instance.	Input	Disabled	R	Instance information
OS.destIPAddress	Destination IP of static route	Specify the static-route destination IP address. Make sure not to specify an IPv6 address.	Input	Disabled	O	OS information
OS.subnetMaskStaticRoute	Subnet mask (static route)	Specify the subnet mask for the static route. You cannot specify an IPv6 address.	Input	Disabled	O	OS information
OS.defaultGWStaticRoute	Default gateway (static route)	Specify the default gateway for the static route. You cannot specify an IPv6 address.	Input	Disabled	O	OS information
openstack.checkInstanceStateCount	Instance status check count	Specify the maximum number of times the instance status is checked to see whether the	Input	Disabled	R	Run-time option

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.checkInstanceStateCount	Instance status check count	instance has been started. This value and the instance status check interval determine the maximum wait time.	Input	Disabled	R	Run-time option
openstack.checkInstanceStateInterval	Instance status check interval	Specify in seconds the interval at which to check the instance status to see whether the instance has been started.	Input	Disabled	R	Run-time option
openstack.checkOSStateWaittime	OS startup wait time	Specify in seconds the maximum wait time for checking startup of OS.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.instanceName	Instance name	Specify the instance name. Note that the name you specify here is the display name of the instance in OpenStack, and is different from a host name in the OS.	Input	Disabled	R	Instance information
openstack.imageName	Server image name	Specify the name of the server image.	Input	Disabled	R	Instance information
openstack.instanceTypeName	Instance type name	Specify the instance type name.	Input	Disabled	R	Instance information
openstack.keyPairName	Key pair name	Specify the name of the key pair.	Input	Disabled	O	Instance information
openstack.securityGroupName	Security group name	Specify the name of the security group.	Input	Disabled	O	Instance information
openstack.networkNameMng	Network name (for management use)	Specify the name of the management-use network to be set for the instance.	Input	Disabled	R	Instance information
openstack.networkNameBiz	Network name (for operation use)	Specify the name of the operation-use network to be set for the instance.	Input	Disabled	O	Instance information
OS.computerName	Host name	Specify the host name of the OS.	Input	Disabled	R	OS information
OS.timeZoneLin	Time zone	Specify the time zone to be set for the instance OS. If you do not specify a time zone, the time zone of the server image is used.	Input	Disabled	O	OS information
OS.dnsSuffix	DNS suffix name	Specify the DNS suffix name.	Input	Disabled	O	OS information
openstack.floatingIpOption	Whether to allocate a floating IP address	Specify whether to allocate a floating IP address to the instance. If you want to allocate a floating IP address to the instance, select "yes". If you do not want to allocate a floating	Input	Disabled	R	Floating IP address information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
openstack.floatingIpOpti on	Whether to allocate a floating IP address	IP address to the instance, select "no".	Input	Disab led	R	Floating IP address information
openstack.networkName Ext	Network name (for external connection)	Specify the name of the external network from which the floating IP address is to be obtained.	Input	Disab led	O	Floating IP address information
openstack.floatingIpAdd ress	Floating IP address	Specify the floating IP address to be allocated to the instance. Make sure that you do not specify an IPv6 address.	Input	Disab led	O	Floating IP address information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
openstack.ipAddressMng	IP address (for management use)	Stores the IP address allocated to the management-use network of the instance.	Output	Disable d
openstack.ipAddressBiz	IP address (for operation use)	Stores the IP address allocated to the operation-use network of the instance.	Output	Disable d
openstack.floatingIpAddressWo rk	Floating IP address	Stores the floating IP address allocated to the instance.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
openstack.targetHost	A string that has 256 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
openstack.identityServerHostName	A string that has 256 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
openstack.userName	A string that has 64 or fewer single-byte alphanumeric characters
openstack.password	A string that has 256 or fewer single-byte alphanumeric characters
openstack.protocol	Select one of the following values: http,https
openstack.portNumber	An integer in the range from 1 to 65,535
openstack.projectName	A string that has 80 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
OS.destIPAddress	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.subnetMaskStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
openstack.checkInstanceStateCount	An integer in the range from 1 to 2,147,483,647
openstack.checkInstanceStateInterval	An integer in the range from 1 to 60
openstack.checkOSStateWaittime	An integer in the range from 1 to 2,147,483,647

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
openstack.instanceName	A string that has 80 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.imageName	A string that has 255 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.instanceTypeName	A string that has 25 or fewer single-byte alphanumeric characters, including periods (.), underscores (_) and hyphens (-)
openstack.keyPairName	A string that has 20 or fewer single-byte alphanumeric characters, including underscores (_) and hyphens (-)
openstack.securityGroupName	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` %
openstack.networkNameMng	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` %
openstack.networkNameBiz	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` %
OS.computerName	A maximum of 63 characters can be entered. Characters that can be used include alphanumeric characters, as well as - .
OS.timeZoneLin	Select one of the following values: Asia/Tokyo, Asia/Hong_Kong, Asia/Chongqing, Asia/Shanghai, Etc/UTC, America/Tijuana, America/Vancouver, America/Los_Angeles, America/Detroit, America/New_York, America/Montevideo, America/Louisville, America/Indiana/Indianapolis, America/Indiana/Vevay, America/Indiana/Marengo, America/Indiana/Petersburg, America/Indiana/Vincennes, America/Indiana/Winamac, America/Indiana/Tell_City, America/Indiana/Knox, America/Chicago, America/North_Dakota/Center, America/North_Dakota/New_Salem, America/Kentucky/Monticello, America/Juneau, America/Menominee, America/Monterrey, America/Denver, America/Boise, America/Shiprock, America/Phoenix, America/Yakutat, America/Anchorage, America/Nome, America/Adak, Pacific/Honolulu, Asia/Singapore, Europe/London, Asia/Kolkata, America/North_Dakota/Beulah, Asia/Macau
OS.dnsSuffix	A maximum of 63 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
openstack.floatingIpOption	Select one of the following values: yes,no
openstack.networkNameExt	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` %
openstack.floatingIpAddress	A string that has 15 or fewer single-byte characters, including periods (.)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	openstackCreateVM	Create a virtual server	Creates a virtual server from an image. (In OpenStack, this is called "starting an instance".)	After checking the task log and removing the cause of the error, run this service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	openstackCreateVM	Create a virtual server	Creates a virtual server from an image. (In OpenStack, this is called "starting an instance".)	If virtual servers were already created for the project, delete the virtual servers, and then run this service again.
2	osSetLinuxInfo	Initial OS settings (Linux)	Specifies the initial OS settings (computer name, time zone, and DNS suffix) of an instance.	Log in to the OpenStack server and check the instance settings. Next, log in to the instance and check the instance settings. Manually set up the instance as needed. Alternatively, check the task log, remove the cause of the error, delete the instance, and then run this service again.
3	osSetStaticRoute	Flow Plug-in	Sets a static route on the OS of an instance.	--
3-1		Judge Value Plug-in	--	Log in to the OpenStack server and check the instance settings. Next, log in to the instance and check the instance settings. Manually set up the instance as needed. Alternatively, check the task log, remove the cause of the error, delete the instance, and then run this service again.
3-2		Set static route	--	Log in to the OpenStack server and check the instance settings. Next, log in to the instance and check the instance settings. Manually set up the instance as needed. Alternatively, check the task log, remove the cause of the error, delete the instance, and then run this service again.

3.12.4 Add virtual server (virtual disk)

Function

This service template adds a volume to an instance in a KVM environment managed by OpenStack.

The OpenStack-related terms used in this document are names displayed in the OpenStack Dashboard. These terms are as follows:

- Identity

Displayed as "Identity" or "KeyStone".

- Project

Displayed as a project or tenant.

- Volume

Displayed as "Volume" or "Block storage"

To use this service template, the following servers are required:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance (a normal virtual server) managed by the OpenStack server and by KVM

- Volume

A volume managed by Cinder

The following is an overview of the processing:

(1) You can create a volume as an option.

To create a volume, specify the name and capacity of the volume. Optionally, you can also specify a description and type for the volume.

(2) The volume is connected to an instance.

Specify the instance name and the volume name. Optionally, you can also specify the device name.

Note the following when specifying properties:

(1) During the creation of a new volume, a volume status check is performed for the number of times specified by the property openstack.checkVolumeCreationCount, at intervals specified (in seconds) by the property openstack.checkVolumeCreationInterval. Adjust the values of these properties based on your environmental requirements.

(2) During the processing to connect the volume to an instance, a volume status check is performed for the number of times specified by the property openstack.checkVolumeAttachmentCount, at intervals specified (in seconds) by the property openstack.checkVolumeAttachmentInterval. Adjust the values of these properties based on your environmental requirements.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products in the service-template execution system:

(1) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(2) Prerequisite OS for the OpenStack server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the service-template execution system:

(1) Condition related to instances

- Each instance name must be unique within a single project.

(2) Condition related to volumes

- Each volume name must be unique within a single project.

(3) Condition related to volume type

- The volume type must be set in the OpenStack environment.

Cautions

(1) If the property openstack.createVolumeEnabled is set to "yes", you cannot omit the property openstack.volumeCapacity. If you omit the property openstack.volumeCapacity, the task ends abnormally.

(2) The maximum length of a character string that can be specified for an input property might be different from that of a character string that can be registered in OpenStack. If the character string specified for an input property is longer than the maximum length of character string that can be registered in OpenStack, a truncated character string is registered.

(3) If the openstack.deviceName property is omitted, the volume is mapped to the default device for the guest OS of the instance.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Tags

Modify VM,OpenStack

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Cloud platform environment information	Specify information about OpenStack.	Y
Instance information	Specify information about the instance.	Y
Volume information	Specify information about the volumes to be added to the instance.	Y
Run-time option	This property is used to check statuses before volumes are added. If necessary, change the value of this property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
R: The property must be specified.
O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.targetHost	Host name of the OpenStack control server	Specify the host name or IP address of the OpenStack control server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	Cloud platform environment information
openstack.identityServerHostName	Host name of the Identity server	Specify the host name or IP address of the Identity server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	Cloud platform environment information
openstack.userName	User name for logging in to the Identity server	Specify the user name for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.password	Password for logging in to the Identity server	Specify the password for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.protocol	Identity server connection protocol	Specify the protocol that is used to connect to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.portNumber	Port number for connecting to the Identity server	Specify the port number for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.projectName	Project name	Specify the project name.	Input	Disabled	R	Instance information
openstack.createVolume Enabled	Whether to create a volume	Specify whether to create a new volume. To use the existing volume without creating a new one, select "no".	Input	Disabled	R	Volume information
openstack.checkVolume CreationCount	Volume creation check count	Specify the number of times to check whether a volume has been created. This value and the volume creation check interval determine the maximum wait time.	Input	Disabled	R	Run-time option
openstack.checkVolume CreationInterval	Volume creation check interval	Specify in seconds the interval at which to check whether a volume has been created.	Input	Disabled	R	Run-time option
openstack.checkVolume AttachmentCount	Volume connection check count	Specify the number of times to check whether a volume has been connected. This value and the volume connection check interval determine the maximum wait time.	Input	Disabled	R	Run-time option
openstack.checkVolume AttachmentInterval	Volume connection check interval	Specify in seconds the interval at which to check whether a volume has been connected.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.instanceName	Instance name	Specify the instance name. Note that the name you specify here is the display name of the instance in OpenStack, and is different from a host name in the OS.	Input	Disabled	R	Instance information
openstack.volumeName	Volume name	Specify the name of the volume to be connected to the instance.	Input	Disabled	R	Volume information
openstack.volumeDescription	Volume description	Specify a description of a volume. If a volume is not created, the description of the specified volume is ignored.	Input	Disabled	O	Volume information
openstack.volumeType	Volume type	Specify the type of volume. Specify one of the types set in the OpenStack environment.	Input	Disabled	O	Volume information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
openstack.volumeType	Volume type	If a volume is not created, the specified volume type is ignored.	Input	Disab led	O	Volume information
openstack.volumeCapaci ty	Volume capacity (GB)	Specify the capacity of a volume (in GB). This item is required when a volume is created. If a volume is not created, the specified volume capacity is ignored.	Input	Disab led	O	Volume information
openstack.deviceName	Device name	Specify the device with which you want to map the volume to be connected to the instance. Make sure that you specify a device immediately under the dev directory in the guest OS. For example, to map the volume with "vda", specify "/dev/vda".	Input	Disab led	O	Volume information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
openstack.attachedDeviceName	Connected device name	Stores the name of the device to which the volume is connected.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
openstack.targetHost	A string that has 256 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
openstack.identityServerHostName	A string that has 256 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
openstack.userName	A string that has 64 or fewer single-byte alphanumeric characters
openstack.password	A string that has 256 or fewer single-byte alphanumeric characters
openstack.protocol	Select one of the following values: http,https
openstack.portNumber	An integer in the range from 1 to 65,535
openstack.projectName	A string that has 80 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.createVolumeEnabled	Select one of the following values: yes,no
openstack.checkVolumeCreationCount	An integer in the range from 1 to 2,147,483,647
openstack.checkVolumeCreationInterval	An integer in the range from 1 to 60
openstack.checkVolumeAttachmentCount	An integer in the range from 1 to 2,147,483,647
openstack.checkVolumeAttachmentInterval	An integer in the range from 1 to 60

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
openstack.instanceName	A string that has 80 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.volumeName	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.volumeDescription	A string that has 1,024 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.volumeType	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.volumeCapacity	An integer in the range from 1 to 2,147,483,647
openstack.deviceName	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	JudgeValuePlugin	Judge Value Plug-in	Judges whether to create a volume.	--
2	openstackCreateVolume	Create volume	Creates a volume.	After checking the task log and removing the cause of the error, run this service again. If the specified volume was already created, delete it, and then run this service again.
3	openstackAttachVolume	Connect volume	Connects a volume to an instance.	Check the task log and remove the cause of the error. If volumes were created by this service, delete them. Then, run this service again.

3.13 Service templates for OpenStack (operation)

3.13.1 Back up volumes

Function

This service template backs up volumes in a KVM environment managed by OpenStack.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as a project or tenant

- Volume

Displayed as a volume or block storage device

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

The following is an overview of the processing:

(1) Create temporary volumes from the backup-source volumes.

a) Specify names for the temporary volumes. Optionally, you can also specify instance names and volume names.

- Temporary volumes are created for volumes that are managed by Cinder and that satisfy at least one of the conditions below. Temporary volumes cannot be created for instances or server images.

i. The volume is allocated to the instance specified by the property openstack.instanceName.

ii. The volume is specified by the property openstack.volumeNames.

b) The created temporary volumes are of the same type as the backup-source volumes.

c) If you specify a TO address, an email message is sent when the creation of temporary volumes finishes. Optionally, you can also specify CC and BCC addresses, as well as the subject, body, and encoding of the email message.

(2) Back up the temporary volumes.

a) Specify a container for storing the temporary volumes, temporary volume names, and temporary volume IDs.

b) Information about the backed-up temporary volumes is output to the specified remote CSV file. The character encoding for this file is the default character encoding used on the OpenStack control server.

- If the CSV file specified by the property openstack.backupOutputFilePath exists, backup information is added to that file.

- If the CSV file specified by the property openstack.backupOutputFilePath does not exist, that file is created.

(3) Delete the temporary volumes.

a) Specify the temporary volume names and IDs.

Note the following when specifying properties:

(1) The following items are output to the file in CSV (comma-separated value) format:

a) Date and time when the backup was created (Header name: Backup time, format: yyyy/MM/dd HH:mm:ss)

b) Project name (Header name: Project name)

c) Instance name (Header name: Instance name)

d) Volume ID (Header name: Volume ID)

e) Volume name (Header name: Volume name)

f) Backup ID (Header name: Backup ID)

(2) During the creation of temporary volumes, a volume status check is performed for the number of times specified by the property openstack.checkVolumeCreationCount, at intervals specified (in seconds) by the property openstack.checkVolumeCreationInterval. Adjust the values of these properties based on your environmental requirements.

(3) During the backup of volumes, a volume status check is performed for the number of times specified by the property openstack.checkVolumeBackupStateCount, at intervals specified (in seconds) by the property openstack.checkVolumeBackupStateInterval. Adjust the values of these properties based on your environmental requirements.

(4) During the deletion of temporary volumes, a volume status check is performed for the number of times specified by the property openstack.checkVolumeDeletionCount, at intervals specified (in seconds) by the property openstack.checkVolumeDeletionInterval. Adjust the values of these properties based on your environmental requirements.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products in the service-template execution system, and the OS for the prerequisite products in the service-template execution system, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

OSs for the prerequisite products in the service-template execution system:

(1) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(2) Prerequisite OS for the OpenStack control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the service-template execution system:

(1) Condition related to the OpenStack server

- The service cinder-backup must be running.

(2) Condition related to instances

- Each instance name must be unique within a single project.

(3) Condition related to volumes

- Each volume name must be unique within a single project.

(4) Condition related to containers

- Each container name must be unique within a single project.

Cautions

(1) Make sure to specify either the instance name or volume name. If you do not specify either of them, the task ends abnormally.

(2) This service can be executed for an instance that is currently running. In such a case, if an I/O operation is performed on the guest OS, inconsistencies between the guest OS and the backup might occur. For this reason, make sure to stop I/O operations on the guest OS, or stop the guest OS itself, before executing this service. After the temporary volumes are created, you can restart the I/O operations of the instance. To receive notification when the creation of temporary volumes finishes, enable email notification for that purpose.

(3) A maximum of 27 volumes can be backed up concurrently. If you specify 28 or more volumes, the task ends abnormally.

(4) The folder or container where temporary volumes are created or stored must have enough free space for the volumes to be backed up. If the folder or container does not have enough free space, the task ends abnormally.

(5) Depending on the volume statuses and types, the task might not be able to create or back up temporary volumes and might end abnormally. Before starting the task, check the volume statuses and types and read the documentation for the Cinder driver you are using to see whether such a problem might occur.

(6) If you backed up multiple volumes, the statuses of some backups might become "Error", causing the task to end abnormally with the message KNAE06389-E. If this occurs, check the settings on the OpenStack server, perform the procedure for recovery from a job error, and then execute this service again. If the same error occurs repeatedly, use the data collection tool to collect the necessary data, and then contact the system administrator.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

03.00.00

Tags

Control VM,OpenStack

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Cloud platform environment information	Specify OpenStack information.	Y
Backup information	Specify information about the backup.	Y
Email notification information	If you use email notification, specify the notification information.	N
Run-time option	This property is used to check statuses before backups are created. If necessary, change the value of this property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.targetHost	Host name of the OpenStack control server	Specify the host name or IP address of the OpenStack control server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	Cloud platform environment information
openstack.identityServerHostName	Host name of the Identity server	Specify the host name or IP address of the Identity server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	Cloud platform environment information
openstack.userName	User name for logging in to the Identity server	Specify the user name for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.password	Password for logging in to the Identity server	Specify the password for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.protocol	Identity server connection protocol	Specify the protocol that is used to connect to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.portNumber	Port number for connecting to the Identity server	Specify the port number for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.projectName	Project name	Specify the project name.	Input	Disabled	R	Backup information
openstack.tempVolumeName	Temporary volume name	Specify the name of the temporary volume created during the backup of a volume.	Input	Disabled	R	Backup information
common.toAddress	TO addresses	Specify the TO addresses for email notifications. To specify multiple addresses, use a comma (,) as a separator. Example: mailA,mailB	Input	Disabled	O	Email notification information
common.ccAddress	CC addresses	Specify the CC addresses for email notifications. To specify multiple addresses, use a comma (,) as a separator. Example: mailA,mailB	Input	Disabled	O	Email notification information
common.bccAddress	BCC addresses	Specify the BCC addresses for email notifications. To specify multiple addresses, use a comma (,) as a separator. Example: mailA,mailB	Input	Disabled	O	Email notification information
common.mailSubject	Email subject	Specify the email subject for email notifications.	Input	Disabled	O	Email notification information
common.mailBody	Email body	Specify the message body for the email notification. For example, if you include the name of the volume to be backed up in the message, you can easily identify the volume for which a temporary volume was created.	Input	Disabled	O	Email notification information

Property key	Property name	Description	I/O type	Shared	Required	Property group
common.encodeType	Encoding type	Specify the encoding type used for email notifications. Specifiable encoding names are us-ascii, iso-2022-jp, shift_jis, euc-jp, or utf-8. If specification is omitted, utf-8 is used.	Input	Disabled	O	Email notification information
openstack.checkVolume CreationCount	Temporary-volume creation check count	Specify the number of times the check for temporary-volume creation is to be performed. This value and the temporary-volume creation check interval determine the maximum wait time.	Input	Disabled	R	Run-time option
openstack.checkVolume CreationInterval	Temporary-volume creation check interval	Specify the interval (in seconds) at which the check for temporary-volume creation is to be performed.	Input	Disabled	R	Run-time option
openstack.checkVolume BackupStateCount	Volume backup check count	Specify the number of times to check whether the backup of a volume has been completed. This value and the volume backup check interval determine the maximum wait time.	Input	Disabled	R	Run-time option
openstack.checkVolume BackupStateInterval	Volume backup check interval	Specify in seconds the interval at which to check whether the backup of a volume has been completed.	Input	Disabled	R	Run-time option
openstack.checkVolume DeletionCount	Temporary-volume deletion check count	Specify the number of times the check for temporary-volume deletion is to be performed. This value and the temporary-volume deletion check interval determine the maximum wait time.	Input	Disabled	R	Run-time option
openstack.checkVolume DeletionInterval	Temporary-volume deletion check interval	Specify the interval (in seconds) at which the check for temporary-volume deletion is to be performed.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.containerName	Container name	Specify the name of the container in which to store backups.	Input	Disabled	R	Backup information
openstack.instanceName	Instance name	Specify the instance name. Note that the name you specify here is the display name of the instance in OpenStack, and is different from a host name in the OS.	Input	Disabled	O	Backup information
openstack.volumeNames	Volume names	Specify the volume names. To specify multiple names, use a comma (,) as a separator. You	Input	Disabled	O	Backup information

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.volumeNames	Volume names	can specify a maximum of 27 volume names.	Input	Disabled	O	Backup information
openstack.backupOutput FilePath	Backup information output file path (remote)	Specify a full path of the file to which backup information is to be output on the OpenStack control server.	Input	Disabled	R	Backup information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
openstack.targetHost	A string that has 256 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
openstack.identityServerHostName	A string that has 256 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
openstack.userName	A string that has 64 or fewer single-byte alphanumeric characters
openstack.password	A string that has 256 or fewer single-byte alphanumeric characters
openstack.protocol	Select one of the following values: http,https
openstack.portNumber	An integer in the range from 1 to 65,535
openstack.projectName	A string that has 80 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.tempVolumeName	A string that has 255 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
common.toAddress	A string that has 1,024 or fewer single-byte alphanumeric characters and symbols
common.ccAddress	A string that has 1,024 or fewer single-byte alphanumeric characters and symbols
common.bccAddress	A string that has 1,024 or fewer single-byte alphanumeric characters and symbols
common.mailSubject	A string that has 256 or fewer characters
common.mailBody	A string that has 1,024 or fewer characters
common.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
openstack.checkVolumeCreationCount	An integer in the range from 1 to 2,147,483,647
openstack.checkVolumeCreationInterval	An integer in the range from 1 to 60
openstack.checkVolumeBackupStateCount	An integer in the range from 1 to 2,147,483,647
openstack.checkVolumeBackupStateInterval	An integer in the range from 1 to 60
openstack.checkVolumeDeletionCount	An integer in the range from 1 to 2,147,483,647
openstack.checkVolumeDeletionInterval	An integer in the range from 1 to 60

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
openstack.containerName	A string that has 255 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.instanceName	A string that has 80 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.volumeNames	A string that has 255 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.backupOutputFilePath	A string that has 256 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % /

Flow specification details

The following table shows the detailed specification of the flow:

| Hierarchy | Display name | Plug-in | | |
		Plug-in name	Description	Error recovery method
1	openstackCreateTempVolume	Flow Plug-in	Creates a temporary volume.	After checking the task log and removing the cause of the error, read the notes, and then run this service again. If a temporary volume was created, delete it, and then run the service again.
1-1		Create temporary volume	Creates a volume based on another volume.	After checking the task log and removing the cause of the error, read the notes, and then run this service again. If a temporary volume was created, delete it, and then run the service again.
1-2		Judge Value Plug-in	Judges whether the TO email address is specified.	After checking the task log and removing the cause of the error, read the notes, and then run this service again. Delete the temporary volume before running the service again.
1-3		Email Notification Plug-in	Sends notification by email.	After checking the task log and removing the cause of the error, read the notes, and then run this service again. Delete the temporary volume before running the service again.
2	openstackBackupVolume	Back up volume	Backs up a volume.	After checking the task log and removing the cause of the error, read the notes, and then run this service again. Then, delete the temporary volume. If a backup was created, delete it, and then run this service again.
3	openstackDeletetempVolume	Delete temporary volume	Deletes a temporary volume.	After checking the task log and removing the cause of the error, read the notes, and then run this service again.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3	openstackDeletetemp Volume	Delete temporary volume	Deletes a temporary volume.	If a temporary volume was created, delete it.

3.13.2 Start virtual server

Function

This service template starts instances in a KVM environment managed by OpenStack.

The OpenStack-related terms used in this document are names displayed in the OpenStack Dashboard. These terms are as follows:

- Identity

Displayed as "Identity" or "KeyStone".

- Project

Displayed as a project or tenant.

To use this service template, the following servers are required:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance (a normal virtual server) managed by the OpenStack server and by KVM

The following is an overview of the processing:

(1) The status of an instance is obtained.

(2) If the instance is stopped, it is started. If the instance is already running, the processing to start the instance is skipped. In all other cases, processing for that instance ends in an error.

(3) If the network connection check is enabled, the IP address (IPv4) set for the instance that was started is obtained. Then the local server sends an ICMP echo request to that instance to check whether it is connected to the network.

The above processing is performed in parallel for the specified instances.

Before an instance is started, an instance status check is performed for the number of times specified by the property openstack.checkInstanceStateEnabledCount, at intervals specified (in seconds) by the

property openstack.checkInstanceStateEnabledInterval. Adjust the values of these properties based on your environmental requirements.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products in the service-template execution system:

(1) Prerequisite products on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products in the service-template execution system:

(1) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(2) Prerequisite OS for the OpenStack server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the service-template execution system:

(1) Conditions related to instances

- Each instance name must be unique within a single project.

- All instances must be inactive.

- If the network connection check is enabled, the firewall of the target virtual server must permit ICMP (ECHO) replies.

(2) Condition related to the local server

- If the network connection check is enabled, the local server (the loopback address that can be resolved from the name "localhost") must be set as the connection destination for agentless monitoring.

Cautions

(1) To perform the network connection check, make sure that the total length of the IP addresses (IPv4) set for all NICs of the instance does not exceed 1,024 characters (#1). If the total length exceeds 1,024 characters, an error might occur in the plug-in osSendIcmp, causing the task to end abnormally.

#1: The maximum length of one IP address (IPv4) including the comma used as an address separator is 16 characters.

(2) If you enable the network connection check, adjust the value of the property common.icmpEchoTimeout based on your environmental requirements.

(3) We recommend that you do not change the value of the property openstack.waitTime from its default value. However, if the wait time specified for the property is not long enough, the next step might start before OS setup finishes, causing the task to end abnormally.

Execution privilege

(1)The user who will be connecting to VMware vCenter Server must have the following permissions:

admin

(2) The user who executes the plug-in on the localhost must have the following permissions:

Built-in Administrator

Version

03.00.00

Tags

Control VM,OpenStack

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Cloud platform environment information	Specify information about OpenStack.	Y
Instance information	Specify information about the instance.	Y
Network connection check	This property is used to check the network connection after the instance is started. If necessary, change the value of this property.	N
Run-time option	This property is used to check statuses before instances are started. If necessary, change the value of this property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.targetHost	Host name of the OpenStack control server	Specify the host name or IP address of the OpenStack control server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	Cloud platform environment information
openstack.identityServerHostName	Host name of the Identity server	Specify the host name or IP address of the Identity server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	Cloud platform environment information
openstack.userName	User name for logging in to the Identity server	Specify the user name for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.password	Password for logging in to the Identity server	Specify the password for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.protocol	Identity server connection protocol	Specify the protocol that is used to connect to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.portNumber	Port number for connecting to the Identity server	Specify the port number for logging in to the Identity server.	Input	Disabled	R	Cloud platform environment information
openstack.projectName	Project name	Specify the project name.	Input	Disabled	R	Instance information
openstack.waitTime	Wait time before starting to obtain IP address	When performing a network connectivity check, specifies the amount of time, in seconds, after the instance starts to wait before starting to obtain the IP address.	Input	Disabled	R	Network connection check
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specify in milliseconds how long the service waits for a reply to an ICMP echo request sent to confirm startup of a virtual server.	Input	Disabled	R	Network connection check
openstack.checkInstanceStateEnabledCount	Instance status (started) check count	Specify the number of times to check whether the startup of an instance has been completed. This value and the instance status (started) check interval determine the maximum wait time.	Input	Disabled	R	Run-time option
openstack.checkInstanceStateEnabledInterval	Instance status (started) check interval	Specify in seconds the interval at which to check whether the startup of an instance has been completed.	Input	Disabled	R	Run-time option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.foreachInstanceName	Instance names	Specify one or more instance names. Note that specifiable instance names are display	Input	Disabled	R	Instance information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
openstack.foreachInstanc eName	Instance names	names in OpenStack rather than host names in the OS. To specify multiple names, use a comma (,) as a separator. You can specify a maximum of 99 instance names.	Input	Disab led	R	Instance information
openstack.checkNetwork Connection	Whether to confirm the network connection	Specify whether to confirm that the network has been connected after the instance is started.	Input	Disab led	R	Network connection check

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
openstack.targetHost	A string that has 256 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
openstack.identityServerHostName	A string that has 256 or fewer single-byte alphanumeric characters, including periods (.) and hyphens (-)
openstack.userName	A string that has 64 or fewer single-byte alphanumeric characters
openstack.password	A string that has 256 or fewer single-byte alphanumeric characters
openstack.protocol	Select one of the following values: http,https
openstack.portNumber	An integer in the range from 1 to 65,535
openstack.projectName	A string that has 80 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.waitTime	An integer in the range from 0 to 2,147,483,647
common.icmpEchoTimeout	Enter an integer from 1 to 2147483647.
openstack.checkInstanceStateEnabledCount	An integer in the range from 1 to 2,147,483,647
openstack.checkInstanceStateEnabledInterval	An integer in the range from 1 to 60

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
openstack.foreachInstanceName	A string that has 1,024 or fewer characters. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` % \
openstack.checkNetworkConnection	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOnVMOpensta ck	Repeated Execution Plug-in	Repeats the startup processing the same number of times as the number of specified instances.	After removing the cause of the error, run the service again.

3.13.3 Start virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	openstackGetVMStat e	Obtain virtual server status	Obtains the status of an instance in an OpenStack environment.	After checking the task log and removing the cause of the error, run this service again.
2	openstackPowerOnV M	Flow Plug-in	Starts an instance in an OpenStack environment.	--
2-1		Judge Value Plug-in	Judges whether the instance is in the ACTIVE state.	After checking the task log and removing the cause of the error, run this service again.
2-2		Start virtual server	Starts the instance if the instance is in the SHUTOFF state.	After checking the task log and removing the cause of the error, run this service again.
3	openstackCheckNet work	Flow Plug-in	Checks whether the network is connected.	--
3-1		Judge Value Plug-in	Judges whether "yes" is specified for the network connection check.	After checking the task log and removing the cause of the error, run this service again.
3-2		Flow Plug-in	If "yes" is specified for the network connection check, this plug-in performs the network connection check.	--
3-2-1		Execution wait	Waits before obtaining an IP address.	--
3-2-2		Get virtual server IP address	Obtains the IP address of an instance that was started.	After checking the task log and removing the cause of the error, run this service again.
3-2-3		Send ICMP echo request message	Issues an ICMP echo request to an instance that was started.	Depending on the status of the system environment, the instance might start successfully but the network connection check might fail, causing the task to terminate abnormally. Check whether the instance is running. To run this service again, first read the notes and remove the cause of the error.

3.13.4 Obtain a virtual server information list

Function

This service template acquires an instance information list in the specified project in a KVM environment that is controlled by OpenStack.

The OpenStack-related terms used in this document are the names displayed in the OpenStack Dashboard. The OpenStack-related terms are:

- Identity

Displayed as "identity" or "KeyStone"

- Project

Displayed as "project" or "tenant"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes the REST API on the OpenStack server

- Instance

An instance that is managed by the OpenStack server or by KVM. A general virtual server.

An overview of the processing is as follows:

(1) This service template acquires an instance information list.

1. This service template outputs the instance information list to a specified remote file in CSV format. The output file is encoded by using the default encoding format of the OpenStack control server.

(2) This service template transfers a remote temporary file to a specified local output file.

(3) This service template deletes the remote temporary file.

Items contained in the CSV file to be output are listed below:

This service template outputs items by separating them with commas.

(a) Hypervisor host name (header name: HostName)

(b) Instance name (header name: InstanceName)

(c) Image name (header name: ImageName)

(d) Instance status (header name: Status)

(e) The number of instance CPUs (header name: NumCpu)#

(f) Instance memory capacity (MB) (header name: MemoryMB)#

(g) Instance disk size (GB) (header name: TotalDiskOfFlavorGB)#

(h) Flavor name (header name: FlavorName)

#: The numbers of instance CPUs, instance memory capacity (MB), and instance disk size (GB) are flavor information that was specified when the instance was started.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, and the supported OSs for the prerequisite products for the system executing the service templates, see the release notes.

[Required product in the system]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Prerequisite products for OpenStack server

- OpenStack

(2) Virtualization environment that manages instances

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework3.5 or later

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OSs for instances

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(2) Prerequisite OSs for the OpenStack control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Note that environments where Server Core is installed are excluded.

[Usage conditions of prerequisite products in the system executing the service template]

None.

Cautions

(1) If the file names to be specified already exist, the existing files are overwritten. The files on the remote side are deleted. Therefore, make sure that the specified file names are correct.

(2) If the folder in a remotely specified path does not exist, the folder is created in the path. The created folder is not deleted. If you do not use such folders, delete them periodically.

(3) If 2 or more instances have the same name, instances cannot be identified in a CSV file to be output.

Execution privilege

admin privileges

Version

02.00.00

Tags

Gather VM information,OpenStack

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Cloud platform environment information	Specify OpenStack information.	Y
Output file storage information	Specify a folder to store output files.	Y
Instance information	Specify instance information.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.targetHost	Host name of the OpenStack control server	Specify the host name or IP address of the OpenStack control server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	--
openstack.identityServerHostName	Host name of the Identity server	Specify the host name or IP address of the Identity server. Make sure that you do not specify an IPv6 address.	Input	Disabled	R	--
openstack.userName	User name for logging in to the Identity server	Specify the user name for logging in to the Identity server.	Input	Disabled	R	--
openstack.password	Password for logging in to the Identity server	Specify the password for logging in to the Identity server.	Input	Disabled	R	--

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.protocol	Identity server connection protocol	Specify the protocol that is used to connect to the Identity server.	Input	Disabled	R	--
openstack.portNumber	Port number for connecting to the Identity server	Specify the port number for logging in to the Identity server.	Input	Disabled	R	--
openstack.projectName	Project name	Specify a project name.	Input	Disabled	R	--

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
openstack.listOutputFileNameRemote	Output file name (remote)	Specify the name of the temporary file that is used when instance information is output to an OpenStack control server by using a full path.	Input	Disabled	R	--
openstack.listOutputFileNameLocal	Output file name (local)	Using a full path, specify the name of the local server file from which instance information is acquired.	Input	Disabled	R	--

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
openstack.targetHost	--
openstack.identityServerHostName	--
openstack.userName	--
openstack.password	--
openstack.protocol	Select one of the following values: http,https
openstack.portNumber	--
openstack.projectName	--

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
openstack.listOutputFileNameRemote	--
openstack.listOutputFileNameLocal	--

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method
1	openstackOutputVmSpec	Obtain a virtual server information list	A virtual server information list is output to a temporary file of the OpenStack control server.	After removing the cause of the error, run the service again.
2	FileTransferPlugin	File-Forwarding Plug-in	Transfers remote temporary files to local specified output files.	After removing the cause of the error, run the service again.
3	osDeleteFile	Delete file	Deletes remote temporary files.	After removing the cause of the error, run the service again.

3.14 Service templates for OS (configuration)

3.14.1 Windows update program installation

Function

This service template triggers Windows Update to automatically install update programs based on a list of target machines for which OS update is to be performed (hereafter referred to as the OS update information file). The OS update information file is a CSV or Excel file.

Each time Windows Update is automatically executed, a file containing the following information is output as the execution result: the exceptions list, the update program search results, the successfully-installed update programs, and the update programs that were not installed are exported as execution results to a file. This file is hereafter referred to as the "results file".

To use this service template, the following servers are required:

- Update information file server

A Windows server on which the OS update information file is stored

- Execution-target server

A server on which a supported version of Windows is installed

The following is an overview of the processing:

(1) Information about the execution-target servers (update-target servers) is obtained from the OS update information file.

Note: The following steps are repeated for each target server.

(2) On the execution-target server, a search is performed for update programs that meet all of the following conditions:

- Update programs to be automatically updated by Microsoft

- Update programs that have not been installed yet

- Update programs for installed software

(3) The following are excluded from the search results:

- Update programs whose numbers are included (as an exact match) in the exceptions list

- Update programs requiring user entry (such as service packs)

(4) From the results of steps (2) and (3), the update programs that are determined to be necessary are downloaded from Windows Update.

(5) The update programs downloaded in step (4) are installed.

When the above processing finishes, a results file (text file) is output to a folder on the execution-target server.
This folder is specified by the property OS.updateResultOutputFolderNameRemote. The format of the file name is YYYYMMDDhhmm.txt. (For example: 201312312345.txt)

Note the following regarding of file using this service template:

- The following describes how to specify the settings in the OS update information file specified by the property OS.updateInfoFilePath.

The items to be specified are as follows:

- N-th column

Execution-target server: Specify an IP address or host name. When specifying an IP address, do not specify an IPv6 address.

Specify a column number (N) for the property OS.updateServerInfoColumn.

- M-th column

Exceptions list: Specify the numbers corresponding to the update programs that you do not want to install. Separate numbers by commas (,). You can specify a maximum of 1,024 bytes, including commas.

Specify the column number (M) for the property OS.updateExcludeListColumn.

For column numbers N and M, you can specify numbers from 1 to 255. For a CSV file, determine the column number by counting the leftmost column as the first column. For an Excel file, determine the column number by counting the leftmost non-empty column as the first column.

Example: (When N=1 and M=2)

"Execution target server","Exceptions list"

"host001","KB000001,KB000002"

"host002",""

- The following describes the contents of the file output to a folder on the execution-target server. (This folder is specified by the property OS.updateResultOutputFolderNameRemote.)

(a) Host name

(b) Exceptions list

(c) List of the titles of update programs returned as search results

In the search results, each update program is output on a separate line. For each update program, "adding" (for programs that are subject to installation) or "skipping" (for programs that are not subject to installation) is also specified.

For each update program for which "skipping" is specified, a reason (whether installation was skipped because user entry was needed or because the program was included in the exceptions list) is also specified.

(d) ResultCode for the overall update program installation

The ResultCode values and their meanings are as follows:

0: Installation was not executed, 1: Installation is in progress, 2: Installation ended normally, 3: Part of the processing failed, 4: Installation failed, 5: Installation was canceled

(e) List of the titles of update programs that were installed

The ResultCode value for the update is output for each program.

(f) Whether restart is required

If "Necessary" is output, restart is necessary. If "Unnecessary" is output, restart is unnecessary.

(g) Termination code for the script itself

The termination codes and their meanings are as follows:

0: Normal, 27: Abnormal (error details can be checked in the task log), 41: Abnormal (a plug-in error was detected) or necessary properties were missing (an error was detected in the plug-in script)

(h) Titles of update programs in the search results that were excluded or that were not installed due to an installation error

If reading an OS update information file fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

If the JP1/AO server and the execution target server is Windows, the execution of this services template requires the built-in Administrator. If the built-in Administrator does not exist or is invalid on each server, execute the "Windows update program installation(SYSTEM)" service template that executes with the system account.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, the supported OSs for the prerequisite products for the system executing the service templates, and OS running in the execution target server see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the system executing the service templates:

The following Microsoft programs that are installed:

- 2007 Office system drivers, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

Supported OSs for the prerequisite products for the system executing the service templates:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

OS running in the execution target server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

Note: Environments where Server Core is installed are excluded.

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the service-template execution system:

(1) The execution-target server must be running.

(2) The execution-target server must be able to access the website that allows Windows Update to be executed without using a proxy server.

(3) The execution-target server must be able to access the website that allows Windows Update to be executed from Internet Explorer (browser).

(4) The following service is running:

- Windows Update

(5) An OS update information file containing the following information must be stored on the local server:

(5-a) Number of columns

There must be no more than 255 columns after the first column containing a column name or data.

(5-b) Column names

For CSV files:

- If column names are necessary, specify them in the first row. If column names are unnecessary, do not specify them.

- Regardless of whether column names are specified, data retrieval must start from the second row or a following row.

For Excel files:

- Column names must be specified. In the file, the first row containing data is assumed to be the row of column names.

- Data retrieval starts from the row below the row of column names.

When specifying column names, follow the rules described in (7).

(5-c) Execution-target server information

Each row in the OS update information file must have a unique key value, specified in the key value column. You can use any value for the key value. We recommend that you use short values, such as integers starting from 1. Key values must not contain a double quotation mark (") or single quotation mark ('). The sum of the total number of bytes for all key values and the number of data rows must not exceed 1,017 bytes. If you omit a key value, the corresponding row will be excluded from the processing target.

- Exceptions list information

The exceptions list is a comma-separated list of program numbers (such as KB9999999). Update programs whose numbers are included in this list (as an exact match) are excluded from the installation target. You can specify any value for the exception list information of each row.

(6) In order to execute this service, you must set the local server (loopback address resolved by "localhost") and the server that is the connection destination as agentless connection destinations.

(7) When specifying column names, follow the rules below.

(7-a) Use string-type data instead of numeric-type data.

(7-b) The specifiable characters are as follows:

- The first character of the key value column name must not be a number (one-byte or two-byte) nor any of the following symbols: ! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ /

- The key value column name cannot contain any of the following symbols: " # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- The names of columns other than the key value column must not contain any of the following symbols: ! [ ] ` , .

(7-c) Each column name can have a maximum of 64 characters (one-byte or two-byte).

Cautions

[Notes on OS update information files]

(1) For Excel files, make sure there are no merged cells or cells containing errors in expression. If such a cell exists, a null value is read for that cell. In addition, make sure no write-protection password is set. If a write-protection password is set for the OS update information file to be read, the task terminates abnormally.

(2) Make sure that string-type data and numeric-type data do not coexist in the same column. If different types of data coexist, values might not be obtained correctly, depending on the specifications of the ODBC driver.

(2-a) Numeric-type data includes the following types of base-10 numbers:

Negative integers (Example: -12345)

Fixed-point numbers (Example: 3.1415)

Floating-point numbers (Example: 6.543E+10)

(2-b) String-type data is any data that is not numeric-type data.

(3) To obtain a column that contains different types of data from the file to be read, first perform one of the following steps:

- If the OS update information file is an Excel file, prefix each numeric-type value with a single quotation mark (').

- If the OS update information file is a CSV file, enclose each numeric-type value in double quotation marks (").

(4) If the OS update information file is a CSV file, enclose IP addresses in double quotation marks. IP addresses not enclosed in double quotation marks might be interpreted as numeric-type data, thus preventing the task from obtaining the correct values.

(5) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows (including empty rows) is 100 or more, the task terminates abnormally.

(6) If the OS update information file is an Excel file, the actual value obtained from a cell might be different from the displayed value, depending on the type of data in the cell. The following shows data types that have notable differences between the displayed values and the actual obtained values:

(6-a) Boolean-type data (True/False)

Displayed value: TRUE/FALSE

Value stored in the cell: TRUE/FALSE

Actual obtained value: True/False

(6-b) Date data

Displayed value: mm/dd

Value stored in the cell: yyyy/mm/dd

Actual obtained value: yyyy/mm/dd

(6-c) Time data

Displayed value: hh:mm

Value stored in the cell: hh:mm:ss

Actual obtained value: hh:mm:ss

(6-d) Percent

Displayed value: n% (For example: 10%)

Value stored in the cell: n% (For example: 10%)

Actual obtained value: 0.n (For example: 0.1)

(6-e) Expression

Displayed value: (The result of the expression)

Value stored in the cell: (The expression)

Actual obtained value: (The result of the expression)

[Other notes]

(1) If an update program that performs automatic restart is installed, Windows automatically restarts the execution-target server.

(2) Do not simultaneously execute multiple instances of this service on the same execution-target server.

(3) For the number of the column to be read, specify an integer no greater than 255. If you specify a value greater than 255, the task terminates abnormally. Note that empty columns after the first non-empty column and before the last non-empty column are counted as ordinary columns.

Execution privilege

Built-in Administrator

Version

03.00.02

Tags

Configure OS,Windows

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
OS update information file information	Specify information about the OS update information file.	Y
OS update information file details	Specify details about the OS update information file.	Y
Results file output folder information	Specify the name of the folder where the results file is output.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
windows.targetHost	Host name of the update information file server	Specify the host name or IP address of the Windows server on which the OS update information file is stored. IPv6 addresses are not supported.	Input	Disabled	R	OS update information file information
OS.fileOpenRetryCount	Retry count for reading a file	Specifies the number of times to retry when reading an OS update information file fails. This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disabled	R	OS update information file details
OS.fileOpenRetryInterval	Retry interval for reading a file	Specifies the retry interval in seconds for when reading an OS update information file fails.	Input	Disabled	R	OS update information file details

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.updateInfoFilePath	OS update information file path	Specify a full path of the file that contains OS update information. Make sure that you specify a file on the update information file server. The file extension of the file must be csv, xls, xlsx, or xlsm.	Input	Disabled	R	OS update information file information
OS.updateInfoSheetName	OS update information file's sheet name	Specify the name of the sheet that contains OS update information. Make sure that you specify this item if the OS update information file is an Excel file. The sheet	Input	Disabled	R	OS update information file information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.updateInfoSheetName	OS update information file's sheet name	name specified for a CSV file is ignored.	Input	Disabled	R	OS update information file information
OS.updateServerInfoColumn	Execution target server column number	Specify the number of the column that specifies the execution target server in the OS update information file. Specify an integer in the range from 1 to 255.	Input	Disabled	R	OS update information file details
OS.updateExcludeListColumn	Exceptions list column number	Specify the number of the column that specifies the exceptions list in the OS update information file. Specify an integer in the range from 1 to 255.	Input	Disabled	R	OS update information file details
OS.updateResultOutputFolderNameRemote	Result information file output folder (remote)	Specify a full path of the folder to which the results of update program automatic installation is output. Make sure that you specify a folder on the execution target server.	Input	Disabled	R	Results file output folder information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
windows.targetHost	256 or fewer one-byte alphanumeric characters, periods (.), and hyphens (-).
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
OS.updateInfoFilePath	A string that has 8 to 255 characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % / [ ] !
OS.updateInfoSheetName	A string that has 1 to 31 characters except for: 1) The following single-byte symbols: < > | ; : & * ? " % / \ ! ` { [ ] 2) Multi-byte characters corresponding to the following symbols: : \ ? [ ] / *
OS.updateServerInfoColumn	An integer in the range from 1 to 255.
OS.updateExcludeListColumn	An integer in the range from 1 to 255.
OS.updateResultOutputFolderNameRemote	A string that has 200 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " %

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osReadCSVExcelFileColumn	Obtain column data from a CSV/Excel file	Obtains information for identifying rows from the OS update information file.	After removing the cause of the error, run the service again.
2	ForEachPlugin	Repeated Execution Plug-in	Repeats the update processing the same number of times as the number of specified hosts.	After removing the cause of the error, run the service again.

3.14.2 Windows update program installation (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	osReadCSVExcelFileRow	Obtain row data from a CSV/Excel file	Obtains information about the execution-target server from the OS update information file.	After removing the cause of the error, run the service again.
2	osWindowsUpdate	Install Windows Updates	Executes Windows Updates.	Remove the cause of the error. See the result information file and, if necessary, run the service again.

3.14.3 Windows update program installation(SYSTEM)

Function

This service template triggers Windows Update to automatically install update programs based on a list of target machines for which OS update is to be performed (hereafter referred to as the OS update information file). The OS update information file is a CSV or Excel file.

Each time Windows Update is automatically executed, a file containing the following information is output as the execution result: the exceptions list, the update program search results, the successfully-installed update programs, and the update programs that were not installed are exported as execution results to a file. This file is hereafter referred to as the "results file".

To use this service template, the following servers are required:

- Update information file server

A Windows server on which the OS update information file is stored

- Execution-target server

A server on which a supported version of Windows is installed

The following is an overview of the processing:

(1) Information about the execution-target servers (update-target servers) is obtained from the OS update information file.

Note: The following steps are repeated for each target server.

(2) On the execution-target server, a search is performed for update programs that meet all of the following conditions:

- Update programs to be automatically updated by Microsoft

- Update programs that have not been installed yet

- Update programs for installed software

(3) The following are excluded from the search results:

- Update programs whose numbers are included (as an exact match) in the exceptions list

- Update programs requiring user entry (such as service packs)

(4) From the results of steps (2) and (3), the update programs that are determined to be necessary are downloaded from Windows Update.

(5) The update programs downloaded in step (4) are installed.

When the above processing finishes, a results file (text file) is output to a folder on the execution-target server. This folder is specified by the property OS.updateResultOutputFolderNameRemote. The format of the file name is YYYYMMDDhhmm.txt. (For example: 201312312345.txt)

Note the following regarding of file using this service template:

- The following describes how to specify the settings in the OS update information file specified by the property OS.updateInfoFilePath.

The items to be specified are as follows:

- N-th column

Execution-target server: Specify an IP address or host name. When specifying an IP address, do not specify an IPv6 address.

Specify a column number (N) for the property OS.updateServerInfoColumn.

- M-th column

Exceptions list: Specify the numbers corresponding to the update programs that you do not want to install. Separate numbers by commas (,). You can specify a maximum of 1,024 bytes, including commas.

Specify the column number (M) for the property OS.updateExcludeListColumn.

For column numbers N and M, you can specify numbers from 1 to 255. For a CSV file, determine the column number by counting the leftmost column as the first column. For an Excel file, determine the column number by counting the leftmost non-empty column as the first column.

Example: (When N=1 and M=2)

"Execution target server","Exceptions list"

"host001","KB000001,KB000002"

"host002",""

- The following describes the contents of the file output to a folder on the execution-target server. (This folder is specified by the property OS.updateResultOutputFolderNameRemote.)

(a) Host name

(b) Exceptions list

(c) List of the titles of update programs returned as search results

In the search results, each update program is output on a separate line. For each update program, "adding" (for programs that are subject to installation) or "skipping" (for programs that are not subject to installation) is also specified.

For each update program for which "skipping" is specified, a reason (whether installation was skipped because user entry was needed or because the program was included in the exceptions list) is also specified.

(d) ResultCode for the overall update program installation

The ResultCode values and their meanings are as follows:

0: Installation was not executed, 1: Installation is in progress, 2: Installation ended normally, 3: Part of the processing failed, 4: Installation failed, 5: Installation was canceled

(e) List of the titles of update programs that were installed

The ResultCode value for the update is output for each program.

(f) Whether restart is required

If "Necessary" is output, restart is necessary. If "Unnecessary" is output, restart is unnecessary.

(g) Termination code for the script itself

The termination codes and their meanings are as follows:

0: Normal, 27: Abnormal (error details can be checked in the task log), 41: Abnormal (a plug-in error was detected) or necessary properties were missing (an error was detected in the plug-in script)

(h) Titles of update programs in the search results that were excluded or that were not installed due to an installation error

If reading an OS update information file fails, wait for the seconds specified in the OS.fileOpenRetryInterval property, and then repeat the number of times specified in the OS.fileOpenRetryCount property to retry for reading a file. If necessary, modify the property values to adjust your system environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the system executing the service templates, the supported OSs for the prerequisite products for the system executing the service templates, and OS running in the execution target server see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the system executing the service templates:

The following Microsoft programs that are installed:

- 2007 Office system drivers, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

Supported OSs for the prerequisite products for the system executing the service templates:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

OS running in the execution target server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

Note: Environments where Server Core is installed are excluded.

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the service-template execution system:

(1) The execution-target server must be running.

(2) The execution-target server must be able to access the website that allows Windows Update to be executed without using a proxy server.

(3) The execution-target server must be able to access the website that allows Windows Update to be executed from Internet Explorer (browser).

(4) The following service is running:

- Windows Update

(5) An OS update information file containing the following information must be stored on the local server:

(5-a) Number of columns

There must be no more than 255 columns after the first column containing a column name or data.

(5-b) Column names

For CSV files:

- If column names are necessary, specify them in the first row. If column names are unnecessary, do not specify them.

- Regardless of whether column names are specified, data retrieval must start from the second row or a following row.

For Excel files:

- Column names must be specified. In the file, the first row containing data is assumed to be the row of column names.

- Data retrieval starts from the row below the row of column names.

When specifying column names, follow the rules described in (7).

(5-c) Execution-target server information

Each row in the OS update information file must have a unique key value, specified in the key value column. You can use any value for the key value. We recommend that you use short values, such as integers starting from 1. Key values must not contain a double quotation mark (") or single quotation mark ('). The sum of the total number of bytes for all key values and the number of data rows must not exceed 1,017 bytes. If you omit a key value, the corresponding row will be excluded from the processing target.

- Exceptions list information

The exceptions list is a comma-separated list of program numbers (such as KB9999999). Update programs whose numbers are included in this list (as an exact match) are excluded from the installation target. You can specify any value for the exception list information of each row.

(6) In order to execute this service, you must set the local server (loopback address resolved by "localhost") and the server that is the connection destination as agentless connection destinations.

(7) When specifying column names, follow the rules below.

(7-a) Use string-type data instead of numeric-type data.

(7-b) The specifiable characters are as follows:

- The first character of the key value column name must not be a number (one-byte or two-byte) nor any of the following symbols: ! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ /

- The key value column name cannot contain any of the following symbols: " # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- The names of columns other than the key value column must not contain any of the following symbols: ! [ ] ` , .

(7-c) Each column name can have a maximum of 64 characters (one-byte or two-byte).

Cautions

[Notes on OS update information files]

(1) For Excel files, make sure there are no merged cells or cells containing errors in expression. If such a cell exists, a null value is read for that cell. In addition, make sure no write-protection password is set. If a write-protection password is set for the OS update information file to be read, the task terminates abnormally.

(2) Make sure that string-type data and numeric-type data do not coexist in the same column. If different types of data coexist, values might not be obtained correctly, depending on the specifications of the ODBC driver.

(2-a) Numeric-type data includes the following types of base-10 numbers:

Negative integers (Example: -12345)

Fixed-point numbers (Example: 3.1415)

Floating-point numbers (Example: 6.543E+10)

(2-b) String-type data is any data that is not numeric-type data.

(3) To obtain a column that contains different types of data from the file to be read, first perform one of the following steps:

- If the OS update information file is an Excel file, prefix each numeric-type value with a single quotation mark (').

- If the OS update information file is a CSV file, enclose each numeric-type value in double quotation marks (").

(4) If the OS update information file is a CSV file, enclose IP addresses in double quotation marks. IP addresses not enclosed in double quotation marks might be interpreted as numeric-type data, thus preventing the task from obtaining the correct values.

(5) When counting rows in the file to be read, empty rows after the first non-empty row and before the last non-empty row are counted as ordinary rows. Even if the number of rows containing data is 99 or less, if the total number of rows (including empty rows) is 100 or more, the task terminates abnormally.

(6) If the OS update information file is an Excel file, the actual value obtained from a cell might be different from the displayed value, depending on the type of data in the cell. The following shows data types that have notable differences between the displayed values and the actual obtained values:

(6-a) Boolean-type data (True/False)

Displayed value: TRUE/FALSE

Value stored in the cell: TRUE/FALSE

Actual obtained value: True/False

(6-b) Date data

Displayed value: mm/dd

Value stored in the cell: yyyy/mm/dd

Actual obtained value: yyyy/mm/dd

(6-c) Time data

Displayed value: hh:mm

Value stored in the cell: hh:mm:ss

Actual obtained value: hh:mm:ss

(6-d) Percent

Displayed value: n% (For example: 10%)

Value stored in the cell: n% (For example: 10%)

Actual obtained value: 0.n (For example: 0.1)

(6-e) Expression

Displayed value: (The result of the expression)

Value stored in the cell: (The expression)

Actual obtained value: (The result of the expression)

[Other notes]

(1) If an update program that performs automatic restart is installed, Windows automatically restarts the execution-target server.

(2) Do not simultaneously execute multiple instances of this service on the same execution-target server.

(3) For the number of the column to be read, specify an integer no greater than 255. If you specify a value greater than 255, the task terminates abnormally. Note that empty columns after the first non-empty column and before the last non-empty column are counted as ordinary columns.

Execution privilege

Users who belong to the Administrator group

Version

03.10.02

Tags

Configure OS,Windows

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
OS update information file information	Specify information about the OS update information file.	Y
OS update information file details	Specify details about the OS update information file.	Y
Results file output folder information	Specify the name of the folder where the results file is output.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
windows.targetHost	Host name of the update information file server	Specify the host name or IP address of the Windows server on which the OS update information file is stored. IPv6 addresses are not supported.	Input	Disabled	R	OS update information file information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.fileOpenRetryCount	Retry count for reading a file	Specifies the number of times to retry when reading an OS update information file fails. This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	Input	Disabled	R	OS update information file details
OS.fileOpenRetryInterval	Retry interval for reading a file	Specifies the retry interval in seconds for when reading an OS update information file fails.	Input	Disabled	R	OS update information file details

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.updateInfoFilePath	OS update information file path	Specify a full path of the file that contains OS update information. Make sure that you specify a file on the update information file server. The file extension of the file must be csv, xls, xlsx, or xlsm.	Input	Disabled	R	OS update information file information
OS.updateInfoSheetName	OS update information file's sheet name	Specify the name of the sheet that contains OS update information. Make sure that you specify this item if the OS update information file is an Excel file. The sheet name specified for a CSV file is ignored.	Input	Disabled	R	OS update information file information
OS.updateServerInfoColumn	Execution target server column number	Specify the number of the column that specifies the execution target server in the OS update information file. Specify an integer in the range from 1 to 255.	Input	Disabled	R	OS update information file details
OS.updateExcludeListColumn	Exceptions list column number	Specify the number of the column that specifies the exceptions list in the OS update information file. Specify an integer in the range from 1 to 255.	Input	Disabled	R	OS update information file details
OS.updateResultOutputFolderNameRemote	Result information file output folder (remote)	Specify a full path of the folder to which the results of update program automatic installation is output. Make sure that you specify a folder on the execution target server.	Input	Disabled	R	Results file output folder information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
windows.targetHost	256 or fewer one-byte alphanumeric characters, periods (.), and hyphens (-).
OS.fileOpenRetryCount	Integer value in the range from 0 to 32767.
OS.fileOpenRetryInterval	Integer value in the range from 1 to 60.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
OS.updateInfoFilePath	A string that has 8 to 255 characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " % / [ ] !
OS.updateInfoSheetName	A string that has 1 to 31 characters except for: 1) The following single-byte symbols: < > | ; : & * ? " % / \ ! ` { [ ] 2) Multi-byte characters corresponding to the following symbols: : \ ? [ ] / *
OS.updateServerInfoColumn	An integer in the range from 1 to 255.
OS.updateExcludeListColumn	An integer in the range from 1 to 255.
OS.updateResultOutputFolderNameRemote	A string that has 200 or fewer characters, does not end with a backslash (\), and does not include the following symbols: < > | ; & * ? " %

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	osReadCSVExcelFileColumn_Syste	Obtain column data from a CSV/ Excel file(SYSTEM)	Obtains information for identifying rows from the OS update information file.	After removing the cause of the error, run the service again.
2	ForEachPlugin	Repeated Execution Plug-in	Repeats the update processing the same number of times as the number of specified hosts.	After removing the cause of the error, run the service again.

3.14.4 Windows update program installation(SYSTEM)(repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	osReadCSVExcelFileRow_System	Obtain row data from a CSV/ Excel file(SYSTEM)	Obtains information about the execution-target server from the OS update information file.	After removing the cause of the error, run the service again.

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
2	osWindowsUpdate_System	Install Windows Updates(SYSTEM)	Executes Windows Updates.	Remove the cause of the error. See the result information file and, if necessary, run the service again.

3.15 Service templates for vSphere (configuration)

3.15.1 Script execution through the vCenter server

Function

This service template functions in the VMware vSphere environment to transmit the specified non-interactive script file from the execution target server to the guest OS on the virtual server through the vCenter server, and then executes the script file on the guest OS. The script file can be deleted if it is no longer needed after execution.

The following servers are required for this service template:

- vCenter server

Server where VMware vCenter Server is installed.

- ESX server

Server where VMware vSphere ESXi is installed.

- vCenter control server (execution target server)

Server where VMware vSphere PowerCLI is installed. Plug-ins are transferred to this server and executed by this product.

- Virtual server

Virtual server that is managed by the vCenter server and VMware vSphere ESX.

An overview of the processing is provided as follows:

(1) Execute the PowerCLI commandlet Copy-VMGuestFile on the execution target server to transmit the specified script from the execution target server to the guest OS on the virtual server.

(2) Execute the PowerCLI commandlet Invoke-VMScript on the execution target server to execute the script transmitted in (1). At this time, execute the scripts on the virtual server by using the following codes:

- Windows batch file (extension bat)

"& 'script-file-path-on-the-guest-OS-(vmware.scriptFileOnGuest-property)' 'script-argument-(vmware.scriptParameter-property)' ; exit $LASTEXITCODE"

- Windows PowerShell script (extension ps1)

"Set-ExecutionPolicy RemoteSigned -Scope Process ; & 'script-file-path-on-the-guest-OS-(vmware.scriptFileOnGuest-property)' 'script-argument-(vmware.scriptParameter-property)' ; exit $LASTEXITCODE"

- Shell script (extension sh)

"/bin/bash 'script-file-path-on-the-guest-OS-(vmware.scriptFileOnGuest-property)' 'script-argument-(vmware.scriptParameter-property)' "

The standard output and standard error output of each script executed on the virtual server are stored in the file on the execution target server that is specified as the output file path (vmware.scriptOutputFilePath property) of the script.

(3) If yes is specified for whether to delete the script (vmware.deleteScriptEnabled property), the script transmitted from the execution target server to the guest OS on the virtual server can be deleted. To delete the script, use the following code applicable to the virtual server environment:

- Windows

"Remove-Item -LiteralPath 'script-file-path-on-the-guest-OS-(vmware.scriptFileOnGuest-property)' -Force "

- UNIX

"/bin/rm -f 'script-file-path-on-the-guest-OS-(vmware.scriptFileOnGuest-property)' "

Consider the following precautions when setting the properties:

(1) You can specify the following script files for the script file path on the guest OS (vmware.scriptFileOnGuest property): Windows batch file (extension bat), Windows PowerShell script (extension ps1), and shell script (extension sh).

(2) When you specify multiple arguments for the script argument (vmware.scriptParameter property), you can separate arguments by using a single-byte comma (,) or single-byte hyphen (-).

For details, see the specifications for each plug-in.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 12-00 or later

Prerequisite products for the service-template-execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, or 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Prerequisite products for the service-template-execution-target system:

(1) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, or 5.0

(2) VMware vSphere ESXi controlling the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, or 5.0

(3) Prerequisite OSs for the virtual server

- The following OSs are supported in a configuration that is supported by the prerequisite products for the vCenter server, as well as the prerequisite products for VMware vSphere ESXi and the vCenter control server that manage the virtual server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

Supported OSs for the prerequisite products for the service-template-execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products in the service-template execution system:

(1) VMware vSphere ESXi must be managed by VMware vCenter Server.

(2) Conditions related to the settings on VMware vCenter Server

- Virtual servers must have a unique name.

- The VMware-related name shown below is case-sensitive in VMware. However, it is not case-sensitive in a vSphere PowerCLI instance that is executed from this plug-in.

- Virtual server name

(3) Conditions related to the virtual server

- The virtual server must be running.

- If the virtual server OS is Windows, Windows PowerShell 2.0 or later must be installed.

- VMwareTools must be installed on the virtual server.

Cautions

(1) If a file with the same name exists in the location specified by the path to the script file on the guest OS (vmware.scriptFileOnGuest property) or the path to the output file for the script (vmware.scriptOutputFilePath property), the existing file is overwritten. If any of the folders specified by the file path does not exist, that folder is created and the file is transmitted. Delete the created folder if it is no longer necessary.

(2) If a folder with the same name exists in the location specified by the path to the script file on the guest OS (vmware.scriptFileOnGuest property), the target script file is transmitted and stored in the existing folder without changing its file name. If this occurs, execution of the script fails and the service ends abnormally.

(3) If an error occurs during file transmission, the file that is being transmitted to the virtual server is not deleted automatically. Delete this file if it is not necessary.

(4) Do not execute interactive scripts that require user entry, or scripts that display a GUI and do not end automatically.

(5) Do not execute this service template on the same virtual server simultaneously.

(6) The script specified as the script file on the VMware vCenter control server (vmware.scriptFileOnHost property) is transferred to the guest OS in binary format. Create the script in advance on the guest OS by using executable line break codes and character codes.

Execution privilege

Users who access VMware vCenter Server must have the following permissions:

System administrator role

Version

02.50.00

Tags

Execute Script,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information about the virtual server that executes scripts.	Y
Script information	Specify the information for script execution.	Y
Output file storage information	Specify the output file storage location.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	Input	Disabled	R	Virtual server information
vmware.guestOSUserName	User name for logging in to the guest OS	Specify the user name for logging in to the guest OS.	Input	Disabled	R	Virtual server information
vmware.guestOSUserPassword	Password for logging in to the guest OS	Specify the password for logging in to the guest OS.	Input	Disabled	R	Virtual server information
vmware.scriptFileOnHost	Script file on the VMware vCenter control server	Specify the full path of the script file on the VMware vCenter control server that is the transmission source.	Input	Disabled	R	Script information
vmware.scriptFileOnGuest	Script file on the guest OS	Specify the full path of the script file on the guest OS that is the transmission destination. The script file specified for this property is executed after transmission.	Input	Disabled	R	Script information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
vmware.scriptParameter	Script argument	Specify a script argument. To specify multiple arguments, separate the arguments by using the specified delimiter for script arguments (a single-byte comma or single-byte hyphen).	Input	Disab led	O	Script information
vmware.scriptParamDeli miter	Delimiter for script arguments	Specify a delimiter for script arguments. You can specify a single-byte comma (,) or a single-byte hyphen (-). If this property is omitted, values specified for the script argument are handled as a single argument.	Input	Disab led	O	Script information
vmware.scriptOutputFile Path	Script output file path	Specify the full path of the file on the VMware vCenter control server in which the standard output and standard error output of the script are stored.	Input	Disab led	R	Output file storage information
vmware.deleteScriptEna bled	Whether to delete the script	Specify whether to delete the script after execution. If yes is selected, the script is deleted. If no is selected, the script is not deleted.	Input	Disab led	R	Script information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.scriptReturnCode	Script return value	Stores the return value of the script executed on the virtual server.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.
vmware.guestOSUserName	No more than 32 single-byte alphanumeric characters, exclamation marks (!), hash marks (#), dollar signs ($), left parentheses ((), right parentheses ()), hyphens (-), periods (.), carets (^), underscores (_), grave accent marks (`), left curly brackets ({), right curly brackets (}), or swung dashes (~).
vmware.guestOSUserPassword	No more than 255 characters (excluding the following symbols: <, >, |, ", ', ;, and &).
vmware.scriptFileOnHost	No more than 256 single-byte alphanumeric characters, periods (.), backslashes (\), or colons (:) (excluding trailing backslashes (\)).
vmware.scriptFileOnGuest	No more than 256 single-byte alphanumeric characters, periods (.), forward slashes (/), backslashes (\), or colons (:) (excluding trailing backslashes (\) and trailing forward slashes (/)).
vmware.scriptParameter	No more than 1,024 single-byte alphanumeric characters, periods (.), forward slashes (/), backslashes (\), colons (:), commas (,), or hyphens (-).
vmware.scriptParamDelimiter	Select one of the following values: ,,-
vmware.scriptOutputFilePath	No more than 256 single-byte alphanumeric characters, periods (.), backslashes (\), or colons (:) (excluding trailing backslashes (\)).
vmware.deleteScriptEnabled	Select one of the following values: yes,no

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereSendFileToGuest	File transmission through the vCenter server	Transmits the specified file from the execution target server to the guest OS on the virtual server.	After removing the cause of the error, run the service again.
2	vsphereInvokeScript	Script execution through the vCenter server	Executes a non-interactive script file that is transmitted to the guest OS on the virtual server.	After removing the cause of the error, execute from this step or run the service again.
3	JudgeValuePlugin	Judge Value Plug-in	Determines whether to delete a script file transmitted to the guest OS on the virtual server.	--
4	vsphereDeleteFileOnGuest	File deletion through the vCenter server	Deletes a script file that is transmitted to the guest OS on the virtual server.	After removing the cause of the error, execute from this step or run the service again.

3.15.2 Modify Virtual Machine Configuration

Function

For the resources (CPUs, memory, and disk I/O) of the virtual server in the VMware vSphere environment, change the settings of the specified items.

In VMware vCenter Server 4.1 and earlier versions, the number of CPUs refers to the number of virtual processors. In VMware vCenter Server 5.0 and later versions, the number of CPUs refers to the product of the number of virtual sockets and the number of cores per socket. In version 11-11 and earlier, the number of cores per socket is always 1, so the number of CPUs is equal to the number of virtual sockets. However, starting from version 11-12, the number of cores per socket can be changed. To change the number of cores per socket, specify "true" for the option for setting the number of cores (the vmware.setCoresOption property).

Note that, as a result of the above, the display name of the vmware.cpuNum property has been changed. In version 11-11 and earlier, the display name was "Number of CPUs". In version 11-12 and later, the display name is "Number of CPU sockets".

This service template assumes the following servers:

· vCenter server

This is a server on which VMware vCenter Server is installed.

· vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

· Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESXi (or VMware ESX Server).

The following provides an overview of the processing.

(1) Obtains a virtual server's power status.

(2) Verifies that the virtual server's power status is off.

If the power status is not off, the service template uses the user-response wait plugin to check whether the power is to be turned off.

A user with the Modify permission can specify an email destination, email message contents, timeout value, and information to be displayed in the window by the user-response wait plugin.

If the user selects "Shutdown" in the GUI of the user-response wait plugin, the service template shuts down the virtual server.

If the user selects "Cancel" or if a response timeout occurs, the service terminates abnormally without performing the operation on the virtual server.

When the virtual server is to be terminated, the service template waits for the amount of time (in seconds) specified in the VMware.checkPowerStateInterval property and performs an operation to verify that the power is off, which it does up to the number of times specified in the vmware.checkPowerStateCount property. If the default values are not suitable, specify values that are suitable for your environment.

(3) Modify the resources (number of CPUs, memory capacity) of the virtual server.

(4) For the CPU and memory of the virtual server, specify limits, reservation, and share levels. For the disks, specify share levels.

To cancel the limits, specify -1.

For limits, if you specify less than 100 MHz for the CPU or less than 100 MB for the memory, task execution will terminate abnormally. Specifying too low a limit might affect the startup of the OS or the execution of tasks. Specify appropriate limits for the resources according to the system requirements and usage of the OS.

For memory reservation, specify a value within the memory capacity allocated to the virtual server. Specifying a value higher than the allocated memory capacity causes task execution to terminate abnormally.

Specifying the disk share level without a virtual disk name specified changes the share levels of all the disks connected to the virtual server. Specifying the disk share level with a virtual disk name specified changes the share level of only the specified virtual disk.

Note that the maximum number of characters that you can specify for the virtual server name property (vmware.vmName) is 60.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

· VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

· VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

· VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

· VMware PowerCLI 6.5 Release1

· VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

· Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

· Red Hat Enterprise Linux Server 7 (64-bit x86_64)

· Red Hat Enterprise Linux Server 8 (64-bit x86_64)

· CentOS 6 (64-bit x86_64)

· CentOS 7 (64-bit x86_64)

· CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Each virtual server name is unique among the vCenter servers.

(3) VMwareTools is installed on the target virtual server.

Cautions

(1) Do not execute multiple instances of this service on the same virtual server.

(2) If you specify HTML tags in UserResponseplugin.dialogText, the permitted tags and attributes are the same as those for the user-response wait plugin. See the topics on the user-response wait plugin in this product manuals.

(3) When a value other than "true" is specified for the option for setting the number of cores (the vmware.setCoresOption property), set to 1 the number of cores per socket on the target virtual server. If the number of CPU sockets is changed for a virtual server on which the number of cores per socket has been set to a value other than 1, the following problems might occur:

- The virtual server does not start, because the number of CPUs is not a multiple of the number of cores.

- The virtual server starts, but the resources do not have the expected values.

(4) The values that can be specified for the number of CPU sockets (the vmware.cpuNum property), the number of cores per CPU socket (the vmware.cpuCoresPerSocket property), and memory capacity (the vmware.memoryMB property) vary depending of the version of the prerequisite products. Check the limits for these prerequisite products before specifying values for these properties.

(5) For memory reservation, specify a value within the memory capacity allocated to the virtual server. Specifying a value higher than the allocated memory capacity causes task execution to terminate abnormally.

(6) Specify limits for the CPU and memory according to the requirements and usage of the OS.

(7) You cannot reserve more CPU and memory resources than their limits.

(8) If multiple virtual disks are specified for the vmware.vHardDiskName property, tasks will terminate abnormally if a process of changing the share level of even one of these disks fails.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

03.00.01

Tags

Modify VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the specifications for the virtual server.	Y
Virtual server resource-configuration information	Specifies the configuration of the virtual server resources.	Y
User-response wait options	These are options for user responses when the virtual server is started. Modify as necessary.	N
Run-time options	These are properties related to checking the status when stopping the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
    R: The property must be specified.
    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait options
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait options
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User-response wait options

3. JP1/AO Content Pack Service Templates

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User-response wait options
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User-response wait options
vmware.checkPowerStateCount	Power status check count	Specifies the number of times to check the power status when confirming that the virtual server is stopped. In combination with the power status checking interval, this determines the maximum wait time.	Input	Disabled	R	Run-time options
vmware.checkPowerStateInterval	Power status check interval	Specifies the interval in seconds for checking the power status when confirming that the virtual server is stopped.	Input	Disabled	R	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	Input	Disabled	R	Virtual server information
vmware.cpuNum	Number of CPU sockets	Specify the number of CPU virtual sockets to assign to the virtual server. You must specify either CPU sockets or memory size property. The product of the number of CPU sockets and the number of cores per socket is the number of CPUs on a virtual server.	Input	Disabled	O	Virtual server information
vmware.setCoresOption	Option for setting the number of cores	When you set the number of cores per CPU sockets in a virtual server, specify "true". Unless you specify "true", the number of cores is not set. For details, see the notes in the detailed information of the service.	Input	Disabled	O	Virtual server information
vmware.numCoresPerSocket	Number of cores per socket	Specify the number of cores per CPU sockets to assign to the virtual server, if you specify "true" for the Option for setting the number of cores property. If	Input	Disabled	O	Virtual server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.numCoresPerSocket	Number of cores per socket	you specify this property, you must also specify the number of CPU sockets. The product of the number of CPU sockets and the number of cores per socket is the number of CPUs on a virtual server.	Input	Disabled	O	Virtual server information
vmware.memoryMB	Memory size (MB)	Specify the amount of memory (in MB) to assign to the virtual server. You must specify either CPU sockets or memory size property.	Input	Disabled	O	Virtual server information
vmware.cpuSharesLevel	CPU shares level	Specifies the relative priority of CPU resources between virtual servers that have the same parent.	Input	Disabled	O	Virtual server resource-configuration information
vmware.cpuReservationMHz	CPU reservation (MHz)	Specifies, in megahertz, the CPU resources that are reserved by the virtual server.	Input	Disabled	O	Virtual server resource-configuration information
vmware.cpuLimitMHz	CPU limit (MHz)	Specifies, in megahertz, the maximum CPU resources that are to be used by the virtual server. If a value less than 100 MHz is specified, task execution terminates abnormally. However, specifying -1 cancels this restriction.	Input	Disabled	O	Virtual server resource-configuration information
vmware.memSharesLevel	Memory shares level	Specifies the relative priority of memory resources between virtual servers that have the same parent.	Input	Disabled	O	Virtual server resource-configuration information
vmware.memReservationMB	Memory reservation (MB)	Specifies, in megabyte, the Memory resources that are reserved by the virtual server.	Input	Disabled	O	--
vmware.memLimitMB	Memory limit (MB)	Specifies, in megabyte, the maximum memory resources that are to be used by the virtual server. If a value less than 100 MB is specified, task execution terminates abnormally. However, specifying -1 cancels this restriction.	Input	Disabled	O	Virtual server resource-configuration information
vmware.diskSharesLevel	Disk shares level	Specifies the relative priority of virtual servers for storage I/O resources.	Input	Disabled	O	Virtual server resource-configuration information
vmware.vHardDiskName	Virtual disk name	Specifies virtual disk where shares level is changed. Virtual disk is display name in VMware vCenter Server. To specify multiple virtual disks, specify by separating with a comma.	Input	Disabled	O	Virtual server resource-configuration information

3. JP1/AO Content Pack Service Templates

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.
vmware.checkPowerStateCount	Integer between 1 and 3600 can be entered.
vmware.checkPowerStateInterval	Integer between 1 and 60 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.
vmware.cpuNum	Integer between 1 and 128 can be entered.
vmware.setCoresOption	Select one of the following values: true,false
vmware.numCoresPerSocket	Integer between 1 and 128 can be entered.
vmware.memoryMB	Integer between 4 and 2147483647 can be entered.
vmware.cpuSharesLevel	Select one of the following values: High,Normal,Low

Property key	Characters that can be input
vmware.cpuReservationMHz	An integer from 0 to 65535.
vmware.cpuLimitMHz	An integer from -1 to 65535.
vmware.memSharesLevel	Select one of the following values: High,Normal,Low
vmware.memReservationMB	An integer from 0 to 2147483647.
vmware.memLimitMB	An integer from -1 to 2147483647.
vmware.diskSharesLevel	Select one of the following values: High,Normal,Low
vmware.vHardDiskName	A character string of no less than 1 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereCheckResource	Pre-evaluation of virtual-server resource changes	Performs a pre-evaluation when changing CPU or memory resources for a virtual server that is managed by VMware vCenter Server.	Check the following item, and then retry the operation: - Are the connection destination and authentication information correct?
2	vsphereCheckResourceConfig	Pre-evaluation of virtual server resource configuration changes	Performs a pre-evaluation when changing CPU, memory, or disk I/O resource configurations for a virtual server that is managed by VMware vCenter Server.	Check the following items, and then retry the operation: - Are the connection destination and authentication information correct? - Is the virtual-server resource limit too low? - Does the amount of reserved resources exceed the limit? - Have you forgotten to specify the shares level of the disk I/O?
3	vsphereCheckPower	Flow Plug-in	Checks the power status, and if the power status is not OFF, checks with the user.	--
3-1		Get power status of virtual server	Acquires the power status of the specified virtual server.	Eliminate the cause of the error, and then re-execute the service.
3-4		Compatible Plug-in	Checks whether the output character string contains PoweredOn.	Eliminate the cause of the error, and then re-execute the service.
3-5		Flow Plug-in	Checks with the user whether the virtual server's power is to be turned off.	--
3-5-1		User-response wait module	Checks with the user whether the power is to be turned off.	Eliminate the cause of the error, and then re-execute the service.
3-5-2		Branch by returncode plug-in	Checks whether the user-response wait plugin's return value is 1.	Eliminate the cause of the error, and then re-execute the service.
3-5-3		Abnormal-End Plug-in	Treats a jobnet as erroneous.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-5-4	vsphereCheckPower	Shut down virtual server	Sets the power status of the specified virtual server to OFF.	Eliminate the cause of the error, and then re-execute the service.
4	judgeChangeResource	Compatible Plug-in	Determines whether a resource change of a virtual server is required.	Eliminate the cause of the error, and then re-execute the service.
5	vsphereChangeResource	Set virtual server resources	Changes the resources (CPU and memory) of a virtual server.	Check the following item: - Are the connection destination and authentication information correct?
6	judgeChangeResourceConfig	Compatible Plug-in	Determines whether a resource-configuration change of a virtual server is required.	Eliminate the cause of the error, and then re-execute the service.
7	vsphereSetResourceConfig	Change virtual server resource configuration	Changes the configuration of virtual server resources (CPU, memory, disk I/O).	Check the following item: - Are the connection destination and authentication information correct? - Did you try to reserve an amount of memory that exceeds the amount allotted to VMware vSphere ESXi (or to VMware ESX Server)? Also, in certain cases, this might have been changed if the CPU or memory was changed.

3.15.3 Create Snapshot of Virtual Machine

Function

The VMware vSphere environment allows a snapshot to be used to update the status of a virtual server.

To change the status or data of a virtual server in the VMware vSphere environment, create a pre-change snapshot of the environment before doing so.

To use the change results, commit the changes and then delete the snapshot. If the change results are not used, discard the changes, and then delete the snapshot.

This service template assumes the following servers as prerequisites:

- vCenter server

Server where VMware vCenter Server is installed

- vCenter control server

Server where VMware vSphere PowerCLI is installed

- Virtual server

Virtual server managed by vCenter server or VMware vSphere ESXi (or VMware ESX Server)

An outline of the processing is as follows:

(1) A snapshot of the virtual server is created.

(2) After creating the snapshot, the wait for the response part of the service is executed to wait for the user to complete changes to the status or data of the virtual server.

The GUI waiting for a response allows the user to select "Commit" (to use the change result) or "Roll back" (to not use the change result).

(3) The snapshot of the virtual server is deleted.

If the user selects "Commit" from the GUI waiting for a response, the changes made after creating the snapshot are committed, and the snapshot is deleted.

If the user selects "Roll back" from the GUI waiting for a response, the changes made after creating the snapshot are discarded, and the snapshot is deleted.

The maximum length of the virtual server name property (vmware.vmName) is 60 characters.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Prerequisite product for vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) managing the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.0, 4.1

(3) Prerequisite product for the vCenter control server

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Releae2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS for the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

(2) Prerequisite OS for the vCenter control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

[Usage conditions for the required products for the service template execution system]

(1) The VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) There is no duplicate virtual server name under the same vCenter.

(3) There is no duplicate snapshot name in the same virtual server.

(4) VMware Tools is installed in the target virtual server.

(5) The pre-change power status of the target virtual server is OFF.

Cautions

(1) Do not execute this service for multiple instances of the same virtual server at the same time.

(2) Do not target any virtual servers where a raw, RDM physical mode or independent disk is set.

(3) HTML tags can be specified in the additional information property (UserResponseplugin.dialogText) in the window for entering a response. The property accepts the same tags and attributes as those available in the User-Response Wait Plugin. For more details, see the appropriate topic related to "User-Response Wait Plugin" in this product manuals.

(4) If an error occurs during the execution of this service, confirm the snapshot name from the task log and check whether the snapshot is present. If the snapshot remains, commit or discard the snapshot. Do not leave a snapshot created by this service for an extended period time. Before re-executing the server, apply or discard the snapshot and delete it. Not doing so can cause data storage capacity to be unnecessarily used.

Execution privilege

(1) The user connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

03.00.00

Tags

Snapshot VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information about the virtual service for which a snapshot is to be created.	Y
Option that allows waiting for a user response	This is an option that allows you to wait for a user response in order to control whether to use a snapshot as a user response. Change the option as appropriate.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.snapshotName	Snapshot name	Specify the name of the snapshot.	Input	Disabled	R	Virtual server information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	Option that allows waiting for a user response

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	Input	Disabled	R	Virtual server information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
vmware.snapshotName	This is a character string of up to 80 alphanumeric characters.
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereCreateSnapshot	Creating a virtual server snapshot	Creates a snapshot of a specified virtual server in the VMware vSphere environment	Remove the cause of the error, and then execute the service again. Before taking action against the cause of the error, confirm the precautions for this service.
2	vsphereCheckChangeResult	Flow Plug-in	Commits or discards the change made to the status or data of the virtual server.	--
2-1		User-Response Wait Plug-in	Checks whether to apply the changes.	After removing the cause of the error, run the service again. When taking an action for the cause of the error, also check the notes of this service.
2-2		Judge ReturnCode Plug-in	Determines whether the timeout has occurred in the component waiting for a user response.	After removing the cause of the error, run the service again. When taking an action for the cause of the error, also check the notes of this service.
2-3		Abnormal-End Plug-in	Makes the jobnet an error.	After removing the cause of the error, run the service again. When taking an action for the cause of the error, also check the notes of this service.
2-4		Judge ReturnCode Plug-in	Determines if the return value of the component waiting for a user response is 1.	After removing the cause of the error, run the service again. When taking an action for the cause of the error, also check the notes of this service.
2-5		Moving a virtual server snapshot	In the VMware vSphere environment, moves the snapshot used for the virtual server to the specified snapshot on the virtual server.	After removing the cause of the error, run the service again. When taking an action for the cause of the error, also check the notes of this service.
3	vsphereRemoveSnapshot	Deletion of a virtual server snapshot	Deletes a snapshot of a specified virtual server in the VMware vSphere environment. If the snapshot to be deleted is in use, the change to the snapshot is committed.	Remove the cause of the error, and then execute the service again. Before taking action against the cause of the error, confirm the precautions for this service.

3.15.4 Delete Virtual Machine

Function

Deletes a virtual server in a VMware vSphere environment.

This service template assumes the following servers:

· vCenter server

This is a server on which VMware vCenter Server is installed.

· vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

· Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Obtains a virtual server's power status.

(2) Verifies that the virtual server's power status is off.

If the power status is not off, the service template uses the user-response wait plugin to check whether the power is to be turned off.

A user with the Modify permission can specify an email destination, email message contents, timeout value, and information to be displayed in the window by the user-response wait plugin.

If the user selects "Shutdown" in the GUI of the user-response wait plugin, the service template shuts down the virtual server.

If the user selects "Cancel" or if a response timeout occurs, the service terminates abnormally without performing the operation on the virtual server.

When the virtual server is to be terminated, the service template waits for the amount of time (in seconds) specified in the VMware.checkPowerStateInterval property and performs an operation to verify that the power is off, which it does up to the number of times specified in the vmware.checkPowerStateCount property. If the default values are not suitable, specify values that are suitable for your environment.

(3) Deletes a virtual server.

A maximum of 60 characters can be specified in the virtual server name property (vmware.vmName).

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

· VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

· VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

· VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

· VMware PowerCLI 6.5 Release1

· VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

· Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

· Red Hat Enterprise Linux Server 7 (64-bit x86_64)

· Red Hat Enterprise Linux Server 8 (64-bit x86_64)

· CentOS 6 (64-bit x86_64)

· CentOS 7 (64-bit x86_64)

· CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Each virtual server name is unique among the vCenter servers.

(3) VMwareTools is installed on the target virtual server.

Cautions

(1) Do not execute multiple instances of this service on the same virtual server

(2) If you specify HTML tags in UserResponseplugin.dialogText, the permitted tags and attributes are the same as those for the user-response wait plugin. See the topics on the user-response wait plugin in this product manuals.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server needs the following permissions:

System administrator role

Version

03.00.00

Tags

Delete VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information for the virtual server to be deleted.	Y
User-response wait options	These are options for user responses when the virtual server is started. Modify as necessary.	N
Run-time options	These are properties related to checking the status when stopping the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
   R: The property must be specified.
   O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait options
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait options
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User-response wait options
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold	Input	Disabled	O	User-response wait options

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.dialogText	Additional dialog box text	tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User-response wait options
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User-response wait options
vmware.checkPowerStateCount	Power status check count	Specifies the number of times to check the power status when confirming that the virtual server is stopped. In combination with the power status checking interval, this determines the maximum wait time.	Input	Disabled	R	Run-time options
vmware.checkPowerStateInterval	Power status check interval	Specifies the interval in seconds for checking the power status when confirming that the virtual server is stopped.	Input	Disabled	R	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	Input	Disabled	R	Virtual server information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.

Property key	Characters that can be input
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.
vmware.checkPowerStateCount	Integer between 1 and 3600 can be entered.
vmware.checkPowerStateInterval	Integer between 1 and 60 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetPower	Get power status of virtual server	Acquires the power status of a virtual server in a VMware vSphere environment.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereCheckPower	Flow Plug-in	Checks the power status, and if the power status is not OFF, checks with the user.	--
2-3		Compatible Plug-in	Checks whether the output character string contains PoweredOn.	Eliminate the cause of the error, and then re-execute the service.
2-4		Flow Plug-in	I confirm whether to turn off the power supply to the user.	--
2-4-1		User-response wait module	Checks whether the output character string contains PoweredOn.	Eliminate the cause of the error, and then re-execute the service.
2-4-2		Judge ReturnCode Plug-in	Checks whether the user-response wait plugin's return value is 1.	Eliminate the cause of the error, and then re-execute the service.
2-4-3		Abnormal-End Plug-in	Treats a jobnet as erroneous.	Eliminate the cause of the error, and then re-execute the service.
2-4-4		Shut down virtual server	Shuts down the virtual server and sets the power status to OFF in a VMware vSphere environment.	Eliminate the cause of the error, and then re-execute the service.
3	DeleteVM	Flow Plug-in	Deletes a virtual server.	--

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3-1	DeleteVM	Delete virtual server	Deletes a specified virtual server in a VMware vSphere environment.	Eliminate the cause of the error, and then re-execute the service.

3.15.5 Delete Datastore on VMware vSphere

Function

Deletes a data store from VMware vSphere ESXi (or VMware ESX Server; hereafter referred to collectively as ESX) and deletes the LU from the storage system.

This service template assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• ESX server

This is a server on which ESX is installed.

• HDvM server

This is a server on which Hitachi Device Manager Software is installed.

• HDvM CLI server

This is a server on which Hitachi Device Manager Software CLI is installed.

The service template performs the following processing:

(1) From the vCenter control server, performs data store deletion processing on an ESX server.

(2) From the HDvM CLI server, deletes the LU from the host group.

(3) From the HDvM CLI server, formats and deletes the specified virtual volume (DP volume).

The property to be used for specifying the family name of storage system varies depending on the type of storage system to be operated. For the following storage systems, specify the family name of the storage system for the family name of the storage system (custom option) (the property hdvm.familyText):

- For Hitachi Virtual Storage Platform G1500, specify VSP G1500.

- For Hitachi Virtual Storage Platform F1500, specify VSP F1500.

- For Hitachi Virtual Storage Platform G200/G400/G600/G800, specify VSP Gx00.

- For Hitachi Virtual Storage Platform F400/F600/F800, specify VSP Fx00.

For storage systems other than the above, specify the family name of the storage system for the family name of the storage system (the property hdvm.family).

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

(4) The product listed below must have already been set up on the servers in the system. Also, Hitachi Device Manager Software CLI must have already been set up on the HDvM CLI server.

• Hitachi Device Manager Software 07-00 or later

(5) One of the products listed below must have already been set up as the system's storage system (it must be an FC-SAN storage):

• Hitachi Adaptable Modular Storage 2100/2300/2500/2010

• Hitachi Unified Storage 110/130/150

• Hitachi Unified Storage VM

• Hitachi Universal Storage Platform V/VM

• Hitachi Virtual Storage Platform

• Hitachi Virtual Storage Platform G1000/G1500/F1500

• Hitachi Virtual Storage Platform G200/G400/G600/G800

• Hitachi Virtual Storage Platform F400/F600/F800

[Prerequisite product OS running in the system executing the service template]

(1) Required OS for the vCenter control server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

(2) Required OS for the HDvM CLI server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter,Windows Server 2012 R2 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by vCenter.

(2) The storage system is managed by Hitachi Device Manager Software.

(3) If the VMware ESX Server version is 4.x, the following problem has been resolved:

• Unpresenting a LUN containing a datastore from ESX 4.x and ESXi 4.x

http://kb.vmware.com/kb/1015084

Cautions

(1) Make sure that no virtual server that is being used is stored in the data store that is to be deleted.

(2) Do not specify an unsupported storage system for the hdvm.hdvmArrayFamilyText property.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

(2) The user who will be connecting to Hitachi Device Manager Software must have the following permissions:

All Resources assigned as the resource group

Admin or Modify role

Version

02.11.00

Tags

Delete VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the information for HDvM and VMware vCenter Server.	Y
Storage information	Specify the storage information associated with the DP volume to be deleted.	Y
Virtual environment information	Specify the virtual environment information associated with the data store to be deleted.	Y
Custom option	Specify the information of storage system that cannot be specified as the select list of hdvm.hdvmArrayFamily property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.targetHost	Host name of Device Manager CLI server	Specify the host name or IP address of the server where Device Manager CLI is installed. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
hdvm.cliInstallPath	Installation path of Device Manager CLI	Specify the installation path of Device Manager CLI.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmProtocol	Protocol for HDvM communication	Specify the protocol (http or https) to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmHostName	HDvM server host name	Specify the host name or IP address of the Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmPortNumber	Port number for HDvM connection	Specify the port number used to connect to the Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmUserName	User name for HDvM connection	Specify the user ID to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmPassword	Password for HDvM connection	Specify the password to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmSerialNumber	Storage system serial number	Specify the serial number of the target storage system.	Input	Disabled	R	Storage information
hdvm.hdvmArrayFamily	Storage system family	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM or VSP G1000.	Input	Disabled	R	Storage information
hdvm.hdvmArrayFamilyText	Storage system family name (custom option)	Use this property to specify a storage system family name that is not included in the selection list for the hdvm.hdvmArrayFamily property. This property takes precedence over the hdvm.hdvmArrayFamily property.	Input	Disabled	O	Custom option
hdvm.luFormatOption	Whether to format the LU (custom option)	Specify "yes" to format the LU before deleting it, or specify "no" to not format it. This property takes effect only if the value of the hdvm.hdvmArrayFamilyText property is not included in the selection list for the hdvm.hdvmArrayFamily property.	Input	Disabled	R	Custom option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.hdvmPathPortName	Path port name	Specify the port name of the path to the DP volume (LU).	Input	Disabled	R	Storage information
hdvm.hdvmDomainId	Host group ID	Specify the ID of the host group whose DP volume (LU) is to be deleted, as a decimal	Input	Disabled	R	Storage information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.hdvmDomainId	Host group ID	or hexadecimal number. Prefix hexadecimal numbers with "0x".	Input	Disabled	R	Storage information
hdvm.hdvmDevNumber	DP volume (LU) device number	Specify the device number of the DP volume (LU) as a decimal.	Input	Disabled	R	Storage information
vmware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	Input	Disabled	R	Virtual environment information
vmware.dataStoreName	Datastore name	Specify the datastore name.	Input	Disabled	R	Virtual environment information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hdvm.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
hdvm.cliInstallPath	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ^.
hdvm.hdvmProtocol	Select one of the following values: http,https
hdvm.hdvmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
hdvm.hdvmPortNumber	Integer between 1 and 65553 can be entered.
hdvm.hdvmUserName	A character string of between 1 and 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', (,), *, +, -, ., =, @, \, ^ and _. It cannot include a trailing \.
hdvm.hdvmPassword	A character string of between 4 and 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', (,), *, +, -, ., =, @, \, ^ and _. It cannot include a trailing \.
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
hdvm.hdvmSerialNumber	Alphanumeric between 1 and 20 characters.
hdvm.hdvmArrayFamily	Select one of the following values:

Property key	Characters that can be input
hdvm.hdvmArrayFamily	AMS,USP_V,USP_VM,VSP,HUS,HUS VM,VSP G1000
hdvm.hdvmArrayFamilyText	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` %
hdvm.luFormatOption	Select one of the following values: yes,no

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hdvm.hdvmPathPortName	A character string of no less than 1 characters can be entered. It cannot include <, >, |, ;, &, or a trailing \.
hdvm.hdvmDomainId	Alphanumeric characters more than 1 characters can be entered. Followin characters can be entered. 0-9, a-f, A-F, and x.
hdvm.hdvmDevNumber	Integer between 0 and 524287 can be entered.
vmware.vmHostName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.dataStoreName	A maximum of 42 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereDeleteDatastore	Delete data store	Deletes a data store from VMware vSphere ESXi (or VMware ESX Server).	Eliminate the cause of the error, and then re-execute the service.
2	storageDeleteHostgroupLU	Delete LU from host group	Deletes the specified LU from the host group in a storage system managed by Device Manager.	Eliminate the cause of the error, and then delete the LU manually.
3	storageDeleteLU	Delete DP volume	Deletes the specified DP volume in the storage system managed by Device Manager.	Eliminate the cause of the error, and then delete the LU manually.

3.15.6 Remove Virtual Disk from Virtual Machine

Function

Deletes a virtual disk of virtual server from a VMware vSphere environment.

This service template assumes the following servers:

· vCenter server

This is a server on which VMware vCenter Server is installed.

· vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

· Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Obtains a virtual server's power status.

(2) Verifies that the virtual server's power status is off.

If the power status is not off, the service template uses the user-response wait plugin to check whether the power is to be turned off.

A user with the Modify permission can specify an email destination, email message contents, timeout value, and information to be displayed in the window by the user-response wait plugin.

If the user selects "Shutdown" in the GUI of the user-response wait plugin, the service template shuts down the virtual server.

If the user selects "Cancel" or if a response timeout occurs, the service terminates abnormally without performing the operation on the virtual server.

When the virtual server is to be terminated, the service template waits for the amount of time (in seconds) specified in the VMware.checkPowerStateInterval property and performs an operation to verify that the power is off, which it does up to the number of times specified in the vmware.checkPowerStateCount property. If the default values are not suitable, specify values that are suitable for your environment.

(3) Deletes a virtual disk from a virtual server.

A maximum of 60 characters can be specified in the virtual server name property (vmware.vmName).

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

· VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

· VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

· VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

· VMware PowerCLI 6.5 Release1

· VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

· Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

· Red Hat Enterprise Linux Server 7 (64-bit x86_64)

· Red Hat Enterprise Linux Server 8 (64-bit x86_64)

· CentOS 6 (64-bit x86_64)

· CentOS 7 (64-bit x86_64)

· CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Each virtual server name is unique among the vCenter servers.

(3) VMwareTools is installed on the target virtual server.

Cautions

(1) If the virtual disk to be deleted contains data that you need, make a backup before deleting it.

(2) The virtual disk is also deleted also from the data store.

(3) Do not execute multiple instances of this service on the same virtual server.

(4) If you specify HTML tags in UserResponseplugin.dialogText, the permitted tags and attributes are the same as those for the user-response wait plugin. See the topics on the user-response wait plugin in this product manuals.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server needs the following permissions:

System administrator role

Version

03.00.00

Tags

Modify VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information for the virtual disk to be deleted.	Y
User-response wait options	These are options for user responses when the virtual server is started. Modify as necessary.	N
Run-time options	These are properties related to checking the status when stopping the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait options
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait options
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User-response wait options

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User-response wait options
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User-response wait options
vmware.checkPowerStateCount	Power status check count	Specifies the number of times to check the power status when confirming that the virtual server is stopped. In combination with the power status checking interval, this determines the maximum wait time.	Input	Disabled	R	Run-time options
vmware.checkPowerStateInterval	Power status check interval	Specifies the interval in seconds for checking the power status when confirming that the virtual server is stopped.	Input	Disabled	R	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	Input	Disabled	R	Virtual server information
vmware.vHardDiskName	Virtual disk name	Specify display name on VMware vCenter for the virtual hard disks.	Input	Disabled	R	Virtual server information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.

Property key	Characters that can be input
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.
vmware.checkPowerStateCount	Integer between 1 and 3600 can be entered.
vmware.checkPowerStateInterval	Integer between 1 and 60 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.
vmware.vHardDiskName	A character string of no less than 1 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , , %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetPower	Get power status of virtual server	Acquires the power status of a virtual server in a VMware vSphere environment.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereCheckPower	Flow Plug-in	Checks the power status, and if the power status is not OFF, checks with the user.	--
2-3		Compatible Plug-in	Checks whether the output character string contains PoweredOn.	Eliminate the cause of the error, and then re-execute the service.
2-4		Flow Plug-in	I confirm whether to turn off the power supply to the user.	--
2-4-1		User-response wait module	Checks whether the power is to be turned off.	Eliminate the cause of the error, and then re-execute the service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
2-4-2	vsphereCheckPower	Judge ReturnCode Plug-in	Checks whether the user-response wait plugin's return value is 1.	Eliminate the cause of the error, and then re-execute the service.
2-4-3		Abnormal-End Plug-in	Job terminate abnormally.	Eliminate the cause of the error, and then re-execute the service.
2-4-4		Shut down virtual server	Turn off the power supply of the specified virtual server.	Eliminate the cause of the error, and then re-execute the service.
3	DeleteDisk	Flow Plug-in	Deletes a disk by using a virtual server.	--
3-1		Delete virtual disk	Deletes a virtual disk from the virtual server in a VMware vSphere environment.	Eliminate the cause of the error, and then re-execute the service.

3.15.7 Create Datastore on VMware vSphere

Function

Create an LU on the storage system, and then create a data store in VMware vSphere ESXi (or VMware ESX Server, hereinafter "ESX").

This service template assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• ESX server

Server on which VMware vSphere ESXi (or VMware ESX Server) is installed

• HDvM server

This is a server on which Hitachi Device Manager Software is installed.

• HDvM CLI server

This is a server on which Hitachi Device Manager Software CLI is installed.

Perform the following:

(1) From the HDvM CLI server, create a virtual volume (DP volume) on the storage system.

(2) From the HDvM CLI server, add the created volume to the ESX host group.

(3) From the vCenter control server, have ESX recognize the added H-LUN.

(4) From the vCenter control server, add a data store to ESX.

(5) From the vCenter control server, set the FC path to the added data store to "Preferred".

If DP pool usage is over the warning threshold, you cannot create a DP volume.

Specify the capacity of the DP volume in GB.

The property to be used for specifying the family name of storage system varies depending on the type of storage system to be operated. For the following storage systems, specify the family name of the storage system for the family name of the storage system (custom option) (the property hdvm.familyText):

- For Hitachi Virtual Storage Platform G1500, specify VSP G1500.

- For Hitachi Virtual Storage Platform F1500, specify VSP F1500.

- For Hitachi Virtual Storage Platform G200/G400/G600/G800, specify VSP Gx00.

- For Hitachi Virtual Storage Platform F400/F600/F800, specify VSP Fx00.

For storage systems other than the above, specify the family name of the storage system for the family name of the storage system (the property hdvm.family).

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

· VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

(4) The product listed below must have already been set up on the servers in the system. Also, Hitachi Device Manager Software CLI must have already been set up on the HDvM CLI server.

• Hitachi Device Manager Software 07-00 or later

(5) One of the products listed below must have already been set up as the system's storage system (it must be an FC-SAN storage):

- Hitachi Adaptable Modular Storage 2100/2300/2500/2010

- Hitachi Unified Storage 110/130/150

- Hitachi Unified Storage VM

- Hitachi Universal Storage Platform V/VM

- Hitachi Virtual Storage Platform

- Hitachi Virtual Storage Platform G1000/G1500/F1500

- Hitachi Virtual Storage Platform G200/G400/G600/G800

- Hitachi Virtual Storage Platform F400/F600/F800

[Prerequisite product OS running in the system executing the service template]

(1) Required OS for the vCenter control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

(2) Required OS for the HDvM CLI server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

[Usage conditions for the required products for the service template execution system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by vCenter.

(2) The storage system is managed by Hitachi Device Manager Software.

(3) DP pools and host groups have already been created in the storage system.

(4) The VMware-related names listed below are case-sensitive in VMware, but they are not case-sensitive in vSphere Power CLI that is executed from this service. For this reason, this service cannot be used in an environment where names can be used that are the same except for case differences.

- Data store name

- Resource pool name

- vApp name

Cautions

(1) A data store name cannot contain the following characters:

Forward slash (/), backslash (\), percent sign (%)

(2) If the version of VMware vSphere ESXi (or VMware ESX Server) is 5 or later, a VMFS of version 5 will be created.

(3) If the version of VMware vSphere ESXi (or VMware ESX Server) is less than 5, a VMFS of version 3 will be created.

(4) The maximum capacity of a data store that can be created differs according to the version of VMware vSphere ESXi. Specify an appropriate value for the hdvm.hdvmCapacity property according to the specifications of VMware vSphere ESXi.

(5) Do not specify an unsupported storage system for the hdvm.hdvmArrayFamilyText property.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

(2) The user who will be connecting to HDvM must have the following permissions:

User with All Resources assigned as the resource group, and Admin or Modify permissions granted

(3) The user who will be connecting to vCenter operation server must have the following permissions:

Built-in Administrator

Version

02.11.00

Tags

Add VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the information for HDvM and VMware vCenter Server.	Y
Storage information	Specify the storage information associated with the DP volume to be created.	Y
Virtual environment information	Specify the virtual environment information associated with the data store to be created.	Y
Custom option	Specify the information of storage system that cannot be specified as the select list of hdvm.hdvmArrayFamily property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
    R: The property must be specified.
    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.targetHost	Host name of Device Manager CLI server	Specify the host name or IP address of the server where Device Manager CLI is installed. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
hdvm.cliInstallPath	Installation path of Device Manager CLI	Specify the installation path of Device Manager CLI.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmProtocol	Protocol for HDvM communication	Specify the protocol (http or https) to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmHostName	HDvM server host name	Specify the host name or IP address of the Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmPortNumber	Port number for HDvM connection	Specify the port number used to connect to the Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmUserName	User name for HDvM connection	Specify the user ID to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmPassword	Password for HDvM connection	Specify the password to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.hdvmSerialNumber	Storage system serial number	Specify the serial number of the target storage system.	Input	Disabled	R	Storage information
hdvm.hdvmArrayFamily	Storage system family	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM or VSP G1000.	Input	Disabled	R	Storage information
vmware.blockSizeMB	Block size (MB)	Specify the block size of the data store. The upper limit of a file created on the VMFS is determined by its block size as follows: 1MB - 256GB, 2MB - 512GB, 4MB - 1024GB, 8MB - 2048GB. When not specified, it checks the default for VMware vCenter Server.	Input	Disabled	O	Virtual environment information
vmware.storageIOControlEnabled	Storage I/O control	Specify "true" to enable storage I/O control in the datastore. Otherwise, specify "false".	Input	Disabled	O	Virtual environment information
vmware.congestionThresholdMillisecond	Congestion threshold (ms)	Specify the latency period (in milliseconds) beyond which a datastore subject to storage I/O control by VMware vCenter server is considered congested. If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual environment information
hdvm.hdvmArrayFamilyText	Storage system family name (custom option)	Use this property to specify a storage system family name that is not included in the selection list for the hdvm.hdvmArrayFamily property. This property takes precedence over the hdvm.hdvmArrayFamily property.	Input	Disabled	O	Custom option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.hdvmCapacity	DP volume (LU) capacity (in GB)	Specify the capacity of the DP volume (LU) in GB.	Input	Disabled	R	Storage information
hdvm.hdvmDevNumber	DP volume (LU) device number	Specify the device number of the DP volume (LU) as a decimal.	Input	Disabled	R	Storage information
hdvm.hdvmPoolId	ID of DP pool	Specify the pool ID of the pool to be linked with the volume(LU) you are creating.	Input	Disabled	R	Storage information
hdvm.hdvmPathPortName	Path port name	Specify the port name of the path to the DP volume (LU).	Input	Disabled	R	Storage information
hdvm.hdvmDomainId	Host group ID	Specifies the ID, in decimal or hexadecimal, of the host group where the DP volume (LU) is	Input	Disabled	R	Storage information

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.hdvmDomainId	Host group ID	to be added. In the case of hexadecimal, the prefix "0x" must be used.	Input	Disabled	R	Storage information
hdvm.hdvmLun	LU number (LUN)	Specify the LU number (LUN).	Input	Disabled	R	Storage information
vmware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	Input	Disabled	R	Virtual environment information
vmware.dataStoreName	Datastore name	Specify the datastore name.	Input	Disabled	R	Virtual environment information
vmware.hbaName	HBA name	Specify the name of the preferred HBA, in the format displayed for the runtime name of the storage adapter in VMware vCenter Server. For example: vmhba0	Input	Disabled	R	Virtual environment information
vmware.controllerNumber	Controller number	Specify the controller number of the runtime name for the SCSI LUN.	Input	Disabled	R	Virtual environment information
vmware.targetNumber	Target number	Specify the target number of the runtime name for the SCSI LUN.	Input	Disabled	R	Virtual environment information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hdvm.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
hdvm.cliInstallPath	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ^.
hdvm.hdvmProtocol	Select one of the following values: http,https
hdvm.hdvmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
hdvm.hdvmPortNumber	Integer between 1 and 65553 can be entered.
hdvm.hdvmUserName	A character string of between 1 and 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', (,), *, +, -, ., =, @, \, ^ and _. It cannot include a trailing \.
hdvm.hdvmPassword	A character string of between 4 and 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', (,), *, +, -, ., =, @, \, ^ and _. It cannot include a trailing \.
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.

Property key	Characters that can be input
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
hdvm.hdvmSerialNumber	Alphanumeric between 1 and 20 characters.
hdvm.hdvmArrayFamily	Select one of the following values: AMS,USP_V,USP_VM,VSP,HUS,HUS VM,VSP G1000
vmware.blockSizeMB	Select one of the following values: 1,2,4,8
vmware.storageIOControlEnabled	Select one of the following values: true,false
vmware.congestionThresholdMillisecond	Integer between 5 and 100 can be entered.
hdvm.hdvmArrayFamilyText	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < >	; & ' " * ? [ ] ` %

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hdvm.hdvmCapacity	Integer between 1 and 65536can be entered.
hdvm.hdvmDevNumber	Integer between 0 and 524287 can be entered.
hdvm.hdvmPoolId	Integer between 0 and 2147483647 can be entered.
hdvm.hdvmPathPortName	A character string of no less than 1 characters can be entered. It cannot include <, >, |, ;, &, or a trailing \.
hdvm.hdvmDomainId	Alphanumeric characters more than 1 characters can be entered. Followin characters can be entered. 0-9, a-f, A-F, and x.
hdvm.hdvmLun	Integer between 0 and 255 can be entered.
vmware.vmHostName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.dataStoreName	A maximum of 42 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.hbaName	Alphanumeric characters of no less than 1 characters can be entered.
vmware.controllerNumber	Integer more than 0.
vmware.targetNumber	Integer more than 0.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	storageCreateLU	Create DP volume	Creates the specified DP volume in the storage system managed by Device Manager.	Eliminate the cause of the error, and then re-execute the service.
2	storageAddHostgroup	Register LU in host group	Adds a data store to VMware vSphere ESXi (or VMware ESX Server).	Eliminate the cause of the error, and then manually create the data store.
3	vsphereRecognizeLU	Recognize LUN	Recognizes the LUN that was added or deleted in VMware vSphere ESXi (or VMware ESX Server).	Eliminate the cause of the error, delete the LU in HDvM, and then re-execute the service.
4	vsphereGetCanonicalName	Get canonical name of SCSI LUN	Acquires the canonical name of the SCSI LUN recognized by VMware vSphere ESXi (or VMware ESX Server).	Eliminate the cause of the error, delete the LU in HDvM, and then re-execute the service.
5	vsphereCreateDataStore	Create data store	Adds a data store to VMware vSphere ESXi (or VMware ESX Server).	Eliminate the cause of the error, and then manually create the data store.
6	vsphereSetFcpath	Set FC path priority	Sets the FC path to "preferred" for the data store specified in VMware vSphere ESXi (or VMware ESX Server).	Eliminate the cause of the error, and then manually set the preferred path.

3.15.8 Deploy and Setup OS on Virtual Machine

Function

Adds a virtual server to a VMware vSphere environment by using a template.

This service template assumes the following servers:

· vCenter server

This is a server on which VMware vCenter Server is installed.

· vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

· ESX server

Server on which VMware vSphere ESXi (or VMware ESX Server) is installed

· Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Creates a virtual server using an existing template.

(2) Specifies initial information for the virtual server.

1. Specifies initial information for the OS (such as computer name and company name). Depending on the virtual server's OS, the service template specifies the following settings:

(a) For Windows

· As initial settings for the OS, the service template specifies a computer name, company name, organization name, and time zone.

The service template uses sysprep to clear the system information for the virtual server and then specifies the OS information.

(b) For Linux

· As initial settings for the OS, the service template specifies a computer name and time zone.

2. Specifies the IP address of the virtual server.

Up to 4 IP addresses can be set for the virtual server. For the first IP address (for management), set the IP address for managing the virtual server that was deployed. For the second to fourth IP addresses for the second, third, and fourth NICs, set IP addresses for management and applications based on user operation. Some of the settings use the management IP address to connect to the OS and make the settings. Depending on the number of NICs held by the virtual server, the setting order of the IP addresses are shown below:

- When the virtual server has one NIC

Set the IP addresses that were specified first in the order of IP address (for management)>IP address (for second NIC)>IP address (for third NIC)>IP address (for fourth NIC). Note that the other IP addresses are discarded.

- When virtual server has two or more NICs

Set the IP addresses in the order of IP address (for management)>IP address (for second NIC)>IP address (for third NIC)>IP address (for fourth NIC). If a specified IP address is blank, set without leaving empty space. For example, if the specified IP addresses are IP address (for management), IP address (for second NIC), and IP address (for fourth NIC) (without any IP address (for third NIC)), the IP address (for fourth NIC) is set to the third NIC of the virtual machine. Note that, if the number of entered IP addresses exceeds the number of NICs held by the virtual server, the excess IP addresses are discarded.

When the OS of the virtual server to be created is Linux, the service template sets a DNS server IP addresses for a virtual server, not every NIC. Set the DNS server IP addresses that were specified first in the order of DNS server IP address (for management)>DNS server IP address (for second NIC)>DNS server IP address (for third NIC)>DNS server IP address (for fourth NIC).

(3) If multiple IP addresses are specified for the virtual server, the service template sets a static route for the virtual server's OS.

(4) Specifies a port group for the virtual server.

The following notes apply to property settings:

(1) When the OS of the virtual server to be created is Windows, an organization name and an owner name are required. If no organization name is specified, "Organization" is assumed; if no owner name is specified, "Owner" is assumed.

(2) When the OS of the virtual server to be created is Windows, entry and re-entry of an OS user password are required. If one of them is omitted or if the entered passwords do not match, "Password123" is set as the password.

(3) When the OS of the virtual server to be created is Windows, WORKGROUP or DOMAIN must be selected from the OS.selectWorkgroupDomain selection list. If neither WORKGROUP nor DOMAIN is selected, "WORKGROUP" is set as the workgroup. If no workgroup name or domain name is entered, "WORKGROUP" is set as the workgroup.

(4) When the OS of the virtual server to be created is Windows and WORKGROUP is selected from the OS.selectWorkgroupDomain selection list, a maximum of 15 bytes can be specified for the workgroup name. If the specified workgroup name exceeds 15 bytes, "WORKGROUP" is assumed.

(5) When the OS of the virtual server to be created is Windows and DOMAIN is selected from the OS.selectWorkgroupDomain selection list, a domain name, domain user name, and domain password are required. If any one of them is omitted or a specified value is invalid, "WORKGROUP" is set as the workgroup.

(6) When the OS of the virtual server to be created is Linux, a domain name and DNS suffix are required. If the specification is omitted, "localdomain" is assumed.

(7) When the OS of the virtual server to be created is Windows, all four of IP address, subnet mask, default gateway, and DNS server must be specified. If any one of them is omitted, none of them is set.

(8) When the OS of the virtual server to be created is Linux, all three of IP address, subnet mask, and default gateway must be specified. If any one of them is omitted, none of them is set.

(9) If the OS information acquisition repeat count is omitted, "72" is assumed.

(10) If the OS information acquisition repeat interval is omitted, "5" is assumed.

(11) You must specify both the current port group name and the new port group name. If either is omitted, the port group is not renamed. If there are multiple port groups with the same name, only one of them is renamed.

(12) All three of destination IP address, subnet mask, and default gateway must be specified. If any one of them is omitted, a static route is not set.

(13) A maximum of 60 characters can be specified in the virtual server name property (vmware.vmName).

(14) The time zones that can be specified are shown below.

(a) For Windows

Alaskan

Central (U.S. and Canada)

Central America+B28

China

Eastern (U.S. and Canada)

GMT (Greenwich Mean Time)

Hawaii

India

Mountain (U.S. and Canada)

Pacific

Singapore

Tokyo

U.S. Eastern: Indiana (East)

U.S. Mountain: Arizona

(b) For Linux

America/Adak

America/Anchorage

America/Boise

America/Chicago

America/Denver

America/Detroit

America/Indiana/Indianapolis

America/Indiana/Knox

America/Indiana/Marengo

America/Indiana/Petersburg

America/Indiana/Tell_City

America/Indiana/Vevay

America/Indiana/Vincennes

America/Indiana/Winamac

America/Juneau

America/Kentucky/Monticello

America/Los_Angeles

America/LouisVille

America/Menominee

America/Monterrey

America/Montevideo

America/New_York

America/Nome

America/North_Dakota/Beulah

America/North_Dakota/Center

America/North_Dakota/New_Salem

America/Phoenix

America/Shiprock

America/Tijuana

America/Vancouver

America/Yakutat

Asia/Chongqing

Asia/Hong_Kong

Asia/Kolkata

Asia/Macau

Asia/Shanghai

Asia/Singapore

Asia/Tokyo

Etc/UTC

Europe/London

Pacific/Honolulu

(15) If nothing is specified in the time zone property (OS.timeZoneWin), the time zone "International Date Line: Western side" is set.

(16) If nothing is specified in the time zone property (OS.timeZoneLin), the time zone in the template is used. For this reason, if the value that you want to set in the time zone property list is not found, set the time zone in the template beforehand.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

· VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

· VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

· VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

· VMware PowerCLI 6.5 Release1

· VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

· Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64) (for vCenter4.1 or later; not supported by vCenter4.0)

· Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The bind-utils package must be installed.

· Red Hat Enterprise Linux Server 8 (64-bit x86_64)

The bind-utils package must be installed.

· CentOS 6 (64-bit x86_64)

· CentOS 7 (64-bit x86_64)

The bind-utils package must be installed.

· CentOS 8 (64-bit x86_64)

The bind-utils package must be installed.

(2) Required OS for the vCenter control server

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

[Usage conditions for the required products for the service template execution system]

(1) Conditions for the settings on VMware vSphere ESXi (or VMware ESX Server)

· A data store has been registered.

· The port group set in the template must be set on the deployment-destination ESX server, and must be able to communicate with the local server.

· The port group to set in the virtual server must be set on the deployment-destination ESX server, and must be able to communicate with the local server.

· For a port group, specify a port group on the network using a standard virtual switch (vNetwork or vSphere standard switch).

· The data store name and port group name used during deployment must consist of ASCII characters.

· The template used for deployment has already been created.

· If the virtual server is stored in a resource pool, the resource pool, cluster, and vApp names must be unique.

The same name cannot be assigned to more than one resource pool, cluster, and vApp although their types are different, such as a duplication of a cluster name and a vApp name or a duplication of a cluster name and a resource pool name.

· The VMware-related names listed below are case-sensitive in VMware, but they are not case-sensitive in vSphere Power CLI that is executed from this service. For this reason, this service cannot be used in an environment where names can be used that are the same except for case differences.

· Data store name

· Resource pool name

· vApp name

(2) Conditions for the template used for deployment:

· VMware Tools have been installed.

· The execution of remote commands is allowed as per the settings (administrative share for Windows, while SSH for Linux is enabled, respectively).

· NICs have been configured (up to four).

· For a port group, specify a port group on the network using a standard virtual switch (vNetwork or vSphere standard switch).

· The reception of and response to pings is allowed.

· For Windows, the password of the administrator is left blank.

· For Windows, execute sysprep. To execute sysprep, the maximum number of Windows initializations (three times) must not be reached.

· When you convert a virtual server to a template, do so when the virtual server is stopped.

(3) Condition of the virtual server

· There is no duplication of the virtual server name under the management of an identical vCenter.

(4) Conditions of this product

· The authentication information of the virtual server to be deployed has been registered to the agentless connection destination definition in the "Management" tab in advance.

Cautions

(1) The specified port group must be able to communicate with the local server. If there are multiple NICs for the virtual server, set one of the NICs to a port group that can communicate with the local server.

(2) Whether OS initialization processing has been completed is determined by whether the information set in the OS can be acquired. The time required for determining completion of initialization depends on the value specified for the OS information acquisition repeat interval (vmware.checkOSInitCountInterval property), as well as the specification of the OS information acquisition repeat count (vmware.checkOSInitCount property). If the specified value is too small, a timeout might occur even during OS initialization. Adjust the value appropriately for the performance of the virtualization environment being used. Initially, specify the settings so that the OS information acquisition repeat interval is at least a few hours.

(3) Do not specify for the IP addresses that are to be set values that are not valid as IP addresses in the virtual server's OS, such as management and application IP addresses. For example, network addresses, broadcast addresses, and special addresses such as 0.0.0.0 and 255.255.255.255 cannot be specified. If an invalid address is entered, the virtual server deployment processing will result in an error. For a management IP address, specify an IP address that can be used to communicate with the local server. Be aware that even though the correct address is specified, deployment might fail.

(4) While the virtual server is being deployed, do not use any other service to manipulate it. Doing so may cause deployment of the virtual server to fail. Also, do not manipulate the virtual server directly from a vCenter server.

(5) When you are deploying Linux, specify a root password for the template OS in the Linux.adminPassword property (using the permitted characters).

(6) Do not specify in advance in the virtual server template any information that is to be specified when the virtual server is created. If a computer name or host name and IP address are already set in the template, virtual server creation might fail. If virtual server creation fails (for example, static route processing results in an error), delete the virtual server, re-create a template in which no computer name, host name, or IP address is set, and then re-execute this service.

(7) The IP addresses are set as described in Function. However, depending on the order in which NICs are set in the virtual server's OS, the IP addresses might not be set as intended. After you have created the virtual server, check if the correct IP addresses have been set. If the correct IP addresses are not set, change them manually.

(8) For the virtual server, do not specify the same IP address as another server. Specifying the same IP address as another server disables the network interface card (NIC) of the virtual server, causing tasks to terminate abnormally.

(9) If the operating system of the virtual server is Red Hat Enterprise Linux Server 7 (64-bit x86_64), you must use open-vm-tools 9.10 or later for VMware Tools. If you use any version older than open-vm-tools 9.10, the host name is not modified and the service is not finished until completion of the initialization has been verified.

Execution privilege

(1)The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

(2) The user who will be connecting to vCenter operation server must have the following permissions:

Built-in Administrator

Version

03.00.00

Tags

Add VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information for the virtual server to be added.	Y
OS information	Specify the Windows or Linux OS information for creating the virtual server.	Y
Network information	Specify the network information for the virtual server.	Y
Run-time options	These are properties related to checking the status during initialization of the OS on the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
windows.orgName	Organization (company name) :Windows only	Specify the organization name for the virtual server OS (Windows only). When there is no input, "Organization" is set up.	Input	Disabled	O	OS information
windows.ownerName	Owner name :Windows only	Specify the owner name for the OS on the virtual server (Windows only). When there is no input, "Owner" is set as the Owner name.	Input	Disabled	O	OS information
OS.selectWorkgroupDomain	Select workgroup or domain :Windows only	Specify whether the virtual server belongs to a workgroup or domain (Windows only).	Input	Disabled	O	OS information
OS.workgroupNameDomainName	Workgroup/domain name	Specify the name of the workgroup or domain of virtual server. A workgroup is specified a maximum of 15 characters. A domain of a maximum of 63 characters is specified in Windows. In Linux, a domain of a maximum of 256 characters is specified.	Input	Disabled	O	OS information
OS.domainUserName	Domain user name :Windows only	Specify the domain user name for the virtual server (Windows only). When "DOMAIN" is chosen by selection of a workgroup/domain, it is necessary to input.	Input	Disabled	O	OS information
OS.domainUserPassword	Domain password :Windows only	Specify the domain password for the virtual server (Windows only). When "DOMAIN" is chosen by selection of a workgroup/domain, it is necessary to input.	Input	Disabled	O	OS information
OS.dnsSuffix	DNS suffix :Linux only	Specify the DNS suffix of the virtual server (Linux only). When there is no input, "localdomain" is set as the DNS suffix.	Input	Disabled	O	OS information
OS.subnetMaskMan	Subnet mask (management LAN)	Specify the subnet mask for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.defaultGWMan	Default gateway (management LAN)	Specify the default gateway for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.dnsMan	DNS server IP address (management LAN)	Specify the IP address of the DNS server for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
OS.subnetMask2	Subnet mask (for second NIC)	Specify the 2nd subnet mask for the virtual server. You cannot specify an IPv6 address.	Input	Disab led	O	Network information
OS.defaultGW2	Default gateway (for second NIC)	Specify the 2nd default gateway for the virtual server. You cannot specify an IPv6 address.	Input	Disab led	O	Network information
OS.dns2	DNS server IP address (for second NIC)	Specify the 2nd IP address of the DNS server for the virtual server. You cannot specify an IPv6 address.	Input	Disab led	O	Network information
OS.subnetMask3	Subnet mask (for third NIC)	Specifies the subnet mask that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disab led	O	Network information
OS.defaultGW3	Default gateway (for third NIC)	Specifies the default gateway that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disab led	O	Network information
OS.dns3	DNS server IP address (for third NIC)	Specifies the IP address of the DNS server that is set for the virtual server. In Windows, this value is set on the third NIC recognized by the OS. IPv6 addresses are not supported.	Input	Disab led	O	Network information
OS.subnetMask4	Subnet mask (for fourth NIC)	Specifies the subnet mask that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disab led	O	Network information
OS.defaultGW4	Default gateway (for fourth NIC)	Specifies the default gateway that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disab led	O	Network information
OS.dns4	DNS server IP address (for fourth NIC)	Specifies the IP address of the DNS server that is set for the virtual server. In Windows, this value is set on the fourth NIC recognized by the OS. IPv6 addresses are not supported.	Input	Disab led	O	Network information
OS.destIPAddress	Destination IP of static route	Specify the destination IP address of the static route.	Input	Disab led	O	Network information
OS.subnetMaskStaticRo ute	Subnet mask (static route)	Specify the subnet mask for the static route. You cannot specify an IPv6 address.	Input	Disab led	O	Network information
OS.defaultGWStaticRout e	Default gateway (static route)	Specify the default gateway for the static route. You cannot specify an IPv6 address.	Input	Disab led	O	Network information
vmware.checkOSInitCou nt	Number of attempts to acquire OS information	Specify the number of times the service attempts to acquire OS information to confirm that the OS has been initialized.	Input	Disab led	O	Run-time options

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.checkOSInitCou nt	Number of attempts to acquire OS information	The maximum wait time is determined by this property and the property that defines the checkOSInitCountInterval.	Input	Disab led	O	Run-time options
vmware.checkOSInitCou ntInterval	Interval for acquiring OS information (minutes)	Specify the interval at which the service attempts to acquire OS information to confirm that the OS has been initialized.	Input	Disab led	O	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	Input	Disab led	R	Virtual server information
vmware.templateName	Template name	Specify the name of the template on which the virtual server is to be based.	Input	Disab led	R	Virtual server information
vmware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	Input	Disab led	R	Virtual server information
vmware.dataStoreName	Datastore name	Specify the datastore name.	Input	Disab led	R	Virtual server information
vmware.resourcePoolNa me	Resource pool name	Specify the resource pool, vApp, or cluster where the virtual server will be provisioned.	Input	Disab led	O	Virtual server information
vmware.portGroupName	Port group name	Specify the name of the port group currently assigned to the virtual server.	Input	Disab led	O	Virtual server information
vmware.portGroupName New	Port group name (updated)	Specify a new port group name to assign to the virtual server.	Input	Disab led	O	Virtual server information
OS.computerName	Computer/host name	Specify the computer name (host name) used by the operating system. The computer name of a maximum of 15 characters is specified, in the case of Windows. The computer name of a maximum of 63 characters is specified, in the case of Linux.	Input	Disab led	R	OS information
OS.osUserPassword	Administrator password: Windows- specific	Specifies the Administrator password specified in the OS (Windows systems only). If nothing is entered, "Password123" is specified.	Input	Disab led	O	OS information

Property key	Property name	Description	I/O type	Shared	Required	Property group
OS.osUserPasswordReEnter	Re-enter Administrator password: Windows-specific	Re-enter the Administrator password specified in the OS (Windows systems only). If nothing is entered, "Password123" is specified.	Input	Disabled	O	OS information
OS.productKey	OS product key :Windows only	Specify the OS product key (for Windows-based virtual servers) in the format XXXXX-XXXXX-XXXXX-XXXXX-XXXXX (Windows only).	Input	Disabled	O	OS information
Linux.adminPassword	OS root user password :Linux only	Specify the root user's password of OS for carrying out a OS setting check. In case of creating Linux virtual server, it's mandatory.	Input	Disabled	O	OS information
OS.ipAddressMan	IP address (management LAN)	Specify the IP address for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.ipAddress2	IP address (for second NIC)	Specify the 2nd IP address for the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Network information
OS.ipAddress3	IP address (for third NIC)	Specifies the IP address that is set for the third NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.ipAddress4	IP address (for fourth NIC)	Specifies the IP address that is set for the fourth NIC recognized by the OS on the virtual server. IPv6 addresses are not supported.	Input	Disabled	O	Network information
OS.timeZoneWin	Time zone: Windows setting	Specifies the time zone that the OS on the virtual server is set to (for Windows only). If nothing is entered, the time zone "International Date Line West" is used.	Input	Disabled	O	OS information
OS.timeZoneLin	Time zone: Linux setting	Specifies the time zone that the OS on the virtual server is set to (for Linux only). If nothing is entered, the time zone in the template is used.	Input	Disabled	O	OS information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, :, &, ', ", *, ?, [,], `, /, :, =, , , +, %.

Property key	Characters that can be input
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
windows.orgName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
windows.ownerName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, or %.
OS.selectWorkgroupDomain	Select one of the following values: WORKGROUP,DOMAIN
OS.workgroupNameDomainName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.domainUserName	A maximum of 20 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, \, @ or %.
OS.domainUserPassword	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.
OS.dnsSuffix	A maximum of 63 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
OS.subnetMaskMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.dnsMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.subnetMask2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGW2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.dns2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.subnetMask3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.defaultGW3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.dns3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.subnetMask4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.defaultGW4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).

Property key	Characters that can be input
OS.dns4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.destIPAddress	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.subnetMaskStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.defaultGWStaticRoute	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
vmware.checkOSInitCount	Integer between 1 and 1024 can be entered.
vmware.checkOSInitCountInterval	Integer between 1 and 1024 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.
vmware.templateName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, ', ", *, ?, [,], `, %.
vmware.vmHostName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.dataStoreName	A maximum of 42 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.resourcePoolName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` and %.
vmware.portGroupName	A maximum of 49 characters can be entered. Characters that can be used include alphanumeric characters, as well as " "(space), -, ., / and _.
vmware.portGroupNameNew	A maximum of 49 characters can be entered. Characters that can be used include alphanumeric characters, as well as " "(space), -, ., / and _.
OS.computerName	A maximum of 63 characters can be entered. Characters that can be used include alphanumeric characters, as well as - .
OS.osUserPassword	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, `, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.osUserPasswordReEnter	A character string of no more than 64 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \. In case of executing this service to UNIX, it cannot include multibyte character.
OS.productKey	A maximum of 29 characters can be entered. Characters that can be used include alphanumeric characters, as well as -.
Linux.adminPassword	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.ipAddressMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .
OS.ipAddress2	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .

Property key	Characters that can be input
OS.ipAddress3	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.ipAddress4	A string of 15 characters of fewer. Usable characters are single-byte numbers and a period (.).
OS.timeZoneWin	Select one of the following values: Tokyo, China, GMT (Greenwich Mean Time), Pacific, Eastern (U.S. and Canada), U.S. Eastern: Indiana (East), Central (U.S. and Canada), Central America, U.S. Mountain: Arizona, Mountain (U.S. and Canada), Alaskan, Hawaii, Singapore, India
OS.timeZoneLin	Select one of the following values: Asia/Tokyo, Asia/Hong_Kong, Asia/Chongqing, Asia/Shanghai, Etc/UTC, America/Tijuana, America/Vancouver, America/Los_Angeles, America/Detroit, America/New_York, America/Montevideo, America/LouisVille, America/Indiana/Indianapolis, America/Indiana/Vevay, America/Indiana/Marengo, America/Indiana/Petersburg, America/Indiana/Vincennes, America/Indiana/Winamac, America/Indiana/Tell_City, America/Indiana/Knox, America/Chicago, America/North_Dakota/Center, America/North_Dakota/New_Salem, America/Kentucky/Monticello, America/Juneau, America/Menominee, America/Monterrey, America/Denver, America/Boise, America/Shiprock, America/Phoenix, America/Yakutat, America/Anchorage, America/Nome, America/Adak, Pacific/Honolulu, Asia/Singapore, Europe/London, Asia/Kolkata, America/North_Dakota/Beulah, Asia/Macau

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereCreateClone	Create virtual server	Creates a virtual server from a template.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereInitOS	Flow Plug-in	Sets the initial OS settings (computer name, company name, and organization name) and the IP address of a virtual server, then starts the server (In the case of Windows, sysprep is run internally).	--
2-3		Compatible Plug-in	Checks whether the OS is Windows.	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
2-4		Set OS initialization settings and IP address of virtual server (Windows)	Performs OS initialization and IP address setting on a virtual server (for Windows).	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
2-5		Compatible Plug-in	Checks whether the OS is Linux.	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
2-6		Set OS initialization settings and IP address of virtual server (Linux)	Performs OS initialization and IP address setting on a virtual server (for Linux).	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
3	osSetStaticRoute	Flow Plug-in	Sets a static route in the OS of a virtual server.	--
3-3		Compatible Plug-in	Checks whether a static route needs to be set.	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
3-4		Flow Plug-in	--	--
3-4-3		Compatible Plug-in	Checks whether the management IP address is set.	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
3-4-4		Flow Plug-in	Sets a static route on the OS.	--
3-4-4-3		Compatible Plug-in	Checks whether the OS is Windows.	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
3-4-4-4		Set static route	Sets a static route (for Windows).	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
3-4-4-5		Compatible Plug-in	Checks whether the OS is Linux.	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
3-4-4-6		Set static route	Sets a static route (for Linux).	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.
4	vsphereChangeVMPortGroup	Change virtual machine port group	Specifies the port group of the virtual server.	Eliminate the cause of the error, execute the virtual server deletion service, and then re-execute this service.

3.15.9 Add Virtual Disk to Virtual Machine

Function

Adds disks to multiple virtual servers.

This service template assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Obtains a virtual server's power status.

(2) Verifies that the virtual server's power status is off.

If the power status is not off, the service template uses the User-Response Wait Plugin to check whether the power is to be turned off.

A user with the Modify permission can specify an email destination, email message contents, timeout value, and information to be displayed in the window by the User-Response Wait Plugin.

If the user selects "Shutdown" in the GUI of the user-response wait plugin, the service template shuts down the virtual server.

If the user selects "Cancel" or if a response timeout occurs, the service terminates abnormally without performing the operation on the virtual server.

When the virtual server is to be terminated, the service template waits for the amount of time (in seconds) specified in the VMware.checkPowerStateInterval property and performs an operation to verify that the power is off, which it does up to the number of times specified in the vmware.checkPowerStateCount property. If the default values are not suitable, specify values that are suitable for your environment.

(3) Adds a virtual disk to the virtual server.

If there are multiple virtual servers, the service template adds to each virtual server a virtual disk that satisfies the specified conditions. This processing is performed in parallel.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) The virtual servers to be added to the virtual disk are off.

(2) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(3) Each virtual server name is unique among the vCenter servers.

(4) VMwareTools is installed on the target virtual server.

Cautions

(1) This service template does not initialize the virtual disks added to the virtual servers. If necessary, log in to the OS on each virtual server and initialize its disk.

(2) Do not execute multiple instances of this service on the same virtual server.

(3) If you specify HTML tags in UserResponseplugin.dialogText, the permitted tags and attributes are the same as those for the User-Response Wait Plugin. See the topics on the User-Response Wait Plugin in this product manuals.

Execution privilege

(1)The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

03.00.00

Tags

Modify VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual disk information	Specify the information for the virtual disk to be added.	Y
User-response wait options	These are options for user responses when the virtual server is started. Modify as necessary.	N
Run-time options	These are properties related to checking the status when stopping the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	User-response wait options
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait options
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	User-response wait options
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	User-response wait options
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold	Input	Disabled	O	User-response wait options

Property key	Property name	Description	I/O type	Shared	Required	Property group
UserResponsePlugin.dialogText	Additional dialog box text	tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	User-response wait options
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	User-response wait options
vmware.checkPowerStateCount	Power status check count	Specifies the number of times to check the power status when confirming that the virtual server is stopped. In combination with the power status checking interval, this determines the maximum wait time.	Input	Disabled	R	Run-time options
vmware.checkPowerStateInterval	Power status check interval	Specifies the interval in seconds for checking the power status when confirming that the virtual server is stopped.	Input	Disabled	R	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.foreachVmName	Virtual server name(s)	Specify the virtual server name or names. Specify server names as they appear in VMware vCenter Server, not by host name. Separate multiple virtual servers with commas. The maximum number of virtual servers you can specify is 99.	Input	Disabled	R	Virtual disk information
vmware.dataStoreName	Datastore name	If Flat is selected as the virtual disk, specifies the datastore name on which the virtual disk is to be created. If RawVirtual or RawPhysical is selected as the virtual disk, then specifies the datastore name where the LUN mapping is to be saved.	Input	Disabled	R	Virtual disk information
vmware.capacity	Volume size (GB)	Specify the volume size in GB. This property is mandatory when "Flat" is specified as the virtual disk type. This property is ignored when the virtual disk type is "RawVirtual" or "RawPhysical".	Input	Disabled	O	Virtual disk information
vmware.vHardDiskType	Virtual disk type	Specify the type of the virtual disk as follows: Flat : the virtual disk is created on a VMFS RawPhysical : the virtual disk is configured using physical raw device mapping RawVirtual : the	Input	Disabled	O	Virtual disk information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vHardDiskType	Virtual disk type	virtual disk is configured using virtual raw device mapping	Input	Disabled	O	Virtual disk information
vmware.deviceName	LUN device name	Specify the type of the virtual disk as follows: Flat - the virtual disk is created on a VMFS, RawPhysical - the virtual disk is configured using physical raw device mapping, RawVirtual - the virtual disk is configured using virtual raw device mapping	Input	Disabled	O	Virtual disk information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.

Property key	Characters that can be input
vmware.checkPowerStateCount	Integer between 1 and 3600 can be entered.
vmware.checkPowerStateInterval	Integer between 1 and 60 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.foreachVmName	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.
vmware.dataStoreName	A maximum of 42 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.capacity	Integer more than 1.
vmware.vHardDiskType	Select one of the following values: RawVirtual,RawPhysical,Flat
vmware.deviceName	A character string of no more than 255 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, or %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	addVMdisk_vSphere	Repeated Execution Plug-in	Adds virtual disks to multiple virtual servers.	Eliminate the cause of the error, and then re-execute the service.

3.15.10 Add virtual server (virtual disk) (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetPower	Get power status of virtual server	Acquires the power status of a virtual server in a VMware vSphere environment.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereCheckPower	Flow Plug-in	Checks the power status, and if the power status is not OFF, checks with the user.	--
2-3		Compatible Plug-in	Checks whether the output character string contains PoweredOn.	Eliminate the cause of the error, and then re-execute the service.
2-4		Flow Plug-in	I confirm whether to turn off the power supply to the user.	--

Hierarchy	Processing	Plug-in			
		Plug-in name	Description	Error recovery method	
2-4-1	vsphereCheckPower	User-response wait module	Checks whether the power is to be turned off.	Eliminate the cause of the error, and then re-execute the service.	
2-4-2		Judge ReturnCode Plug-in	Checks whether the user-response wait plugin's return value is 1.	Eliminate the cause of the error, and then re-execute the service.	
2-4-3		Abnormal-End Plug-in	Treats a jobnet as erroneous.	Eliminate the cause of the error, and then re-execute the service.	
2-4-4		Shut down virtual server	Shuts down the virtual server and sets the power status to OFF in a VMware vSphere environment.	Eliminate the cause of the error, and then re-execute the service.	
3	CreateDisk	Flow Plug-in	Creates a disk for use by a virtual server.	--	
3-1		Add virtual disk to virtual server	Adds a virtual disk to the virtual server in a VMware vSphere environment.	Eliminate the cause of the error, and then re-execute the service.	

3.16 Service templates for vSphere (operation)

3.16.1 Get List of Storage Systems from Device Manager

Function

Obtains a listing of storage information.

• If no serial number is specified, the service template obtains information about all storage systems managed by the specified HDvM server.

• If a serial number is specified, the service template obtains information about only the storage system with the specified serial number.

This service template assumes the following servers:

• HDvM server

This is a server on which Hitachi Device Manager Software is installed.

• HDvM CLI server

This is a server on which Hitachi Device Manager Software CLI is installed.

The following provides an overview of the processing.

(1) Outputs a listing of virtual server information in CSV format to a temporary file in the remote system.

(2) Forwards the temporary file from the remote system to a specified output file on the local system.

(3) Deletes the temporary file from the remote system. The service template outputs the following items to a CSV file (the items are separated by the comma):

Below are the items in the CSV file that is output.

The items are separated by commas when they are output.

(a) Serial number (header name: serialnum)

(b) Family name (header name: family)

(c) Pool ID of the DP pool (header name: poolID)

(d) Capacity of the DP pool (KB) (header name: capacityKB)

(e) Free space in the DP pool (KB) (header name: freeCapacityKB)

(f) DP pool usage rate (header name: usageRate)

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

Job Management Partner 1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) The product listed below must have already been set up on the servers in the system. Also, Hitachi Device Manager Software CLI must have already been set up on the HDvM CLI server.

• Hitachi Device Manager Software 07-00 or later

(2) One of the products listed below must have already been set up as the system's storage system (it must be an FC-SAN storage):

• Hitachi Adaptable Modular Storage 2100/2300/2500/2010

• Hitachi Unified Storage 110/130/150

• Hitachi Unified Storage VM

• Hitachi Universal Storage Platform V/VM

• Hitachi Virtual Storage Platform

• Hitachi Virtual Storage Platform G1000/G1500/F1500

• Hitachi Virtual Storage Platform G200/G400/G600/G800

• Hitachi Virtual Storage Platform F400/F600/F800

[Prerequisite product OS running in the system executing the service template]

(1) Required OS for the HDvM CLI server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter,Windows Server 2012 R2 Standard/Datacenter

[Usage conditions for the required products for the service template execution system]

(1) The storage system is managed by Hitachi Device Manager Software.

(2) DP pools and host groups have already been created in the storage system.

Cautions

(1) A storage system being updated is not included in the listing file.

(2) The contents of the listing file are not sorted. If necessary, you can sort the contents when you view the file.

(3) If the file name specified for the remote or the local system already exists, that file will be overwritten. in addition the file in the remote system will be deleted. For this reason, you should make sure that the specified file names are correct.

(4) If there is no folder on the specified path in the remote system, such a folder will be created. A folder that is created will remain and will not be deleted; for this reason, you should delete unneeded folders periodically

Execution privilege

(1) The user who will be connecting to Device Manager must belong to a user group with the following permissions:

User group with All Resources assigned as the resource group and Admin, Modify, or View permissions granted

Version

02.00.00

Tags

Gather Storage information,Device Manager

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
HDvM environment information	Specify the HDvM information.	Y
Storage information	Specify the storage information to be acquired.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.targetHost	Host name of Device Manager CLI server	Specify the host name or IP address of the server where Device Manager CLI is installed. You cannot specify an IPv6 address.	Input	Disabled	R	HDvM environment information
hdvm.cliInstallPath	Installation path of Device Manager CLI	Specify the installation path of Device Manager CLI.	Input	Disabled	R	HDvM environment information
hdvm.hdvmProtocol	Protocol for HDvM communication	Specify the protocol (http or https) to use when connecting to Device Manager server.	Input	Disabled	R	HDvM environment information
hdvm.hdvmHostName	HDvM server host name	Specify the host name or IP address of the Device Manager server.	Input	Disabled	R	HDvM environment information
hdvm.hdvmPortNumber	Port number for HDvM connection	Specify the port number used to connect to the Device Manager server.	Input	Disabled	R	HDvM environment information
hdvm.hdvmUserName	User name for HDvM connection	Specify the user ID to use when connecting to Device Manager server.	Input	Disabled	R	HDvM environment information
hdvm.hdvmPassword	Password for HDvM connection	Specify the password to use when connecting to Device Manager server.	Input	Disabled	R	HDvM environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.hdvmSerialNumber	Storage system serial number	Specifies the serial number of the storage system to be retrieved from.	Input	Disabled	O	Storage information
hdvm.listOutputFileNameRemote	Output file name (remote)	Specifies the full path name of the temporary file for outputting storage information to the HDvM CLI server.	Input	Disabled	R	Storage information
hdvm.listOutputFileNameLocal	Output file name (local)	Specifies the full path name of the file on the local server for acquiring the storage information.	Input	Disabled	R	Storage information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hdvm.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
hdvm.cliInstallPath	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ^.
hdvm.hdvmProtocol	Select one of the following values: http,https
hdvm.hdvmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
hdvm.hdvmPortNumber	Integer between 1 and 65553 can be entered.
hdvm.hdvmUserName	A character string of between 1 and 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', (,), *, +, -, ., =, @, \, ^ and _. It cannot include a trailing \.
hdvm.hdvmPassword	A character string of between 4 and 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', (,), *, +, -, ., =, @, \, ^ and _. It cannot include a trailing \.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hdvm.hdvmSerialNumber	Alphanumeric between 1 and 20 characters.
hdvm.listOutputFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, /, ^, or a trailing \.
hdvm.listOutputFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	storageGetInfo	Get storage information list	Outputs a list of storage information to a temporary file on the HDvM CLI server.	Eliminate the cause of the error, and then re-execute the service.
2	fileTransfer	File-forwarding plug-in	Transfers a remote temporary file to the specified local output file.	Eliminate the cause of the error, and then re-execute the service.
3	osDeleteFile	Delete file	Deletes the remote temporary file.	Eliminate the cause of the error, and then re-execute the service.

3.16.2 Clone Virtual Machine

Function

Creates a clone of a virtual server in the VMware vSphere environment

This service template assumes the following servers as prerequisites:

- vCenter server

Server where VMware vCenter Server is installed

- vCenter control server

Server where VMware vSphere PowerCLI is installed

- Virtual server to be cloned

Virtual server managed by vCenter server or VMware vSphere ESXi (or VMware ESX Server)

- Clone

Clone of the virtual server to be cloned. The clone name is the name of the virtual server clone.

An outline of the processing is as follows:

(1) The power status of the virtual server to be cloned is obtained.

(2) It is confirmed that the power status of the virtual server is OFF.

If the power status is not OFF, the User-Response Wait Plugin is executed to confirm whether to turn the power OFF.

The e-mail destination/message text, timeout, and display contents in the User-Response Wait Plugin can be set by a user with the Modify permission.

If the user selects "Shutdown" for the wait-for-user response, the virtual server is shut down.

If the user selects "Cancel" or if a timeout occurs while waiting for a user response, the server ends abnormally without operating the virtual server.

Before shutting down the virtual server, the system waits the number of seconds specified in the power status confirmation frequency property (vmware.checkPowerStateInterval) to confirm that the power has been turned OFF and repeats that until it is confirmed or repeats according to the number of times specified in the power status

confirmation retries property (vmware.checkPowerStateCount). Adjust the value of each property according to the actual environment.

(3) The virtual server to be cloned is used to create a clone.

When creating a clone, a set of parameters (ESX server, resource pool, data store, and virtual disk format) can be specified.

If no resource pool is specified, the clone is created directly under the destination ESX server where the clone is to be created.

The maximum length of the virtual server name property (vmware.vmName) and clone name property (vmware.cloneName) is 60 characters.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) managing the virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.0, 4.1

(3) Prerequisite product for the vCenter control server

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Releae2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS for the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

(2) Prerequisite OS for the vCenter control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

[Usage conditions for the required products for the service template execution system]

(1) The VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) There is no duplicate clone name under the same vCenter. There is no clone name that is the same as an existing virtual server name.

(3) There is no duplicate data store name under the same vCenter.

(4) VMware Tools is installed in the virtual server to be cloned.

(5) The version of VMware vSphere ESXi (or VMware ESX Server) managing the virtual server to be cloned matches that of VMware vSphere ESXi (or VMware ESX Server) managing the cloning destination.

Cautions

(1) Do not execute this service for multiple instances of the same virtual server at the same time.

(2) Do not use a different service to operate the virtual server source or destination of cloning during cloning. Also, do not operate the virtual servers directly from the vCenter server. The service might fail.

(3) HTML tags can be specified in the additional information property (UserResponseplugin.dialogText) in the window for entering a response. The property accepts the same tags and attributes as those available in the User-Response Wait Plugin. For more details, see the appropriate topic related to "User-Response Wait Plugin" in this product manual.

(4) vApp cannot be specified as the destination of cloning.

(5) Do not start the created clone. To start a created clone, it is necessary to delete or restore the cloned virtual server.

Execution privilege

(1) The user connecting to VMware vCenter Server must have system administrator role permissions.

Version

03.00.00

Tags

Clone VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Information about a virtual server as the cloning source	Specify the information of a virtual server as the cloning source.	Y
Information about a virtual server as the cloning destination	Specify the information about the cloning destination.	Y
Option that allows waiting for a user response	This is an option that allows you to wait for a user response if the virtual server is up and running. Change the option as appropriate.	N
Runtime option	This is a property related to the status confirmation performed when stopping a virtual server. Change the option as appropriate.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service).	Input	Disabled	O	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.portNumber	Port number for VMware vCenter Server connection	If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
UserResponsePlugin.toAddress	TO addresses	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.ccAddress	CC addresses	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.bccAddress	BCC addresses	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.mailSubject	Subject line	Specify the subject line of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.mailBody	Email text	Specify the body text of notification emails sent when the service is waiting for a user response.	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.encodeType	Encoding	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.dialogText	Additional dialog box text	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	Input	Disabled	O	Option that allows waiting for a user response
UserResponsePlugin.responseTimeOut	Response timeout time (minutes)	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	Input	Disabled	R	Option that allows waiting for a user response

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.checkPowerStateCount	Number of power status confirmation retries	Specify the number of times the service attempts to check the power status to confirm that the virtual server has started. The maximum wait time is determined by this property and the property that defines the power status check interval.	Input	Disabled	R	Runtime option
vmware.checkPowerStateInterval	Frequency of power status confirmation retries	Specify the interval at which the service attempts to acquire the power status to confirm that the virtual server has started.	Input	Disabled	R	Runtime option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.cloneName	Clone name	Specifies the name of a clone (This is the display name of a clone under VMware vCenter Server. It is not a host name under the OS.)	Input	Disabled	R	Information about a virtual server as the cloning destination
vmware.vmName	Virtual server name	Specify the name of a virtual server as the cloning source. (This is the display name of a virtual server under VMware vCenter Server. It is not a host name under the OS.)	Input	Disabled	R	Information about a virtual server as the cloning source
vmware.vmHostName	ESX server name	Specify the ESX server name displayed in the Hosts and Clusters inventory view managed by VMware vCenter Server, which serves as the cloning destination.	Input	Disabled	R	Information about a virtual server as the cloning destination
vmware.dataStoreName	Datastore name	Specify the name of a data store as the cloning destination.	Input	Disabled	R	Information about a virtual server as the cloning destination
vmware.resourcePoolName	Resource pool name	Specify a resource pool or cluster as the cloning destination.	Input	Disabled	O	Information about a virtual server as the cloning destination
vmware.diskFormat	Virtual disk format	Specifies format of the virtual disk of the clone to be created. Specify "Default" when the format is the same as the virtual disk of the virtual server of the clone source, "Thin" when committing it on demand, or "Thick" when committing it in full size.	Input	Disabled	R	Information about a virtual server as the cloning destination

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
UserResponsePlugin.toAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.ccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.bccAddress	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.
UserResponsePlugin.mailSubject	A character string of no more than 256 characters can be entered.
UserResponsePlugin.mailBody	A character string of no more than 1024 characters can be entered.
UserResponsePlugin.encodeType	Select one of the following values: us-ascii,iso-2022-jp,shift_jis,euc-jp,utf-8
UserResponsePlugin.dialogText	A character string of no more than 512 characters can be entered.
UserResponsePlugin.responseTimeOut	Integer between 1 and 9999 can be entered.
vmware.checkPowerStateCount	Integer between 1 and 3600 can be entered.
vmware.checkPowerStateInterval	Integer between 1 and 60 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.cloneName	This is a character string of up to 60 characters. < > | ; & ' " * ? [ ] ` , and % are not allowed.
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.
vmware.vmHostName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.dataStoreName	A maximum of 42 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.resourcePoolName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` and %.

Property key	Characters that can be input
vmware.diskFormat	Select one of the following values: Default,Thin,Thick

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetPower	Get power status of virtual server	Obtains the power status of the virtual server in the VMware vSphere environment.	Remove the cause of the error, and then execute the service again.
2	vsphereCheckPower	Flow Plug-in	Checks the power status, and if the status is not OFF, reports it to the user.	--
2-3		Compatible Plug-in	Determines whether the output character string matches "PoweredOn".	After removing the cause of the error, run the service again.
2-4		Flow Plug-in	Checks whether or not to turn the power to OFF.	--
2-4-1		User-Response Wait Plug-in	Checks whether or not to turn the power to OFF.	After removing the cause of the error, run the service again.
2-4-2		Judge ReturnCode Plug-in	Determines whether timeout has occurred in the component where Cancel has been selected or in the component waiting for a user response.	After removing the cause of the error, run the service again.
2-4-3		Abnormal-End Plug-in	Makes the jobnet an error.	Check the power supply state of the virtual server and execute the service again.
2-4-4		Shut down a virtual server	In the VMware vSphere environment, shuts down the virtual server and then sets the power supply state to OFF.	After removing the cause of the error, run the service again.
3	vsphereCreateClone	Creating a virtual server clone	Creates a clone of a virtual server in the VMware vSphere environment.	Remove the cause of the error, and then execute the service again.

3.16.3 Delete Cloned Virtual Machine

Function

Deletes a clone in the VMware vSphere environment

This service template assumes the following servers as prerequisites:

- vCenter server

Server where VMware vCenter Server is installed

- vCenter control server

Server where VMware vSphere PowerCLI is installed

- Virtual server cloned

Virtual server managed by vCenter server or VMware vSphere ESXi (or VMware ESX Server)

- Clone

Clone of the virtual server cloned. The clone name is the name of the virtual server clone.

An outline of the processing is as follows:

(1) The power status of the clone is obtained.

(2) It is confirmed that the power status of the clone is OFF.

If the power status is not OFF, the service ends abnormally.

If the power status is OFF, the service proceeds to the next processing.

(3) The clone is deleted.

The maximum length of the virtual server name property (vmware.vmName) and clone name property (vmware.cloneName) are 60 characters.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite products in the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Prerequisite products in the system executing the service template]

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) managing the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.0, 4.1

(3) Prerequisite product for the vCenter control server

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Releae2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1) Prerequisite OS for the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

(2) Prerequisite OS for the vCenter control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

[Usage conditions for the required products for the service template execution system]

(1) The VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) There is no name duplication of the clone to be deleted in the same vCenter instance. Also, there is no virtual server name that is the same the clone name.

(3) VMware Tools is installed in the virtual servers to be operated.

Cautions

(1) Do not execute this service for multiple instances of the same clone at the same time.

(2) If virtual server of clone source has already been deleted or name is unknown, use virtual server deletion service to delete clone.

Execution privilege

(1) The user connecting to VMware vCenter Server must have system administrator role permissions.

Version

03.00.00

Tags

Delete Cloned VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Information about a virtual server as the cloning source	Specify the name of a virtual server as the cloning source.	Y
Information about the clone to be deleted	Specify the information about the clone to be deleted.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Name of a virtual server as the cloning source	Specifies name of virtual server of clone source (display name of virtual server in VMware vCenter Server, not host name in OS). Specify this name for confirmation to prevent clone source from being mistakenly deleted. This virtual server is not deleted.	Input	Disabled	R	Information about a virtual server as the cloning source
vmware.cloneName	Name of the clone to be deleted	Specify the name of the clone to be deleted. (This is the display name of a clone under VMware vCenter Server. It is not a host name under the OS.)	Input	Disabled	R	Information about the clone to be deleted

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.
vmware.cloneName	This is a character string of up to 60 characters. < > | ; & ' " * ? [ ] ` , and % are not allowed.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetPower	Get power status of virtual server	Obtains the power status of the clone in the VMware vSphere environment.	Remove the cause of the error, and then execute the service again.
2	vsphereCheckPower	Flow Plug-in	Checks the power status, and if the status is not OFF, ends with an error.	--
2-3		Compatible Plug-in	Determines whether the output character string matches "PoweredOn".	After removing the cause of the error, run the service again.
2-4		Abnormal-End Plug-in	Makes the jobnet an error.	Check the power supply state of the clone and execute the service again.
3	vsphereDeleteClone	Deletion of a virtual server clone	Deletes a clone of a virtual server in the VMware vSphere environment.	Remove the cause of the error, and then execute the service again.

3.16.4 Migrate Virtual Machine

Function

Migrates multiple virtual servers in a VMware vSphere environment.

This service template assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

If a target virtual server's power is on, the plugin performs hot migration (migration with the power on); if the target virtual server's power is off, the plugin performs cold migration (migration with the power off).

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Each virtual server name is unique among the vCenter servers.

(3) The firewall of the target virtual server is set to allow for responses to ICMP (ECHO).

(4) VMwareTools is installed on the target virtual server.

Cautions

(1) Note that when you move multiple virtual servers, the target VMware vSphere ESXi (or VMware ESX Server) might experience a high workload.

(2) The same virtualization software product must be used at the source and the target.

(3) The virtualization software that runs the virtual servers must be running.

(4) The virtual server name, cluster name, vApp name, and resource pool name must be unique within the vCenter Server.

The same name cannot be assigned to more than one virtual server, cluster, vApp, and resource pool although their types are different, such as a duplication of a cluster name and a vApp name or a duplication of a cluster name and a resource pool name.

(5) If a cluster is specified as a virtual server's migration target, the virtual server to be migrated must exist in the resource pool under the specified target cluster.

(6) If a folder is specified as a virtual server's migration target, there must be at least one virtual server under the specified target folder.

(7) In an environment that uses a VMware vCenter Server version earlier than 4.1 U2, if an inactive virtual machine is migrated to an ESX in a different data center, an error might occur, in which case task execution will fail. For details about how to handle this, see Migrating a powered off virtual machine across hosts in different datacenters fails with the error: A specified parameter was not correct. host in the VMware Knowledge Base.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server needs the following permissions:

Role with vMotion query and migration and relocation permissions for the target virtual server, or system administrator role

Version

02.12.00

Tags

Migrate VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information for the virtual server to be migrated.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
    R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.foreachVmName	Virtual server name(s)	Specify the virtual server name or names. Specify server names as they appear in VMware vCenter Server, not by host name. Separate multiple virtual servers with commas. The maximum number of virtual servers you can specify is 99.	Input	Disabled	R	Virtual server information
vmware.destinationName	Virtual server destination	Specify the name of the destination VMware vSphere ESXi (or VMware ESX Server), resource pool, cluster, or folder.	Input	Disabled	R	Virtual server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.foreachVmName	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.
vmware.destinationName	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	migrateVM_vSphere	Repeated Execution Plug-in	Migrates multiple virtual servers to the specified destination.	Eliminate the cause of the error, and then re-execute the service.

3.16.5 Migrate virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereMigration	Migrate virtual server	Migrates a virtual server.	Eliminate the cause of the error, and then re-execute the service.

3.16.6 Start Virtual Machine

Function

Turns on the power to multiple virtual servers in a VMware vSphere environment.

This service template assumes the following server:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Obtains the power status of each virtual server.

(2) If a virtual server's power status is off, the service template turns it on.

(3) Sends an ICMP echo request to verify that a virtual server has started.

The service template performs the above processing on the specified group of virtual servers in parallel.

When a virtual server is being started, the service template waits for the amount of time (in seconds) specified in the vmware.checkPowerStateInterval property and performs an operation to determine if the power is on, which it does up to the number of times specified in the vmware.checkPowerStateCount property. If the default values are not suitable, specify values that are suitable for your environment.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Each virtual server name is unique among the vCenter servers.

(3) The firewall of the target virtual server is set to allow for responses to ICMP (ECHO).

(4) VMwareTools is installed on the target virtual server.

Cautions

(1) The VMware vSphere ESXi (or VMware ESX Server) that is to be started cannot be specified. Start the service template on VMware vSphere ESXi (or VMware ESX Server) that contains virtual servers.

(2) Adjust the ICMP echo timeout value (common.icmpEchoTimeout property) as appropriate for the local environment.

(3) Depending on the state of the system environment, the virtual server might successfully start but the network connection check might fail, possibly causing the task to end abnormally.

Check the task log to see if an error has occurred with the network connection check (the component "Obtain the IP address of a virtual server" (vsphereGetVMIPaddress) or the component "Send ICMP echo request message" (osSendIcmp)).

If an error has occurred in these components, check if the virtual server has started.

(4) If a large number of IP addresses (#1) are set for the NIC of the virtual server, an error might occur in the component "Send ICMP echo request message" and the task might end abnormally. Check that the total length of the IP addresses set for the NIC is within 1,024 characters.

#1: The following addresses are to be set. For example, if 64 or less addresses are set for IPv4 only, no problem will occur.

- IPv4 (maximum length is 16 characters)

- IPv4 (maximum length is 36 characters)

- IPv4 and IPv6 set by DHCP

Execution privilege

(1) The user who will be connecting to VMware vCenter Server needs the following permissions:

Role with read-only and power-on permissions for the target virtual server, or system administrator role

(2) The user who will be connecting to vCenter operation server must have the following permissions:

Built-in Administrator

Version

03.00.00

Tags

Control VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information for the virtual server to be started.	Y

Property group	Description	Initial display
Run-time options	These are properties related to checking the status when starting the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.checkPowerStateCount	Power status check count	Specify the number of times the service attempts to check the power status to confirm that the virtual server has started. The maximum wait time is determined by this property and the property that defines the power status check interval.	Input	Disabled	R	Run-time options
vmware.checkPowerStateInterval	Power status check interval	Specify the interval at which the service attempts to acquire the power status to confirm that the virtual server has started.	Input	Disabled	R	Run-time options
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specify in milliseconds how long the service waits for a	Input	Disabled	R	Run-time options

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
common.icmpEchoTime out	Timeout period for ICMP echo requests	reply to an ICMP echo request sent to confirm startup of a virtual server.	Input	Disab led	R	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shar ed	Requ ired	Property group
vmware.foreachVmNam e	Virtual server name(s)	Specify the virtual server name or names. Specify server names as they appear in VMware vCenter Server, not by host name. Separate multiple virtual servers with commas. The maximum number of virtual servers you can specify is 99.	Input	Disab led	R	Virtual server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disable d

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, :, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, :, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
vmware.checkPowerStateCount	Integer between 1 and 3600 can be entered.
vmware.checkPowerStateInterval	Integer between 1 and 60 can be entered.
common.icmpEchoTimeout	Integer between 1 and 214783647 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.foreachVmName	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOnVM_vSphere	Repeated Execution Plug-in	Sets the power status of multiple virtual servers to ON.	Eliminate the cause of the error, and then re-execute the service.

3.16.7 Start virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetPower	Get power status of virtual server	Acquires the power status of the specified virtual server.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereSetPowerOn	Flow Plug-in	If the power status is OFF, sets it to ON.	--
2-3		Compatible Plug-in	Checks whether the output character string contains PoweredOff.	Eliminate the cause of the error, and then re-execute the service.
2-4		Start virtual server	Sets the power status of the specified virtual server to ON.	Eliminate the cause of the error, and then re-execute the service.
3	vsphereCheckNetwork	Flow Plug-in	Confirms that the network is connected.	--
3-1		Get virtual server IP address	Acquires the IP address of a virtual server.	Eliminate the cause of the error, and then re-execute the service.
3-2		Send ICMP echo request message	Issues an ICMP echo request to a virtual server whose power status has been set to ON.	Eliminate the cause of the error, and then re-execute the service.

3.16.8 Restart Virtual Machine

Function

Restarts multiple virtual servers in a VMware vSphere environment.

This service template assumes the following server:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Obtains a virtual server's power status.

(2) If a virtual server's power status is on, the service template restarts the virtual server.

If the virtual server's power status is off, the corresponding virtual server processing results in an error.

(3) Sends an ICMP echo request to verify that the virtual server has started.

The service template performs the above processing on the specified group of virtual servers in parallel.

When a virtual server is to be restarted, the service template waits for the amount of time (in seconds) specified in the vmware.checkPowerStateInterval property and performs an operation to verify that the virtual server has been terminated, which is does up to the number of times specified in the vmware.checkPowerStateCount property. Next, the service template waits for the amount of time (in seconds) specified in the vmware.checkPowerStateInterval property and performs an operation to determine if the virtual server has started, which is does up to the number of times specified in the vmware.checkPowerStateCount property. Therefore, the maximum wait time is the product of these properties' values times two (in seconds).

If the default values are not suitable, specify values that are suitable for your environment.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Each virtual server name is unique among the vCenter servers.

(3) The firewall of the target virtual server is set to allow for responses to ICMP (ECHO).

(4) VMwareTools is installed on the target virtual server.

Cautions

(1) Adjust the ICMP echo timeout value (common.icmpEchoTimeout property) as appropriate for the local environment.

(2) Depending on the state of the system environment, the virtual server might successfully start but the network connection check might fail, possibly causing the task to end abnormally.

Check the task log to see if an error has occurred with the network connection check (the component "Obtain the IP address of a virtual server" (vsphereGetVMIPaddress) or the component "Send ICMP echo request message" (osSendIcmp)).

If an error has occurred in these components, check if the virtual server has started.

(3) If a large number of IP addresses (#1) are set for the NIC of the virtual server, an error might occur in the component "Send ICMP echo request message" and the task might end abnormally. Check that the total length of the IP addresses set for the NIC is within 1,024 characters.

#1: The following addresses are to be set. For example, if 64 or less addresses are set for IPv4 only, no problem will occur.

- IPv4 (maximum length is 16 characters)

- IPv4 (maximum length is 36 characters)

- IPv4 and IPv6 set by DHCP

Execution privilege

(1) The user who will be connecting to VMware vCenter Server needs the following permissions:

Role with read-only and power-on and power-off permissions for the target virtual server, or system administrator role

(2) The user who will be connecting to vCenter operation server must have the following permissions:

Built-in Administrator

Version

03.00.00

Tags

Control VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information for the virtual server to be restarted.	Y
Run-time options	These are properties related to checking the status when restarting the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)
    R: The property must be specified.
    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.checkPowerStateCount	Power status check count	Specify the number of times the service attempts to check the power status to confirm that the virtual server has stopped and started. The maximum wait time is determined by this property and the property that defines the power status check interval.	Input	Disabled	R	Run-time options
vmware.checkPowerStateInterval	Power status check interval	Specifies the interval in seconds for checking the power status when confirming that the virtual server is stopped or started.	Input	Disabled	R	Run-time options
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specify in milliseconds how long the service waits for a reply to an ICMP echo request sent to confirm startup of a virtual server.	Input	Disabled	R	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.foreachVmName	Virtual server name(s)	Specify the virtual server name or names. Specify server names as they appear in VMware vCenter	Input	Disabled	R	Virtual server information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.foreachVmName	Virtual server name(s)	Server, not by host name. Separate multiple virtual servers with commas. The maximum number of virtual servers you can specify is 99.	Input	Disabled	R	Virtual server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
vmware.checkPowerStateCount	Integer between 1 and 3600 can be entered.
vmware.checkPowerStateInterval	Integer between 1 and 60 can be entered.
common.icmpEchoTimeout	Integer between 1 and 214783647 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.foreachVmName	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in			
		Plug-in name	Description	Error recovery method	
1	rebootVM_vSphere	Repeated Execution Plug-in	Restarts multiple virtual servers.	Eliminate the cause of the error, and then re-execute the service.	

3.16.9 Restart virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetPower	Get power status of virtual server	Acquires the power status of the specified virtual server.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereCheckPower	Flow Plug-in	Checks the power status, and if the power status is OFF, reports an error in the jobnet.	--
2-3		Compatible Plug-in	Checks whether the output character string contains PoweredOff.	Eliminate the cause of the error, and then re-execute the service.
2-4		Abnormal-End Plug-in	Treats a jobnet as erroneous.	--
3	vsphereSetPowerOff	Shut down virtual server	Sets the power status of the specified virtual server to OFF.	Eliminate the cause of the error, and then re-execute the service.
4	vsphereSetPowerOn	Start virtual server	Sets the power status of the specified virtual server to ON.	Eliminate the cause of the error, and then re-execute the service.
5	vsphereCheckNetwork	Flow Plug-in	Confirms that the network is connected.	--
5-1		Get virtual server IP address	Acquires the IP address of a virtual server.	Eliminate the cause of the error, and then re-execute the service.
5-2		Send ICMP echo request message	Issues an ICMP echo request to a virtual server whose power status has been set to ON.	Eliminate the cause of the error, and then re-execute the service.

3.16.10 Get List of Virtual Machines from VMware vSphere

Function

Obtains a listing of virtual server information.

• If no ESX server name is specified, the service template obtains information about all virtual servers in existence on all ESX servers in the specified vCenter server.

• If an ESX server name is specified, the service template obtains information about the virtual servers in existence on the specified ESX server only.

This service template assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Outputs a listing of virtual server information in CSV format to a temporary file in the remote system.

(2) Forwards the temporary file from the remote system to a specified output file on the local system.

(3) Deletes the temporary file from the remote system. The service template outputs the following items to a CSV file (the items are separated by the comma):

Below are the items in the CSV file that is output.

The items are separated by commas when they are output.

(a) ESX server name (header name: HostName)

(b) Virtual server name (header name: VMName)

(c) Virtual server's power status (header name: PowerState)

(d) Number of CPUs in the virtual server#1 (header name: NumCpu)

(e) Virtual server's memory capacity (MB) (header name: MemoryMB)

#1: The number of CPUs depends on the VMware vCenter Server version:

• If the VMware vCenter Server version is 4.1 or earlier, this is the number of virtual processors.

• If the VMware vCenter Server version is 5.0 or later, this is the total number of cores (number of virtual sockets x number of cores per socket).

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

Job Management Partner 1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Each virtual server name is unique among the vCenter servers.

(3) VMwareTools is installed on the target virtual server.

Cautions

(1) If the file name specified for the remote or the local system already exists, that file will be overwritten. In addition, the file in the remote system will be deleted. For this reason, you should make sure that the specified file names are correct.

(2) If there is no folder on the specified path in the remote system, such a folder will be created. A folder that is created will remain and will not be deleted; for this reason, you should delete unneeded folders periodically.

Execution privilege

(1)The user who will be connecting to VMware vCenter Server must have the following permissions:

Read-only role

Version

02.11.00

Tags

Gather VM information,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual environment information	Specify the information for the virtual environment for which the list is to be acquired.	Y

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

R: The property must be specified.

O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	Input	Disabled	O	Virtual environment information
vmware.listOutputFileNameRemote	Output file name (remote)	Specifies the full path name of the temporary file for outputting virtual server information to the VMware vCenter control server.	Input	Disabled	R	Virtual environment information
vmware.listOutputFileNameLocal	Output file name (local)	Specifies the full path name of the file on the local server for acquiring the virtual server information.	Input	Disabled	R	Virtual environment information

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmHostName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.listOutputFileNameRemote	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, /, ', [,], `, or a trailing \.
vmware.listOutputFileNameLocal	A character string of no more than 256 characters can be entered. It cannot include <, >, |, ;, &, *, ?, ", %, or a trailing \ or /.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetInfo	Get list of virtual server information	Outputs a list of virtual server information to a temporary file on the VMware vCenter control server.	Eliminate the cause of the error, and then re-execute the service.
2	fileTransfer	File-Forwarding Plug-in	Transfers a remote temporary file to the specified local output file.	Eliminate the cause of the error, and then re-execute the service.
3	osDeleteFile	Delete file	Deletes the remote temporary file.	Eliminate the cause of the error, and then re-execute the service.

3.16.11 Pre-check for Datastore Creation on VMware vSphere

Function

Checks the environment prerequisites for the virtual server addition service (LU and data store creation).

This service template assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

• HDvM server

This is a server on which Hitachi Device Manager Software is installed.

• HDvM CLI server

This is a server on which Hitachi Device Manager Software CLI is installed.

The following provides an overview of the processing.

(1) Checks whether connection can be established from the HDvM CLI server to the HDvM server.

(2) Checks whether connection can be established from the vCenter control server to a vCenter server.

(3) Checks whether virtual volumes (DP volumes) can be created on the storage system.

This service checks the following items:

• Whether a storage system with the specified serial number and family name has been registered into HDvM

If the storage system is not registered in HDvM, the result is false.

• Whether the device number of the specified DP volume is already in use in the storage system

If the device number is already in use in the storage system, the result is false.

• Whether a DP pool with the specified DP pool ID and the specified host group ID has already been registered in the storage system

The service template checks if the specified LU number is already in use in the storage system.

If either the DP pool ID or the host group ID does not exist or the LU number is already in use, the result is false.

• Whether the DP pool in the specified storage system has enough free space to create the DP volume

If the size of the DP volume is greater than the free space in the DP pool, the result is false.

(4) Checks whether the specified data store can be added to ESX.

This service checks the following items:

• Whether the specified ESX server has been registered into the vCenter server

If the ESX server is not registered in the vCenter server, the result is false.

• Whether the specified data store name is already in use in the data center to which the target ESX server to which the data store is to be added belongs

If the data store name is already in use at the data center, the result is false.

• Whether the correspondence between the specified block size and the data store capacity is valid

If the correspondence between the specified block size and the data store capacity is not valid, the result is false.

For details about the correspondence between block size and data store capacity, see the description of the block size (MB) property.

• Whether the specified HBA has been registered into the ESX server

If the HBA is not registered in the ESX server, the result is false.

The property to be used for specifying the family name of storage system varies depending on the type of storage system to be operated. For the following storage systems, specify the family name of the storage system for the family name of the storage system (custom option) (the property hdvm.familyText):

- For Hitachi Virtual Storage Platform G1500, specify VSP G1500.

- For Hitachi Virtual Storage Platform F1500, specify VSP F1500.

- For Hitachi Virtual Storage Platform G200/G400/G600/G800, specify VSP Gx00.

- For Hitachi Virtual Storage Platform F400/F600/F800, specify VSP Fx00.

For storage systems other than the above, specify the family name of the storage system for the family name of the storage system (the property hdvm.family).

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

Job Management Partner 1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

(4) The product listed below must have already been set up on the servers in the system. Also, Hitachi Device Manager Software CLI must have already been set up on the HDvM CLI server.

• Hitachi Device Manager Software 07-00 or later

(5) One of the products listed below must have already been set up as the system's storage system (it must be an FC-SAN storage):

• Hitachi Adaptable Modular Storage 2100/2300/2500/2010

• Hitachi Unified Storage 110/130/150

• Hitachi Unified Storage VM

• Hitachi Universal Storage Platform V/VM

• Hitachi Virtual Storage Platform

• Hitachi Virtual Storage Platform G1000/G1500/F1500

• Hitachi Virtual Storage Platform G200/G400/G600/G800

• Hitachi Virtual Storage Platform F400/F600/F800

[Prerequisite product OS running in the system executing the service template]

(1) Required OS for the vCenter control server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

(2) Required OS for the HDvM CLI server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter,Windows Server 2012 R2 Standard/Datacenter

[Usage conditions for the required products for the service template execution system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by vCenter.

(2) The storage system is managed by Hitachi Device Manager Software.

(3) The VMware-related names listed below are case-sensitive in VMware, but they are not case-sensitive in vSphere Power CLI that is executed from this service. For this reason, this service cannot be used in an environment where names can be used that are the same except for case differences.

• Data store name

• Resource pool name

• vApp name

Cautions

(1) If the version of VMware vSphere ESXi (or VMware ESX Server) is 5, specify 1 as the block size.

(2) Do not specify an unsupported storage system for the hdvm.hdvmArrayFamilyText property.

Execution privilege

(1)The user who will be connecting to VMware vCenter Server must have the following permissions:

Read-only role

(2) The user who will be connecting to Device Manager must belong to a user group with the following permissions:

User group with All Resources assigned as the resource group and Admin, Modify, or View permissions granted

Version

02.11.00

Tags

Gather VM information,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the information for HDvM and VMware vCenter Server.	Y
Storage environment information for checking	Specify the information for storage devices associated with the DP volume to be checked.	Y
Virtual environment information for checking	Specify the information for the virtual environment associated with the data store to be checked.	Y
Custom option	Specify the information of storage system that cannot be specified as the select list of hdvm.hdvmArrayFamily property.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.targetHost	Host name of Device Manager CLI server	Specify the host name or IP address of the server where Device Manager CLI is installed. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
hdvm.cliInstallPath	Installation path of Device Manager CLI	Specify the installation path of Device Manager CLI.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmProtocol	Protocol for HDvM communication	Specify the protocol (http or https) to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmHostName	HDvM server host name	Specify the host name or IP address of the Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmPortNumber	Port number for HDvM connection	Specify the port number used to connect to the Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmUserName	User name for HDvM connection	Specify the user ID to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmPassword	Password for HDvM connection	Specify the password to use when connecting to Device Manager server.	Input	Disabled	R	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
hdvm.hdvmSerialNumber	Storage system serial number	Specify the serial number of the target storage system.	Input	Disabled	R	Storage environment information for checking
hdvm.hdvmArrayFamily	Storage system family	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM or VSP G1000.	Input	Disabled	R	Storage environment information for checking
vmware.blockSizeMB	Block size (MB)	Specify the block size of the data store. The upper limit of a file created on the VMFS is determined by its block size as follows: 1MB - 256GB, 2MB - 512GB, 4MB - 1024GB, 8MB - 2048GB. When not specified, it checks the default for VMware vCenter Server.	Input	Disabled	O	Virtual environment information for checking
hdvm.hdvmArrayFamilyText	Storage system family name (custom option)	Use this property to specify a storage system family name that is not included in the selection list for the hdvm.hdvmArrayFamily property. This property takes precedence over the hdvm.hdvmArrayFamily property.	Input	Disabled	O	Custom option

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
hdvm.hdvmCapacity	DP volume (LU) capacity (in GB)	Specifies the size in gigabytes of the DP volume (LU) before determining whether it can be created.	Input	Disabled	R	Storage environment information for checking
hdvm.hdvmDevNumber	DP volume (LU) device number	Specifies the device number in decimal of the DP volume (LU) before determining whether it can be used.	Input	Disabled	R	Storage environment information for checking
hdvm.hdvmPoolId	ID of DP pool	Specifies the pool ID of the DP pool before determining whether the DP volume (LU) can be created there.	Input	Disabled	R	Storage environment information for checking
hdvm.hdvmPathPortName	Path port name	Specify the port name of the path to the DP volume (LU).	Input	Disabled	R	Storage environment information for checking
hdvm.hdvmDomainId	Host group ID	Specifies the ID in decimal or hexadecimal of the host group before determining whether the DP volume (LU) can be added there. In the case of hexadecimal, the prefix "0x" must be used.	Input	Disabled	R	Storage environment information for checking
hdvm.hdvmLun	LU number (LUN)	Specify the LU number (LUN).	Input	Disabled	R	Storage environment information for checking
vmware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	Input	Disabled	R	Virtual environment information for checking
vmware.dataStoreName	Datastore name	Specify the datastore name.	Input	Disabled	R	Virtual environment information for checking
vmware.hbaName	HBA name	Specifies the name of the HBA in the form in which it appears in the Runtime Name of the storage adapter in VMware vCenter Server (for example: vmhba0), before determining whether that HBA exists.	Input	Disabled	R	Virtual environment information for checking

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
hdvm.checkConnectResult	Result of checking HDvM connectivity	Stores the result of determining whether a connection to the HDvM server can be established.	Output	Disabled

Property key	Property name	Description	I/O type	Shared
vmware.checkConnectResult	Result of checking vSphere connectivity	Stores the result of determining whether a connection to the VMware vCenter Server can be established.	Output	Disabled
hdvm.checkLUResult	Result of checking creation of LU	Stores the result of determining whether or not a DP volume (LU) can be created.	Output	Disabled
vmware.checkDatastoreResult	Result of checking creation of data store	Stores the result of determining whether a data store can be added.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
hdvm.targetHost	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
hdvm.cliInstallPath	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ^.
hdvm.hdvmProtocol	Select one of the following values: http,https
hdvm.hdvmHostName	A maximum of 255 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
hdvm.hdvmPortNumber	Integer between 1 and 65553 can be entered.
hdvm.hdvmUserName	A character string of between 1 and 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', (,), *, +, -, ., =, @, \, ^ and _. It cannot include a trailing \.
hdvm.hdvmPassword	A character string of between 4 and 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as !, #, $, %, ', (,), *, +, -, ., =, @, \, ^ and _. It cannot include a trailing \.
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
hdvm.hdvmSerialNumber	Alphanumeric between 1 and 20 characters.
hdvm.hdvmArrayFamily	Select one of the following values: AMS,USP_V,USP_VM,VSP,HUS,HUS VM,VSP G1000
vmware.blockSizeMB	Select one of the following values: 1,2,4,8
hdvm.hdvmArrayFamilyText	A string that has 255 or fewer single-byte alphanumeric characters and symbols. The following symbols cannot be used: < > | ; & ' " * ? [ ] ` %

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
hdvm.hdvmCapacity	Integer between 1 and 65536can be entered.
hdvm.hdvmDevNumber	Integer between 0 and 524287 can be entered.
hdvm.hdvmPoolId	Integer between 0 and 2147483647 can be entered.
hdvm.hdvmPathPortName	A character string of no less than 1 characters can be entered. It cannot include <, >, |, ;, &, or a trailing \.
hdvm.hdvmDomainId	Alphanumeric characters more than 1 characters can be entered. Followin characters can be entered. 0-9, a-f, A-F, and x.
hdvm.hdvmLun	Integer between 0 and 255 can be entered.
vmware.vmHostName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.dataStoreName	A maximum of 42 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.hbaName	Alphanumeric characters of no less than 1 characters can be entered.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarc hy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	hdvmConnectChalle nge	Check HDvM connectivity	Determines whether a connection to the HDvM server can be established.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereConnectChall enge	Check VMware vCenter Server connectivity	Determines whether a connection can be established to the vCenter server.	Eliminate the cause of the error, and then re-execute the service.
3	hdvmCheckStorageS pec	Check LU creation	Determines whether the DP volume (LU) can be created.	Eliminate the cause of the error, and then re-execute the service.
4	vsphereCheckDataSt ore	Check data store creation	Determines whether a data store can be added.	Eliminate the cause of the error, and then re-execute the service.

3.16.12 Pre-check for OS Deployment on Virtual Machine

Function

Checks the environment prerequisites for the virtual server addition service (deployment and OS initialization).

This service template assumes the following servers:

· vCenter server

This is a server on which VMware vCenter Server is installed.

· vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

· Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Checks whether connection can be established from the vCenter control server to a vCenter server.

(2) Checks whether a virtual server can be created from the specified template.

This service checks the following items:

· Whether the specified template has been registered into the vCenter server

If the template is not registered in the vCenter server, the result is false.

· Whether the specified ESX server has been registered into the vCenter server

If the ESX server is not registered in the vCenter server, the result is false.

· Whether the specified data store has been registered into the ESX server.

If the data store is not registered in the ESX server, the result is false.

· Whether the data store on the specified ESX server has enough free space to expand the template.

If the template capacity is greater than the free space on the data store, the result is false.

The template capacity used for this comparison is the capacity of provisioned storage of the virtual disk specified in the template.

· Whether the specified resource pool (resource pool, cluster, vApp) has been registered into the vCenter server.

If the resource pool is not registered in the vCenter server, the result is false.

· Whether the specified virtual server name is already in use in the vCenter server.

If the virtual server name is already in use in the vCenter server, the result is false.

(3) Sends an ICMP echo request to the specified IP address to determine whether there is a response.

If there is no response, the IP address is treated as being available (not in use).

If there is a response, the IP address is treated as being unavailable (already in use).

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

Job Management Partner 1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

· VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

· VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

· VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

· VMware PowerCLI 6.5 Release1

· VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

· Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

· Red Hat Enterprise Linux Server 7 (64-bit x86_64)

· Red Hat Enterprise Linux Server 8 (64-bit x86_64)

· CentOS 6 (64-bit x86_64)

· CentOS 7 (64-bit x86_64)

· CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

· Windows Server 2008 R2 Standard/Enterprise/Datacenter

· Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

· Windows Server 2016 Standard/Datacenter

· Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) Conditions for the settings on VMware vSphere ESXi (or VMware ESX Server)

· A port group has been set up. For a port group that is to be set up for the virtual server, specify a port group on the network using a standard virtual switch (vNetwork or vSphere standard switch).

· The template used for deployment has already been created.

· If the virtual server is stored in a resource pool, the resource pool, cluster, and vApp names must be unique.

The same name cannot be assigned to more than one resource pool, cluster, and vApp although their types are different, such as a duplication of a cluster name and a vApp name or a duplication of a cluster name and a resource pool name.

· The VMware-related names listed below are case-sensitive in VMware, but they are not case-sensitive in vSphere Power CLI that is executed from this service. For this reason, this service cannot be used in an environment where names can be used that are the same except for case differences.

· Data store name

· Resource pool name

· vApp name

(2) Conditions for the template used for deployment:

· VMware Tools have been installed.

· The execution of remote commands is allowed as per the settings (administrative share for Windows, while SSH for Linux is enabled, respectively).

· NICs have been configured (up to two).

· The reception of and response to pings is allowed.

· When you convert a virtual server to a template, do so when the virtual server is stopped.

(3) Condition of the virtual server

· There is no duplication of the virtual server name under the management of an identical vCenter.

(4) Conditions of this product

· The authentication information of the virtual server to be deployed has been registered to the agentless connection destination definition in the "Management" tab in advance.

Cautions

(1) The specified port group must be able to communicate with the local server. If there are multiple NICs for the virtual server, set one of the NICs to a port group that can communicate with the local server.

(2) Do not specify for the IP address (for management) a value that is not valid as an IP address in the virtual server's OS. For example, network addresses, broadcast addresses, and special addresses such as 0.0.0.0 and 255.255.255.255 cannot be specified.

Execution privilege

(1)The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

(2) The user who will be connecting to vCenter operation server must have the following permissions:

Built-in Administrator

Version

03.00.00

Tags

Gather VM information,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual environment information for checking	Specify the information for the virtual server to be checked.	Y
Run-time options	These are properties related to checking the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the	Input	Disabled	O	Virtual system environment information

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.portNumber	Port number for VMware vCenter Server connection	default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
common.icmpEchoTimeout	Timeout period for ICMP echo requests	Specifies the time, in milliseconds, to wait for a response to the ICMP echo request that was sent in order to make sure that IP address is free.	Input	Disabled	R	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	Input	Disabled	R	Virtual environment information for checking
vmware.templateName	Template name	Specify the name of the template on which the virtual server is to be based.	Input	Disabled	R	Virtual environment information for checking
vmware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	Input	Disabled	R	Virtual environment information for checking
vmware.dataStoreName	Datastore name	Specify the datastore name.	Input	Disabled	R	Virtual environment information for checking
vmware.resourcePoolName	Resource pool name	Specify the resource pool, vApp, or cluster where the virtual server will be provisioned.	Input	Disabled	O	Virtual environment information for checking
vmware.portGroupName	Port group name	Specify the name of the port group currently assigned to the virtual server.	Input	Disabled	O	Virtual environment information for checking
vmware.portGroupNameNew	Port group name (updated)	Specify a new port group name to assign to the virtual server.	Input	Disabled	O	Virtual environment information for checking
OS.ipAddressMan	IP address (management LAN)	Specify the IP address for the management LAN of the virtual server. You cannot specify an IPv6 address.	Input	Disabled	O	Virtual environment information for checking

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
vmware.checkConnectResult	Result of checking vSphere connectivity	Stores the result of determining whether a connection to the VMware vCenter Server can be established.	Output	Disabled
vmware.checkTemplateResult	Result of checking creation of virtual server	Stores the result of determining whether or not a virtual server can be created.	Output	Disabled
os.checkICMPResult	Result of checking ICMP	Stores the result of determining whether or not the specified IP address is being used.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
common.icmpEchoTimeout	Integer between 1 and 214783647 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.vmName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, , and %.
vmware.templateName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, ', ", *, ?, [,], `, %.
vmware.vmHostName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.dataStoreName	A maximum of 42 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.resourcePoolName	A character string of no more than 60 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` and %.
vmware.portGroupName	A maximum of 49 characters can be entered. Characters that can be used include alphanumeric characters, as well as " "(space), -, ., / and _.
vmware.portGroupNameNew	A maximum of 49 characters can be entered. Characters that can be used include alphanumeric characters, as well as " "(space), -, ., / and _.

Property key	Characters that can be input
OS.ipAddressMan	A maximum of 15 characters can be entered. Characters that can be used include alphanumeric characters, as well as . .

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereConnectChallenge	Check VMware vCenter Server connectivity	Determines whether a connection can be established to the vCenter server.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereCheckTemplateSpec	Check virtual server creation	Determines whether a virtual server can be created from the specified template.	Eliminate the cause of the error, and then re-execute the service.
3	checkIPAddress	Flow Plug-in	Confirms that the IP address is not being used.	--
3-3		Compatible Plug-in	Checks whether there is an output character string.	Eliminate the cause of the error, and then re-execute the service.
3-4		Send ICMP echo request message (confirm no response)	Issues an ICMP echo request to the specified IP address. Confirms that there is no response.	Eliminate the cause of the error, and then re-execute the service.

3.16.13 Stop Virtual Machine

Function

Turns off the power to multiple virtual servers in a VMware vSphere environment.

This service template assumes the following server:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The following provides an overview of the processing.

(1) Obtains the power status of each virtual server.

(2) If a virtual server's power status is on, the service template turns it off.

The service template performs the above processing on the specified group of virtual servers in parallel.

When a virtual server is to be terminated, the service template waits for the amount of time (in seconds) specified in the vmware.checkPowerStateInterval property and performs an operation to determine if the power is off, which it does up to the number of times specified in the vmware.checkPowerStateCount property. If the default values are not suitable, specify values that are suitable for your environment.

Prerequisites

For the latest support information about [Required product for the system]/[Required products for the service template execution system]/[Prerequisite product OS running in the system executing the service template], see the release notes.

[Required product for the system]

JP1/Automatic Operation 12-00 or later

[Required products for the service template execution system]

(1) Required product for the vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, or 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1 or 5.0 or VMware ESX Server 4.1 or 4.0

(3) Required product for the vCenter control server

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

· VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

(1)Prerequisite OS of the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)(for vCenter4.1 or later; not supported by vCenter4.0)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

(2) Required OS for the vCenter control server

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

[Usage conditions of prerequisite products in the system executing the service template]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Each virtual server name is unique among the vCenter servers.

(3) VMwareTools is installed on the target virtual server.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server needs the following permissions:

Role with read-only and power-on permissions for the target virtual server, or system administrator role

Version

03.00.00

Tags

Control VM,VMware vSphere

Property list

The following shows the list of the property groups set in the property:

Property group	Description	Initial display
Virtual system environment information	Specify the VMware vCenter Server information.	Y
Virtual server information	Specify the information for the virtual server to be stopped.	Y
Run-time options	These are properties related to checking the status when stopping the virtual server. Modify as necessary.	N

The following shows the list of the properties to be displayed in the "Service Definition" window:

(Legend)

    R: The property must be specified.

    O: The property can be omitted. However, the property might be mandatory depending on what is specified for other properties. See the Description of each property.

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.targetHost	Host name of VMware vCenter control server	Specify the host name or IP address of the server (a server with vSphere PowerCLI installed) that will be used to control VMware vCenter. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	Input	Disabled	R	Virtual system environment information
vmware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	Input	Disabled	O	Virtual system environment information
vmware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	Input	Disabled	R	Virtual system environment information
vmware.checkPowerStateCount	Power status check count	Specifies the number of times to check the power status when confirming that the virtual server is stopped. In combination with the power status checking interval, this determines the maximum wait time.	Input	Disabled	R	Run-time options
vmware.checkPowerStateInterval	Power status check interval	Specifies the interval in seconds for checking the power status when confirming that the virtual server is stopped.	Input	Disabled	R	Run-time options

The following shows the list of the properties to be displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Property name	Description	I/O type	Shared	Required	Property group
vmware.foreachVmName	Virtual server name(s)	Specify the virtual server name or names. Specify server names as they appear in VMware vCenter Server, not by host name. Separate multiple virtual servers with commas. The maximum number of virtual servers you can specify is 99.	Input	Disabled	R	Virtual server information

The following shows the list of the properties to be displayed in the "Task Details" window only:

Property key	Property name	Description	I/O type	Shared
common.taskResult	Results of repeating tasks	This property contains the results of each task (as "true" or "false"), in a comma-delimited format.	Output	Disabled

The following shows the restrictions on inputs to the properties displayed in the "Service Definition" window:

Property key	Characters that can be input
vmware.targetHost	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.vCenterServerName	A maximum of 256 characters can be entered. Characters that can be used include alphanumeric characters, as well as . and -.
vmware.userName	A maximum of 512 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, /, :, =, , , +, %.
vmware.password	A maximum of 127 characters can be entered. Characters that can be used include alphanumeric characters and symbols. It cannot include <, >, |, ;, &, ', ", *, ?, [,], `, %.
vmware.portNumber	Integer between 1 and 65535 can be entered.
vmware.protocol	Select one of the following values: http,https
vmware.checkPowerStateCount	Integer between 1 and 3600 can be entered.
vmware.checkPowerStateInterval	Integer between 1 and 60 can be entered.

The following shows the restrictions on inputs to the property displayed on the "Service Definition" window and the "Submit Service" window:

Property key	Characters that can be input
vmware.foreachVmName	A character string of no more than 1024 characters can be entered. It cannot include <, >, |, ;, &, ', ", *, ?, [,], ` or %.

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Display name	Plug-in		
		Plug-in name	Description	Error recovery method
1	powerOffVM_vSphere	Repeated Execution Plug-in	Sets the power status of multiple virtual servers to OFF.	Eliminate the cause of the error, and then re-execute the service.

3.16.14 Stop virtual server (repeated flow)

Flow specification details

The following table shows the detailed specification of the flow:

Hierarchy	Processing	Plug-in		
		Plug-in name	Description	Error recovery method
1	vsphereGetPower	Get power status of virtual server	Acquires the power status of the specified virtual server.	Eliminate the cause of the error, and then re-execute the service.
2	vsphereSetPowerOff	Flow Plug-in	If the power status is ON, sets it to OFF.	--
2-3		Compatible Plug-in	Checks whether the output character string contains PoweredOn.	Eliminate the cause of the error, and then re-execute the service.
2-4		Shut down virtual server	Sets the power status of the specified virtual server to OFF.	Eliminate the cause of the error, and then re-execute the service.

3.17 Service templates for providing Plug-ins

3.17.1 AWS Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.00.00

Tags

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3.17.2 HCS Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.00.00

Tags

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3.17.3 Hyper-V2008 Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.00.00

Tags

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3.17.4 Hyper-V2012 Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.00.00

Tags

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3.17.5 Hyper-V2016 Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.00.00

Tags

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3.17.6 OpenStack Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.00.00

Tags

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3.17.7 Oracle Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.00.00

Tags

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3.17.8 vSphere Components

Function

This service template contains plug-ins for service template developers. To develop a service template, import this service template.

Prerequisites

For the most recent support statuses for prerequisite products for the system, see the Release Notes.

Prerequisite product for the system:

- JP1/Automatic Operation 12-00 or later

Cautions

(1) Do not create or execute any service from this service template.

Version

03.00.01

Tags

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4

JP1/AO Standard-package Plug-ins

This chapter describes the JP1/AO standard-package plug-ins. The JP1/AO standard package includes basic plug-ins and content plug-ins.

4.1 List of basic plug-ins

The following table lists the basic plug-ins.

No.	Plug-in name	Description
1	General command plug-in	Enables execution of a specified command on the operation target device.
2	File-transfer plug-in	Enables forwarding of a file or folder from the JP1/AO server to the operation target device, and vice versa.
3	Repeated execution plug-in	Enables repeated execution of a flow.
4	Email notification plug-in	Enables JP1/AO to connect to a SMTP server and send email with the specified recipient, subject, and body.
5	User-response wait plug-in	Enables the operator to select the processing of subsequent steps during the execution of the service.
6	Standard output plug-in	Enables the value of a specified property to be output to standard output.
7	Terminal connect plug-in #	Enables authenticated connections to the operation target device via Telnet or SSH.
8	Terminal command plug-in #	Enables execution of commands on remote target devices connected to by a terminal connect plug-in.
9	Terminal disconnect plug-in #	Enables disconnection from operation target devices connected to by a terminal connect plug-in.
10	Flow plug-in	Enables hierarchical flows to be created by defining flows within other flows.
11	Interval plug-in	Controls the execution interval between steps.
12	Branch by returncode plug-in	Chooses which processing to execute next based on the return value of the previous step.
13	Test value plug-in	Judges return values by comparison to a value of a service property or other element.
14	Abnormal-end plug-in	Enables a flow, task, hierarchy flow, or repeated flow to be abnormally terminated.
15	Branch by property value plug-in	Chooses which processing to perform next by comparison to a value of a service property or other element.
16	JavaScript plug-in	Executes JavaScript code that converts JSON-formatted text.
17	File export plug-in	Outputs the specified value in the desired format.
18	Web client plug-in	Sends or receives HTTP messages.
19	Python Plug-in	Executes Python scripts.

#: These plug-ins must be used in the following sequence:

1. Terminal connect plug-in

2. Terminal command plug-in

3. Terminal disconnect plug-in

4.2 Basic plug-ins

4.2.1 Notes common to basic plug-ins

Cautionary notes common to the basic plug-ins that JP1/AO provides are shown as follows.

If you stop a task during plug-in execution, generally the task stops after waiting for the step that is executing to complete. However, depending on the timing of when the step stops, a return value of 80 might be set for the step that is executing, and the step might fail.

4.2.2 General command plug-in

Function

This plug-in enables a specified command to be executed on the operation target device.

If you have pre-set authentication information in the **Agentless Connection Destinations** area, you can execute commands by specifying the following information in the general command plug-in:

- The device on which to execute the command (destinationHost property)
- Command to be executed (commandLine property)
- Command arguments (commandLineParameter property)

For the command to be executed on the operation target device, specify characters that can be used in commands in the operating systems of the JP1/AO server and the operation target device. For example, if the JP1/AO server and the operation target device both run the Japanese version of Windows, characters in the MS932 character set can be specified.

If the operation target device is running Windows, you can execute the command using the permissions of the System account by specifying true for the runAsSystem property. If the operation target device is running UNIX, the command is executed with root user permissions or the permissions of the connection user, depending on the value specified for the elevatePrivileges property.

If the OS of the local host on which the local execution function is enabled is Windows, the command is executed with the privileges of the System account. If the OS is Linux, the command is executed with root user privileges.

The execution directory to be used when a command is executed is as follows:

- When the connection destination is running Windows: Admin$\Hitachi\CMALib\JP1AO\home
  Admin$ is the directory specified in the windir environment variable.
- When the connection destination is running UNIX and true is specified for the elevatePrivileges property: The home directory of the root user
- When the connection destination is running UNIX and false is specified for the elevatePrivileges property: The home directory of the connection user

For details about the functional differences from the versions earlier than 02.01.00, see A.1 Functional differences between basic plug-ins by version.

Prerequisites for execution

- For details about the operation target devices that can be used as connection destinations, see A.1 (3) Operation target devices usable as connection destinations.

- Certain commands must be installed on the operating system of the operation target device before you use the general command plug-in. For details, see the release notes.

- To use the general command plug-in when the operation target device is running Windows, administrative sharing must be enabled. For details, see the *JP1/Automatic Operation Overview and System Design Guide*.

Cautionary notes

- The locale and character set at the time of execution depend on the OS of the operation target device. For details, see *Locale set for operation target devices during plug-in execution* and *Character set used for communication by JP1/AO during plug-in execution* in the *JP1/Automatic Operation Service Template Development Guide*.

- If the execution of a task is stopped while the plug-in is executing, the status of the task becomes *Failed* or *Completed* when the processing of the general command plug-in finishes. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set a **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- When you forcibly terminate a task while the plug-in is running, the process tree being executed on the operation target device is immediately forcibly terminated and the status of the task becomes *Failed* or *Completed*. In this case, a return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

- When you forcibly terminate a task while the plug-in is executing, the execution results of the command or script specified in the commandLine property are outside the scope of product support.

- The execution method differs depending on the OS of the operation target device. In Windows, SMB and RPC are used for execution. In UNIX, SSH is used for execution. Therefore, in UNIX, the SSH server must be set up on the operation target devices.

- The port number used by SSH can be set in connection-destination property file (*connection-destination-name*.properties) or the user-specified properties file (config_user.properties).

- If the OS of the JP1/AO server is Linux and the OS of an operation target device is Windows, you cannot specify an IPv6 address as a connection destination.

- When the operation target device is running Windows, user profiles are not inherited. This means a plug-in can produce different execution results from a command or script executed on the desktop.

  To avoid this issue, do not reference settings in user profiles, such as user environment variables, registry entries, and Internet Explorer settings, when executing a plug-in. If a command or script references an element of a user profile, the command or script might not behave as expected. For example, when you execute a command or script that references Internet Explorer proxy settings, the command or script might fail with a communication error. This might occur in scenarios such as implementing a Windows Update using a script.

- If the operation target device is running UNIX, and you need to specify non-ASCII characters in the commandLine or commandLineParameter property, see A.4 Prerequisites for executing command lines containing non-ASCII characters in UNIX.

- Interactive commands and script that seek user input and commands that do not end automatically using a GUI display or the like cannot be executed.

Version

02.01.00

Tag

Execute Script

Return codes

Return code	Description
0 to 63	The return code (0 to 63) of the command or script is returned as the return code of the plug-in. The meaning of the command or script depends on the command or script.
64	If the return code of the specified command or script is 64 or higher, 64 is returned as the return code of the plug-in.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was being executed.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
70	The connection with the operation target device failed.
71	Command execution failed.
72	The execution status of the command could not be acquired. The total amount of data output to the standard output and standard error output exceeded 100 KB.
76	The connection timed out.
77	The host name of the operation target device could not be resolved.
78	Authentication with the operation target device failed for one of the following reasons: • Password authentication failed. • Public key authentication has not been set up on the operation target device. • When the public key was being authenticated, the private key did not match the pass phrase. • When the public key was being authenticated, the private key did not correspond to the public key registered in the operation target device. • When the public key was being authenticated, an invalid private key was used. • Keyboard interactive authentication failed.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid.
127	Another error has occurred.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
destinationHost	Destination Host	Specify the IPv4 address, IPv6 address, or host name of the operation target device. The host name should be within 1,024 characters. The JP1/AO server and the operation target device must be connected by a network.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
`destinationHost`	Destination Host	Note that multiple IP addresses or host names cannot be specified.	--	Input	R

`credentialType`[#1]	Credentials Type	As the authentication type to use during command or script execution, specify either of the following:
		
		`destination`
		Specify this option to use the authentication information set in the **Connection Destinations** area. Specifying `destination` applies the authentication information set for Windows or SSH in the connection destination definition according to the IP address of the JP1/AO login user. You can omit the specification of properties relating to authentication information (`account`, `password`, `suPassword`, `publicKeyAuthentication`, and `keyboardInteractiveAuthentication`).
		
		`property`
		Specify this option to use the values specified in the following properties as authentication information:
		• `account`
		• `password`
		• `suPassword`
		• `publicKeyAuthentication`
		• `keyboardInteractiveAuthentication`
			--	Input	R

`account`[#1]	User ID	Specify the user ID to use to log in to the operation target device, using a maximum of 256 characters. You can also specify a domain user in either of the following formats: • *domain-name \ user-name* • *user-name @ domain-name*	--	Input	O
`password`[#1]	Password	Specify the password to use to log in to the operation target device, using a maximum of 256 characters. You can omit this property when the operation target device is running UNIX and true is specified for the publicKeyAuthentication property.	--	Input	O
`suPassword`[#1]	Root Password	If the OS of the operation target device is UNIX, specify the root password using a maximum of 256 characters. If the OS is Windows, this property does not need to be specified. You can also omit this property when the operation target device is running Windows, or when false is specified for the elevatePrivileges property.	--	Input	O
`runAsSystem`	Run as system account	If the OS of the operation target device is Windows, specify whether to execute commands using the permissions of the System account. If the OS of the operation target device is UNIX, the value specified in this property is ignored. true Specify this value to execute commands using the permissions of the System account. false Specify this value to not use the permissions of the System account to execute commands. When you specify this value, commands are executed using the permissions of the user set in the authentication information.	false	Input	O
`publicKeyAuthentication`[#1]	SSH public key authent	If the OS of the operation target device is UNIX, specify either of the following depending on whether you want to use public key authentication. The values are not case sensitive. If you do not specify a value, false is assumed. You can omit this property when the operation target device is running Windows.	false	Input	O

Property key	Property name	Description	Default value	I/O type	Required

publicKeyAuthentication[#1]	ication setting	true
		
		    Specify this option to use public key authentication.
		
		false
		
		    Specify this option to not use public key authentication.[#2]
			false	Input	O

keyboardInteractiveAuthentication[#1]	SSH keyboard interactive authentication setting	If the OS of the operation target device is UNIX, specify either of the values below, depending on whether you want to use keyboard interactive authentication for connection. The values are not case sensitive. If you do not specify a value, `false` is assumed. You can omit this property when the operation target device is running Windows.
		
		Note, however, that the value of the keyboardInteractiveAuthentication property takes effect only if the publicKeyAuthentication property is set to `false`. If you set the publicKeyAuthentication property to `true`, public key authentication is used even if you set the keyboardInteractiveAuthentication property to `true`.
		
		true
		
		    Specify this value to use keyboard interactive authentication.
		
		false
		
		    Specify this value to not use keyboard interactive authentication.[#2]
			false	Input	O

elevatePrivileges[#1]	Elevate Privileges	If the OS of the operation target device is UNIX, specify either of the following depending on whether you want to elevate the user to root privileges. The values are not case sensitive. If you do not specify a value, true is assumed. You can omit this property when the operation target device is running Windows.
		
		true
		
		    Specify this option to execute commands as a user with root privileges.
		
		false
		
		    Specify this option to execute commands without elevating the user to root. Commands will be executed with the privileges of the connection user.
			false	Input	O

commandLine [#3]	Command Line	Specify the absolute path of the command or script to be executed on the operation target device, using a maximum of 256 characters.
		
		In the command line, specify characters that can be entered in command lines in the operating systems of the JP1/AO server and the operation target device. Special characters that represent environment variables in the command line are not escaped.
		
		For example, if an agentless remote connection executes the command line `"echo abc\def"` in a UNIX environment, `"abcdef"` is output instead of `"abc\def"`.
		
		To handle a special character as a character string, escape the character with a percent sign (`%`) in Windows, and a backslash (`\`) in UNIX.
		
		The command or script is executed subject to the privileges of the following user:
		• When the operation target device is running Windows
		  • If destination is specified for the credentialType property, the command is executed with the privileges of the user set in the **Connection Destinations** area.
		  • If property is specified for the credentialType property, the command is executed with the privileges of the user specified in the account property.
		• When the operation target device is running UNIX
		  • If destination is specified for the credentialType property, the command is executed with the privileges of the root user or the user set in the **Connection Destinations** area, depending on the value of the elevatePrivileges property.
			--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
commandLine [#3]	Command Line	• If property is specified for the credentialType property, the command is executed with the privileges of the root user or the user specified in the account property, depending on the value of the elevatePrivileges property.	--	Input	R

commandLineParameter [#3]	Command-line Parameters	Specify the arguments of the command or script using a maximum of 1,024 characters.
		As the command line parameters, specify characters that can be entered in command lines in the OSs of the JP1/AO server and the operation target device.
		Special characters that represent environment variables in the command line are not escaped.
		For example, if an agentless remote connection executes the command line "echo" and command line parameter "abc%def" in a Windows environment, "abcdef" is output instead of "abc%def".
		To handle a special character as a character string, escape the character with a percent sign (%) in Windows, and a backslash (\\) in UNIX.
		You can also specify an environment variable as the value of a command line parameter. The specification format depends on the OS of the operation target device.
		• If the operation target device is running Windows:
		   % *environment-variable* %
		• If the operation target device is running UNIX:
		   $ *environment-variable*
			--	Input	O

outputCondition	Condition for outputting standard output properties	Specify the condition for outputting values to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties.
		You can specify either of the following values:
		always
		   Values are always output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties. Null characters are output if the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties.
		patternMatch
		   Values are output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties only if the standard output and standard error output match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties. If the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, no values are output. In this case, values are not updated even if the service properties are mapped to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties.
			always	Input	R

stdoutProperty1	Standard Output Property 1	The character string extracted by the stdoutPattern1 property is output to this property.	--	Output	O
stdoutPattern1	Standard Output Pattern 1	Specify the regular expression pattern of the standard output to output to the stdoutProperty1 property, using a maximum of 1,024 characters. Specify the regular expression pattern in a PCRE-compliant format.[#4] If you specify the key of a service property in the stdoutProperty1 property but do not specify the stdoutPattern1 property, the entire standard output and standard error output of the command or script specified in the commandLine property is assigned to the service property.	--	Input	O

Property key	Proper ty name	Description	Defa ult value	I/O type	Req uired
stdoutProperty 2	Standar d Output Propert y 2	The character string extracted by the stdoutPattern2 property is output to this property.	--	Outpu t	O
stdoutPattern2	Standar d Output Pattern 2	Specify the regular expression pattern of the standard output to output to the stdoutProperty2 property, using a maximum of 1,024 characters. Specify the regular expression pattern in a PCRE-compliant format.[#4] If you specify the key of a service property in the stdoutProperty2 property but do not specify the stdoutPattern2 property, the entire standard output and standard error output of the command or script specified in the commandLine property is assigned to the service property.	--	Input	O
stdoutProperty 3	Standar d Output Propert y 3	The character string extracted by the stdoutPattern3 property is output to this property.	--	Outpu t	O
stdoutPattern3	Standar d Output Pattern 3	Specify the regular expression pattern of the standard output to output to the stdoutProperty3 property, using a maximum of 1,024 characters. Specify the regular expression pattern in a PCRE-compliant format.[#4] If you specify the key of a service property in the stdoutProperty3 property but do not specify the stdoutPattern3 property, the entire standard output and standard error output of the command or script specified in the commandLine property is assigned to the service property.	--	Input	O

#1

    If the operation target device is the local host on which the local execution function is enabled, the setting of this property is ignored.

#2

    If you set false for both the publicKeyAuthentication and keyboardInteractiveAuthentication properties, password authentication is used.

#3

- The standard output or standard error output of the commands or scripts specified in these properties are output as the standard output of the step in JP1/AO. However, processing for which the total standard output and standard error output of the command or script exceeds 100 KB is outside the scope of product support. Execute the command or script in advance to make sure that the total standard output and standard error output does not exceed 100 KB.

- If the operation target device is running Windows, the content specified in the commandLine and commandLineParameter properties are made into a batch file and executed on the operation target device. Therefore, the result of this action might differ from the result if the same command and script were executed from the command prompt.

- If the operation target device is running UNIX, linefeed codes in standard output and standard error output are changed as follows:

  - CR(0x0d) is changed to LF(0x0a).

  - CR+LF(0x0d0a) is changed to LF+LF(0x0a0a).

  In addition, if the character string at the end of the standard output and standard error output is not a linefeed code (CR, LF, or CR+LF), LF(0x0a) is added to the end.

#4
- The parts grouped by parentheses are extracted by the regular expression.
- If you specify multiple groups in the regular expression, only values that match the first group are stored in the output property of the plug-in.
- If the regular expression applies to multiple value ranges, only the first range of values is stored in the output property of the plug-in. Multiple value ranges cannot be stored in an output property.
- If you specify "`(.*)`", you can extract the character string from the beginning to the line feed of the character string including the line feed, such as the execution result of any command.

Example of using the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, and the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties

You can compare the standard output and the standard error output to the values of the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, and then store the results in the `stdoutProperty1`, `stdoutProperty2`, and `stdoutProperty3` properties. The following figure shows the data flow when specifying `aaabbb(.*)` in `stdoutPattern1`, `stdoutPattern2`, and `stdoutPattern3`.

Figure 4–1: Example of using the stdoutPattern and stdoutProperty properties

stdoutPattern1 (Standard Output Pattern 1): aaabbb(.*)

stdoutProperty1 (Standard Output Property)

As defined in `stdoutPattern1`, for the standard output `aaabbbccc`, the value after `aaabbb` (in this case `ccc`) is extracted. The extracted value is stored in the `stdoutProperty1` property.

You can use the outputCondition property to specify whether values are to be output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties in the following case: the standard output does not match the regular expressions specified for the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties and, as a result, the values cannot be extracted.

Specifying the SSH port number

You can specify a port number when using SSH to connect to the operation target device. The following table describes how to specify the port number and the priority of each method.

Table 4–1: Priority of SSH port numbers

Priority	Set in	Property key	Default value
1	Connection-destination property file (*connection-destination-name*.`properties`)	`ssh.port`	--
2	User-specified properties file (`config_user.properties`)	`ssh.port.number`	22

Legend:

    --: No value is set.

Related topics

- *Prerequisites for connection destinations* in the *JP1/Automatic Operation Overview and System Design Guide*

- *User-specified properties file (config_user.properties)* and *Connection-destination property file (connection-destination-name.properties)* in the *JP1/Automatic Operation Configuration Guide*

- A.2 List of protocols used by each plug-in

4.2.3 File-Transfer Plug-in

Function

This plug-in enables forwarding of a file or folder from the JP1/AO server to the operation target device, and vice versa. Files are forwarded in binary mode.

If you have pre-set authentication information in the **Agentless Connection Destinations** area, you can execute the file-transfer plug-in by specifying the following information:

- Operation target device (`remoteHost` property)

- Transfer mode (`transferMode` property)

- Path of a file or folder on the JP1/AO server (`localFilePath` property)

- Path of a file or folder on the operation target device (`remoteFilePath` property)

In the file path for forwarding to the agentless connection destination, specify characters that can be used in commands in the operating systems of the JP1/AO server and the operation target device. For example, if the JP1/AO server and the operation target device are both running the Japanese version of Windows, characters in the MS932 character set can be specified.

If the operation target device is running Windows, the file is transferred by the user set in the authentication information. If the operation target device is running UNIX, the file is transferred subject to the privileges of the root user or the connection user, depending on the value of the elevatePrivileges property.

Note that if the local execution function is enabled, the file is not forwarded. If the OS of the local host is Windows, the file is copied to the local host with the privileges of the System account. If the OS of the local host is Linux, the file is copied to the local host with root user privileges.

For details about how version 01.52.01 of the plug-in differs from previous versions, see A.1 Functional differences between basic plug-ins by version.

Prerequisites for execution

- For details about operation target devices that can be used as agentless connection destinations, see A.1(3) Operation target devices usable as connection destinations.

- Depending on the OS of the operation target device, configure the environment as follows:

  For Windows

    - Make sure that the JP1/AO server and operation target device are able to communicate using the appropriate ports. For details about the port numbers used for communication, see the *JP1/Automatic Operation Overview and System Design Guide*.

    - Before executing the file-transfer plug-in, enable administrative sharing on the operation target device. For details, see the *JP1/Automatic Operation Overview and System Design Guide*.

For UNIX

- You can set the port number used by SSH in the connection-destination property file (*connection-destination-name*`.properties`) or the user-specified properties file (`config_user.properties`).

- On the operation target device, install a SSH server that supports SCP.

- Certain commands must be installed in the operating system of the operation target device before you use the file-transfer plug-in. For details, see the release notes.

Cautionary notes

- The execution method differs depending on the OS of the operation target device. If the OS is Windows, SMB and RPC are used for execution. If the OS is UNIX, SSH and SCP are used for execution. When you select the protocol in an agentless connection definition, select *Windows* in Windows, and *SSH* in UNIX.

- If the OS of the JP1/AO server is Linux and the OS of the operation target device is Windows, you cannot specify an IPv6 address as a connection destination.

- The maximum total size of all transferred files is 4 GB.

- The maximum number of files and folders that can be transferred at a time is 10,000.

- If a received file has the same name as a file that exists locally, the system might attempt to overwrite the file. However, if the file to be overwritten has the attribute *Read only*, *Hidden file*, or *System file*, the file cannot be overwritten and file transfer fails.

- You cannot specify a Windows UNC path or a network drive as the source or destination of a file transfer.

- On the machine where JP1/AO is installed and the connection-destination host, in addition to the free space needed for the files and folders themselves, an amount of free space equivalent to twice the size of the transferred files is required as a temporary work area. The temporary work area is as follows:

  - For the machine where JP1/AO is installed (non-cluster environment): The drive where JP1/AO is installed.

  - For the machine where JP1/AO is installed (cluster environment): The shared disk.

  - When the connection-destination is running Windows: The system drive.

  - When the connection-destination is running UNIX: The folder specified in the plugin.remoteCommand.workDirectory.ssh key in the user-specified properties file (config_user.properties).

- The limitations of the operating system override those set in the JP1/AO system. Examples of these limitations include the maximum size of a file, the number of files per folder, the length of file and folder names, and the resources available to the user. File forwarding that exceeds the limitations of the operating system is outside the scope of product support. The operating systems whose limitations affect JP1/AO operation are those on the JP1/AO server and on operation target devices. The OS limitations that govern which resources are available to users are those set for the connection user and for users with root privileges. Limitations for users with root privileges only apply in UNIX.

- When you specify a folder on a host running UNIX as the file-forwarding destination, the process might fail if the total size of the files in the folder exceeds the maximum permitted size for one file. The maximum size for one file is governed by file system restrictions and OS limitations that apply to the resources available to the user. JP1/AO archives files before sending them, which means that the limits of the destination host might be exceeded despite the individual files in the archive being smaller than the maximum size. In this scenario, either reduce the total size of the files in the folder you are sending, or increase the limits at the destination.

- If execution of a task is stopped during plug-in execution, the status of the task becomes *Failed* or *Completed* when the processing of the file-transfer plug-in has finished. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- When you forcibly terminate a task while the plug-in is running, the processing being executed is immediately forcibly terminated and the task enters *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing in which the task was forcibly terminated.

- The execution results of the file-forwarding operation when you forcibly terminate a task during plug-in execution are outside the scope of product support.

Version

01.52.01

Tag

File Operations

Return codes

Return code	Description
0	Ended normally.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was executing.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
70	The connection with the operation target device failed.
71	An attempt to call a command on the operation target device failed.
72	The execution status of a command executed on the operation target device could not be acquired.
73	The file or folder could not be transferred.
76	The connection timed out.
77	The host name of the operation target device could not be resolved.
78	Authentication with the operation target device failed for one of the following reasons: • Password authentication failed. • Public key authentication has not been set up on the operation target device. • When the public key was being authenticated, the private key did not match the pass phrase. • When the public key was being authenticated, the private key did not correspond to the public key registered in the operation target device. • When the public key was being authenticated, an invalid private key was used. • Keyboard interactive authentication failed.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid.
127	Another error has occurred.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
`remoteHost`	Remote Host	Specify the IPv4 address, IPv6 address, or host name of the operation target device. The host name should be within 1,024 characters. The JP1/AO server and the operation target device must be connected by a network. Note that multiple IP addresses or host names cannot be specified.	--	Input	R

`credentialType`[#1]	Credentials Type	As the authentication type to use during file transfer, specify either of the following:
		`destination`
		　Specify this option to use the authentication information set in the **Connection Destinations** area. Specifying `destination` applies the authentication information set for Windows or SSH in the connection destination definition according to the IP address of the JP1/AO login user. You can omit the specification of properties relating to authentication information (`account`, `password`, `suPassword`, `publicKeyAuthentication`, and `keyboardInteractiveAuthentication`).
		`property`
		　Specify this option to use the values specified in the following properties as authentication information:
		　• `account`
		　• `password`
		　• `suPassword`
		　• `publicKeyAuthentication`
		　• `keyboardInteractiveAuthentication`
			destination	Input	R

`account`[#1]	User ID	Specify the user ID to use to log in to the operation target device, using a maximum of 256 characters. You can also specify a domain user in either of the following formats: 　• *domain-name* \ *user-name* 　• *user-name* @ *domain-name*	--	Input	O
`password`[#1]	Password	Specify the password to use to log in to the operation target device, using a maximum of 256 characters. If the OS of the operation target device is UNIX, you can omit this property when true is specified for the publicKeyAuthentication property.	--	Input	O
`suPassword`[#1]	Root Password	If the OS of the operation target device is UNIX, specify the root password using no more than 256 characters. You can omit this parameter if the OS is Windows or false is specified for the elevatePrivileges property.	--	Input	O
`publicKeyAuthentication`[#1]	SSH public key authentication setting	If the OS of the operation target device is UNIX, specify either of the following depending on whether you want to use public key authentication. The values are not case sensitive. If you do not specify a value, false applies. You can omit this property when the operation target device is running Windows. true 　Specify this option to use public key authentication. false 　Specify this option to not use public key authentication.[#2]	false	Input	O
`keyboardInteractiv`	SSH keyboard	If the OS of the operation target device is UNIX, specify either of the values below, depending on whether you want to use keyboard interactive authentication for connection. The values are not case sensitive. If you do not specify a value,	false	Input	O

Property key	Property name	Description	Default value	I/O type	Required

`eAuthentication`[#1]	interactive authentication setting	`false` is assumed. You can omit this property when the operation target device is running Windows.
		Note, however, that the value of the keyboardInteractiveAuthentication property takes effect only if the publicKeyAuthentication property is set to `false`. If you set the publicKeyAuthentication property to `true`, public key authentication is used even if you set the keyboardInteractiveAuthentication property to `true`.
		true
		    Specify this value to use keyboard interactive authentication.
		false
		    Specify this value to not use keyboard interactive authentication.[#2]
			false	Input	O

`elevatePrivileges`[#1]	Elevate Privileges	If the OS of the operation target device is UNIX, specify either of the following depending on whether you want to elevate the user to root previleges. The values are not case sensitive. If you do not specify a value, true applies. You can omit this property when the operation target device is running Windows.
		true
		    Specify this option to transfer files or folders as a user with root privileges.
		false
		    Specify this option to transfer files or folders without elevating the user to root. The file or folder will be sent subject to the privileges of the connection user.
			false	Input	O

`transferMode`	Transfer Mode	Specify either of the following as the transfer mode:
		• send
		    Specify this option when transferring a file or folder from the JP1/AO server to the operation target device.
		    When you specify a file path in the localFilePath property, the same path must be specified in the remoteFilePath property. When transferring a single file, if you specify different file names in the localFilePath and remoteFilePath properties, the file name specified in the remoteFilePath property applies.
		• receive
		    Specify this option when transferring a file or folder from the operation target device to the JP1/AO server.
		    When you specify a file path in the remoteFilePath property, the same path must be specified in the localFilePath property. When transferring a single file, if you specify different file names in the remoteFilePath and localFilePath properties, the file name specified in the localFilePath property applies.
			send	Input	R

`localFilePath`[#3]	Local File Path	Specify the absolute path of the file or folder on the JP1/AO server using no more than 256 characters. In the `localFilePath` property, specify characters that can be used in commands in the operating systems of the JP1/AO server and the operation target device. If there is a file or folder with the same name in the destination folder, the file or folder is overwritten. For this reason, we recommend that you specify a unique name. If the destination folder does not exist, the folder will be created in the specified configuration.	--	Input	R
`remoteFilePath`[#3]	Remote File Path	Specify the absolute path of the file or folder on the operation target host in no more than 256 characters. In the `remoteFilePath` property, specify characters that can be used in commands in the operating systems of the JP1/AO server and the operation target device.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
`remoteFilePath`[3]	Remote File Path	If the OS of the operation target device is UNIX, make sure that the names of the files and folders you are transferring are encoded in the same character set used by the connection user. If there is a file or folder with the same name in the destination folder, the file or folder is overwritten. For this reason, we recommend that you specify a unique name. If the destination folder does not exist, the folder will be created in the specified configuration.	--	Input	R

#1

> If the operation target device is the local host on which the local execution function is enabled, the setting of this property is ignored.

#2

> If you set `false` for both the publicKeyAuthentication and keyboardInteractiveAuthentication properties, password authentication is used.

#3

- When specifying file paths, use characters that can be used in commands in the operating systems of the JP1/AO server and the operation target device. When specifying a file name in the `localFilePath` property, also specify a file name in the `remoteFilePath` property. When specifying a folder name in the `localFilePath` property, also specify a folder name in the `remoteFilePath` property.

- Restrictions apply to the files and folders you can specify in the localFilePath and remoteFilePath properties. For details, see Table 4–2: Restrictions on file and folder names (when the connection destination is running Windows, Linux, or Solaris) and Table 4–3: Restrictions on the names of transmitted files and folders (when the connection destination is running AIX or HP-UX).

- If the operation target device is running Windows and a file with the Windows file attribute "Encrypt contents to secure data" is included among the transferred files, the transfer of the file fails, causing an error in the processing of the plug-in.

- If the operation target device is running UNIX and you want to use non-ASCII characters in the remoteFilePath property, see A.4 Prerequisites for executing command lines containing non-ASCII characters in UNIX.

Restrictions on the names of transferred files and folders

The following tables list the restrictions that apply to the names of transferred files and folders.

Table 4–2: Restrictions on file and folder names (when the connection destination is running Windows, Linux, or Solaris)

Sending or receiving	File or folder	JP1/AO side or destination host side	Property	Restrictions
Sending	File	JP1/AO	localFilePath	File names can be a maximum of 127 characters[1]
		Destination host	remoteFilePath	File names can be a maximum of 127 characters[1]
	Folder	JP1/AO	localFilePath	• The longest absolute path of the file or folder in the transferred folder can contain no more than 256 characters[2] • The longest path from the folder being transferred to a file or folder under that folder must be no longer than 127 characters[3]
		Destination host	remoteFilePath	• The longest absolute path of a file or folder in the transferred folder at the destination can contain no more than 256 characters[2]

Sending or receiving	File or folder	JP1/AO side or destination host side	Property	Restrictions
Sending	Folder	Destination host	remoteFilePath	• The longest path from the transmitted folder at the destination to a file or folder under that folder must be no longer than 127 characters[3]
Receiving	File	JP1/AO	localFilePath	The file name can be no more than 127 characters[1]
		Destination host	remoteFilePath	The file name can be no more than 127 characters[1]
	Folder	JP1/AO	localFilePath	• The longest absolute path of the file or folder in the transferred folder can contain no more than 256 characters[2] • The longest path from the folder being transferred to a file or folder under that folder must be no longer than 127 characters[3]
		Destination host	remoteFilePath	• The longest absolute path of the file or folder in the transferred folder at the destination contain no more than 256 characters[2] • The longest path from the transferred folder at the destination to a file or folder under that folder must be no longer than 127 characters[3]

#1

When the input value is "C:\folder-1\folder-2\file-1", this restriction applies to file-1.

#2

When the input value is "C:\folder-1\folder-2\folder-3", this restriction applies to the path length from C:\ to a file or folder with the longest path under folder-3.

#3

When the input value is "C:\folder-1\folder-2\folder-3", this restriction applies to the path length from folder-3 to a file or folder with the longest path under folder-3.

Table 4–3: Restrictions on the names of transmitted files and folders (when the connection destination is running AIX or HP-UX)

Sending or receiving	File or folder	JP1/AO side or destination host side	Property	Restrictions
Sending	File	JP1/AO	localFilePath	File names can be a maximum of 127 characters[1]
		Destination host	remoteFilePath	File names can be a maximum of 96 bytes[1]
	Folder	JP1/AO	localFilePath	• The longest absolute path of a file or folder in the transferred folder can contain no more than 256 characters[2] • The longest path from the folder being transferred to a file or folder under that folder must be no longer than 127 characters[3]
		Destination host	remoteFilePath	• The longest absolute path of a file or folder in the transferred folder at the destination can contain no more than 256 characters[2] • The longest path from the transferred folder at the destination to a file or folder under that folder must be no longer than 96 bytes[3]
Receiving	File	JP1/AO	localFilePath	The file name can be no more than 127 characters[1]
		Destination host	remoteFilePath	The file name can be no more than 96 bytes[1]
	Folder	JP1/AO	localFilePath	• The longest absolute path of a file or folder in the transferred folder can contain no more than 256 characters[2]

Sending or receiving	File or folder	JP1/AO side or destination host side	Property	Restrictions
Receiving	Folder	JP1/AO	localFilePath	• The longest path from the folder being transferred to a file or folder under that folder must be no longer than 127 characters[#3]
		Destination host	remoteFilePath	• The longest absolute path of a file or folder in the transferred folder at the destination can contain no more than 256 characters[#2] • The longest path from the transferred folder at the destination to a file or folder under that folder must be no longer than 96 bytes[#3]

#1

When the input value is "C:\folder-1\folder-2\file-1", this restriction applies to file-1.

#2

When the input value is "C:\folder-1\folder-2\folder-3", this restriction applies to the path length from C:\ to a file or folder with the longest path under folder-3.

#3

When the input value is "C:\folder-1\folder-2\folder-3", this restriction applies to the path length from folder-3 to a file or folder with the longest path under folder-3.

Specifying the SSH port number

You can specify a port number when using SSH to connect to the operation target device. The following table describes how to specify the port number and the priority of each method.

Table 4–4: Priority of SSH port numbers

Priority	Set in	Property key	Default value
1	Connection-destination property file (*connection-destination-name*.properties)	ssh.port	--
2	User-specified properties file (config_user.properties)	ssh.port.number	22

Legend:

--: No value is set.

Handling of forwarded files

Forwarded files are handled differently depending on the OS of the operation target device and the value specified in the transferMode property. The following table describes how forwarded files are handled.

Table 4–5: Handling of forwarded files

Item			Windows		UNIX	
			send	receive	send	receive
Time stamp of forwarded file	When creating a file	Creation date and time	Date and time of forwarding	Date and time of forwarding	Date and time of forwarding	Date and time of forwarding

Item			Windows		UNIX	
			send	receive	send	receive
Time stamp of forwarded file	When creating a file	Update date and time	Update date and time of source file	Update date and time of source file	Date and time of forwarding	Date and time of forwarding
		Access date and time	Date and time of forwarding	Date and time of forwarding	Date and time of forwarding	Date and time of forwarding
	When overwriting a file	Creation date and time	Creation date and time of overwritten file	Creation date and time of overwritten file	Date and time of forwarding	Creation date and time of overwritten file
		Update date and time	Update date and time of source file	Update date and time of source file	Date and time of forwarding	Date and time of forwarding
		Access date and time	Access date and time of overwritten file	Access date and time of overwritten file	Access date and time of overwritten file[#1]	Access date and time of overwritten file
Access permissions required for source file			System account read privilege	System account read privilege	System account read privilege	Read privilege of connection user[#2]
Access permissions required for parent folder of destination file			Write privilege of the user set in the authentication information	System account write privilege	Write privilege of connection user[#2]	System account write privilege
Access permissions required for destination file when overwriting the file			Write privilege of the user set in the authentication information	System account write privilege	Write privilege of connection user[#2]	System account write privilege
Access permission assigned to destination file	When creating a file		Inherits privilege of parent folder	Inherits privilege of parent folder	Uses the umask value of root or the connection user	Inherits privilege of parent folder
	When overwriting a file		Inherits privilege of overwritten file	Inherits privilege of overwritten file	Inherits privilege of overwritten file[#3]	Inherits privilege of overwritten file

#1

When the OS of the operation target device is HP-UX, the date and time of the transfer is set.

#2

You do not need to specify privileges when transferring files as the root user.

#3

When the OS of the operation target device is HP-UX, the operation is subject to the umask value of the root user or the connection user.

Related topics

- *Prerequisites for connection destinations* in the *JP1/Automatic Operation Overview and System Design Guide*.

- *User-specified properties file (config_user.properties)* and *Connection-destination property file (connection-destination-name.properties)* in the *JP1/Automatic Operation Configuration Guide*

4.2.4 Repeated execution plug-in

Function

This plug-in enables repeated execution of a flow. You can execute a service with a value specified in the Input Properties (`inputProperties`) for each iteration of the flow. This is useful, for example, when you want to execute the same processing on different servers. The maximum number of nested levels that can be specified for a repeated execution plug-in is three.

Note that the execution methods for a flow include *concurrent execution* that executes flows in parallel, and *sequential execution* that executes the next flow when the current flow has finished executing.

Cautionary notes

- When the execution of a task is stopped, the repeated flow being executed stops as soon as the plug-in finishes. In the case of a user-response wait plug-in, the flow stops without waiting for the plug-in to finish. Because unexecuted parts of the repeated flow are not executed, false is stored in the outputResult property.

- When you forcibly terminate a task while a plug-in is running, the processing being executed is immediately forcibly terminated and the task enters the *Failed* status. A return code of `80` appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

- If a repeated execution plug-in for which `parallel` is specified for the `foreachMode` property exists in a higher level, the values of the properties (service properties, output properties of plug-ins, and variables) referenced or updated in the context of a repeated task is only valid for the same repeated task (the *n*th flow). The values of the properties (service properties, output properties of plug-ins, and variables) cannot be shared with concurrently processed repeated tasks (except for the *n*th flow).

  The value of the property cannot be shared with repeated tasks in lower levels. The following figure shows whether plug-ins in each level can refer to an output property updated by plug-in Z.

When `parallel` is set for the `foreachMode` property:
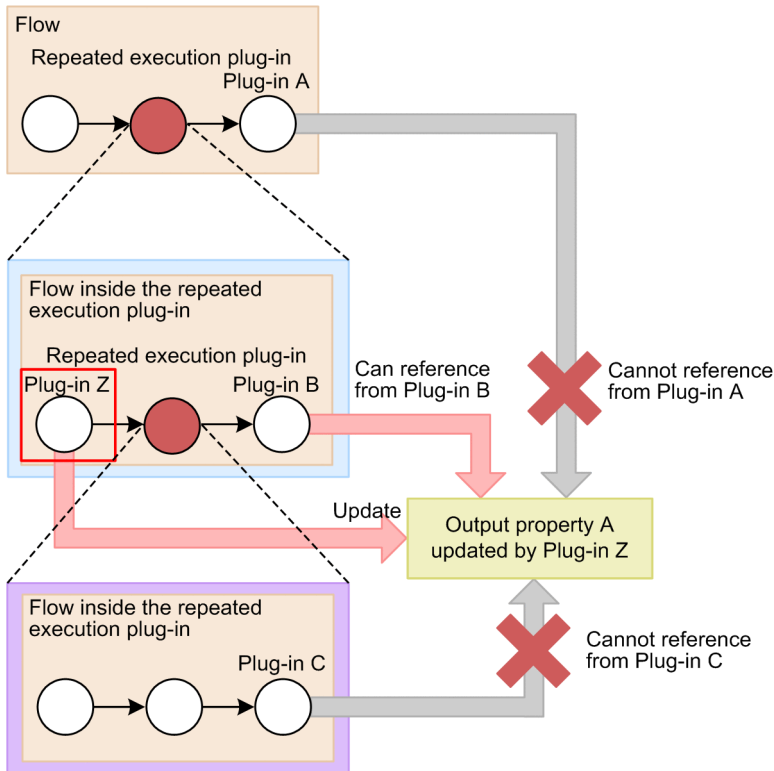
- The maximum number of flows that can be specified under repeated execution plug-ins is 10,000 per service. Set the inputProperties property of each repeated execution plug-in so that the total number of flows under repeated plug-ins does not exceed 10,000. Note that the number of flows does not include the number of flows executed in the top-level flow or the flows of flow plug-ins.

  For example, as shown in the diagram below, the inputProperties properties of the repeated execution plug-ins are set to repeat plug-in N twice, plug-in M twice, and plug-in Z ten times. Thus, the total number of the flows is calculated as follows: $N + N * M + Z (2 + 2 * 2 + 10) = 16$.
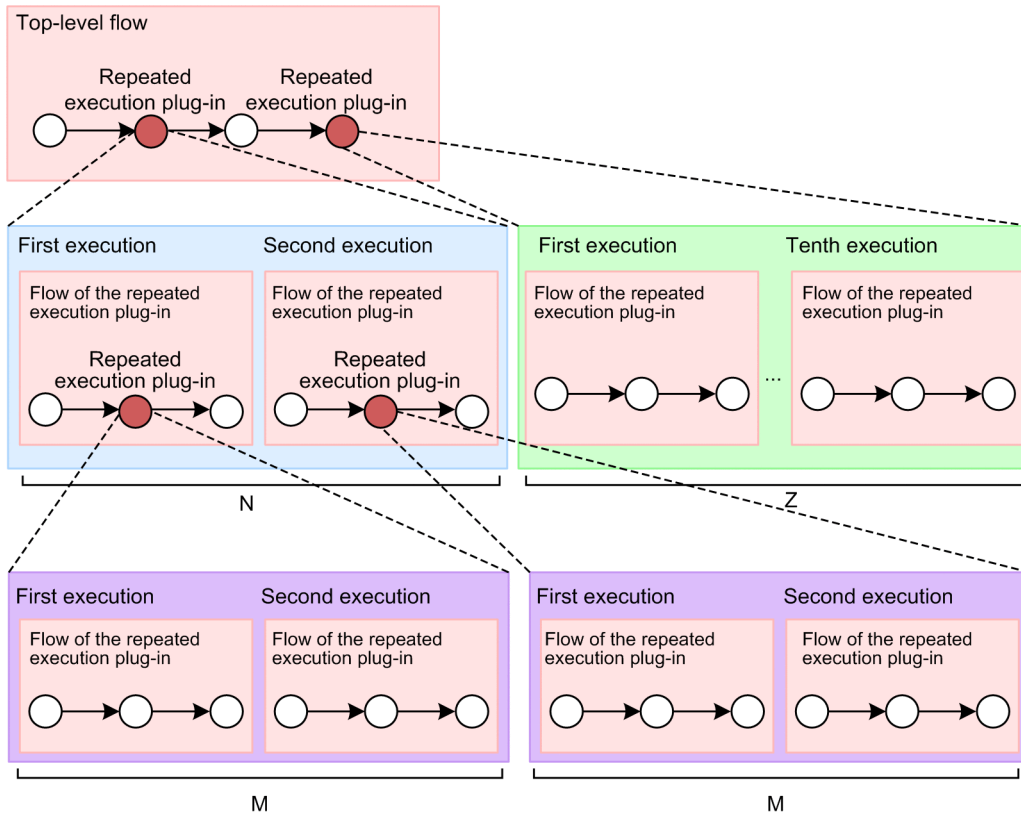
- A nested repeated execution plug-in might cause your browser response to slow down or cause a dialog box to appear indicating that your browser is not responding. In this case, decrease the value set for the inputProperties property of each repeated execution plug-in, and then try debugging again.

- When you use the **Retry the Task From the Failed Step** command with a repeated execution plug-in, processing restarts from the first step under the repeated execution plug-in. You cannot retry the task if the status of the step is *Failed* and the *Completed* status was set as a condition in the **Subsequent-step Execution Condition** area of the **Create Step** dialog box when the step was created.

- When you use the **Retry the Task From the Step After the Failed Step** command with a repeated execution plug-in, JP1/AO executes the next step in the plug-in. In this case, the step enters the *Completed* status. The status of the steps under the repeated execution plug-in are they will be as below.

  - In the case where the repeated execution plug-in exist under flow plug-in or step using a service component

    The *Completed* status remain unchanged. *Failed* or *Unexecuted* steps enter the *Waiting* status once, and after flow plug-in or step using a service component execution is completed, they enter *Unexecuted* status.

  - For conditions other than the above

    The *Completed* status remain unchanged. *Failed* or *Unexecuted* steps enter the *Waiting* status, and even after task execution is completed, they remain *Waiting* status.

Version

01.00.01

Tag

Control Flow

Return codes

Return code	Description
0	Ended normally.
1	Some of the repeated processing failed.
2	All of the repeated processing failed.
3	The total number of flows under repeated execution plug-ins in the service has exceeded the upper limit.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was executing.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid.
127	Another error has occurred.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
`inputProperties` [#1]	Input Properties	Specify an input property value for each repetition of the flow, using no more than 1,024 characters. You can specify a different property for each repetition. Use a comma to separate properties. Commas can only be used as delimiting characters. The maximum number of repetitions is 99. You cannot specify 100 or more comma-separated values.	--	Input	R
`outputProperties` [#2]	Output Properties	Outputs the value of the output property for the number of repetitions. The total output is 1,024 characters or less. At each repetition, one property value is output separated by a comma in the order specified in the `inputProperties` property. Use a comma as the delimiting character.	--	Output	O
`outputResult`	Results	The execution result of each flow is output, separated by commas. • `true` Output when the flow is executed successfully. • `false` Output when execution of the flow fails.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Required
`foreachMode`	Mode	Specify the execution method for the repeated flow. • `parallel` Repeated flows are executed in parallel. A maximum of 99 flows can be executed in parallel. If the maximum is exceeded, the excess flows are executed when the number of executing flows falls below the maximum. You can change the number of concurrently executable flows between 1 and 99 using the `foreach.max_value` key in the user-specified properties file (`config_user.properties`). Even if an error occurs, all the unexecuted flows will be executed. • `serial` Repeated flows are executed sequentially. If an error occurs, unexecuted repeated flows are not executed.	`parallel`	Input	R

#1

The values specified in the `inputProperties` property are stored in the `reserved.loop.input` reserved property used in repeated flows. A different value is stored in the reserved.loop.input property and the reserved.loop.index property for each iteration of the repeated flow. Because a different value is stored in the `reserved.loop.input` property and the reserved.loop.index reserved property for each iteration of the repeated flow, specify the property in the `?dna_reserved.loop.input?,?dna_reserved.loop.input?` format.

#2

The `outputProperties` property stores the value of the `reserved.loop.output` reserved property used in the repeated flow.

Related topics

• *User-specified properties file (config_user.properties)* in the *JP1/Automatic Operation Configuration Guide*

• *List of reserved properties* in the *JP1/Automatic Operation Service Template Development Guide*

4.2.5 Email notification plug-in

Function

This plug-in enables the connection to the SMTP server to transmit email with the specified recipient, subject, and body. In addition, editing the `mail.plugin.retry.interval` key of the user-specified properties file (`config_user.properties`) allows you to retry the operation if transmission fails.

Prerequisites for execution

• The following information is obtained from shared built-in service properties. Therefore, set the values for these items in advance in the **System Settings** area of the **Administration** window.

  • Address of the SMTP server

  • Port number

  • User ID

  • Password

  • Originator of the notification email

Cautionary notes

- Even if you do not specify the `toAddress`, `ccAddress`, and `bccAddress` properties, the return code will be 0.

- The mail address to be specified differs from the value of the built-in server share property. Therefore, make sure that you specify at least one of the `toAddress`, `ccAddress`, and `bccAddress` properties.

- If any of the `toAddress`, `ccAddress`, and `bccAddress` properties has an invalid email address specified, email transmission will fail to all the addresses.

- If you use machine-dependent characters or characters that are incompatible between character sets in the `mailSubject` or `mailBody` property, the characters are replaced with question marks (`?`) or other characters. In this scenario, either change the characters in the email, or change the encoding.

  The following characters might not be converted correctly:

  ～, ¥, ＼, ~, ∥, －, ¢, £, ¬

- If the execution of a task is stopped while the plug-in is executing, the status of the task becomes *Failed* or *Completed* when the processing of the email notification plug-in finishes. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set a **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- If you forcibly terminate a task while the plug-in is executing, the processing being executed is immediately forcibly terminated and the task enters the *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

Version

01.00.01

Tag

Mail, Notification

Return codes

Return code	Description
0	Ended normally.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was executing.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
70	The connection with the SMTP server failed.
78	Authentication failed.
79	Email transmission failed.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.

Return code	Description
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid.
127	Another error has occurred.

Properties list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
toAddress	To Addresses	Specify the email addresses of recipients to enter in the TO attribute, using no more than 1,024 characters. When specifying multiple addresses, separate them with commas.	--	Input	O
ccAddress	Cc Addresses	Specify the email addresses of recipients to enter in the CC attribute, using no more than 1,024 characters. When specifying multiple addresses, separate them with commas.	--	Input	O
bccAddress	Bcc Addresses	Specify the email addresses of recipients to enter in the BCC attribute, using no more than 1,024 characters. When specifying multiple addresses, separate them with commas.	--	Input	O
encodeType	Encoding	Specify the encoding of the email as one of the following: • us-ascii • iso-2022-jp • shift_jis • euc-jp • utf-8	utf-8	Input	R
mailSubject	Subject	Specify the subject line of the email using no more than 256 characters.	--	Input	O
mailBody	Body	Specify the body text of the email using no more than 1,024 characters.	--	Input	O

Related topics

• *User-specified properties file (config_user.properties)* in the *JP1/Automatic Operation Configuration Guide*

4.2.6 User-response wait plug-in

Function

This plug-in enables the operator to select the processing of the succeeding step during the execution of the service. To select the processing, the operator uses the **Enter Response** window. You can also set up email notification to notify the operator that a task is waiting for a response.

The methods of accessing the **Enter Response** window are as follows:

• Linking from the URL in the response wait notification mail

- Using the task list displayed in the **Tasks** or **Debug** tab of the **Tasks** window
- Using the **Task Details** window

Prerequisites for execution

- The following information is obtained from shared built-in service properties. Therefore, if you want the operator to be notified when a task is waiting for a response, set the values for these items in advance in the **System Settings** area of the **Administration** window.
    - Address of the SMTP server
    - Port number
    - User ID
    - Password
    - Originator of the notification email

Cautionary notes

- The email reporting that a task is waiting for a user response is not sent if any of the following applies:
    - No value is set in the shared built-in service property
    - SMTP has not been set up
    - None of the `toAddress`, `ccAddress`, and `bccAddress` properties are specified
    - An invalid email address is specified in any of the `toAddress`, `ccAddress`, and `bccAddress` properties
- The mail address to be specified differs from the value of the built-in server share property. Therefore, make sure that you specify at least one of the `toAddress`, `ccAddress`, and `bccAddress` properties.
- Do not stop the execution of the user-response wait plug-in while the **Respond** window is displayed and waiting for operator response. Stopping the execution causes an error even if the operator selects the processing for the subsequent step.
- A URL that links to the **Respond** window is automatically entered in the body of the notification email. If more than one step in a given task is waiting for a response, each step that executes the user-response wait plug-in will have a different URL, with each URL displaying the **Respond** window for that step.
- If you stop a task during plug-in execution, any processing that is in progress is immediately terminated and the task enters the *Failed* status.
- If you forcibly terminate a task while the plug-in is executing, the processing being executed is immediately forcibly terminated and the task enters the *Failed* status. A return code of 80 appears for this step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.
- You cannot change the layout of the **Respond** window.
- Any return code from the properties `labelButton1` to `labelButton9` is considered an abnormal end, and error information is output to the task log. For the `labelButton0` property and the properties `labelButton1` to `labelButton9`, if the output log level is 10 or 20, the details to be output in the task log differ depending on the response result.
- If you use machine-dependent characters or characters that are incompatible between character sets in the `mailSubject` or `mailBody` property, the characters are replaced with question marks (?) or other characters. In this scenario, either change the characters in the email, or change the encoding.

    The following characters might not be converted correctly:

    ～, ￥, ＼, ~, ∥, －, ¢, £, ¬

- If `parallel` is specified for the `foreachMode` property of the repeated execution plug-in, changing the parameter of the service property on the user-response wait plug-in under the repeated execution plug-in sometimes updates the unexpected value, please don't change the contents of the service property (do not specify input tag (<input>)).

Version

01.01.00

Tag

User Interaction

Return codes

Return code	Description
0 to 9	Returns the return code corresponding to the `labelButton1` to `labelButton9` properties. If a timeout occurs while waiting for a response, the value specified in the timeOutDefault property is returned as the return code. Therefore, the meaning of the return code depends on the service template that is using the plug-in.
10 to 63	If a timeout occurs while waiting for a response, the value specified in the `timeOutDefault` property is returned as the return code.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was executing.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The value specified as the mapping parameter in the Response Input dialog box is invalid.
127	Another error has occurred.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
`toAddress`	To Addresses	Specify the email addresses of recipients to enter in the TO attribute, using no more than 1,024 characters. When specifying multiple addresses, separate them with commas.	--	Input	O
`ccAddress`	Cc Addresses	Specify the email addresses of recipients to enter in the CC attribute, using no more than 1,024 characters. When specifying multiple addresses, separate them with commas.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
bccAddress	Bcc Addresses	Specify the email addresses of recipients to enter in the BCC attribute, using no more than 1,024 characters. When specifying multiple addresses, separate them with commas.	--	Input	O
mailSubject	Subject	Specify the subject line of the email using no more than 256 characters.	--	Input	O
mailBody	Body	Specify the body text of the email using no more than 1,024 characters.	--	Input	O
encodeType	Encoding	Specify the encoding of the email as one of the following: If you do not specify a value for this property, utf-8 is assumed. • us-ascii • iso-2022-jp • shift_jis • euc-jp • utf-8	utf-8	Input	O
dialogText	Response Input Dialog Box	Specify the information to display in the **Respond** window using 1,024 characters or less. You can specify the information in text or HTML format.	--	Input	O
responseTimeOut	Response Timeout	Specify the time period, between 1 and 9,999 (in minutes), before timeout occurs while waiting for a response.	1440	Input	R
timeOutDefault	Default Return Value	Specify the return code to return when a timeout occurs while waiting for a response. When the timeout period has passed, this value is returned as the return code. For example, when 0 is specified and the timeout period elapses, the processing corresponding to the button associated with the labelButton0 property will be executed. Specify a return code in the range from 0 to 63.	0	Input	R
labelButton0	Label Button 0	Specify the button label for the response that generates return code 0, using a maximum of 256 characters. You can display buttons that meets the user's operational needs in the **Respond** window.	OK	Input	R
labelButton1	Label Button 1	Specify the button label for the response that generates return code 1, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** dialog box. If you omit this property, the corresponding button is not displayed.	--	Input	O
labelButton2	Label Button 2	Specify the button label for the response that generates return code 2, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** dialog box. If you omit this property, the corresponding button is not displayed.	--	Input	O
labelButton3	Label Button 3	Specify the button label for the response that generates return code 3, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** window. If you omit this property, the corresponding button is not displayed.	--	Input	O
labelButton4	Label Button 4	Specify the button label for the response that generates return code 4, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** window. If you omit this property, the corresponding button is not displayed.	--	Input	O
labelButton5	Label Button 5	Specify the button label for the response that generates return code 5, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** window.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
labelButton 5	Label Button 5	If you omit this property, the corresponding button is not displayed.	--	Input	O
labelButton 6	Label Button 6	Specify the button label for the response that generates return code 6, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** window. If you omit this property, the corresponding button is not displayed.	--	Input	O
labelButton 7	Label Button 7	Specify the button label for the response that generates return code 7, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** window. If you omit this property, the corresponding button is not displayed.	--	Input	O
labelButton 8	Label Button 8	Specify the button label for the response that generates return code 8, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** window. If you omit this property, the corresponding button is not displayed.	--	Input	O
labelButton 9	Label Button 9	Specify the button label for the response that generates return code 9, using a maximum of 256 characters. You can display a button that meets the user's operational needs in the **Respond** window. If you omit this property, the corresponding button is not displayed.	--	Input	O

HTML tags and attributes that can be specified in the dialogText property

When specifying the display contents in the `dialogText` property in HTML format, use the tags listed in the following table.

Table 4–6: List of HTML tags and attributes available in the dialogText property

Specifiable tag	Specifiable attributes	Notes
Anchor tag (`<a>`)[#1]	href	• Specify an absolute URL that begins with `http://` or `https://`. • You can access the JP1/IM - NP interface from the **Respond** window by using a single sign-on. To allow single sign-ons, you must specify the link to the JP1/IM - NP interface in the href attribute, and include in the link the placeholder for the JP1 token. The placeholder for the JP1 token is `[JP1TOKEN]` (not case sensitive). `[JP1TOKEN]` is replaced by the JP1 token in the **Respond** window. However, both of the following conditions must be met for this to take place: • The `href` attribute is enclosed by double quotation marks ("). • The external authentication linkage function (linkage with the authentication features of JP1/Base) is enabled. The character string `[JP1TOKEN]` can be replaced only once within a given anchor tag. Do not specify `[JP1TOKEN]` more than once. An example of specifying the `dialogText` plug-in property is shown below. ``` Apply the security patch manually by r eferring to the link below. After appl ying the security patch, click OK. < a href="http://localhost:9999/ucnpBase/p ortal/screen/Home/action/PLoginUser?jp1t ```

Specifiable tag	Specifiable attributes	Notes
Anchor tag (`<a>`)[#1]	href	```oken=[JP1TOKEN]" target="_blank">Manual security patch application procedure```
	target	--
Bold tag (`<b>`)	--	--
Break tag (` `)	--	--
Font tag (`<font>`)	color	Specify the color value in hexadecimal (#000000 to #FFFFFF).
	face	--
	size	--
Italic tag (`<i>`)	--	--
Underline tag (`<u>`)	--	--
Form tag (`<form>`)	--	--
Input tag (`<input>`)[#2]	name	If you specify a service property key, you can change the mapping parameters of that service property in the Response Input dialog box when the system is waiting for a response. If you specify `password` for the `type` attribute, specify `password` for the data type of the service property you map. A string printed to entered-value of the KNAE08352-I message written to the task log changes depending on the data type, as follows: `password` type: ******** Not `password` type: The entered value
	type	The specifiable values are as follows: • `text` • `checkbox` • `radio` • `password`
	value	If you specify `checkbox` or `radio` for the `type` attribute, you must also specify a value for the `value` attribute. The values specified for the `value` attributes of the selected check boxes or radio buttons become the mapping parameters of the service property specified for the `name` attribute.
Select tag (`<select>`)	name	If you specify a service property key, you can change the mapping parameters of that service property in the Response Input dialog box when the system is waiting for a response.
option tag (`<option>`)[#3]		The values specified for the `value` attributes of the items selected in a menu or list box become the mapping parameters of the service property specified for the `name` attribute.

Legend:

--: Not applicable.

#1

Link text is not displayed in blue. Specify `_blank` for the target attribute.

#2

If you change a parameter of the service property for the user-response wait plug-in under the repeated execution plug-in (parallel), you might update an unexpected value. Make sure that you do not change any value of the

service property (do not specify an input tag) for the user-response wait plug-in under the repeated execution plug-in (parallel).

#3

Enclose option tags in Select tags.

Related topics

- *Linking to the JP1/Base authentication function* in the *JP1/Automatic Operation Configuration Guide*
- *Linking with JP1/Base authentication* in the *JP1/Automatic Operation Administration Guide*
- *Linking with JP1/IM-NP business content* in the *JP1/Automatic Operation Administration Guide*

4.2.7 Standard output plug-in

Function

This plug-in provides compatibility with the service templates that were provided by JP1/AO and JP1/AO Content Pack whose versions are 10-02 or earlier.

You can combine the following values and output them to standard output:

- Value of the service property
- Value of the reserved property
- Literal character string

This enables the value output to the standard output file by the JP1/AO step to be assigned to a macro variable in a passing information setting job in JP1/AJS3. Note that to assign the value output to the standard output file to a macro variable, advance configuration is required.

Figure 4–2: Standard output plug-in
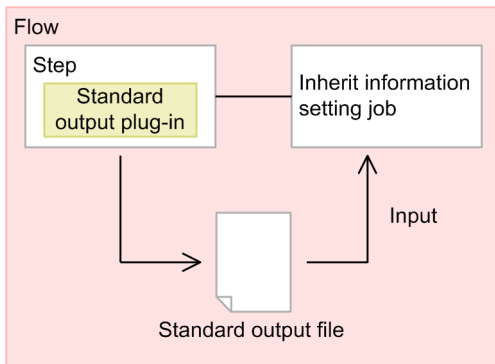
Cautionary notes

- If the execution of a task is stopped while the plug-in is executing, the status of the task becomes *Failed* or *Completed* when the processing of the standard output plug-in finishes. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set a **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- If you forcibly terminate a task while the plug-in is executing, the processing being executed is immediately forcibly terminated and the task enters the *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

Version

01.00.01

Tag

None

Return codes

Return code	Description
0	Ended normally.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was executing.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid.
127	Another error has occurred.

Property list

The following table describes the property.

Property key	Property name	Description	Default value	I/O type	Required
stdoutProperty	Standard Output Value	Specify the value to be output to standard output. You can use one or a combination of the following formats. • ?dna_*service-property-property-key*? (when referencing a value input to a service property) • ?dna_*reserved-property-property-key*? (when referencing a value input to a reserved property) • *literal-character-string*	--	Input	R

Reserved properties whose values can be output

The following table lists which reserved properties can be output.

Table 4–7: List of reserved properties that can be output

Reserved property	Can be output
reserved.loop.index	Y

Reserved property	Can be output
`reserved.loop.input`	Y
`reserved.loop.output`	Y
`reserved.service.name`	Y
`reserved.service.serviceGroupName`	Y
`reserved.step.path`	Y
`reserved.step.prevReturnCode`	Y
`reserved.task.description`	Y
`reserved.task.dir`	Y
`reserved.task.id`	Y
`reserved.task.name`	Y
`reserved.task.submitter`	Y
`reserved.task.tags`	Y
`reserved.task.url`	Y
`reserved.terminal.account`	N
`reserved.terminal.password`	N
`reserved.terminal.suPassword`	N

Legend:

Y: Can be output. N: Cannot be output.

Related topics

- *List of reserved properties* in the *JP1/Automatic Operation Service Template Development Guide* .

4.2.8 Terminal connect plug-in

Function

This plug-in allows you to connect to an operation target device by using Telnet or SSH and perform authentication.

When connecting by Telnet, set the user ID and password as needed. For SSH connections, you can select password authentication, public key authentication, or keyboard interactive authentication as the authentication method. You need to set the following information in the plug-in properties or in the **Agentless Connection Destinations** area.

- Authentication method (password authentication, public key authentication, or keyboard interactive authentication)
- Information required for password authentication or keyboard interactive authentication (user ID and password)
- Information required for public key authentication (user ID)

The commands specified in the terminal command plug-in are executed with the privileges of the user authenticated by the terminal connect plug-in. To execute a command with administrator privileges, you need to execute the command in the terminal command plug-in that elevates the user to administrator privileges.

Prerequisites for execution

- The plug-in uses the protocol specified in the `protocol` property to communicate with the JP1/AO server.

- For details about the operation target devices that can be used as connection destinations, see A.1(3) Operation target devices usable as connection destinations.

- When connecting by Telnet, the plug-in detects when the operation target device is prompting the operator for a user ID and password. Set one of the following files as needed. If you set both files, JP1/AO uses the values set in the connection-destination property file (*connection-destination-name*`.properties`).

  - `telnet.prompt.account` and `telnet.prompt.password` in the connection-destination property file (*connection-destination-name*`.properties`)

  - `plugin.terminal.prompt.account` and `plugin.terminal.prompt.password` in the user-specified properties file (`config_user.properties`)

Cautionary notes

- The plug-in waits for standard output for the length of time specified in the `readWaitTime` property. If the time specified in `readWaitTime` elapses after output to standard output has ceased, plug-in execution ends in an error. Make sure that the value of the `readWaitTime` property is appropriate before using the plug-in.

- If the value output to standard output matches the regular expression pattern specified in the `promptPattern` property, the plug-in terminates immediately.

- After using Telnet to establish a connection to an operation target device, the plug-in waits for standard output and standard error output for the length of time set in the `telnet.connect.wait` property in the user-specified properties file (`config_user.properties`). If the connection destination service is a Web server or other entity that does not produce standard output or standard error output, set the port number of the service in the `telnet.noStdout.port.list` property of the connection-destination property file (*connection-destination-name*`.properties`). If you set the port number, the plug-in finishes executing without waiting for standard output or standard error output.

- If the execution of a task is stopped while the plug-in is executing, the status of the task becomes *Failed* or *Completed* when the processing of the terminal connect plug-in finishes. The session and token are then discarded. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set a **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- If you forcibly terminate a task while the plug-in is running, reading from standard output and prompt detection are canceled and the task enters the *Failed* status. The session and token are then discarded. In this case, a return code of `80` appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

- If the status of the subsequent step of the terminal connect plug-in is *Failed*, the Telnet or SSH connection is terminated. For this reason, if you use the **Retry the Task From the Failed Step** or **Retry the Task From the Step After the Failed Step** command to retry the task, the processing of the terminal command plug-in fails. However, this does not apply when retrying a repeated execution plug-in to which the terminal connect plug-in is subordinate.

- The terminal connect plug-in maintains the connection even if Telnet authentication fails. To terminate the connection, you need to execute a terminal disconnect plug-in. However, if the task enters *Failed* or *Completed* status, the connection is terminated automatically and you do not need to execute the terminal disconnect plug-in.

- The standard output and standard error output of a terminal connect plug-in is output as the standard output of the JP1/AO step. The size of the standard output and standard error output is the total number of bytes received by JP1/AO. If the Telnet server or SSH server is configured to replace the linefeed character `LF` with `CR+LF`, allow two bytes for each linefeed character. The results of processing whose total standard output and standard error output exceeds 100 KB is outside the scope of product support. Make sure that the total standard output and standard error output does not exceed 100 KB.

- The terminal connect plug-in cannot detect authentication errors in Telnet connections. For this reason, specify a regular expression pattern that detects authentication errors in standard output and standard error output in any of `stdoutPattern1` to `stdoutPattern3`.

Version

02.00.00

Tag

Terminal

Return codes

Return code	Description
0 to 63	If standard output or standard error output matches the regular expression pattern specified in the `returnCodePattern` property, the plug-in returns the return code specified in the `returnCode` property. If standard output and standard error output do not match the pattern specified in the `returnCodePattern` property, the plug-in returns the return code specified in the `defaultReturnCode` property. Therefore, the meaning of the return code depends on the service template that is using the plug-in.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was being executed.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	When the protocol is SSH, authentication with the operation target device failed for one of the following reasons: • Password authentication failed. • Public key authentication has not been set up on the operation target device. • When the public key was being authenticated, the private key did not match the pass phrase. • When the public key was being authenticated, the private key did not correspond to the public key registered in the operation target device. • When the public key was being authenticated, an invalid private key was used.
69	An environment variable of the task-processing engine could not be acquired.
70	The connection with the operation target device failed.
76	The connection timed out.
77	The host name of the operation target device could not be resolved.
78	When connecting by SSH, authentication on the operation target device failed. • Keyboard interactive authentication failed.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid.
87	Standard output and standard error output have timed out.
88	The maximum number of tokens (99 per task) has been reached. The total standard output and standard error output has exceeded 100 KB.

Return code	Description
127	Another error has occurred.

property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
destinationHost	Destination Host	Specify the IPv4 address, IPv6 address, or host name of the operation target device using no more than 1,024 characters. Multiple IP addresses or host names cannot be specified.	--	Input	R
protocol	Protocol	Specify the protocol to use when connecting to the operation target device. You can specify the following protocols: • Telnet • SSH	Telnet	Input	O
credentialType	Credentials Type	As the authentication type to use during command or script execution, specify either of the following: destination 　Specify this option to use the authentication information (user ID, password, and administrator password) set in the **Connection Destinations** area. Specifying destination applies the authentication information set in the connection destination for Telnet or SSH according to the IP address of the logged-in JP1/AO user. You can omit the specification of properties relating to authentication information (account, password, suPassword, publicKeyAuthentication, or keyboardInteractiveAuthentication). property 　Specify this option to use the values specified in the following properties as authentication information: 　• account 　• password 　• suPassword 　• publicKeyAuthentication 　• keyboardInteractiveAuthentication	--	Input	R
account	User ID	Specify the user ID to use to log in to the operation target device, using a maximum of 256 characters. This property is required if both of the following are true: • SSH is specified in the protocol property. • property is specified in the credentialType property.	--	Input	O
password	Password	Specify the password to use to log in to the operation target device, using a maximum of 256 characters. This property is required if all of the following conditions are met: • SSH is specified in the protocol property. • property is specified in the credentialType property. • false is specified in the publicKeyAuthentication property. If the OS of the operation target device is UNIX and true is specified for the publicKeyAuthentication property, any value you specify is ignored. You can, however, set a value for the reserved.terminal.password reserved property to reference.	--	Input	O
suPassword	Administrator	Specify the password required to elevate the user to administrator privilege, using a maximum of 256 characters. The value of the suPassword property	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
suPassword	Password	is assigned to the `reserved.terminal.suPassword` property when you specify the latter in the command line of a terminal command plug-in.	--	Input	O
publicKey Authentic ation	SSH public key authentication setting	If the OS of the operation target device is UNIX and the protocol is SSH, specify either of the following depending on whether you want to use public key authentication. The values are not case sensitive. If you do not specify a value, false applies. You can omit this property when the operation target device is running Windows. true 　　Specify this option to use public key authentication. false 　　Specify this option to not use public key authentication.[#1]	false	Input	O
keyboardI nteractiv eAuthenti cation	SSH keyboard interactive authentication setting	If the OS of the operation target device is UNIX, specify either of the values below, depending on whether you want to use keyboard interactive authentication for connection. The values are not case sensitive. If you do not specify a value, `false` is assumed. You can omit this property when the operation target device is running Windows. Note, however, that the value of the keyboardInteractiveAuthentication property takes effect only if the publicKeyAuthentication property is set to `false`. If you set the publicKeyAuthentication property to `true`, public key authentication is used even if you set the keyboardInteractiveAuthentication property to `true`. true 　　Specify this value to use keyboard interactive authentication. false 　　Specify this value to not use keyboard interactive authentication.[#]	false	Input	O
port	Port Number	Specify the port number to use when connecting to the operation target device.	--	Input	O
charset	Character Set	Specify the character set to use when writing to the standard input of the operation target device and reading from standard output and standard error output. Specify the same character set as that of the user who logs in to the operation target. The names of character sets are not case sensitive. You can specify the following character sets: • EUC-JP • eucjp • ibm-943C • ISO-8859-1 • MS932 • PCK • Shift_JIS • UTF-8 • windows-31j	--	Input	O
lineEnd	Newline Character	When `Telnet` is specified in the `protocol` property of the terminal connect plug-in, specify the newline character to append to the values specified in the `account` and `password` properties. You can specify the following: • CR • LF • CRLF To use `0x0D` as the newline character, specify CR. To use `0x0A`, specify LF, and to use `0x0D0A`, specify CRLF.	CR	Input	O

Property key	Property name	Description	Default value	I/O type	Required
promptPattern	Prompt Pattern	Specify the regular expression pattern to use to detect prompts in standard output and standard error output, using no more than 1,024 characters. This property is used to detect when the operation target device is ready to execute commands after the connection is established. Specify the pattern in a PCRE-compliant format. When the output matches the specified regular expression pattern, the plug-in ends immediately. If the output does not match the pattern, the plug-in ends in an error when the time set in the `readWaitTime` property has elapsed since the last output to standard output or standard error output.	--	Input	R
readWaitTime	Standard Output Wait Time	When logging in to an operation target device, specify how long to wait after output to standard output or standard error output until the next output. Specify the timeout time in a range from 1 to 86,400,000 (in milliseconds).	60000	Input	O
token	Token String	The token string that identifies the session is output to this property. You can specify the character string output to this property in the `token` property of terminal command plug-ins and terminal disconnect plug-ins.	--	Output	O

outputCondition[#2]	Condition for outputting standard output properties	Specify the condition for outputting values to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties.
		You can specify either of the following values:
		
		always
		    Values are always output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties. Null characters are output if the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties.
		
		patternMatch
		    Values are output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties only if the standard output and standard error output match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties. If the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, no values are output. In this case, values are not updated even if the service properties are mapped to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties.
			always	Input	R

stdoutPattern1	Standard Output Pattern 1	Specify the regular expression pattern of the standard output and standard error output to output to the `stdoutProperty1` property, using a maximum of 1,024 characters. Specify the pattern in a PCRE-compliant format.[#3] If you use more than 1,024 characters, the 1,025th and subsequent characters are discarded.	--	Input	O
stdoutProperty1	Standard Output Property 1	The character string extracted by the `stdoutPattern1` property is output to this property.	--	Output	O
stdoutPattern2	Standard Output Pattern 2	Specify the regular expression pattern of the standard output and standard error output to output to the `stdoutProperty2` property, using a maximum of 1,024 characters. Specify the pattern in a PCRE-compliant format.[#3] If you use more than 1,024 characters, the 1,025th and subsequent characters are discarded.	--	Input	O
stdoutProperty2	Standard Output Property 2	The character string extracted by the `stdoutPattern2` property is output to this property.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Required
stdoutPattern3	Standard Output Pattern 3	Specify the regular expression pattern of the standard output and standard error output to output to the stdoutProperty3 property, using a maximum of 1,024 characters. Specify the pattern in a PCRE-compliant format.[#3] If you use more than 1,024 characters, the 1,025th and subsequent characters are discarded.	--	Input	O
stdoutProperty3	Standard Output Property 3	The character string extracted by the stdoutPattern3 property is output to this property.	--	Output	O
defaultReturnCode	Default Return Code	Specify the value to return as the return code when standard output and standard error output do not match the regular expression pattern specified in the returnCodePattern property. Specify a value in the range from 0 to 63.	0	Input	O
returnCodePattern	Return Code Pattern	Specify the regular expression pattern for standard output and standard error output, using a maximum of 1,024 characters. Specify the pattern in a PCRE-compliant format. If standard output and standard error output match the specified pattern, the plug-in returns the value specified in the returnCode property.	--	Input	O
returnCode	Return Code	Specify the return code to be returned by the plug-in when standard output and standard error output match the pattern set in the returnCodePattern property. You can specify a value in the range from 0 to 63. If you omit this property, the plug-in returns the value specified in the defaultReturnCode property.	--	Input	O

#1

If you set false for both the publicKeyAuthentication and keyboardInteractiveAuthentication properties, password authentication is used.

#2

This property is not available for plug-ins of versions earlier than 02.00.00. For versions earlier than 02.00.00, the system behaves as if patternMatch is specified. When plug-ins are updated to their latest versions, the value of this property will be reset to the default value (always). Reconfigure this property if necessary.

#3

- The parts grouped by parentheses are extracted by the regular expression.
- If you specify multiple groups in the regular expression, only values that match the first group are stored in the output property of the plug-in.
- If the regular expression applies to multiple value ranges, only the first range of values is stored in the output property of the plug-in. Multiple value ranges cannot be stored in an output property.
- If you specify "(.*)", you can extract the character string from the beginning to the line feed of the character string including the line feed, such as the execution result of any command.

Example of using the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, and the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties

You can compare the standard output and the standard error output to the values of the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, and then store the results in the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties. The following figure shows the data flow when specifying aaabbb(.*) in stdoutPattern1.

Figure 4–3: Example of using the stdoutPattern and stdoutProperty properties

stdoutPattern1 (Standard Output Pattern 1): aaabbb(.*)

stdoutProperty1 (Standard Output Property)

As defined in `stdoutPattern1`, for the standard output `aaabbbccc`, the value after `aaabbb` (in this case `ccc`) is extracted. The extracted value is stored in the `stdoutProperty1` property.

You can use the outputCondition property to specify whether values are to be output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties in the following case: the standard output does not match the regular expressions specified for the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties and, as a result, the values cannot be extracted.

Priority when plug-in properties are set in several locations

Information related to plug-in properties can also be set in a connection destination properties file (*connection-destination-name*`.properties`) or the user-specified properties file (`config_user.properties`). When a value is set for a given property in multiple locations, the following priority applies:

Table 4–8: Priority of information related to plug-in properties

Setting	Location	Property key	Priority	Default value
Telnet port number	Plug-in property	`port`	1	--
	Connection destination properties file (*connection-destination-name*`.properties`)	`telnet.port`	2	--
	User-specified properties file (`config_user.properties`)	`telnet.port.number`	3	23
SSH port number	Plug-in property	`port`	1	--
	Connection destination properties file (*connection-destination-name*`.properties`)	`ssh.port`	2	--
	User-specified properties file (`config_user.properties`)	`ssh.port.number`	3	22
Character set name[#]	Plug-in property	`charset`	1	--
	Connection destination properties file (*connection-destination-name*`.properties`)	`terminal.charset`	2	--

Legend:

    --: Blank by default.

#

    If no value is set in the plug-in property or the connection destination properties file (*connection-destination-name*`.properties`), `UTF-8` is set.

Related topics

- *User-specified properties file (config_user.properties)* and *Connection-destination property file (connection-destination-name.properties)* in the *JP1/Automatic Operation Configuration Guide*

- 4.2.9 Terminal command plug-in

- 4.2.10 Terminal disconnect plug-in

- A.2 List of protocols used by each plug-in

- Procedure to set public key authentication for SSH connections in the *JP1/Automatic Operation Configuration Guide*

(1) Example of using the terminal connect plug-in

Example of judging Telnet authentication errors

The following describes an example of using plug-in properties to realize the following processing:

- Return 0 when login is successful.

- Return 1 when login fails.

- When login is successful, store the date and time of the last login and information about the connection source in the `stdoutProperty1` property.

The following table describes examples of the values you can specify in plug-in properties to achieve this processing.

Property key	Example of specified value	Meaning of specified value
promptPattern	`^\[prompt\]|` `^Login incorrect`	If the contents of standard output matches `[prompt]` or `Login incorrect`, the plug-in terminates and determines the return code.
stdoutPattern1	`^Last login:(.*)`	The character string following `Last login:` in standard output is stored in the `stdoutProperty1` property.
defaultReturnCode	0	If the contents of standard output do not match the value specified in the `returnCodePattern` property, 0 is returned.
returnCodePattern	`^ Login incorrect`	If the contents of standard output match `Login incorrect`, the plug-in returns the return code specified in the `returnCode` property.
returnCode	1	If the contents of standard output matches the value specified in the `returnCodePattern` property, the plug-in returns 1.

The following describes the operation of a plug-in with the above properties when it encounters the following standard output:

Example when login is successful

```
Welcome to Server
login:user
password:

Login OK
Last login: Mon Mar 18 13:21:13 2013 from ServerA
[prompt]>
```

Because the contents of standard output match the value specified in the `promptPattern` property, the terminal connect plug-in determines the return code. In this case, because the standard output does not match the

value specified in the `returnCodePattern` property, the plug-in returns code (0), the value specified in the `defaultReturnCode` property.

The character string extracted by the `stdoutPattern1` property (`Mon Mar 18 13:21:13 2013 from ServerA`) is stored in the `stdoutProperty1` property.

Example when login fails

```
Welcome to Server
login: user
Password:
Login incorrect
```

Because the contents of standard output match the value specified in the `promptPattern` property, the return code of the terminal connect plug-in is determined. In this case, because the return code matches the value specified in the `returnCodePattern` property, the plug-in returns code (1), the value specified in the `returnCode` property.

Checking whether an authentication error has occurred when using SSH

When using SSH as the protocol, you can check whether an authentication error has occurred by reviewing the return code of the terminal connect plug-in.

Authentication errors are detected using the authentication information set in the **Agentless Connection Destinations** area or the authentication-related properties of the terminal connect plug-in (`account`, `password`, `publicKeyAuthentication`, and `keyboardInteractiveAuthentication`). This process does not use the superuser password set in the **Agentless Connection Destinations** area or the `suPassword` property of the terminal connect plug-in.

If an authentication error is detected, the plug-in returns code 78. Note that the return code of the plug-in will be 70 if destination is specified for the credentialType property and the authentication information in the **Connection Destinations** area is set incorrectly.

Example of connecting to a service such as an HTTP server that does not produce standard output

The following describes an example of connecting to a service that does not produce standard output. This example assumes that `80` is specified in the `telnet.noStdout.port.list` property in the connection-destination property file (*connection-destination-name*`.properties`).

In this case, the values specified in the following properties are ignored, and the plug-in returns code 0.

- `credentialType`
- `account`
- `password`
- `suPassword`
- `publicKeyAuthentication`
- keyboardInteractiveAuthentication
- `charset`
- `lineEnd`
- `promptPattern`
- `readWaitTime`
- `stdoutPattern1` to `stdoutPattern3`

- `defaultReturnCode`
- `returnCodePattern`
- `returnCode`

4.2.9 Terminal command plug-in

Function

This plug-in allows you to execute a specified command on an operation target device connected to by a terminal connect plug-in.

The commands specified in the terminal command plug-in are executed with the privileges of the user authenticated by the terminal connect plug-in. To execute a command with administrator privileges, the terminal command plug-in must execute the command that elevates the user to administrator privileges.

Prerequisites for execution

- The protocol specified in the `protocol` property of the terminal connect plug-in is used to communicate with the JP1/AO server. For details, see the description of the `protocol` property in 4.2.8 Terminal connect plug-in.

- For details about the operation target devices that can be used as connection destinations, see A.1(3) Operation target devices usable as connection destinations.

- A connection must have been established with the operation target device by a terminal connect plug-in.

Cautionary notes

- The plug-in waits for standard output for the length of time specified in the `readWaitTime` property. If the time specified in `readWaitTime` elapses after output to standard output has ceased, plug-in execution ends in an error. Make sure that the value of the `readWaitTime` property is appropriate before using the plug-in. Any information output after the plug-in has timed out is discarded.

- If the value output to standard output matches the regular expression pattern specified in the `promptPattern` property, the plug-in terminates immediately.

- If the command outputs information one page at a time, the system assumes that standard output has ceased. If the time period specified in the `readWaitTime` property then passes, the plug-in ends with an error. Make sure that the command executed by the terminal command plug-in is not configured to output results one page at a time.

- Echoed command lines are also output to standard output. When needed, configure the command to not echo back.

- If execution of a task is stopped during plug-in execution, the status of the task becomes *Failed* or *Completed* when the processing of the terminal command plug-in has finished. The session and token are then discarded. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- If you forcibly terminate a task during plug-in execution, reading from standard output and prompt detection are canceled and the task enters *Failed* status. The session and token are then discarded. In this case, a return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

- When a task is forcibly terminated during plug-in execution, the execution results of the command or script specified in the commandLine property are outside the scope of product support.

- If the status of the subsequent step of the terminal connect plug-in is *Failed*, the Telnet or SSH connection is terminated. For this reason, if you use the **Retry the Task From the Failed Step** or **Retry the Task From the Step**

After the Failed Step command to retry the task, the processing of the terminal command plug-in fails. This does not apply when retrying a repeated execution plug-in to which the terminal connect plug-in is subordinate.

- The standard output and standard error output of the terminal command plug-in is output as the standard output of the JP1/AO step. The size of the standard output and standard error output is the total number of bytes received by JP1/AO. If the Telnet server or SSH server is configured to replace the linefeed character LF with CR+LF, allow two bytes for each linefeed character. The results of processing whose total standard output and standard error output exceeds 100 KB is outside the scope of product support. Make sure that the total standard output and standard error output does not exceed 100 KB.

- If you intend to specify non-ASCII characters in the `commandLine` property, see A.4 Prerequisites for executing command lines containing non-ASCII characters in UNIX.

- Interactive commands and script that seek user input and commands that do not end automatically using a GUI display or the like cannot be executed.

- Depending on the OS specifications of the operation target device, if a command line that exceeds the console width is specified for the commandLine property, the command line character string may be split and entered. At this time, since the prompt is displayed before the command execution is completed, the part may not be terminated correctly. In that case, it can be avoided by expanding the console width. If the operation target device is Linux, the console width can be expanded by executing the following command.

```
stty cols [ConsoleWidth]
```

For the [ConsoleWidth], specify a value greater than or equal to "number of prompt characters + number of command line characters + 10". The extended console width is valid until the connection with an operation target device is terminated using the terminal disconnect plug-in, or the session and token are then discarded.

Version

02.00.00

Tag

Terminal

Return codes

Return code	Description
0 to 63	If standard output and standard error output match the regular expression pattern specified in the `returnCodePattern` property, the plug-in returns the return code specified in the `returnCode` property. However, if the output does not match the pattern, the plug-in returns the return code specified in the `defaultReturnCode` property. Therefore, the meaning of the return code depends on the service template that is using the plug-in.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was being executed.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
70	The connection with the operation target device was lost.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.

Return code	Description
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid. Alternatively, an input property has an invalid token.
87	Standard output and standard error output have timed out.
88	The total standard output and standard error output has exceeded 100 KB.
127	Another error has occurred.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
token	Token	Specify the value of the token property of the terminal connect plug-in.	--	Input	R
commandLine	Command Line	Specify the absolute path of the command or script to execute on the operation target device, using no more than 1,024 characters. In the command line, specify characters that can be used in commands in the operating systems of the JP1/AO server and the operation target device. Special characters that represent environment variables in the command line are not escaped. To handle a special character as a character string, escape the character with a percent sign (%) in Windows, and a backslash (\) in UNIX. If you need to enter the superuser password in the command line to give the user administrator privileges, specify the reserved.terminal.suPassword reserved property. The reserved.terminal.account, reserved.terminal.password, and reserved.terminal.suPassword reserved properties reference token-related authentication information set for the terminal connect plug-in. The specific authentication information the properties reference depends on the setting of the credentialType property of the terminal connect plug-in. • If destination is specified for the credentialType property: 　The reserved properties reference the authentication information defined in the connection destination. • If property is specified for the credentialType property: 　The reserved properties reference the authentication information specified in the credentialType property of the terminal connect plug-in.	--	Input	O
charSet [1]	Character Set	Specify the character set to use when writing to the standard input of the operation target device and reading from standard output and standard error output. Specify the same character set as that of the user who logs in to the operation target. The names of character sets are not case sensitive. You can specify the following character sets: • EUC-JP • eucjp • ibm-943C • ISO-8859-1 • MS932 • PCK • Shift_JIS	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
charSet [#1]	Character Set	• UTF-8 • windows-31j	--	Input	O
lineEnd	Newline Character	Specify the newline character to append to the value set in the commandLine property. You can specify the following: • CR • LF • CRLF To use 0x0D as the newline character, specify CR. To use 0x0A, specify LF, and to use 0x0D0A, specify CRLF.	CR	Input	O
promptPattern	Prompt Pattern	Specify the regular expression pattern to use to detect prompts in standard output and standard error output, using no more than 1,024 characters. This property is used to detect when the operation target device is ready to execute another command. Specify the pattern in a PCRE-compliant format. When the output matches the specified regular expression pattern, the plug-in ends immediately. If the output does not match the pattern, the plug-in ends in an error when the time set in the readWaitTime property has elapsed since the last output to standard output or standard error output.	--	Input	R
readWaitTime	Standard Output Wait Time	When executing a command, specify how long to wait after output to standard output or standard error output until the next output. Specify the timeout time in a range from 1 to 86,400,000 (in milliseconds).	60000	Input	O
stdoutPattern1	Standard Output Pattern 1	Specify the regular expression pattern of the standard output and standard error output to output to the stdoutProperty1 property, using a maximum of 1,024 characters. Specify the regular expression pattern in a PCRE-compliant format.[#3] If you use more than 1,024 characters, the 1,025th and subsequent characters are discarded.	--	Input	O
stdoutProperty1	Standard Output Property 1	The character string extracted by the stdoutPattern1 property is output to this property.	--	Output	O
stdoutPattern2	Standard Output Pattern 2	Specify the regular expression pattern of the standard output and standard error output to output to the stdoutProperty2 property, using a maximum of 1,024 characters. Specify the regular expression pattern in a PCRE-compliant format.[#3] If you use more than 1,024 characters, the 1,025th and subsequent characters are discarded.	--	Input	O
stdoutProperty2	Standard Output Property 2	The character string extracted by the stdoutPattern2 property is output to this property.	--	Output	O
stdoutPattern3	Standard Output Pattern 3	Specify the regular expression pattern of the standard output and standard error output to output to the stdoutProperty3 property, using a maximum of 1,024 characters. Specify the regular expression pattern in a PCRE-compliant format.[#3] If you use more than 1,024 characters, the 1,025th and subsequent characters are discarded.	--	Input	O
stdoutProperty3	Standard Output	The character string extracted by the stdoutPattern3 property is output to this property.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Required
stdoutProperty3	Property 3	The character string extracted by the `stdoutPattern3` property is output to this property.	--	Output	O
defaultReturnCode	Default Return Code	Specify the value to return as the return code when standard output and standard error output do not match the regular expression pattern specified in the `returnCodePattern` property. Specify a value in the range from 0 to 63.	0	Input	O

outputCondition[#2]	Condition for outputting standard output properties	Specify the condition for outputting values to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties.
		You can specify either of the following values:
		always
		  Values are always output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties. Null characters are output if the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties.
		patternMatch
		  Values are output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties only if the standard output and standard error output match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties. If the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, no values are output. In this case, values are not updated even if the service properties are mapped to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties.
			always	Input	R

returnCodePattern	Return Code Pattern	Specify the regular expression pattern for standard output and standard error output, using a maximum of 1,024 characters. Specify the regular expression pattern in a PCRE-compliant format. If standard output and standard error output match the specified pattern, the plug-in returns the value specified in the `returnCode` property.	--	Input	O
returnCode	Return Code	Specify the return code to be returned by the plug-in when standard output and standard error output match the pattern set in the `returnCodePattern` property. You can specify a value in the range from 0 to 63. If you omit this property, the plug-in returns the value specified in the `defaultReturnCode` property.	--	Input	O

#1

You can also set the character set in the `terminal.charset` property of the connection-destination property file (*connection-destination-name*`.properties`). If the `charSet` property and the `terminal.charset` property in the connection-destination property file (*connection-destination-name*`.properties`) are both set, the value in the `charSet` property applies. If neither is specified, `UTF-8` is set.

#2

This property is not available for plug-ins of versions earlier than 02.00.00. For versions earlier than 02.00.00, the system behaves as if patternMatch is specified. When plug-ins are updated to their latest versions, the value of this property will be reset to the default value (`always`). Reconfigure this property if necessary.

#3

- The parts grouped by parentheses are extracted by the regular expression.
- If you specify multiple groups in the regular expression, only values that match the first group are stored in the output property of the plug-in.
- If the regular expression applies to multiple value ranges, only the first range of values is stored in the output property of the plug-in. Multiple value ranges cannot be stored in an output property.

- If you specify "`(.*)`", you can extract the character string from the beginning to the line feed of the character string including the line feed, such as the execution result of any command.

Example of using the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, and the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties

You can compare the standard output and the standard error output to the values of the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties, and then store the results in the `stdoutProperty1`, `stdoutProperty2`, and `stdoutProperty3` properties. The following figure shows the data flow when specifying `aaabbb(.*)` in `stdoutPattern1`.

Figure 4–4: Example of using the stdoutPattern and stdoutProperty properties

stdoutPattern1 (Standard Output Pattern 1): aaabbb(.*)

stdoutProperty1 (Standard Output Property)

As defined in `stdoutPattern1`, for the standard output `aaabbbccc`, the value after `aaabbb` (in this case `ccc`) is extracted. The extracted value is stored in the `stdoutProperty1` property.

You can use the outputCondition property to specify whether values are to be output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties in the following case: the standard output does not match the regular expressions specified for the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties and, as a result, the values cannot be extracted.

Related topics

-
-

(1) Example of using the terminal command plug-in

Example of terminating a terminal command plug-in with an error when an error is output to standard output

The table below describes an example of a terminal command plug-in that terminates with an error when it acquires error-related information from standard output. Set the plug-in property as follows:

Property key	Example of specified value	Meaning of specified value
commandLine	configServer arg0 arg1 arg2	Executes the specified command or script.
promptPattern	^\[prompt\]	If the contents of standard output matches [prompt], the plug-in terminates and determines the return value.
stdoutPattern1	^Message:(.*)	The character string following Message: in standard output is stored in the stdoutProperty1 property.
stdoutPattern2	^Error:(.*)	The character string following Error: in standard output is stored in the stdoutProperty2 property.

Property key	Example of specified value	Meaning of specified value
stdoutPattern3	^ReturnCode:(.*)	The character string following ReturnCode: in standard output is stored in the stdoutProperty3 property.
defaultReturnCode	0	If the contents of standard output do not match the value specified in the returnCodePattern property, return code 0 is returned.
returnCodePattern	^Error:	If the contents of standard output match Error:, the plug-in returns the return code specified in the returnCode property.
returnCode	1	If the contents of standard output matches the value specified in the returnCodePattern property, the plug-in returns code 1.

The following describes the operation of a plug-in with the above properties when it encounters the following standard output.

```
configServer arg0 arg1 arg2
Message:command failed
Error:Permission Denied
ReturnCode:128
[prompt]>
```

The contents of standard output match the value specified in the promptPattern property, so the terminal command plug-in determines which return code to return. Because standard output matches the value specified in the returnCodePattern property, the plug-in returns code (1), the value specified in the returnCode property.

The character strings extracted by the properties stdoutPattern1 to stdoutPattern3 are stored as follows in the properties stdoutPrpoerty1 to stdoutProperty3

- stdoutProperty1: command failed

- stdoutProperty2: Permission Denied

- stdoutProperty3: 128

Example of sending a GET request to an HTTP server

The following describes how to configure a plug-in that issues a request like the one below to an HTTP server and verifies the response.

```
GET /index.html HTTP/1.1
Host: ServerA
User-Agent: JP1/AO
Accept-Charset: UTF-8
```

To issue a GET request to an HTTP server, specify each line of the request method and request header in the commandLine property of a terminal command plug-in.

Because the last line of the request needs to be blank, you need to execute the terminal command plug-in five times. The following table describes examples of the values to set in the properties of each instance of the plug-in.

Order of execution	Value specified in commandLine	Value specified in lineEnd[1]	Value specified in promptPattern
First	GET /index.html HTTP/1.1	CRLF	.*[2]
Second	Host: ServerA	CRLF	.*[2]

Order of execution	Value specified in commandLine	Value specified in lineEnd[1]	Value specified in promptPattern
Third	User-Agent: JP1/AO	CRLF	.*[2]
Fourth	Accept-Charset: UTF-8	CRLF	.*[2]
Fifth	--	CRLF	</HTML>[3]

Legend:

--: This instance adds a blank line. Do not specify a value.

#1

Because HTTP server requests use `[CR]+[LF]` as delimit characters, specify `CRLF`.

#2

In the `promptPattern` property of the first to fourth terminal command plug-ins, you can specify regular expression patterns that also match blank characters.

#3

Because standard output continues after you execute the terminal command plug-ins, specify a regular expression that detects the end of standard output by the terminal command plug-ins in the `promptPattern` property.

The following describes the operation of a plug-in with the above properties when it encounters the following standard output.

```
HTTP/1.1 200 OK
Date: Mon, 18 Mar 2013 10:19:20 GMT
Server: Cosminexus HTTP Server
Last-Modified: Sun, 31 Jul 2005 05:27:52 GMT
ETag: "2d000000012d48-f-3fd2b60590600"
Accept-Ranges: bytes
Content-Length: 15
Content-Type: text/html

<HTML></HTML>
```

Because the contents of standard output match the value specified in the `promptPattern` property, the terminal command plug-in determines the return code.

If standard output matches the value specified in the `returnCodePattern` property, the return code specified in the `returnCode` property is returned as the return code of the plug-in.

If standard output does not match the value specified in the `returnCodePattern` property, the plug-in returns the return code specified in the `defaultReturnCode` property.

4.2.10 Terminal disconnect plug-in

Function

This plug-in terminates a connection established with an operation target device by a terminal connect plug-in.

Prerequisites for execution

- The plug-in uses the protocol specified in the `protocol` property of the terminal connect plug-in to communicate with the JP1/AO server. For details, see the description of the `protocol` property in 4.2.8 Terminal connect plug-in.

- For details about operation target devices that can be used as connection destinations, see A.1(3) Operation target devices usable as connection destinations.

Cautionary note

- If execution of a task is stopped during plug-in execution, the status of the task becomes *Failed* or *Completed* when the processing of the terminal disconnect plug-in has finished. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- If you forcibly terminate a task during plug-in execution, reading from standard output and prompt detection are canceled and the task enters *Failed* status. The session and token are then discarded. In this case, a return code of `80` appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

Version

01.02.01

Tag

Terminal

Return codes

Return code	Description
0	The plug-in ended normally. The plug-in ends normally even if the connection has already been closed.
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was being executed.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid. This includes situations in which the token input property is invalid.
127	Another error has occurred.

Property list

The following table describes the property.

Property key	Property name	Description	Default value	I/O type	Required
token	Token	Specify the value of the token property of the terminal connect plug-in.	--	Input	R

Related topics

- 4.2.8 Terminal connect plug-in
- 4.2.9 Terminal command plug-in

4.2.11 Flow plug-in

Function

This plug-in allows you to create hierarchical flows by defining flows within other flows. You can define a maximum of 25 hierarchical levels, with the top-level flow being level 1.

Figure 4–5: Flow plug-in
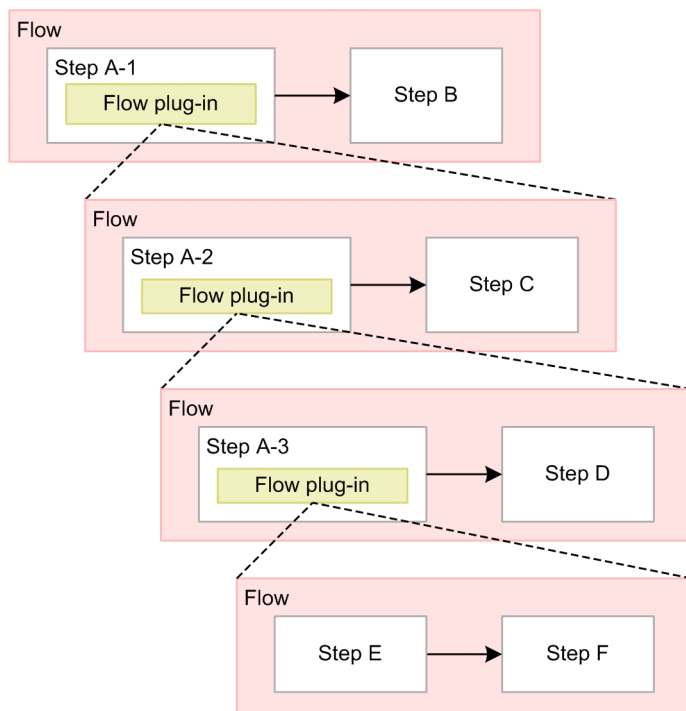
Cautionary notes

- If execution of a task is stopped during plug-in execution, the status of the task becomes *Failed* or *Completed* when the step being executed in the flow plug-in ends.

- If you forcibly terminate a task during plug-in execution, the plug-in being executed within the flow plug-in also terminates immediately, and the task enters *Failed* or *Completed* status.

- The return code of the flow plug-in does not reflect the return codes of the constituent steps of the hierarchy flow.

Version

01.11.00

Tag

Control Flow

Return code

Return code	Description
0	The steps in the flow plug-in (one level lower) ended normally.
1	A step in the flow plug-in (one level lower) ended with a warning. No steps ended abnormally.
2	A step in the service plug-in (one level lower) ended abnormally.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
errorStep	Error step	The step ID of at least one of the steps that failed in the flow plug-in (one level lower) is output using a single-byte comma separator.	--	Output	O
returnValueOfErrorStep	Return value of error step	The return value of at least one of the steps that failed in the flow plug-in (one level lower) is output using a single-byte comma separator.	--	Output	O

Related topics

- *Creating flow hierarchies* in the *JP1/Automatic Operation Service Template Development Guide*

4.2.12 Interval plug-in

Function

This plug-in controls the execution interval between steps.

The operator specifies the wait time for a process as the execution interval, and JP1/AO waits for the execution interval to elapse before executing succeeding steps. By using an interval plug-in, you can execute steps at fixed intervals.

Figure 4–6: Interval plug-in
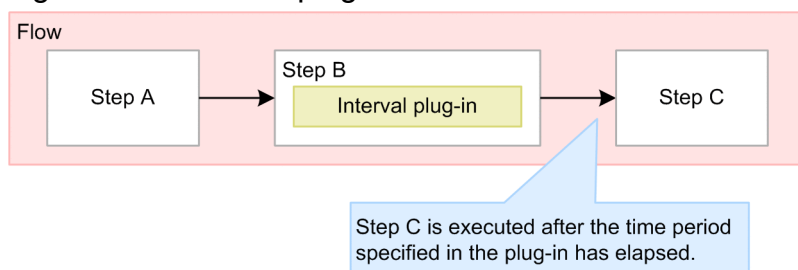
Cautionary notes

- The communication status and other factors might cause a discrepancy between the actual wait time and the time specified in the plug-in.

- You cannot change the property values when you execute the service. Set the values when you create the flow.

- You can only specify literal characters in the input property. You cannot map the value of a service property or reserved property.

- If you stop or forcibly terminate a task during plug-in execution, any processing that is in progress is immediately terminated and the task enters *Failed* status.

Version

01.10.01

Tag

Control Flow

Return codes

Return code	Description
0	Ended normally.
A number greater than or equal to 1 (excluding 80)	The plug-in terminated abnormally. Use the `hcmds64getlogs` command to acquire log information and identify the problem.
80	Task execution has stopped.

Property list

The following table describes the property.

Property key	Property name	Description	Default value	I/O type	Required
`interval`	Interval	This property specifies how long to wait before executing the next step, in the range from 1 to 1,440 (seconds).	10	Input	R

Related topics

- *hcmds64getlogs (collecting log information)* in the *JP1/Automatic Operation Command and API Reference*

4.2.13 Branch by returncode plug-in

Function

This plug-in allows you to select which step to execute next based on the return code of the preceding step.

A branch by returncode plug-in connects to two branch destination steps: A succeeding step, and a step that is only executed when the judgment conditions is met. If the return code matches the judgment condition, JP1/AO executes the branch destination step and the succeeding step, in that order. If the return code does not match the judgment conditions, JP1/AO executes the succeeding step only.

By using this plug-in together with a test value plug-in, you can select the steps in a flow based on a character string.

Figure 4–7: Branch by returncode plug-in
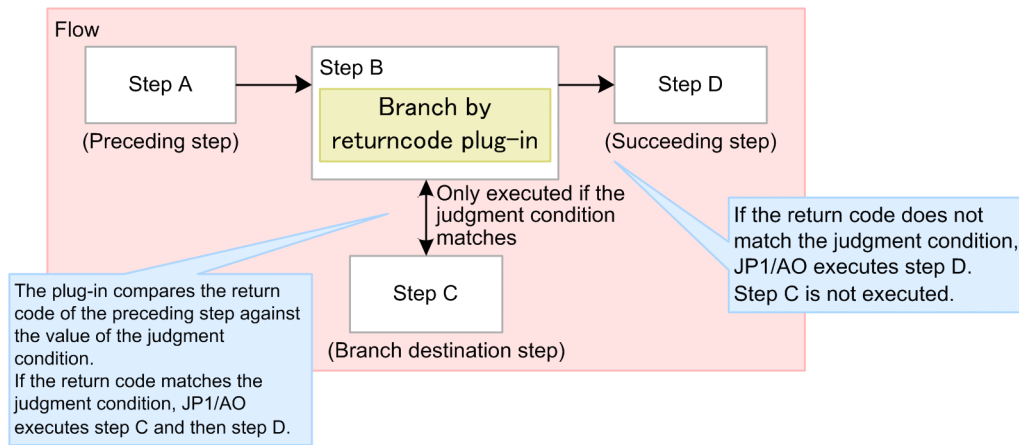
Cautionary notes

- When a task is stopped or forcibly terminated during plug-in execution, the task enters *Completed* status after the branch by returncode plug-in finishes processing.

- You cannot change the property values when you execute the service. Set the values when you create the flow.

- You can only specify literal characters in input properties. You cannot map the value of a service property or reserved property.

- If the branch by returncode plug-in stops processing, use the `hcmds64getlogs` command to acquire log information and identify the problem.

Version

01.10.01

Tag

Control Flow

Return codes

Return code	Description
0 or higher	The plug-in ended normally. The return code of the preceding step of the branch by returncode plug-in is set as the return code.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required

condition	Condition	Specify the judgment condition for the return code of the preceding step. You can choose from the following conditions:
		• ReturnCode=value1
		  The return code is equal to Value1.
		• ReturnCode!=value1
		  The return code is not equal to Value1.
		• ReturnCode<value1
		  The return code is less than Value1.
		• ReturnCode>value1
			ReturnCode=value1	Input	R

Property key	Property name	Description	Default value	I/O type	Required
condition	Condition	The return code is greater than Value1. • ReturnCode<=value1 The return code is less than or equal to Value1. • ReturnCode>=value1 The return code is greater than or equal to Value1. • ReturnCode>value1 AND ReturnCode<value2 The return code is greater than Value1 and less than Value2. • ReturnCode>=value1 AND ReturnCode<value2 The return code is greater than or equal to Value1, and less than Value2. • ReturnCode>value1 AND ReturnCode<=value2 The return code is greater than Value1, and less than or equal to Value2. • ReturnCode>=value1 AND ReturnCode<=value2 The return code is greater than or equal to Value1, and less than or equal to Value2. • ReturnCode<value1 OR ReturnCode>value2 The return code is less than Value1, or greater than Value2. • ReturnCode<=value1 OR ReturnCode>value2 The return code is less than or equal to Value1, or greater than Value2. • ReturnCode<value1 OR ReturnCode>=value2 The return code is less than Value1, or greater than or equal to Value2. • ReturnCode<=value1 OR ReturnCode>=value2 The return code is less than or equal to Value1, or greater than or equal to Value2.	ReturnCode=value1	Input	R
value1	Value1	Specify a numerical value against which to judge the return code, within the range from 0 to 999. The value is mapped to value1 in the condition property.	0	Input	R
value2	Value2	Specify a numerical value against which to judge the return code, within the range from 0 to 999. The value is mapped to value2 in the condition property. This value takes effect when value2 is included in a condition property.	0	Input	O

Example of property specification

A branch by returncode plug-in determines whether the return code is within a specified range of values.

The following describes the range of valid judgment values, using the following values of the condition, value1, and value2 properties as examples.

A. The return code is 25 or greater and less than 75

    condition (Condition): ReturnCode>=value1 AND ReturnCode<value2

    value1 (Value1): 25

    value2 (Value2): 75

B. The return code is less than 25, or 75 or higher

    condition (Condition): ReturnCode<value1 ORReturnCode>=value2

    value1 (Value1): 25

    value2 (Value2): 75

The following figure shows the range of return codes that match each judgment condition.

Figure 4–8: Range of return codes that match each judgment condition
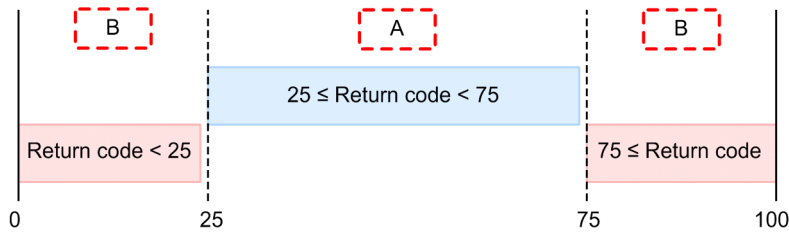
Related topics

- *hcmds64getlogs (collecting log information)* in the *JP1/Automatic Operation Command and API Reference*
- *Drawing relational lines when processing branches* in the *JP1/Automatic Operation Service Template Development Guide*

4.2.14 Test value plug-in

Function

This plug-in compares the value of a service property, the value of a reserved property, a literal string, or any combination thereof against a specified value. If the judgment condition is met, the plug-in returns 0.

By using this plug-in together with a branch by returncode plug-in, you can select the steps in a flow based on a character string.

Figure 4–9: Test value plug-in
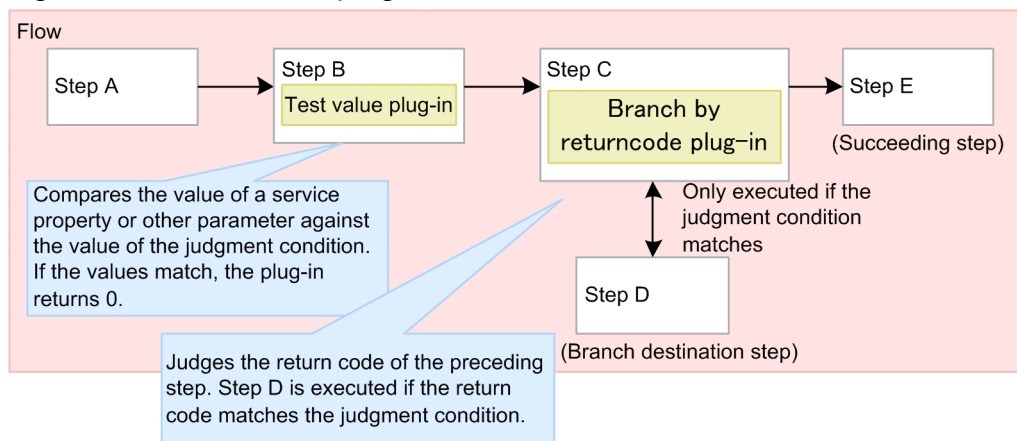
Cautionary note

- If execution of a task is stopped during plug-in execution, the task enters *Completed* status after the test value plug-in finishes processing.
- If you forcibly terminate a task while the plug-in is executing, the processing being executed is immediately terminated and the task enters *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

Version

01.10.01

Tag

Test Value Plug-in

Return codes

Return code	Description
0	The value matched the judgment condition. Alternatively, 0 is specified in the `defaultReturnCode` property.[#]
1	The value did not match the judgment condition. Alternatively, 1 is specified in the `defaultReturnCode` property.[#]
63	Judgment failed. 63 is specified in the `defaultReturnCode` property.[#]
65	The connection with the JP1/AO server failed. For example, the JP1/AO server might have stopped while the plug-in was being executed.
66	The following user is mapped to the JP1 user: • A user who does not belong to the Administrators group. • A user other than the built-in Administrator who belongs to the Administrators group, in an environment with UAC enabled.
68	There is no information about the target job execution ID.
69	An environment variable of the task-processing engine could not be acquired.
80	Task execution has stopped.
81	The plug-in was called in an invalid status.
82	The request message from the task-processing engine could not be correctly parsed.
83	The environment of the JP1/AO server is corrupted.
84	Information about the specified plug-in could not be obtained.
86	The specified property value is invalid.
127	Another error has occurred.

[#]

    If a numerical comparison is specified in the `condition` property, and a value that cannot be compared on a numerical basis is specified in any of the `valueX`, `value1`, and `value2` properties, the plug-in returns the value specified in the `defaultReturnCode` property.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required

`condition`	Condition	Specify the judgment condition for the `valueX` property. You can select from the following conditions:
		• valueX=value1
		  ValueX and Value1 are equal (numerical comparison).
		• valueX!=value1
		  ValueX and Value1 are not equal (numerical comparison).
		• valueX<value1
			valueX=value1	Input	R

Property key	Property name	Description	Default value	I/O type	Required
condition	Condition	ValueX is less than Value1 (numerical comparison). • valueX>value1 ValueX is greater than Value1 (numerical comparison). • valueX<=value1 ValueX is less than or equal to Value1 (numerical comparison). • valueX>=value1 ValueX is greater than or equal to Value1 (numerical comparison). • valueX>value1 AND valueX<value2 ValueX is greater than Value1 and less than Value2 (numerical comparison). • valueX>=value1 AND valueX<value2 ValueX is greater than or equal to Value1, and less than Value2 (numerical comparison). • valueX>value1 AND valueX<=value2 ValueX is greater than Value1, and less than or equal to Value2 (numerical comparison). • valueX>=value1 AND valueX<=value2 ValueX is greater than or equal to Value1, and less than or equal to Value2 (numerical comparison). • valueX<value1 OR valueX>value2 ValueX is less than Value1, or greater than Value2(numerical comparison). • valueX<=value1 OR valueX>value2 ValueX is less than or equal to Value1, or greater than Value2 (numerical comparison). • valueX<value1 OR valueX>=value2 ValueX is less than Value1, or greater than or equal to Value2 (numerical comparison). • valueX<=value1 OR valueX>=value2 ValueX is less than or equal to Value1, or greater than or equal to Value2 (numerical comparison). • valueX equals value1 ValueX and Value1 are equal. Values are case sensitive (character string comparison). • valueX not equals value1 ValueX and Value1 are not equal. Values are case sensitive (character string comparison). • valueX contains value1 ValueX contains Value1. Values are case sensitive (character string comparison). • valueX not contains value1 ValueX does not contain Value1. Values are case sensitive (character string comparison).	valueX=value1	Input	R
valueX	ValueX	Specify a value as the basis for comparison, using no more than 1,024 characters. You can use the following formats individually or combined. • ?dna_*service-property-key*? (when referencing the value of a service property) • ?dna_*reserved-property-key*? (when referencing the value of a reserved property) • *literal-string*	--	Input	R
value1	Value1	Specify the value against which to compare the valueX property, using no more than 1,024 characters. You can use the following formats individually or together.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
value1	Value1	• ?dna_*service-property-key*? (when referencing the value of a service property) • ?dna_*reserved-property-key*? (when referencing the value of a reserved property) • *literal-string* The value is mapped to value1 in the condition property.	--	Input	O
value2	Value2	Specify the value against which to compare the valueX property, using no more than 1,024 characters. You can use the following formats individually or together. • ?dna_*service-property-key*? (when referencing the value of a service property) • ?dna_*reserved-property-key*? (when referencing the value of a reserved property) • *literal-string* The value is mapped to value2 in the condition property. The value in this property takes effect when value2 is specified in the condition property.	--	Input	O
defaultReturnCode	Default Return Code On Error	This property specifies the value returned by the plug-in when a numerical comparison is specified in the condition property, and a value that cannot be compared on a numerical basis is specified in any of the valueX, value1, and value2 properties. • 0 Specify 0 when using "The value matched the judgment condition." as the judgment result. • 1 Specify 1 when using "The value did not match the judgment condition." as the judgment result. • 63 Specify 63 when using "Judgment failed" as the judgment result to make the step terminate abnormally.	63	Input	R

Example of property specification

A test value plug-in determines whether an input value is within a specified range of values.

The following describes the range of valid judgment values, using the following values of the condition, value1, and value2 properties as examples.

A. The input value is greater than or equal to 25 and less than 75
    condition (Condition): ReturnCode>=value1 AND ReturnCode<value2
    value1 (Value1): 25
    value2 (Value2): 75

B. The input value is less than 25, or 75 or greater
    condition (Condition): ReturnCode<value1 OR ReturnCode>=value2
    value1 (Value1): 25
    value2 (Value2): 75

The following figure shows the range of values matched to each judgment condition.

Figure 4–10: Range of input values matched by each judgment condition
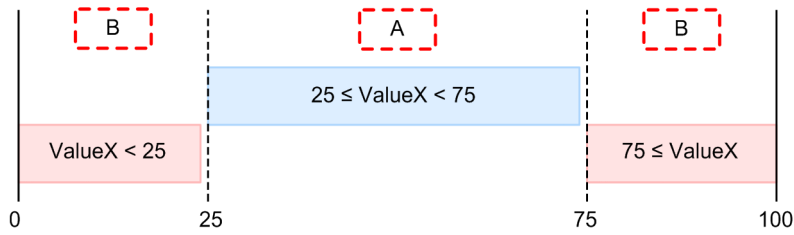
Related topics

4.2.15 Abnormal-end plug-in

Function

This plug-in allows you to abnormally terminate an executing task.

By using this plug-in together with a branch by returncode plug-in, you can also abnormally terminate a flow when a judgment condition is met.

Figure 4–11: Example of using the abnormal-end plug-in
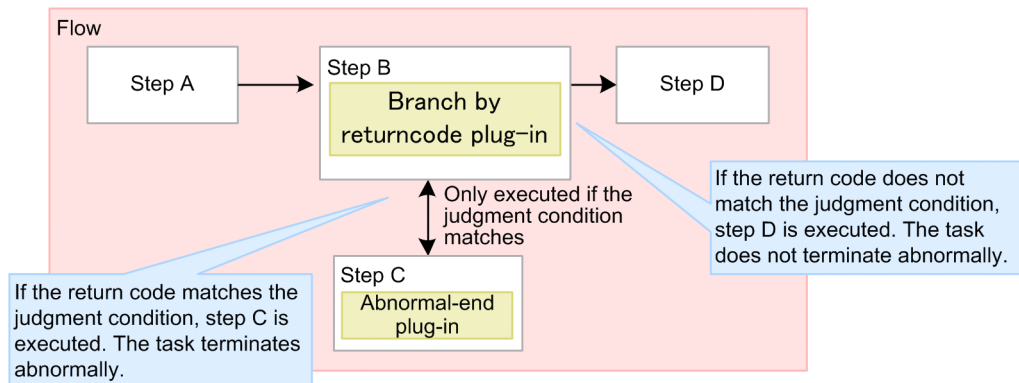
Cautionary notes

• If execution of a task is stopped during plug-in execution, the task enters *Abnormal termination* status after the abnormal-end plug-in has finished processing.

• If you forcibly terminate a task during plug-in execution, the processing being executed is immediately terminated and the task enters *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window.

• If you use an abnormal-end plug-in within a flow plug-in, the hierarchical flow and any higher-level flows that feature flow plug-ins also terminate abnormally. Executing tasks also terminate abnormally, and the flow plug-in returns 0.

• When you use an abnormal-end plug-in in the context of a repeated execution plug-in, the repeated execution plug-in returns 1 if the repeated processing abnormally terminates even once. If every instance of the repeated processing terminates abnormally, the repeated execution plug-in returns 2.

Version

01.10.01

Tag

Control Flow

Return codes

Return code	Description
0	The plug-in ended normally (the step was abnormally terminated).
80	Task execution has stopped.

Related topics

- 4.2.4 Repeated execution plug-in
- 4.2.11 Flow plug-in
- 4.2.13 Branch by returncode plug-in

4.2.16 Branch by property value plug-in

Function

This plug-in compares the value of a service property, the value of a reserved property, a literal string, or any combination thereof against a specified value. The result of the comparison determines which step JP1/AO executes next.

A branch by property value plug-in connects to two branch destination steps: A succeeding step, and a step that is only executed when the judgment condition is met. If the input value matches the judgment condition, JP1/AO executes the branch destination step and the succeeding step, in that order. If the input value does not match the judgment conditions, JP1/AO executes the succeeding step only.

A branch by property value plug-in combines the functionality of a test value plug-in and a branch by returncode plug-in.

Figure 4–12: Branch by property value plug-in
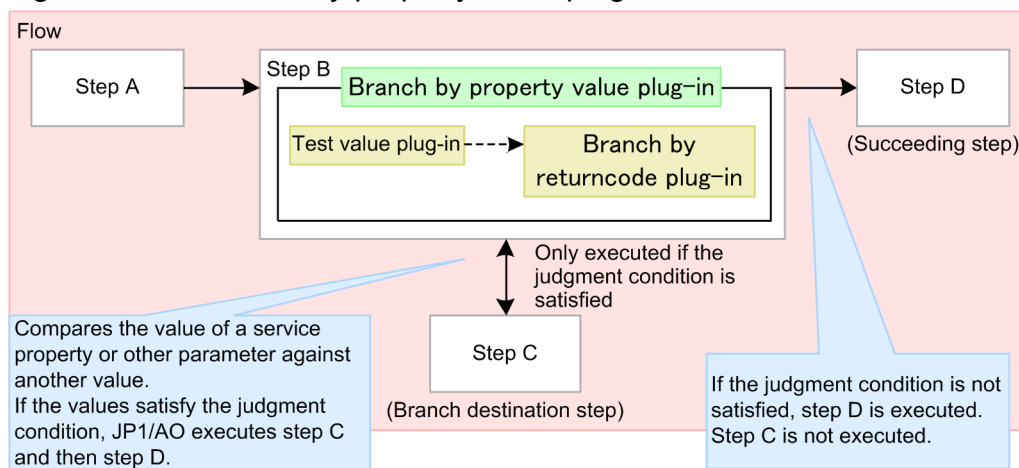
Cautionary notes

- When you execute this plug-in, the information output to the task log reflects the execution of the test value plug-in. The branch by property value plug-in does not contribute to the task log.

- If execution of a task is stopped during plug-in execution, the task enters *Completed* status after the branch by property value plug-in finishes processing.

- If you forcibly terminate a task while the plug-in is executing, the status of the task, the return code, and the status of the step depend on the execution status of the test value plug-in and the branch by returncode plug-in.

If the test value plug-in has not finished processing:

The processing being executed is terminated. JP1/AO does not wait for the test value plug-in to finish processing. The task enters *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing with which the task was forcibly terminated.

If the test value plug-in has finished but the branch by returncode plug-in has not:

The task enters *Completed* status after waiting for the branch by returncode plug-in to finish processing. The return code and step status displayed in the **Flow** area of the **Tasks** window are those in effect when the test value plug-in was executed.

Version

01.10.01

Tag

Control Flow

Return codes

Return code	Description
0	The plug-in returns 0 when: • The judgment result is true. • A numerical comparison is specified in the `condition` property, a value that cannot be compared on a numerical basis is specified in any of the `valueX`, `value1`, and `value2` properties, and 0 is specified in the `defaultReturnCode` property.
1	The plug-in returns 1 when: • The judgment result is false. • A numerical comparison is specified in the `condition` property, a value that cannot be compared on a numerical basis is specified in any of the `valueX`, `value1`, and `value2` properties, and 1 is specified in the `defaultReturnCode` property.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
`condition`	Condition	Specify the judgment condition for the `valueX` property. You can select from the following conditions: • valueX=value1 ValueX is equal to Value1 (numerical comparison). • valueX!=value1 ValueX is not equal to Value1 (numerical comparison). • valueX<value1 ValueX is less than Value1 (numerical comparison). • valueX>value1 ValueX is greater than Value1 (numerical comparison). • valueX<=value1 ValueX is less than or equal to Value1 (numerical comparison). • valueX>=value1 ValueX is greater than or equal to Value1 (numerical comparison).	valueX=value1	Input	R

Property key	Property name	Description	Default value	I/O type	Required
condition	Condition	• valueX>value1 AND valueX<value2 ValueX is greater than Value1 and less than Value2 (numerical comparison). • valueX>=value1 AND valueX<value2 ValueX is greater than or equal to Value1, and less than Value2 (numerical comparison). • valueX>value1 AND valueX<=value2 ValueX is greater than Value1, and less than or equal to Value2 (numerical comparison). • valueX>=value1 AND valueX<=value2 ValueX is greater than or equal to Value1, and less than or equal to Value2 (numerical comparison). • valueX<value1 OR valueX>value2 ValueX is less than Value1, or greater than Value2 (numerical comparison). • valueX<=value1 OR valueX>value2 ValueX is less than or equal to Value1, or greater than Value2 (numerical comparison). • valueX<value1 OR valueX>=value2 ValueX is less than Value1, or greater than or equal to Value2 (numerical comparison). • valueX<=value1 OR valueX>=value2 ValueX is less than or equal to Value1, or greater than or equal to Value2 (numerical comparison). • valueX equals value1 ValueX and Value1 are equal. This judgment is case sensitive (character string comparison). • valueX not equals value1 ValueX and Value1 are not equal. This judgment is case sensitive (character string comparison). • valueX contains value1 ValueX contains Value1. This judgment is case sensitive (character string comparison). • valueX not contains value1 ValueX does not contain Value1. This judgment is case sensitive (character string comparison).	valueX=value1	Input	R
valueX	ValueX	Specify a value as the basis for comparison, using no more than 1,024 characters. You can use the following formats individually or combined. • ?dna_*service-property-key*? (when referencing the value of a service property) • ?dna_*reserved-property-key*? (when referencing the value of a reserved property) • *literal-string*	--	Input	R
value1	Value1	Specify the value against which to compare the valueX property, using no more than 1,024 characters. You can use the following formats individually or together. • ?dna_*service-property-key*? (when referencing the value of a service property) • ?dna_*reserved-property-key*? (when referencing the value of a reserved property) • *literal-string* The value is mapped to value1 in the condition property.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
value2	Value2	Specify the value against which to compare the `valueX` property, using no more than 1,024 characters. You can use the following formats individually or together. • `?dna_`*service-property-key*`?` (when referencing the value of a service property) • `?dna_`*reserved-property-key*`?` (when referencing the value of a reserved property) • *literal-string* The value is mapped to `value2` in the `condition` property. The value in this property takes effect when `value2` is specified in the `condition` property.	--	Input	O

defaultReturnCode	Default Return Code On Error	This property specifies the value returned by the plug-in when a numerical comparison is specified in the `condition` property, and a value that cannot be compared on a numerical basis is specified in any of the `valueX`, `value1`, and `value2` properties.
		
		• `0`
		  Specify 0 when using "The value matched the judgment condition." as the judgment result.
		• `1`
		  Specify 1 when using "The value did not match the judgment condition." as the judgment result.
		• `63`
		  Specify 63 if you want the step to terminate abnormally when the judgment gives a failed result.
		  The plug-in terminates abnormally without executing the branch destination step or the succeeding step.
			63	Input	R

Related topics

- 4.2.13 Branch by returncode plug-in
- 4.2.14 Test value plug-in

4.2.17 JavaScript plug-in

Function

This plug-in can execute JavaScript code that converts JSON-formatted text. In the specified JavaScript code, the values of service properties and plug-in properties can be referenced. In addition, the functions provided by underscore.js 1.8.3 can be used.

Note that if you use the `print` function in JavaScript code, you can output any character string in the JavaScript code to the task log. In this case, you can specify the log level by adding one of the prefixes shown below. For example, to specify [Debug] as the log level, specify the function in print("[Debug]*xxxx*") format. The prefix is case sensitive.

- [Severe]
  The character string specified in the `print` function is output if the log level is 0 or higher.

- [Information]
  The character string specified in the `print` function is output if the log level is 10 or higher.

- [Fine]

The character string specified in the `print` function is output if the log level is 20 or higher.

- [Finer]

  The character string specified in the `print` function is output if the log level is 30 or higher.

- [Debug]

  The character string specified in the `print` function is output if the log level is 40.

- None

  The character string specified in the `print` function is output if the log level is 10 or higher.

Cautionary notes

- Encode the script with UTF-8, and use anonymous functions.

- If an exception is thrown or occurs in the script, the plug-in terminates abnormally. If an exception occurs when the log level is 30 or higher, a stack trace is output to the task log.

- If `null` or `undefined` is included in either of the following values, or both, when the script terminates normally, `null` or `undefined` is stored in output properties as an ordinary character string:

  - Value returned from the script

  - Value set for an output property of the plug-in in the script

- If execution of a task is stopped during plug-in execution, the status of the task becomes *Failed* or *Completed* when the processing of the JavaScript plug-in has finished. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- When you forcibly terminate a task while the plug-in is running, the processing being executed is immediately forcibly terminated and the task enters *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing in which the task was forcibly terminated.

Version

01.00.02

Tag

Execute Script

Return codes

Return code	Description
0	Ended normally.
1	The JavaScript code terminated, specifying a non-null value for the `notify` output property.
60	Failed to load the JavaScript library.
61	Failed to compile the JavaScript code.
62	The JavaScript code is not of the function type.
63	An internal error occurred.
80	Task execution has stopped.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
scriptBody	JavaScript body	Specify the desired JavaScript code.	--	Input	R
imported Script	Imported script	Specify the methods and constants (strings of JavaScript code) that are shared with other JavaScript plug-ins used in the same service template.	--	Input	O
arg0	Argument(0)	Specify an argument to be passed to the JavaScript code. The string arg0 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg1	Argument(1)	Specify an argument to be passed to the JavaScript code. The string arg1 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg2	Argument(2)	Specify an argument to be passed to the JavaScript code. The string arg2 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg3	Argument(3)	Specify an argument to be passed to the JavaScript code. The string arg3 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg4	Argument(4)	Specify an argument to be passed to the JavaScript code. The string arg4 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg5	Argument(5)	Specify an argument to be passed to the JavaScript code. The string arg5 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg6	Argument(6)	Specify an argument to be passed to the JavaScript code. The string arg6 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg7	Argument(7)	Specify an argument to be passed to the JavaScript code. The string arg7 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg8	Argument(8)	Specify an argument to be passed to the JavaScript code. The string arg8 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
arg9	Argument(9)	Specify an argument to be passed to the JavaScript code. The string arg9 specified in the JavaScript code will be replaced with the value specified for this property.	--	Input	O
notify	Notification flag	If you want the plug-in to terminate abnormally in the event of an abnormality in the specified JavaScript code, set the script to output a non-null value to this property. If the value of this property is not null after executing the script, 1 is returned as the return code of the plug-in.	--	Output	O
returnVa lue	Return value	The contents of the object returned within the function in the specified script are output to this property.	--	Output	O
out0	Output(0)	The value set as out0 for the Map second argument in the specified script is output to this property.	--	Output	O
out1	Output(1)	The value set as out1 for the Map second argument in the specified script is output to this property.	--	Output	O
out2	Output(2)	The value set as out2 for the Map second argument in the specified script is output to this property.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Required
out3	Output(3)	The value set as out3 for the Map second argument in the specified script is output to this property.	--	Output	O
out4	Output(4)	The value set as out4 for the Map second argument in the specified script is output to this property.	--	Output	O
out5	Output(5)	The value set as out5 for the Map second argument in the specified script is output to this property.	--	Output	O
out6	Output(6)	The value set as out6 for the Map second argument in the specified script is output to this property.	--	Output	O
out7	Output(7)	The value set as out7 for the Map second argument in the specified script is output to this property.	--	Output	O
out8	Output(8)	The value set as out8 for the Map second argument in the specified script is output to this property.	--	Output	O
out9	Output(9)	The value set as out9 for the Map second argument in the specified script is output to this property.	--	Output	O

JavaScript code arguments that can be specified in the JavaScript body

The following arguments can be specified as JavaScript code:

serviceProperties (object type)

This argument can be used to map the values of input properties for the service. Note that even if the script changes the value of this argument, the change is not applied to the service properties.

pluginProperties (object type)

This argument can be used to map the values of properties for the JavaScript plug-in.

- arg0 to arg9

  The values specified for plug-in properties are mapped. In this case, the values are obtained as character strings rather than as objects.

- notify

  If a non-null value is set for this member in the script, the plug-in returns 1.

- out0 to out9

  If a value is set for these members in the script, the values are applied to plug-in properties out0 to out9.

arg0 to arg9

The values specified for plug-in properties arg0 to arg9 are mapped. Note that JSON-formatted character strings specified for these properties are obtained as objects.

Specify the above arguments in the following order: 1) serviceProperties (object type), 2) pluginProperties (object type), and 3) arg0 to arg9

Sample JavaScript code

```
(function(serviceProperties, pluginProperties, arg0, arg1, arg2) {
    var obj = new Object();
    print("[Debug] Function begin.");

    obj.mem1 = arg0;
    obj.mem2 = arg1;
```

```
    if (arg2 == "") {
        pluginProperties["notify"] = 999;
        pluginProperties["out1"] = "NOTE!: The arg2 is EMPTY.";
    } else {
        obj.mem3 = arg2;
        obj.status = "success";
        pluginProperties["out1"] = "Finished successfully.";
    }

    print("[Debug] Function end.");

    return obj;
})
```

About imported scripts

If you want to share methods and constants with other JavaScript plug-ins used in the same service template, define the methods and constants in the importedScript property.

By mapping the importedScript property to the service input property, and then mapping the importedScript properties of other JavaScript plug-ins to the same service input property, you can share the methods and constants defined in the imported script, with the JavaScript body of each JavaScript plug-in.

- Referencing methods and constants from the JavaScript body

  The methods and constants defined in the imported script can be used by directly calling them from the JavaScript body.

- Functions that can be used in the imported script

  The functions that can be used in the JavaScript body can also be used in the imported script.

Sample imported script

JavaScript body

```
function fn(serviceProperties, pluginProperties, arg0, arg1, arg2, arg3, a
rg4, arg5, arg6, arg7, arg8, arg9) {

    hoge(CNST);

}
```

Imported script

```
var CNST = "hoge";

function hoge(a){
    print(a + " from common js!");

}
```

4.2.18 File export plug-in

Function

This plug-in outputs the specified value into a desired format.

This plug-in uses Apache Velocity Engine to format the specified value.

Cautionary notes

- If execution of a task is stopped during plug-in execution, the status of the task becomes *Failed* or *Completed* when the processing of the file export plug-in has finished. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- When you forcibly terminate a task while the plug-in is running, the processing being executed is immediately forcibly terminated and the task enters *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing in which the task was forcibly terminated.

Version

01.00.00

Tag

File Operations

Return codes

Return code	Description
0	Ended normally.
1	The specified output destination file path is too long.
2	Code written in VTL (Velocity Template Language) has syntax errors.
3	An internal error occurred.
4	An internal error occurred.
5	An error occurred while data was being written to the output file.
63	An internal error occurred.
80	Task execution has stopped.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
content	Content To Export	Specify the character string to be formatted and output to a file.	--	Input	R
fileName#	Output File Name	Specify the output file name.	--	Input	R

directoryPath#	Output Directory Path	Specify the absolute path or relative path of the folder in which the output file is to be stored.
		If this property is not specified, the following folder is used. If a relative path is specified, the folder specified for this property is used as the base folder.
		If the OS is Windows:
		  JP1/AO-installation-folder\data\task*task-ID*
		  In a cluster environment, replace *JP1/AO-installation-folder* with *shared-folder-name*\jp1ao.
			--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
directoryPath[#]	Output Directory Path	If the OS is Linux: /var/opt/jp1ao/data/task/*task-ID* In a cluster environment, replace /var/opt/jp1ao with *shared-folder-name*/jp1ao.	--	Input	O
template	Template For The Output	Specify the output format of the specified value. Note that you must specify the output format with VTL. If this property is not specified, the input value is output as is.	--	Input	O
charset	Character Set	Specify the character encoding of the output file. You can specify one of the following encodings. The specified value is not case sensitive. • EUC-JP • eucjp • ibm-943C • ISO-8859-1 • MS932 • PCK • Shift_JIS • UTF-8 • windows-31j	--	Input	O
exportFilePath	Output File Path	The full path of the output file is output to this property.	--	Output	O
Message	Message	An error message occurring during execution of the plug-in is output to this property.	--	Output	O

\#

- The total length of the values specified for the fileName and directoryPath properties must not exceed 256 characters. If the total length exceeds 256 characters, an error occurs.
- If there is already a file that has the specified name, the file is overwritten.
- If there is already a file that has the specified name, an error occurs. In this case, a return code of 5 is returned.

Reserved variables that can be specified for the template property

When specifying the template property, follow VTL. The file export plug-in provides the reserved variables that can be used for specification of that property.

- $root

  If the character string specified for the content property is JSON-formatted, the character string is output as a JSON-decoded object. If the character string specified for the content property is not JSON-formatted, the character string is output as an ordinary character string.

- $csv.value(String)

  If you specify a single character string as an argument, the resulting value is output in the format that is equivalent to one field of the CSV format. For example, if the specified character string includes a character that must be escaped in the CSV format, the character string is enclosed in double quotation marks ("). Double quotation marks (") included in the specified character string are escaped.

- $csv.values(String...)

  If you specify multiple character strings as arguments, the resulting value is output in the format that is equivalent to one line of the CSV format.

- $csv.values(Collection<String>)

If you specify a string array as an argument, the resulting value is output in the format that is equivalent to one line of the CSV format.

Examples of specifying the content and template properties

- If a character string that is not JSON-formatted is specified for the `content` property and the `template` property is omitted

Value of content	Value of template	Data to be output
`Hello!`	Not specified	`Hello!`

- If a character string that is JSON-formatted is specified for the `content` property and the `template` property is omitted

Value of content	Value of template	Data to be output

`{`
`    "task": "Daily batch",`
`    "result": "success"`
`}`
	Not specified	`{`
		`    "task": "Daily batch",`
		`    "result": "success"`
		`}`

- If a character string that is not JSON-formatted is specified for the `content` property and the $root reserved variable is specified for the `template` property

Value of content	Value of template	Data to be output
`success`	`The result is $root!`	`The result is success!`

- If a JSON format (object) is specified for the `content` property and the $root reserved variable is specified for the `template` property

Value of content	Value of template	Data to be output

`{`
`    "task": "Daily batch",`
`    "result": "success"`
`}`
	`The result of`
	`$root["task"]`
	`was`
	`$root["result"]!`
		`The result of`
		`Daily batch`
		`was`
		`success!`

- If a JSON format (array) is specified for the `content` property and the $root reserved variable is specified for the `template` property

Value of content	Value of template	Data to be output

`[`
`    "success",`
`    "fail",`
`    "success"`
`]`
	`The results are`
	`#foreach ($result in $root)`
	`$result`
	`#end`
		`The results are`
		`success`
		`fail`
		`success`

- If a JSON format is specified for the `content` property and the $csv.values(String...) reserved variable is specified for the `template` property

Value of content	Value of template	Data to be output

`[`
`    {`
`        "task": "Daily batch",`
`        "result": "success"`
`    },`
	`$csv.values("task", "result")`
	`#foreach($row in $root)`
	`$csv.values($row["task"], $row["`
		`task,result`
		`Daily batch,succe`
		`ss`
		`Weekly batch,fail`

Value of content	Value of template	Data to be output

<pre>   {
        "task": "Weekly batch",
        "result": "fail"
    }
]</pre>
	<pre> result"])
	#end</pre>
		<pre>task,result
		Daily batch,succe
		ss
		Weekly batch,fail</pre>

• If a JSON format is specified for the `content` property and the $csv.values(Collection<String>) reserved variable is specified for the `template` property

Value of content	Value of template	Data to be output

<pre>[
    ["task", "result"],
    ["Daily batch", "success"],
    ["Weekly batch", "fail"]
]</pre>
	<pre>#foreach($row in $root)
	$csv.values($row)
	#end</pre>
		<pre>task,result
		Daily batch,success
		Weekly batch,fail</pre>

• If the `content` property contains double quotation marks (") and commas (,), which must be escaped in the CSV format, and the $csv.values(Collection<String>) reserved variable is specified for the `template` property

Value of content	Value of template	Data to be output

<pre>[
    "normal",
    "\"quoted\"",
    "Hello, World",
    "double \" quote"
]</pre>
	<pre>$csv.values($root)</pre>	<pre>normal,"""quoted""", "Hello, World","doubl
		e "" quote"</pre>

• If the `content` property contains line breaks, which must be escaped in the CSV format, and the $csv.values(Collection<String>) reserved variable is specified for the `template` property

Value of content	Value of template	Data to be output

<pre>line1
line2
line3</pre>
	<pre>$csv.value($root)</pre>	<pre>"line1
		line2
		line3"</pre>

4.2.19 Web client plug-in

Function

This plug-in generates an HTTP request message from the input properties of the plug-in, and sends the generated HTTP request message. This plug-in also outputs a received HTTP response message as output properties.

You can reference the values of the Web service connection settings and use those values as input for the properties of this plug-in.

The supported protocol version is HTTP/1.1 or HTTPS/1.1.

Also, the TLS version supported by HTTPS is TLSv1.2.

The following table lists the correspondence between HTTP message elements and plug-in properties.

Table 4–9: Correspondence between HTTP message elements and plug-in properties

Message element		Input property
Request line	Method	requestMethod
	URI	requestUrl
	HTTP/version	--
Header		requestHeaders
Body		requestBody

Legend:

--: The corresponding property does not exist because the protocol version is fixed to HTTP/1.1 or HTTPS/1.1.

Note that the Web client plug-in does not convert the values specified for input properties. Therefore, for input properties, specify values in the format that requires no conversion.

Table 4–10: Correspondence between HTTP response message elements and output properties

Message element		Output property
Status line	HTTP/version	--
	Status code	responseStatusCode
	Status message	responseStatusMessage
Header		responseHeaders
Body		responseBody[#]

Legend:

--: The corresponding property does not exist because the protocol version is fixed to HTTP/1.1 or HTTPS/1.1.

\#

Make sure that the size of the body to be output does not exceed 30 MB. The contents of the body are truncated at 30 MB.

Cautionary notes

- If execution of a task is stopped during plug-in execution, the status of the task becomes *Failed* or *Completed* when the processing of the Web client plug-in has finished. The status of steps and tasks after plug-in execution has finished depends on the return code of the step and the condition for executing subsequent steps. You can set **Subsequent-step Execution Condition** in the **Create Step** dialog box or the **Edit Step** dialog box.

- When you forcibly terminate a task while the plug-in is running, the processing being executed is immediately forcibly terminated and the task enters *Failed* status. A return code of 80 appears for the step in the **Flow** area of the **Tasks** window. The return code output to the task log depends on the timing in which the task was forcibly terminated.

Version

01.01.00

Tag

HTTP

Return codes

Return code	Description
0	Ended normally.
1	The value returned as the status code of the HTTP response message is not 2xx (success).
70	Connection to the Web server or proxy server failed.
77	The host name of the Web server or proxy server could not be resolved.
80	Task execution has stopped.
86	The specified property value is incorrect, or the values specified for the Web service connection could not be found.
90	Data transfer after connection failed.
91	The size of the body of the HTTP response message exceeds 30 MB.
127	An error other than the above occurred.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
webServiceConnectionCategory	Category of the Web service connection	Specify this property if the values of the Web service connection settings are to be referenced and used as input for the Web client plug-in. Specify the category of the Web service connection. If you specify this property, you must also specify the webServiceConnectionName property.	--	Input	O
webServiceConnectionName	Name of the Web service connection	Specify this property if the values of the Web service connection settings are to be referenced and used as input for the Web client plug-in. Specify the name of the Web service connection. If you specify this property, you must also specify the webServiceConnectionCategory property.	--	Input	O
requestMethod	Method	Specify one of the following values as the HTTP method: • GET • POST • PUT • DELETE	GET	Input	R
requestUrl	Request URL	Specify the URL of the resource that sends an HTTP request, including query parameters. Note that you must specify a URL-encoded value. If status code 3xx (regarding redirection) is returned and the redirection destination URL is already known, we recommend that you specify the redirection destination URL. If you specify values for the webServiceConnectionCategory and webServiceConnectionName properties, when specifying the URL, omit the part up to and including the host name. In other words, specify the slash "/" after the host name, and anything after the slash.	--	Input	R
requestHeaders	Request Headers	Specify HTTP request headers. Follow the RFC 7230 standard. We recommend that you use the Content-Type header to specify the format of the request body and use the charset parameter of that header to specify the character set.	--	Input	O
requestBody	Request Body	Write the HTTP request body in the format specified for the Content-Type header.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required

webAuth	Server Authentication Scheme	Specify one of the following values as the server authentication mode:
		• none
		  Specify this to not use server authentication.
		• basic
		  Specify this to use basic authentication.
		• digest
		  Specify this to use digest authentication.
		• negotiate
		  Specify this to use negotiate authentication. Note that negotiate authentication can be used only if the OS of the JP1/AO server is Windows.
		Specify none for this property if you specify the authentication header for the requestHeaders property. If the value of the webAuth property is not none and the authentication header is specified for the requestHeaders property, a communication error might occur.
			none	Input	R

webUsername	Server Authentication Username	Specify the user name to be used for server authentication, by using no more than 256 characters. You do not need to specify this property in the following cases: • When values are specified for the webServiceConnectionCategory and webServiceConnectionName properties • When none is specified for the webAuth property	--	Input	O
webPassword	Server Authentication password	Specify the password to be used for server authentication, by using no more than 256 characters. You do not need to specify this property in the following cases: • When values are specified for the webServiceConnectionCategory and webServiceConnectionName properties • When none is specified for the webAuth property	--	Input	O

useProxy	Use Proxy Server	Specify either of the following values to determine whether to use proxy connection when sending a request:
		• true
		  Specify this to use proxy connection when sending a request.
		• false
		  Specify this to not use proxy connection when sending a request.
		You do not need to specify this property when values are specified for the webServiceConnectionCategory and webServiceConnectionName properties.
			false	Input	R

proxyHostname	Proxy Hostname	Specify the host name or IP address of the proxy, by using no more than 256 characters. You do not need to specify this property in the following cases: • When values are specified for the webServiceConnectionCategory and webServiceConnectionName properties • When false is specified for the useProxy property	--	Input	O
proxyPort	Proxy Port Number	Specify the port number of the proxy, by using a number from 1 to 65,535. You do not need to specify this property in the following cases: • When values are specified for the webServiceConnectionCategory and webServiceConnectionName properties • When false is specified for the useProxy property	8080	Input	O
proxyAuth	Proxy Server	Specify one of the following values as the proxy authentication mode. You do not need to specify this property in the following cases:	none	Input	R

Property key	Property name	Description	Default value	I/O type	Required

proxyAuth	Authentication Scheme	• When values are specified for the webServiceConnectionCategory and webServiceConnectionName properties
		• When false is specified for the useProxy property
		Specify one of the following values:
		• none
		  Specify this to not use proxy authentication.
		• basic
		  Specify this to use basic authentication.
		• digest
		  Specify this to use digest authentication.
		Specify none for this property if you specify the authentication header for the requestHeaders property. If the value of the proxyAuth property is not none and the authentication header is specified for the requestHeaders property, a communication error might occur.
			none	Input	R

proxyUsername	Proxy Username	Specify the user name to be used for proxy authentication, by using no more than 256 characters. You do not need to specify this property in the following cases: • When values are specified for the webServiceConnectionCategory and webServiceConnectionName properties • When false is specified for the useProxy property • When none is specified for the proxyAuth property	--	Input	O
proxyPassword	Proxy Password	Specify the password to be used for proxy authentication, by using no more than 256 characters. You do not need to specify this property in the following cases: • When values are specified for the webServiceConnectionCategory and webServiceConnectionName properties • When false is specified for the useProxy property • When none is specified for the proxyAuth property	--	Input	O
responseStatusCode	Status Code	The status code of the HTTP response message is output to this property. If status code 3xx (regarding redirection) is returned, the message is automatically redirected.	--	Output	--
responseStatusMessage	Status Message	The status message of the HTTP response message is output to this property.	--	Output	--
responseHeaders	Response Headers	The header information of the HTTP response message is output to this property.	--	Output	--
responseBody	Response Body	The body information of the HTTP response message is output to this property.	--	Output	--

About sending and receiving headers

For the headers listed in the following table, if you do not specify values when sending a request, the default values are set.

Table 4–11: Headers for which default values can be set

Header	Default value
Accept	application/json
Accept-language	en

Header	Default value
Content-Type[#]	application/json
Cache-Control	no-cache
Pragma	no-cache
User-Agent	*name-and-version-of-client-software*
Host	*host-name-and-port-number-of-request-destination*
Connection	keep-alive

\#

    The default value is set only if the POST or PUT method is specified.

For the headers listed in the following table, special behavior occurs while sending or receiving.

Table 4–12: Headers causing special behavior

Header	Behavior

Content-Type (charset parameter)	When the request is sent
	    The character set of the body is converted based on the value specified for the charset parameter. If no value is specified, the body is encoded in UTF-8.
	When the response is received
	    The character set of the body is interpreted based on the returned charset parameter. If the charset parameter is not returned, the character set is interpreted as UTF-8.

Content-Encoding	If a file is returned in gzip or deflate format, the file is uncompressed.

About the connection timeout value

If HTTP or HTTPS communication does not end due to a problem with a connection to the Web server or proxy server, you can set the value for a connection timeout as a trigger to detect a failure. You can set the connection timeout value by using the plugin.http.connect.timeout and plugin.http.read.timeout properties in the user-specified properties file (config_user.properties).

Preparation for negotiate authentication with the Web server

Use Kerberos v5 authentication for negotiate authentication with the Web server. To use Kerberos v5 authentication, you must edit configuration files and specify the settings for referencing the files.

The following shows the configuration files used for authentication and their locations:

- Kerberos configuration file
  JP1/AO-installation-folder\conf\plugin\krb5.conf

- Login configuration file
  JP1/AO-installation-folder\conf\plugin\login.conf

The following shows the procedure for using Kerberos v5 authentication:

1. Edit and save the Kerberos configuration file.

2. To reference the configuration files during authentication, add the following entries to the *Common-Component-installation-folder*\Base64\uCPSB\CC\web\containers\AutomationWebService\usrconf\usrconf.cfg file, and save the file:

```
add.jvm.arg=-Djava.security.krb5.conf=JP1/AO-installation-folder/conf/plug
in/krb5.conf
add.jvm.arg=-Djava.security.auth.login.config=JP1/AO-installation-folder/c
onf/plugin/login.conf
add.jvm.arg=-Djavax.security.auth.useSubjectCredsOnly=false
```

3. Stop the JP1/AO services.

> For a non-cluster system:
>> Execute the `hcmds64srv` command with the `stop` option specified.

> For a cluster system:
>> Use the cluster software to bring the services offline.

4. Restart the JP1/AO services.

> For a non-cluster system:
>> Execute the `hcmds64srv` command with the `start` option specified.

> For a cluster system:
>> Use the cluster software to bring the services online.

Referencing the Web service connection

You can reference the values of the Web service connection settings and use those values as input for the properties of the Web client plug-in. To do this, specify the category and name of the Web service connection for the webServiceConnectionCategory and webServiceConnectionName properties. If a value is already specified for the corresponding property of the Web client plug-in, the value will be overwritten by the values of the Web service connection settings.

The following table shows the correspondence between the properties of the Web client plug-in and the Web service connection settings.

Table 4–13: Properties of the Web client plug-in and the Web service connection settings

Property of the Web client plug-in	Web service connection setting
requestUrl[#]	IP address or host name
	Protocol
	Port number
webUsername	User ID
webPassword	Password
useProxy	Use proxy server
proxyHostname	IP address or host name of the proxy server
proxyPort	Port number of the proxy server
proxyAuth	Authentication method of the proxy server
proxyUsername	User ID of the proxy server
proxyPassword	Password of the proxy server

#: A request URL is generated by combining the values of the Web service connection settings and the value of the requestUrl property. Then, the requestUrl property is overwritten with the generated request URL.

Example of linking the Web client plug-in and the JavaScript plug-in

The Web client plug-in uses the property values as is without conversion. Therefore, if the property values need to be converted, we recommend that you link the Web client plug-in with the JavaScript plug-in. The following shows an example of linking the Web client plug-in with the JavaScript plug-in to encode the URL and extract the authentication token to be used for single sign-on from the server response.

Figure 4–13: Example of linking the Web client plug-in with the JavaScript plug-in
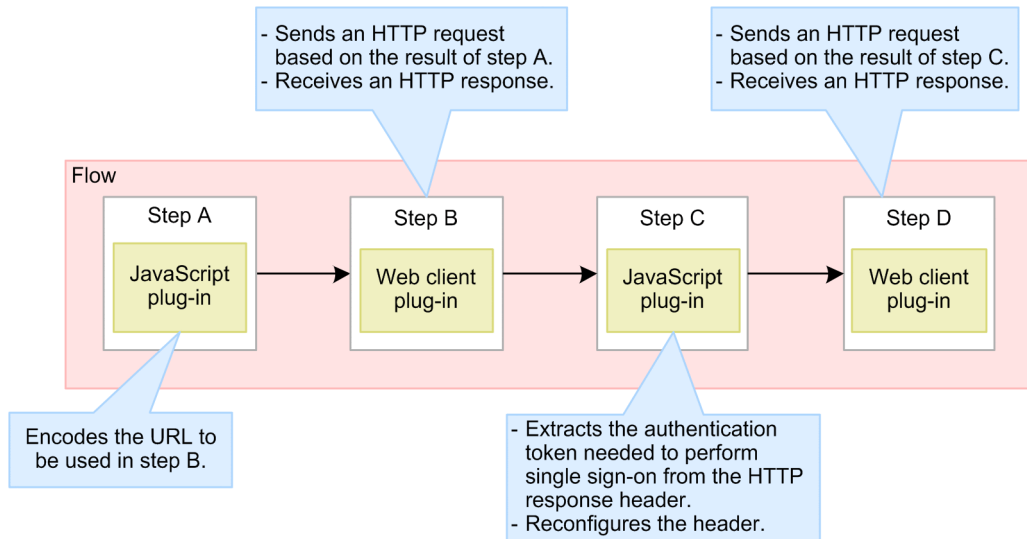
Related topics

- 4.2.17 JavaScript plug-in
- *User-specified properties file (config_user.properties)* in the *JP1/AO Configuration Guide*

4.2.20 Python plug-in

Function

This plug-in can execute Python scripts.

Cautionary notes

- Supported versions of Python is Version 3.*x* series. The Python plug-in does not support a virtual Python environment.

- The Python interpreter must be installed on the JP1/AO server before it can be used. To use in a cluster environment, the Python interpreter must be installed on both the active and standby systems.

Version

01.00.01

Tag

Execute Script

Return codes

Return code	Description
0	Ended normally.
1	Python interpreter failed.
2	Python script failed.
3	Python script timed out.
80	Task execution has stopped.
127	An error other than the above occurred.

Property list

The following table describes the properties.

Property key	Property name	Description	Default value	I/O type	Required
pythonInterpreterPath	Python Interpreter Path	Specifies the path to the Python interpreter that executes the script.	python	Input	R
scriptBody	Script Body	Specifies the Python code.	--	Input	R
importedScript	Imported script	Specify the methods and constants (strings in Python code) that are shared with other Python plug-ins used in the same service template.	--	Input	O
webServiceConnectionCategory	Web Service Connection Category	Specify the Web Service Connection category.	--	Input	O
webServiceConnectionName	Web Service Connection Name	Specify the Web Service Connection name.	--	Input	O
timeout	Time Out	Specifies the timeout time (in seconds) for the specified script.	300	Input	O
in$N^{\#}$	Script Input ($N^{\#}$)	Specifies an argument to be passed to the script.	--	Input	O
standardOutput	Standard Output	Outputs the standard output of the specified script as a character string.	--	Output	O
standardErrorOutput	Standard Error Output	Outputs the standard error output of the specified script as a character string.	--	Output	O
out$N^{\#}$	Script Output ($N^{\#}$)	Outputs the value specified for the argument of the "out$N^{\#}$" function in the specified script.	--	Output	O

\#

   N: An integer in the range from 0 to 9

You specify the plug-in input/output properties in the property list. Combinations of service property values, reserved property values, and literal characters can be used for the input properties.

Variables and functions that can be used in the Script Body

The following variables and functions can be used in the Script Body.

Table 4–14: Variables and functions that can be used in the Script Body

Category	Name	Description			
Variable	in$N^{\#}$	The value specified for the input property (in$N^{\#}$) is set. The value is interpreted as a character string even if the value is specified as an array or in JSON format.			
Function	out$N^{\#}$ (String Value)	The value passed as the argument of the function is output to the component output property (out$N^{\#}$).			
Function	log (String Value)	You can output any strings to the tasklog. In this case, choose a log level by adding a specific prefix to the beginning of the string.			
		Prefix	[Severe]	Outputs as log level 0	
			[Information]	Outputs as log level 10	
			[Fine]	Outputs as log level 20	
			[Finer]	Outputs as log level 30	
			[Debug]	Outputs as log level 40	
			(No prefix)	Outputs as log level 10 (Same as the prefix [Information])	

\#

  N: An integer in the range from 0 to 9

Note that if the following import lines defined by default are deleted from the script, the variables and functions mentioned above cannot be used.

```
from dnaplugin import in0, in1, in2, in3, in4, in5, in6, in7, in8, in9
from dnaplugin import out0, out1, out2, out3, out4, out5, out6, out7, out8,
out9
from dnaplugin import log
```

Environment variables that can be referenced from the Script Body

Specify a value for the environment variables when executing the script. You can get the values for the following environment variables in the os.environ[*key-name*] or os.environ.get(*key-name*) format.

Table 4–15: Environment variables that can be referenced from the Script Body

Environment variable	Description	Format
PLUGIN_PROPERTIES	Property for the Python plug-in	JSON format {*property-name*:*value*...}
SERVICE_TEMPLATE_ID	ID of the service template to which the Python plug-in belongs	Numerical value
SERVICE_ID	ID of the service running the Python plug-in	Numerical value
SERVICE_TEMPLATE	Information about the service template to which the Python plug-in belongs	JSON format {*service-template-attribute*:*value*... }
SERVICE	Information about the service running the Python Plug-in	JSON format {*service-attribute*:*value*...}

Environment variable	Description	Format
WEB_SERVICE_CONNECTIONS	Settings information for the Web Service Connection. #	JSON format [{*WebServiceConnection-attribute*:*value*...}, ...]

#

This corresponds to the specified input properties ("Web Service Connection Category" and "Web Service Connection Name") seen in the following table.

Input properties specification		Reference information
Web Service Connection Category	Web Service Connection Name	
Value is specified. (Y)	Value is specified. (Y)	Web Service Connection information that coincides with the specified Category and Name
Value is specified. (Y)	Value is not specified. (N)	Web Service Connection information that coincides with the specified Category
Value is not specified. (N)	Value is specified. (Y)	None
Value is not specified. (N)	Value is not specified. (N)	None

About imported scripts

If you want to share methods and constants with other Python plug-ins used in the same service template, define the methods and constants in the importedScript property.

By mapping the importedScript property to the service input property, and then mapping the importedScript properties of other Python plug-ins to the same service input property, you can share the methods and constants defined in the imported script with the Script Body of each Python plug-in.

- Referencing methods and constants from the Script Body

  The methods and constants defined in the imported script can be referenced by using the module name `dnaplugin_imported_script` from the Script Body.

  The import statement is included in the Script Body by default.

- Functions and environment variables that can be used in the imported script

  Functions: The function log() can be used. For details, see the description of the function log() in the table of variables and functions that can be used in the Script Body.

  Environment variables: These are the same as the environment variables that can be used in the Script Body. For details, see the table of environment variables that can be referenced from the Script Body.

Sample imported script

Script Body

```
# -*- coding: utf-8 -*-
import os
from dnaplugin import in0, in1, in2, in3, in4, in5, in6, in7, in8, in9
from dnaplugin import out0, out1, out2, out3, out4, out5, out6, out7, out8
, out9
from dnaplugin import log
from dnaplugin_imported_script import *

hoge(CNST)
```

Imported script

```
from dnaplugin import log

def hoge(a):
    log(a + ' from common py!')

CNST = 'hoge'
```

4.3 List of plug-ins in the JP1/AO Content Set

4.3.1 List of the Active Directory-related Plug-ins

No.	Plug-in name	Function
1	Moving an object in the Active Directory	Move an object to the specified OU in the Active Directory.
2	Searching for an object in the Active Directory	Search for an object in the Active Directory.
3	Delete an object from the Active Directory instance	Deletes an object from the Active Directory instance.
4	Acquiring a group member list in the Active Directory	Acquire a list of the members belonging to the specified group in the Active Directory.
5	Changing the group attribute in the Active Directory	Change the group attribute in the Active Directory.
6	Add a group to the Active Directory instance	Adds a group to the Active Directory instance.
7	Changing the OU attribute of the Active Directory	Change the attribute of the OU in the Active Directory.
8	Acquiring a UPN list in the Active Directory	A list of user principal names in the Active Directory is acquired.
9	Adding an OU to the Active Directory	Add an OU to the Active Directory.
10	Unlocking user account in the Active Directory	User accounts that were locked by Active Directory are unlocked.
11	Changing the user password in the Active Directory	Change the user password in the Active Directory.
12	Modify user attributes on the Active Directory instance	Modifies user attributes on the Active Directory instance.
13	Add a user to the Active Directory instance	Adds a user to the Active Directory instance.
14	Delete a member from an existing Active Directory group	Deletes a member from an existing group on the Active Directory instance.
15	Add a member to an existing Active Directory group	Adds a member to an existing group on the Active Directory instance.
16	Changing the attribute of the contact in the Active Directory	Change the attribute of the contact in the Active Directory.
17	Adding a contact in the Active Directory	Add a contact in the Active Directory.

4.3.2 List of the JP1-related Plug-ins

No.	Plug-in name	Function
1	JP1 silent install (UNIX)	Performs a silent installation of JP1 products from Hitachi PP installer media to a UNIX execution target server.
2	JP1 silent install (Windows)	Performs a silent installation of JP1 products from Hitachi integrated installer media to a Windows execution target server.
3	JP1 apply patch (UNIX)	Applies a fix patch to a JP1 product installed on a UNIX execution target server.
4	JP1 apply patch (Windows)	Applies a fix patch to a JP1 product installed on a Windows execution target server.

4.3.3 List of the JP1/AJS-related Plug-ins

No.	Plug-in name	Function
1	Register for JP1/AJS jobnet fixed execution	Performs the fixed execution registration for the jobnet.
2	Forced termination of JP1/AJS jobnet	Performs forced termination of the jobnet or job.
3	Register for JP1/AJS jobnet planned execution	Performs the scheduled execution registration for the jobnet.
4	Re-execute JP1/AJS jobnet	Re-executes the jobnet or job.
5	Change JP1/AJS jobnet execution schedule	Temporarily changes the execution start date and time of the jobnet, or executes the jobnet immediately.
6	Stop JP1/AJS jobnet execution	Temporarily stops execution of the jobnet or job.
7	Register JP1/AJS jobnet for execution	Registers a jobnet for execution in JP1/AJS3 (or JP1/AJS2).
8	JP1/AJS jobnet scheduled execution results output	Outputs the scheduled execution results of jobnet to a file.
9	Suspend JP1/AJS jobnet	Suspends the jobnet.
10	Change hold attribute for JP1/AJS jobnet	Temporarily changes hold attribute of the jobnet or job.
11	Change JP1/AJS job status	Changes the job status.
12	Get JP1/AJS jobnet execution results	Acquires jobnet execution results from JP1/AJS3 (or JP1/AJS2).
13	Get JP1/AJS troubleshooting information	Acquires troubleshooting information from JP1/AJS3 (or JP1/AJS2) and stores it in the specified folder.
14	Start JP1/AJS(UNIX)	Starts JP1/AJS on the execution target server in UNIX.
15	Obtain Status of JP1/AJS	Obtains the status of JP1/AJS on the execution target server in Windows or UNIX.
16	Stop JP1/AJS(UNIX)	Stops JP1/AJS on the execution target server in UNIX.
17	Check JP1/AJS unit existence	Checks if the unit exists.

4.3.4 List of the JP1/Base-related Plug-ins

No.	Plug-in name	Function
1	Start event service of JP1/Base(UNIX)	Starts event service of JP1/Base on the execution target server in UNIX.
2	Obtain event service Status of JP1/Base	Obtains the event service status of JP1/Base on the execution target server in Windows or UNIX.
3	Stop event service of JP1/Base(UNIX)	Stops event service of JP1/Base on the execution target server in UNIX.
4	Get JP1/Base troubleshooting information	Acquires troubleshooting information from JP1/Base and stores it in the specified folder.
5	Change password management information in JP1/Base	Updates the OS user information in the JP1/Base password management information.
6	Change password management information in JP1/Base(SYSTEM)	Updates the OS user information in the JP1/Base password management information.
7	Add JP1/Base user mapping	Adds a user mapping definition in JP1/Base.
8	Add JP1/Base user mapping(SYSTEM)	Adds a user mapping definition in JP1/Base.
9	Start JP1/Base	Starts JP1/Base on the execution target server in UNIX.
10	Obtain Status of JP1/Base	Obtains the status of JP1/Base on the execution target server in Windows or UNIX.
11	Stop JP1/Base(UNIX)	Stops JP1/Base on the execution target server in UNIX.
12	Delete JP1/Base user mapping	Deletes JP1/Base user mapping information.
13	Delete JP1/Base user mapping(SYSTEM)	Deletes JP1/Base user mapping information.
14	JP1/Base common definition information setting	Sets the common definition information in JP1/Base.
15	Set JP1/Base permissions	Sets the permissions for a JP1 user registered in JP1/Base.
16	Set JP1/Base permissions(SYSTEM)	Sets the permissions for a JP1 user registered in JP1/Base.
17	Registration of a JP1 event	Registers a JP1 event.
18	Change JP1 user password	Changes the password for the JP1 user registered in JP1/Base.
19	Change JP1 user password(SYSTEM)	Changes the password for the JP1 user registered in JP1/Base.
20	Get list of JP1 users	Acquires a list of JP1 users.
21	Delete JP1 user	Deletes a JP1 user from JP1/Base.
22	Delete JP1 user(SYSTEM)	Deletes a JP1 user from JP1/Base.
23	Delete JP1 user permissions	Deletes the permissions of a JP1 user registered in JP1/Base.
24	Delete JP1 user permissions(SYSTEM)	Deletes the permissions of a JP1 user registered in JP1/Base.
25	Add JP1 user	Adds a new JP1 user to JP1/Base.
26	Add JP1 user(SYSTEM)	Adds a new JP1 user to JP1/Base.
27	Delete OS user information	Deletes OS user information in the JP1/Base password management information.

No.	Plug-in name	Function
28	Delete OS user information(SYSTEM)	Deletes OS user information in the JP1/Base password management information.
29	Check mapping information	Acquires JP1 user mapping information.

4.3.5 List of the JP1/IM-related Plug-ins

No.	Plug-in name	Function
1	Collect JP1/IM troubleshooting information	Acquires troubleshooting information from JP1/IM and stores it in the specified folder.
2	Changing the JP1 event action status	Changes the action status of a JP1 important event.
3	Get JP1 event	Acquires event information for the specified period of time.

4.3.6 List of the JP1/NNMi-related Plug-ins

No.	Plug-in name	Function
1	Output of the NNMi topology database content	Acquires the content of the topology database of JP1/Cm2/NNMi, and outputs them to the specified file.
2	Delete monitored node	Deletes the specified monitored node in JP1/Cm2/NNMi.
3	Add monitored node	Adds the specified monitored node to the monitoring targets in JP1/Cm2/NNMi.

4.3.7 List of the JP1/PFM-related Plug-ins

No.	Plug-in name	Function
1	Set Store database storage conditions	Sets storage conditions for the Store database in a remote agent in JP1/PFM - RM.
2	Copy alarm table (JP1/PFM)	Copies the JP1/PFM alarm table (or alarms).
3	Delete alarm table (JP1/PFM)	Deletes the JP1/PFM alarm table (or alarms).
4	Acquire alarm table information (JP1/PFM)	Acquires JP1/PFM alarm table information.
5	Get list of alarm table names (JP1/PFM - RM)	Acquires a list of alarm table names in JP1/PFM - RM.
6	Unbind alarm (JP1/PFM - RM)	Deletes an alarm table binding from an agent in JP1/PFM - RM.
7	Bind alarm (JP1/PFM - RM)	Binds an alarm table to an agent in JP1/PFM - RM.
8	Import alarm definition file (JP1/PFM)	Imports the JP1/PFM alarm-definition file.
9	Export alarm definition file (JP1/PFM)	Exports the JP1/PFM alarm-definition file.

No.	Plug-in name	Function
10	Set agent hierarchy	Imports definition settings for the JP1/PFM agent hierarchy, and then create or update an agent hierarchy.
11	Synchronize service information	Synchronizes service information registered in JP1/PFM - Manager with JP1/PFM - Web Console.
12	Get list of process monitoring settings	Acquires a list of process monitoring settings.
13	Add process monitoring settings	Adds process monitoring settings (application definitions) for an agent in JP1/PFM.
14	Get report	Acquires a report.
15	Add monitoring setting	Configures the settings for how to record performance information in a remote agent in JP1/PFM - RM.
16	Delete monitoring target (JP1/PFM - RM)	Deletes a monitored service from JP1/PFM - RM.
17	Add monitoring target (JP1/PFM - RM)	Adds a monitored service to JP1/PFM - RM.
18	Display monitoring targets (JP1/PFM - RM)	Acquires monitoring targets in JP1/PFM - RM for Platform.

4.3.8 List of the JP1/SS-related Plug-ins

No.	Plug-in name	Function
1	Update JP1/IM-SS Instance	Update the information of an instance of JP1/IM-SS.
2	Register JP1/IM-SS Instance	Register a new instance to JP1/IM-SS.

4.3.9 List of the JP1/VERITAS-related Plug-ins

No.	Plug-in name	Function
1	Execute instant recovery (JP1/VERITAS)	On the target server in a Windows or UNIX environment, uses the most recent backup to perform an instant recovery of the virtual server, confirms that the recovery job starts normally, and then outputs the details list of the job to a file.
2	End instant recovery (JP1/VERITAS)	On the target server in a Windows or UNIX environment, terminates the current instant recovery job, and then confirms that the job terminates normally.
3	Initialize Backup Policy (VMware)	Initializes the backup policy (in VMware format) in a JP1/VERITAS NetBackup environment.
4	Change Backup Policy Attributes (VMware)	Changes the attributes of the backup policy (in VMware format) in a JP1/VERITAS NetBackup environment.
5	Create Backup Policy	Creates a backup policy in a JP1/VERITAS NetBackup environment.
6	Add Clients to Backup Policy	Adds clients to the backup policy in a JP1/VERITAS NetBackup environment.
7	Change Backup Policy Schedule Attributes	Changes the schedule attributes of the backup policy in a JP1/VERITAS NetBackup environment.
8	Add Schedule to Backup Policy	Adds a schedule to the backup policy in a JP1/VERITAS NetBackup environment.
9	Add File List to Backup Policy	Adds a file list to the backup policy in a JP1/VERITAS NetBackup environment.

No.	Plug-in name	Function
10	Perform backup (JP1/VERITAS)	Performs a backup using JP1/VERITAS NetBackup.
11	Virtual-machine restoration	This plug-in restores a virtual machine in a JP1/VERITAS NetBackup environment.
12	Rename-file creation	This plug-in creates a rename file to be used to restore a virtual machine in a JP1/VERITAS NetBackup environment.

4.3.10 List of the OS-related Plug-ins

No.	Plug-in name	Function
1	Update cell data in a CSV/Excel file	This plug-in updates cells in a CSV file or Excel file with the specified data.
2	Acquisition of cell data from a CSV/Excel file	Data is retrieved from the specified cells of a CSV or Excel file.
3	Division of data from a CSV/Excel file	The CSV or Excel file is divided into files containing the specified number of rows. You can also choose to extract only certain rows by specifying filter conditions for the column data.
4	Acquisition of row data from a CSV/Excel file	From a CSV/Excel file, acquire the data in the row that matches the specified key value.
5	Acquisition of row data from a CSV/Excel file(SYSTEM)	From a CSV/Excel file, acquire the data in the row that matches the specified key value.
6	Acquisition of column data from a CSV/Excel file	Acquires the data in the specified column from a CSV or Excel file.
7	Acquisition of column data from a CSV/Excel file(SYSTEM)	Acquires the data in the specified column from a CSV or Excel file.
8	Send ICMP echo request message	Sends an ICMP echo request message to the specified IP address in the Windows or UNIX execution target server.
9	Set IP address	On the target server in a Windows or UNIX environment, sets an IP address for the specified NIC.
10	Operate OS Service	Performs operations on the specified OS service of the Windows or Linux server where the plug-in is executed.
11	Change password for OS user	Changes the password for an OS user in a Windows or UNIX execution target server.
12	Change password for OS user(SYSTEM)	Changes the password for an OS user in a Windows or UNIX execution target server.
13	Get list of OS users	Acquires a list of OS users from Windows/UNIX.
14	Delete OS user	Deletes an OS user in a Windows or UNIX execution target server.
15	Delete OS user(SYSTEM)	Deletes an OS user in a Windows or UNIX execution target server.
16	Output OS type	Outputs to standard output the type of OS of the specified Windows or UNIX execution target server.
17	Shutdown Server	Shutdown the server for the Windows or Linux server where the plug-in is executed.
18	Restart Server	Restarts the server for the Windows or Linux server where the plug-in is executed.
19	Extract character string in a text file	The line specified by the specified text file is set to the output property.
20	Copy file	Copies the specified file or folder in a Windows or UNIX execution target server.
21	Obtaining the file size	Output the total size of the files under the specified path, including subfolders, on the execution target server in a Windows or UNIX environment.

No.	Plug-in name	Function
22	Compressing a file	Compress the specified file or folder on the execution target server in a Windows or UNIX environment. For Windows, compress to .zip files. For UNIX, compress to .gzip files by archiving as .tar files.
23	Decompressing a file	Decompress the specified file on the execution target server in a Windows or UNIX environment. For Windows, decompress .zip files. For UNIX, decompress .gzip files archived as .tar files.
24	Obtaining the latest update time stamp of a file	Output the latest update time stamp of the specified file or folder on the execution target server in a Windows or UNIX environment.
25	Converting the character encoding of a file	On the execution target server in a Windows or UNIX environment, convert the character encoding type of the specified text file, and then output it to another file.
26	Acquiring access authority of a file or folder	The authority information for the specified file is output. If a folder is specified, the authority information for the folder is output.
27	Confirm file or folder existence	Confirm that the specified file or folder exists on the Windows or UNIX execution target server.
28	Moving a file	Move the specified file or folder on the execution target server in a Windows or UNIX environment.
29	Obtaining a file list	On the execution target server in a Windows or UNIX environment, output the following as a text file: a list of files under the specified path or a list of files and folders under the specified folder.
30	Delete file	Deletes the specified file in a Windows or UNIX target server.
31	Delete file(SYSTEM)	Deletes the specified file in a Windows or UNIX target server.
32	Create folder	Creates the specified folder in a Windows or UNIX execution target server.
33	Delete folder	Deletes the specified folder in a Windows or UNIX execution target server.
34	Acquiring process information	The specified process information is set to the output property on the Windows or Unix execution target server.
35	Get host name	Performs name resolution to acquire the host name from the specified IP address in the Windows or UNIX execution target server.
36	Execution Wait	Controls the intervals between steps by waiting for the number of seconds specified in a property.
37	Calculating dates and times	In an execution-target server that has a Windows or UNIX environment, the specified time is added or subtracted from the specified date/time.
38	Obtain date and time	Obtain the current date and time of the execution target server in the specified format.
39	Comparing dates and times	Compare two dates and times input by a user on the execution target server in a Windows or UNIX environment.
40	Sorting character strings	Sort the specified character strings on the execution target server in a Windows or UNIX environment.
41	Filter Text	Filters text on the Windows or Linux server where the plug-in is executed.
42	Search Text	Searches for text on the Windows or UNIX server where the plug-in is executed.
43	Replace character string	On an execution-target Windows or UNIX server, replaces a specific character string in the specified file with the specified character string.
44	Adding a character string	Add a character string to the end of the specified file on the execution target server in a Windows or UNIX environment.

4.3.11 List of the TELstaff-related Plug-ins

No.	Plug-in name	Function
1	Notifications by TELstaff	This plug-in implements notifications by using TELstaff.

4.3.12 List of the UNIX-related Plug-ins

No.	Plug-in name	Function
1	Add OS user (UNIX)	Creates an OS user in the UNIX execution target server.
2	Change file or directory access permissions	Access permissions can be change for the specified file or directory on the UNIX execution target server.

4.3.13 List of the Windows-related Plug-ins

No.	Plug-in name	Function
1	Get CSV data	Acquires data from a CSV file.
2	Send ICMP echo request message (confirm no response)	Sends an ICMP echo request message to the specified IP address in the Windows execution target server. Confirms that there is no response.
3	Changing the account for the OS service	The account for the specified OS is changed on the Windows execution target server.
4	Startup setting for the OS service	The startup type of the specified OS service is set on the Windows execution target server.
5	Set group of OS user (Windows)	Sets the group that the OS user belongs to in the Windows execution target server.
6	Set group of OS user (Windows)(SYSTEM)	Sets the group that the OS user belongs to in the Windows execution target server.
7	Add OS user (Windows)	Creates an OS user in the Windows execution target server.
8	Add OS user (Windows)(SYSTEM)	Creates an OS user in the Windows execution target server.
9	Execute SQL Query	Issues a specified SQL statement to the database server connected by a 32-bit ODBC driver.
10	Configure Windows firewall	Registers programs and ports as exceptions in the Windows firewall in the Windows execution target server.
11	Get event list from Event log	Outputs a list of events from the Windows event log to a file in CSV format.
12	Create event for Event log	Creates an event in the Windows event log.
13	Printing a file (in Windows)	The specified file on the execution target server in a Windows environment will be set to the print queue.
14	Change file or folder access permissions	Access permissions can be change for the specified file or folder on the Windows execution target server.
15	Time determination	Determine if the time of the determination target matches the specified condition.

4.4 Active Directory-related Plug-ins

4.4.1 Moving an object in the Active Directory

Function

This plug-in moves an object to the specified Organizational Unit (OU) for the Active Directory of the specified server.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

This plug-in allows you to move the following objects:

- Group

- User

- Contact

- OU

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsmove

"value-of-object-identifier(Windows.objectName-property)"

-newparent "value-of-moving-destination-ou-identifier(Windows.parentName-property)"

For details of the dsmove command, see the relevant sections in the Microsoft library.

Use situation

This plug-in is used to move an object to the specified OU in the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

Execution privilege

(1) When connecting to the execution server, the user needs to be a member of the Account Operators group, Domain Admins group, or Enterprise Admins group of the Active Directory domain service; and have proper authority.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adMoveObject

Return code

0: Normal

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.objectName	Object identifier	Specify an identifier of the object to move in a format beginning with CN= or OU=.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
Windows.parentName	Identifier of the moving destination OU	Specify an identifier of the moving destination OU	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.4.2 Searching for an object in the Active Directory

Function

This plug-in searches for an object for the Active Directory of the specified server. The search result is output to the file specified in the output path (common.outputFilePath property). If no parent folder exists for the specified file, this plug-in creates that folder.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

This plug-in allows you to search for the following objects:

- Group

- User

- Contact

- Organization Unit (OU)

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsquery

"value-of-object-type(Windows.objectType-property)"

"value-of-search-start-node(Windows.startNode-property)"

[-name "value-of-object-name(Windows.objectName-property)"]

[-desc "value-of-explanation(Windows.description-property)"]

[-upn "value-of-user-principal-name(Windows.userPrincipalName-property)"]

-limit "0"

For details of the dsquery command, see the relevant sections in the Microsoft library.

The following is a file output example for this plug-in:

- Output example

"OU=SampleOU1,OU=testOU,DC=example,DC=co,DC=jp"

"OU=SampleOU2,OU=testOU,DC=example,DC=co,DC=jp"

Use situation

This plug-in is used to search for an object in the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) If a file is already specified for the output file path (common.outputFilePath property), that file is overwritten.

Version

02.00.01

Plug-in tags

Gather Active Directory information,Windows,Active Directory

Plug-in name displayed in the task log

adSearchObject

Return code

0: Normal

12: Abnormal (user mistake), illegal property

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.objectType	Object type	Specify the type of the object to search for. Specifiable values are "group", "user", "contact", and "ou".	--	Input	R
Windows.startNode	Search start node	Specify a node with which you want to start the search. As a search start node, you can specify "forestroot", "domainroot", or a domain identifier, in a format beginning with DC=.	domainroot	Input	R
Windows.objectName	Object name	Specify the name of the object to search for. You can use an asterisk (*) as a wild card.	--	Input	O
Windows.description	Explanation	Specify the explanation of the object to search for. You can use an asterisk (*) as a wild card.	--	Input	O
Windows.userPrincipalName	User principal name	Specify the user principal name of the object to search for. You can specify this if the type of the object to search for is "user".	--	Input	O
common.outputFilePath	Output file path	Specify an output file by using a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.4.3 Delete an object from the Active Directory instance

Function

This plugin can delete an object from the Active Directory instance of the specified server.

The required server is shown as follows:

- Execution-target server

This is a server on which this plugin runs. The Active Directory instance as described in the prerequisites must have been set up.

This plugin can delete the following objects:

- Group

- User

- Contact information

- OU

The scripts in this plugin perform the following processing:

- Execute the following command.

dsrm

object-name (the value of the Windows.objectName property)

-noprompt

For details on the dsrm command, refer to the descriptions in the Microsoft library.

Use situation

Use this plugin to delete an object from the Active Directory instance.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Active Directory domain service

(2) DNS server

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of the plugin.

Execution privilege

(1) To access the execution-target server, the user must be a member of the Account Operators group of the Active Directory domain service, the Domain Admins group, or the Enterprise Admins group. If the user is not a member of such a group, the user must have an appropriate permission.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adDeleteObject

Return code

0: Normal

21: Error (environmental error) No command found (An error was detected in the component script.)

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.objectName	Object identifier	Specify the identifier of the object to be deleted in the format beginning with CN=.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.4 Acquiring a group member list in the Active Directory

Function

This plug-in acquires a list of the members that belong to the specified group for the Active Directory of the specified server. The acquisition result is output to the file specified in the output path (common.outputFilePath property). If no parent folder exists for the specified file, this plug-in creates that folder.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsget group

"value-of-group-identifier(Windows.groupName-property)"

-members

For details of the dsget group command, see the relevant sections in the Microsoft library.

The following is a file output example for this plug-in:

- Output example

"CN=SampleUser,OU=testOU,DC=example,DC=co,DC=jp"

"CN=SampleContact,OU=testOU,DC=example,DC=co,DC=jp"

Use situation

This plug-in is used to acquire a list of the members of the specified group in the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) If a file is already specified for the output file path (common.outputFilePath property), that file is overwritten.

Version

02.00.00

Plug-in tags

Gather Active Directory information,Windows,Active Directory

Plug-in name displayed in the task log

adGetMembersOfGroup

Return code

0: Normal

12: Abnormal (user mistake), illegal property

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.groupName	Group identifier	Specify an identifier of the group for which you want to acquire a member list, in a format beginning with CN=.	--	Input	R
common.outputFilePath	Output file path	Specify an output file by using a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.5 Changing the group attribute in the Active Directory

Function

This plug-in changes the group attribute for the Active Directory of the specified server.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsmod group

"value-of-group-identifier(Windows.groupName-property)"

[-secgrp {yes|no}]*1

[-scope {l|g|u}]*2

[-desc "value-of-explanation(Windows.description-property)"]

Note 1: If you specify "true" for Necessity for security group settings (Windows.isSecurityGroup property), "yes" is set. If you specify "false", "no" is set. If you specify a value other than the above, this option is omitted.

Note 2: The option value corresponding to the scope (Windows.scope property) value is set.

For "local": "l"

For "global": "g"

For "universal": "u"

For details of the dsmod group command, see the relevant sections in the Microsoft library.

Use situation

This plug-in is used to change the group attribute in the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) If you specify no value for the plug-in property, the attribute value corresponding to the plug-in property does not change.

Execution privilege

(1) When connecting to the execution server, the user needs to be a member of the Account Operators group, Domain Admins group, or Enterprise Admins group of the Active Directory domain service; and have proper authority.

Version

02.00.01

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adChangeGroupAttribute

Return code

0: Normal

12: Abnormal (user mistake), illegal property

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.groupName	Group identifier	Specify an identifier of the group for which you want to change attributes, in a format beginning with CN=.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
Windows.isSecurityGroup	Necessity for security group settings	To use the group as a security group, specify "true". To use the group as a distribution group, specify "false".	--	Input	O
Windows.scope	Scope	Specify a scope for the group. Specifiable values include "local", "global", and "universal".	--	Input	O
Windows.description	Explanation	Specify an explanation of the group after the change.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.6 Add a group to the Active Directory instance

Function

This plugin can add a group to the Active Directory instance of the specified server.

The required server is shown as follows:

- Execution-target server

This is a server on which this plugin runs. The Active Directory as instance described in the prerequisites must have been set up.

The scripts in this plugin perform the following processing:

- Execute the following command.

dsadd group

group-name (the value of the Windows.groupName property)

[-secgrp "no"] *1

-scope {l|g|u} *2

[-desc description] (the value of the Windows.description property)

[-memberof name-of-belonging-group] (the value of the Windows.memberOf property)

*1: This is set when "true" is specified to the Windows.isDistributionGroup property that defines whether to set a distribution group.

*2: Option value that corresponds to the value of the scope (the Windows.scope property).

For "local": "l"

For "global": "g"

For "universal": "u"

For details about the dsadd group command, refer to the descriptions in the Microsoft library.

Use situation

Use this plugin to add a group to the Active Directory instance.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Active Directory domain service

(2) DNS server

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') to properties of the plugin.

Execution privilege

(1) To access the execution-target server, the user must be a member of the Account Operators group of the Active Directory domain service, the Domain Admins group, or the Enterprise Admins group. If the user is not a member of such a group, the user must have an appropriate permission.

Version

02.00.01

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adAddGroup

Return code

0: Normal

12: Error (mistake by user) Invalid property

21: Error (environmental error) No command found (An error was detected in the component script.)

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.groupName	Group identifier	Specify the identifier of the group to be added in the format beginning with CN=.	--	Input	R
Windows.isDistributionGroup	Whether to set as a distribution group	Specify true when setting the group to be added as a distribution group. If you do not specify true, the group is assumed to be a security group.	--	Input	O
Windows.scope	Scope	Specify the scope of the group to be added. The specifiable value is local, global, or universal. global is assumed if this property is omitted.	--	Input	O
Windows.description	Description	Specify the description of the group to be added.	--	Input	O
Windows.memberOf	Identifier of the belonging group	Specify the identifier of the group to which the group to be added belongs in the format beginning with CN=.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.7 Changing the OU attribute of the Active Directory

Function

This plug-in changes the explanation of the Organizational Unit (OU) for the Active Directory of the specified server.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsmod ou

"value-of-OU-identifier(Windows.OUName-property)"

[-desc "value-of-explanation(Windows.description-property)"]

For details of the dsmod ou command, see the relevant sections in the Microsoft library.

Use situation

This plug-in is used to change the explanation of an OU in the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) You cannot specify a null character for an explanation (Windows.description property).

Execution privilege

(1) When connecting to the execution server, the user needs to be a member of the Account Operators group, Domain Admins group, or Enterprise Admins group of the Active Directory domain service; and have proper authority.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adChangeOUAttribute

Return code

0: Normal

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.OUName	OU identifier	Specify an identifier of the OU for which you want to change attributes, in a format beginning with OU=.	--	Input	R
Windows.description	Explanation	Specify an explanation	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.8 Acquiring a UPN list in the Active Directory

Function

This plug-in acquires a list of user principal names for the user registered within the specified domain for the Active Directory of the specified server. The acquisition result is output to the file specified in the output path (common.outputFilePath property). If no parent folder exists for the specified file, this plug-in creates that folder.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

Scripts in this plug-in perform the following processing:

- Execution of the following command

csvde

-d "value-of-domain-id(Windows.domainName-property)"

[-t "value-of-port-number-for-connecting-Active-Directory(Windows.portNumber-property)"]

-f "value-of-output-file-path(common.outputFilePath-property)"

-l "DN,userPrincipalName"

-r "objectclass=user"

For details of the csvde command, see the relevant sections in the Microsoft library.

The following is a file output example for this plug-in:

- Output example

DN,userPrincipalName

"CN=Administrator,CN=Users,DC=example,DC=co,DC=jp",

"CN=Guest,CN=Users,DC=example,DC=co,DC=jp",guest@example.co.jp

Use situation

This plug-in is used to acquire a list of user principal names for the user registered in the domain specified in the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) If a file is already specified for the output file path (common.outputFilePath property), that file is overwritten.

Execution privilege

(1) A user who wants to connect to the execution server must have the administrator privilege.

Version

02.00.00

Plug-in tags

Gather Active Directory information,Windows,Active Directory

Plug-in name displayed in the task log

adGetUPN

Return code

0: Normal

12: Abnormal (user mistake), illegal property

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.domainName	Domain Identifier	Specify an identifier of the domain for which you want to acquire a user principal name list, in a format beginning with DC=.	--	Input	R
Windows.portNumber	Port number for connecting the Active Directory	Specify a port number for connecting the Active Directory. By default, the LDAP port number is used for connection.	389	Input	O
common.outputFilePath	Output file path	Specify an output file by using a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.4.9 Adding an OU to the Active Directory

Function

This plug-in adds an Organizational Unit (OU) to the Active Directory for the specified server.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsadd ou

"value-of-OU-identifier(Windows.OUName-property)"

[-desc "value-of-explanation(Windows.description-property)"]

For details of the dsadd ou command, see the relevant sections in the Microsoft library.

Use situation

This plug-in is used to add an OU to the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

Execution privilege

(1) When connecting to the execution server, the user needs to be a member of the Account Operators group, Domain Admins group, or Enterprise Admins group of the Active Directory domain service; or have proper authorization.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adAddOU

Return code

0: Normal

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.OUName	OU identifier	Specify an identifier of the OU to add, in a format beginning with OU=.	--	Input	R
Windows.description	Explanation	Specify an explanation about the OU to add.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.4.10 Unlocking user account in the Active Directory

Function

This plugin can unlock user account is controlled on Domain Controller, and make the state that can log on, for the Active Directory of the specified server.

The required server is shown as follows:

- Execution-target server

This is a server on which this plugin runs. The Active Directory instance as described in the prerequisites must have been set up.

The scripts in this plugin perform the following processing:

- Execute the following command.

net user "user-account-name (the value of the Windows.userAccountName property)"

/active

/domain

For details on the net user command, refer to the descriptions in the Microsoft library.

Use situation

Use this to unlock a user account that has been locked out by Active Directory, for example due to mistakes in password entry.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Active Directory domain services

(2) DNS server

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) If this plug-in ends abnormally and the message "The syntax of this command is:" is output to the task log, the user account name might be incorrect. Check the user account name.

Execution privilege

(1) A user who wants to connect to the execution server must have the administrator privilege.

Version

02.10.00

Plug-in tags

Active Directory,Control Active Directory,Windows

Plug-in name displayed in the task log

adUnlockUserAccount

Return code

0: Normal

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.userAccountName	User account name	Specify the account name of the user.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.4.11 Changing the user password in the Active Directory

Function

This plug-in changes the user password for the Active Directory of the specified server.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsmod user

"value-of-user-identifier(Windows.userName-property)"

-pwd "value-of-password(Windows.accountPassword-property)"

For details of the dsmod user command, see the relevant sections in the Microsoft library.

Use situation

This plug-in is used to change the user password in the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) You cannot specify a null character for a password (Windows.accountPassword property) or password re-entry (Windows.accountPasswordReEnter property).

(3) Do not specify only an asterisk (*) for the password (Windows.accountPassword property).

Execution privilege

(1) When connecting to the execution server, the user needs to be a member of the Account Operators group, Domain Admins group, or Enterprise Admins group of the Active Directory domain service; and have proper authority.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adChangePassword

Return code

0: Normal

12: Abnormal (user mistake), illegal property

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.userName	User identifier	Specify an identifier of the user for which you want to change the password in a format beginning with CN=.	--	Input	R
Windows.accountPassword	Password	Specify a password after a user change.	--	Input	R
Windows.accountPasswordRe Enter	Password re-entry	Re-enter the password after a user change.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.12 Modify user attributes on the Active Directory instance

Function

This plugin can modify user attributes on the Active Directory instance of the specified server.

The required server is shown as follows:

- Execution-target server

This is a server on which this plugin runs. The Active Directory instance as described in the prerequisites must have been set up.

The scripts in this plugin perform the following processing:

- Execute the following command.

dsmod user

user-name (the value of the Windows.userName property)

[-upn user-principal-name] (the value of the Windows.userPrincipalName property)

[-fn first-name] (the value of the Windows.firstName property)

[-mi initials] (the value of the Windows.initial property)

[-fn last-name] (the value of the Windows.lastName property)

[-display displayed-name] (the value of the Windows.displayName property)

[-empid employee-ID] (the value of the Windows.employeeID property)

[-desc description] (the value of the Windows.description property)

[-office office-name] (the value of the Windows.office property)

[-tel telephone-number] (the value of the Windows.officePhone property)

[-email email-address] (the value of the Windows.emailAddress property)

[-hometel home-phone-number] (the value of the Windows.homePhone property)

[-pager pager-number] (the value of the Windows.pagerNumber property)

[-mobile mobile-phone-number] (the value of the Windows.mobilePhone property)

[-fax fax-number] (the value of the Windows.faxNumber property)

[-iptel IP-phone-number] (the value of the Windows.ipPhone property)

[-webpg Web-page-URL] (the value of the Windows.webURL property)

[-title business-title] (the value of the Windows.title property)

[-dept department-name] (the value of the Windows.department property)

[-company company-name] (the value of the Windows.company property)

[-mgr manager-name] (the value of the Windows.managerName property)

[-hmdir home-folder] (the value of the Windows.homeFolder property)

[-hmdrv drive-letter] (the value of the Windows.driveLetter property)

[-profile profile-path] (the value of the Windows.profilePath property)

[-loscr logon-script-path] (the value of the Windows.scriptPath property)

[-mustchpwd {yes|no}] *1

[-canchpwd {yes|no}] *2

[-reversiblepwd {yes|no}] *3

[-pwdneverexpires {yes|no}] *4

[-acctexpires remaining-account-expiration-dates] (the value of the Windows.expirationDateValue property)

[-disabled {yes|no}] *5

*1: "yes" is set if "true" is specified to the Windows.nextPasswordChangeRequired property that specifies whether to change the password for the next logon. Also, "no" is set if "false" is specified to the property. If a value other than "true" or "false" is specified, this option is ignored.

*2: "yes" is set if "true" is specified to the Windows.enableChangePassword property that specifies whether to change the password. Also, "no" is set if "false" is specified to the property. If a value other than "true" or "false" is specified, this option is ignored.

*3: "yes" is set if "true" is specified to the Windows.reversiblePassword property that specifies whether to enable the encryption restore. Also, "no" is set if "false" is specified to the property. If a value other than "true" or "false" is specified, this option is ignored.

*4: "yes" is set if "true" is specified to the Windows.indefinitePassword property that specifies whether to allow a password without an expiration date. Also, "no" is set if "false" is specified to the property. If a value other than "true" or "false" is specified, this option is ignored.

*5: "yes" is set if "true" is specified to the Windows.disabledAccount property that specifies whether to disable the account. Also, "no" is set if "false" is specified to the property. If a value other than "true" or "false" is specified, this option is ignored.

For details on the dsmod user command, refer to the descriptions in the Microsoft library.

Use situation

Use this plugin to modify user attributes on the Active Directory instance.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Active Directory domain service

(2) DNS server

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of the plugin.

(2) [TODO]

(3) A maximum of 8,191 characters are valid in the command line of the scripts executed by the plugin. If the command line exceeds 8,191 characters, the additional characters are truncated.

Execution privilege

(1) To access the execution-target server, the user must be a member of the Account Operators group of the Active Directory domain service, the Domain Admins group, or the Enterprise Admins group. If the user is not a member of such a group, the user must have an appropriate permission.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adChangeUserAttribute

Return code

0: Normal

21: Error (environmental error) No command found (An error was detected in the component script.)

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.userName	User identifier	Specify the name of the user whose attributes are to be modified, beginning with CN=.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
Windows.userPrincipalName	User principal name	Specify the user principal name of the user.	--	Input	O
Windows.firstName	Name	Specify the name of the user	--	Input	O
Windows.initial	Initials	Specify the initials of the user.	--	Input	O
Windows.lastName	Surname	Specify the surname of the user.	--	Input	O
Windows.displayName	Display name	Specify the display name of the user.	--	Input	O
Windows.employeeID	Employee ID	Specify the employee ID of the user.	--	Input	O
Windows.description	Description	Specify the description of the user.	--	Input	O
Windows.office	Office	Specify the office of the user.	--	Input	O
Windows.officePhone	Phone number	Specify the phone number of the user.	--	Input	O
Windows.emailAddress	Email address	Specify the email address of the user.	--	Input	O
Windows.homePhone	Home phone number	Specify the home phone number of the user.	--	Input	O
Windows.pagerNumber	Pager number	Specify the pager number of the user.	--	Input	O
Windows.mobilePhone	Mobile phone number	Specify the mobile phone number of the user.	--	Input	O
Windows.faxNumber	FAX number	Specify the FAX number of the user.	--	Input	O
Windows.ipPhone	IP phone number	Specify the IP phone number of the user.	--	Input	O
Windows.webURL	Web page URL	Specify the URL of the user's Web page.	--	Input	O
Windows.title	Managerial position	Specify the managerial position of the user.	--	Input	O
Windows.department	Department	Specify the department to which the user belongs.	--	Input	O
Windows.company	Company name	Specify the company name of the user.	--	Input	O
Windows.managerName	Identifier of the superior	Specify the identifier of the user's superior in the format beginning with CN=.	--	Input	O
Windows.homeFolder	Home folder	Specify the path of the user's home folder.	--	Input	O
Windows.driveLetter	Drive letter	If you specify the UNC path for the home folder, specify the drive letter to be assigned in the format of X:.	--	Input	O
Windows.profilePath	Profile path	Specify the path for the user's profile.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
Windows.scriptPath	Logon script path	Specify the logon script path of the user.	--	Input	O
Windows.nextPasswordChan geRequired	Whether to change the password at the next logon	If a user needs to change the password for the next login, specify "true". If the password needs not be changed, specify "false".	--	Input	O
Windows.enableChangePass word	Whether to enable a password change	To allow a user to change the password, specify "true". If the password must not be changed, specify "false".	--	Input	O
Windows.reversiblePassword	Password saving with decodable encryption	To save the password by enabling encryption restore, specify "true". To save the password by disabling encryption restore, specify "false".	--	Input	O
Windows.indefinitePassword	Removing limits for passwords	To allow a password without an expiration date, specify "true". To set an expiration date to the password, specify "false".	--	Input	O
Windows.expirationDateValu e	Number of days for account expiration	Specify the account expiration date as a number of days starting from when the plug-in is executed. If 0 is specified, the account expires at the end of the day when the plug-in is executed.	--	Input	O
Windows.disabledAccount	Account disabled	To disable the account, specify "true". To enable the account, specify "false".	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.13 Add a user to the Active Directory instance

Function

This plugin can add a user to the Active Directory instance of the specified server.

The required server is shown as follows:

- Execution-target server

This is a server on which this plugin runs. The Active Directory instance as described in the prerequisites must have been set up.

The scripts in this plugin perform the following processing:

- Execute the following command.

dsadd user

user-name (the value of the Windows.userName property)

[-upn user-principal-name] (the value of the Windows.userPrincipalName property)

[-fn first-name] (the value of the Windows.firstName property)

[-mi initials] (the value of the Windows.initial property)

[-fn last-name] (the value of the Windows.lastName property)

[-display displayed-name] (the value of the Windows.displayName property)

[-empid employee-ID] (the value of the Windows.employeeID property)

-pwd password (the value of the Windows.accountPassword property)

[-desc description] (the value of the Windows.description property)

[-memberof name-of-belonging-group] (the value of the Windows.memberOf property)

[-office office-name] (the value of the Windows.office property)

[-tel telephone-number] (the value of the Windows.officePhone property)

[-email email-address] (the value of the Windows.emailAddress property)

[-hometel home-phone-number] (the value of the Windows.homePhone property)

[-pager pager-number] (the value of the Windows.pagerNumber property)

[-mobile mobile-phone-number] (the value of the Windows.mobilePhone property)

[-fax fax-number] (the value of the Windows.faxNumber property)

[-iptel IP-phone-number] (the value of the Windows.ipPhone property)

[-webpg Web-page-URL] (the value of the Windows.webURL property)

[-title business-title] (the value of the Windows.title property)

[-dept department-name] (the value of the Windows.department property)

[-company company-name] (the value of the Windows.company property)

[-mgr manager-name] (the value of the Windows.managerName property)

[-hmdir home-folder] (the value of the Windows.homeFolder property)

[-hmdrv drive-letter] (the value of the Windows.driveLetter property)

[-profile profile-path] (the value of the Windows.profilePath property)

[-loscr logon-script-path] (the value of the Windows.scriptPath property)

[-mustchpwd yes] *1

[-canchpwd no] *2

[-reversiblepwd yes] *3

[-pwdneverexpires yes] *4

[-acctexpires remaining-account-expiration-dates] (the value of the Windows.expirationDateValue property)

[-disabled yes] *5

*1: Specified when "true" is set to the Windows.nextPasswordChangeRequired property that specifies whether to change the password for the next logon.

*2: Specified when "true" is set to the Windows.enableChangePassword property that specifies whether to change the password.

*3: Specified when "true" is set to the Windows.reversiblePassword property that specifies whether to enable the encryption restore.

*4: Specified when "true" is set to the Windows.indefinitePassword property that specifies whether to allow a password without an expiration date.

*5: Specified when "true" is set to the Windows.disabledAccount property that specifies whether to disable the account.

For details on the dsadd user command, refer to the descriptions in the Microsoft library.

Use situation

Use this plugin to add a user to the Active Directory instance.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Active Directory domain service

(2) DNS server

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of the plugin.

(2) Do not specify only an asterisk (*) to the password (the Windows.accountPassword property).

(3) A maximum of 8,191 characters are valid in the command line of the scripts executed by the plugin. If the command line exceeds 8,191 characters, the additional characters are truncated.

Execution privilege

(1) To access the execution-target server, the user must be a member of the Account Operators group of the Active Directory domain service, the Domain Admins group, or the Enterprise Admins group. If the user is not a member of such a group, the user must have an appropriate permission.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adAddUser

Return code

0: Normal

21: Error (environmental error) No command found (An error was detected in the component script.)

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.userName	User identifier	Specify the identifier of the user to be added in the format beginning with CN=.	--	Input	R
Windows.userPrincipalName	User principal name	Specify the user principal name of the user.	--	Input	O
Windows.firstName	Name	Specify the name of the user	--	Input	O
Windows.initial	Initials	Specify the initials of the user.	--	Input	O
Windows.lastName	Surname	Specify the surname of the user.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
Windows.displayName	Display name	Specify the display name of the user.	--	Input	O
Windows.employeeID	Employee ID	Specify the employee ID of the user.	--	Input	O
Windows.accountPassword	Password	Specify the password of the user.	--	Input	R
Windows.description	Description	Specify the description of the user.	--	Input	O
Windows.memberOf	Identifier of the belonging group	Specify the group identifier of the user, beginning with CN=.	--	Input	O
Windows.office	Office	Specify the office of the user.	--	Input	O
Windows.officePhone	Phone number	Specify the phone number of the user.	--	Input	O
Windows.emailAddress	Email address	Specify the email address of the user.	--	Input	O
Windows.homePhone	Home phone number	Specify the home phone number of the user.	--	Input	O
Windows.pagerNumber	Pager number	Specify the pager number of the user.	--	Input	O
Windows.mobilePhone	Mobile phone number	Specify the mobile phone number of the user.	--	Input	O
Windows.faxNumber	FAX number	Specify the FAX number of the user.	--	Input	O
Windows.ipPhone	IP phone number	Specify the IP phone number of the user.	--	Input	O
Windows.webURL	Web page URL	Specify the URL of the user's Web page.	--	Input	O
Windows.title	Managerial position	Specify the managerial position of the user.	--	Input	O
Windows.department	Department	Specify the department to which the user belongs.	--	Input	O
Windows.company	Company name	Specify the company name of the user.	--	Input	O
Windows.managerName	Identifier of the superior	Specify the identifier of the user's superior in the format beginning with CN=.	--	Input	O
Windows.homeFolder	Home folder	Specify the path of the user's home folder.	--	Input	O
Windows.driveLetter	Drive letter	If you specify the UNC path for the home folder, specify the drive letter to be assigned in the format of X:.	--	Input	O
Windows.profilePath	Profile path	Specify the path for the user's profile.	--	Input	O
Windows.scriptPath	Logon script path	Specify the logon script path of the user.	--	Input	O
Windows.nextPasswordChangeRequired	Whether to change the password at the next logon	Specify true if the user needs to change the password at the next	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
Windows.nextPasswordChan geRequired	Whether to change the password at the next logon	logon. If you do not specify true, the user does not need to change the password at the next login.	--	Input	O
Windows.enableChangePass word	Whether to enable a password change	Specify true to enable the user to change the password. If you do not specify true, the user cannot change the password.	true	Input	O
Windows.reversiblePassword	Password saving with decodable encryption	Specify true to save the password with decodable encryption. If something other than true is specified, the password is saved in a state in which the encryption cannot be removed.	--	Input	O
Windows.indefinitePassword	Removing limits for passwords	Specify "true" to remove all limits for the password. If you do not specify "true", an expiration date is set for the password.	--	Input	O
Windows.expirationDateValu e	Number of days for account expiration	Specify the account expiration date as a number of days starting from when the plug-in is executed. If 0 is specified, the account expires at the end of the day when the plug-in is executed.	--	Input	O
Windows.disabledAccount	Account disabled	Specify true to disable the account. If you do not specify true, the user account is activated.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.14 Delete a member from an existing Active Directory group

Function

This plugin can delete a member from an existing group on the Active Directory instance of the specified server.

The required server is shown as follows:

- Execution-target server

This is a server on which this plugin runs. The Active Directory instance as described in the prerequisites must have been set up.

This plugin can specify the following objects as users to be deleted:

- Group

- User

The scripts in this plugin perform the following processing:

- Execute the following command.

dsmod group

group-name (the value of the Windows.groupName property)

-rmmbr member-name (the value of the Windows.member property)

For details on the dsmod group command, refer to the descriptions in the Microsoft library.

Use situation

Use this plugin to delete a member from an existing group on the Active Directory instance.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Active Directory domain service

(2) DNS server

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of the plugin.

Execution privilege

(1) To access the execution-target server, the user must be a member of the Account Operators group of the Active Directory domain service, the Domain Admins group, or the Enterprise Admins group. If the user is not a member of such a group, the user must have an appropriate permission.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adDeleteGroupMember

Return code

0: Normal

21: Error (environmental error) No command found (An error was detected in the component script.)

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.groupName	Group identifier	Specify the identifier of the group to be deleted a member in the format beginning with CN=.	--	Input	R
Windows.member	Member identifier	Specify the identifier of the member to be deleted from a group in the format beginning with CN=.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.4.15 Add a member to an existing Active Directory group

Function

This plugin can add a member to an existing group on the Active Directory instance of the specified server.

The required server is shown as follows:

- Execution-target server

This is a server on which this plugin runs. The Active Directory instance as described in the prerequisites must have been set up.

This plugin can specify the following objects as users to be added:

- Group

- User

The scripts in this plugin perform the following processing:

- Execute the following command.

dsmod group

group-name (the value of the Windows.groupName property)

-addmbr member-name (the value of the Windows.member property)

For details on the dsmod group command, refer to the descriptions in the Microsoft library.

Use situation

Use this plugin to add a member to an existing group on the Active Directory instance.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Active Directory domain service

(2) DNS server

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of the plugin.

Execution privilege

(1) To access the execution-target server, the user must be a member of the Account Operators group of the Active Directory domain service, the Domain Admins group, or the Enterprise Admins group. If the user is not a member of such a group, the user must have an appropriate permission.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adAddGroupMember

Return code

0: Normal

21: Error (environmental error) No command found (An error was detected in the component script.)

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.groupName	Group identifier	Specify the identifier of the group to be added a member in the format beginning with CN=.	--	Input	R
Windows.member	Member identifier	Specify the identifier of the member to be added to a group in the format beginning with CN=.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.4.16 Changing the attribute of the contact in the Active Directory

Function

This plug-in changes the contact attribute for the Active Directory of the specified server.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsmod contact

"value-of-contact-identifier(Windows.contactName-property)"

[-fn "value-of-first-name(Windows.firstName-property)"]

[-mi "value-of-initials(Windows.initial-property)"]

[-ln "value-of-last-name(Windows.lastName-property)"]

[-display "display-name(Windows.displayName-property)"]

[-desc "value-of-explanation(Windows.description-property)"]

[-office "value-of-office(Windows.office-property)"]

[-tel "value-of-telephone-number(Windows.officePhone-property)"]

[-email "value-of-email-address(Windows.emailAddress-property)"]

[-hometel "value-of-home-telephone-number(Windows.homePhone-property)"]

[-pager "value-of-pager-number(Windows.pagerNumber-property)"]

[-mobile "value-of-mobile-telephone-number(Windows.mobilePhone-property)"]

[-fax " value-of-fax-number(Windows.faxNumber-property)"]

[-iptel "value-of-ip-telephone-number(Windows.ipPhone-property)"]

[-title " value-of-position(Windows.title-property)"]

[-dept "value-of-department(Windows.department-property)"]

[-company "value-of-company-name(Windows.company-property)"]

For details of the dsmod contact command, see the relevant sections in the Microsoft library.

Use situation

This plug-in is used to change the contact attribute in the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) If you specify no value for the plug-in property, the attribute value corresponding to the plug-in property does not change.

Execution privilege

(1) When connecting to the execution server, the user needs to be a member of the Account Operators group, Domain Admins group, or Enterprise Admins group of the Active Directory domain service; and have proper authority.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adChangeContactAttribute

Return code

0: Normal

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.contactName	Identifier of the contact	Specify an identifier of the contact to add, in a format beginning with CN=.	--	Input	R
Windows.firstName	First name	Specify the first name of the contact.	--	Input	O
Windows.initial	Initials	Specify the initials of the contact.	--	Input	O
Windows.lastName	Last name	Specify the last name of the contact.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
Windows.displayName	Display name	Specify a display name of the contact.	--	Input	O
Windows.description	Explanation	Specify an explanation of the contact.	--	Input	O
Windows.office	Office	Specify an office of the contact.	--	Input	O
Windows.officePhone	Telephone number	Specify a telephone number of the contact.	--	Input	O
Windows.emailAddress	Email address	Specify an email address of the contact.	--	Input	O
Windows.homePhone	Home telephone number	Specify a home telephone number of the contact.	--	Input	O
Windows.pagerNumber	Pager number	Specify a pager number of the contact.	--	Input	O
Windows.mobilePhone	Mobile phone number	Specify a mobile phone number of the contact.	--	Input	O
Windows.faxNumber	FAX number	Specify a FAX number of the contact.	--	Input	O
Windows.ipPhone	IP telephone number	Specify an IP telephone number of the contact.	--	Input	O
Windows.title	Position	Specify a position of the contact.	--	Input	O
Windows.department	Department	Specify a department to which the contact belongs.	--	Input	O
Windows.company	Company name	Specify the name of the company with which the contact works.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.4.17 Adding a contact in the Active Directory

Function

This plug-in adds a contact to the Active Directory of the specified server.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in. The Active Directory shown in the Prerequisite condition needs to be set up beforehand.

Scripts in this plug-in perform the following processing:

- Execution of the following command

dsadd contact

"value-of-contact-identifier(Windows.contactName-property)"

[-fn "value-of-first-name(Windows.firstName-property)"]

[-mi "value-of-initials(Windows.initial-property)"]

[-ln "value-of-last-name(Windows.lastName-property)"]

[-display "display-name(Windows.displayName-property)"]

[-desc "value-of-explanation(Windows.description-property)"]

[-office "value-of-office(Windows.office-property)"]

[-tel "value-of-telephone-number(Windows.officePhone-property)"]

[-email "value-of-email-address(Windows.emailAddress-property)"]

[-hometel "value-of-home-telephone-number(Windows.homePhone-property)"]

[-pager "value-of-pager-number(Windows.pagerNumber-property)"]

[-mobile "value-of-mobile-telephone-number(Windows.mobilePhone-property)"]

[-fax " value-of-fax-number(Windows.faxNumber-property)"]

[-iptel "value-of-ip-telephone-number(Windows.ipPhone-property)"]

[-title " value-of-position(Windows.title-property)"]

[-dept "value-of-department(Windows.department-property)"]

[-company "value-of-company-name(Windows.company-property)"]

For details of the dsadd contact command, see the relevant sections in the Microsoft library.

Use situation

This plug-in is used to add a contact to the Active Directory.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Active Directory domain service

(2) DNS server

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using prerequisite products on the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

Execution privilege

(1) When connecting to the execution server, the user needs to be a member of the Account Operators group, Domain Admins group, or Enterprise Admins group of the Active Directory domain service; and have proper authority.

Version

02.00.00

Plug-in tags

Configure Active Directory,Windows,Active Directory

Plug-in name displayed in the task log

adAddContact

Return code

0: Normal

21: Abnormal (illegal environment), command unfound (error detected in plug-in script)

27: Abnormal (Check the error details from the task log.)

41: Abnormal (error detected within the plug-in), property not entered (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.contactName	Identifier of the contact	Specify an identifier of the contact to add, in a format beginning with CN=.	--	Input	R
Windows.firstName	First name	Specify the first name of the contact.	--	Input	O
Windows.initial	Initials	Specify the initials of the contact.	--	Input	O
Windows.lastName	Last name	Specify the last name of the contact.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
Windows.displayName	Display name	Specify a display name of the contact.	--	Input	O
Windows.description	Explanation	Specify an explanation of the contact.	--	Input	O
Windows.office	Office	Specify an office of the contact.	--	Input	O
Windows.officePhone	Telephone number	Specify a telephone number of the contact.	--	Input	O
Windows.emailAddress	Email address	Specify an email address of the contact.	--	Input	O
Windows.homePhone	Home telephone number	Specify a home telephone number of the contact.	--	Input	O
Windows.pagerNumber	Pager number	Specify a pager number of the contact.	--	Input	O
Windows.mobilePhone	Mobile phone number	Specify a mobile phone number of the contact.	--	Input	O
Windows.faxNumber	FAX number	Specify a FAX number of the contact.	--	Input	O
Windows.ipPhone	IP telephone number	Specify an IP telephone number of the contact.	--	Input	O
Windows.title	Position	Specify a position of the contact.	--	Input	O
Windows.department	Department	Specify a department to which the contact belongs.	--	Input	O
Windows.company	Company name	Specify the name of the company with which the contact works.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.5 JP1-related Plug-ins

4.5.1 JP1 silent install (UNIX)

Function

This plug-in performs silent installation of the JP1 product stored on the Hitachi PP Installer media, on the UNIX execution target server.

This plug-in requires the following server:

- An execution target server

This plug-in will be executed on this server.

This plug-in applies to JP1 Version 11 or later.

The script in this plug-in executes the following processing:

- The following command is executed:

path-to-the-media-where-the-installer-is-stored(value for the JP1.mediaStoredPath property)/platform-type-of-the-product(value for the JP1.productPlatformType property)/setup

-f

-k model-name-of-the-product(value for the JP1.productModel property)

path-to-the- media-where-the-installer-is-stored(value for the JP1.mediaStoredPath property)

For the values that can be specified for the arguments of the setup command, see the description of how to install the JP1 product by using the silent installation function in the release notes for the JP1 product you want to install.

Use situation

Used to perform silent installation of the JP1 product stored on the Hitachi PP Installer media.

Prerequisites

For the latest support information about [Prerequisite product on the system]/[Prerequisite OS running on the execution target server], see the release notes.

[Prerequisite product in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution target server]

See the release notes for the JP1 product you want to install.

[Prerequisite OS running on the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Requirements for the prerequisite products on the execution target server]

See the release notes for the JP1 product you want to install.

Cautions

(1) For a plug-in property, do not specify a character string that contains a double quotation mark (") or a single quotation mark (').

(2) For a property that specifies a path, do not specify a character string that contains a single-byte space, an exclamation mark (!), a dollar sign ($), a yen sign (\), or a grave accent mark (`).

Execution privilege

(1) The user who connects to the execution server to install the JP1 product must have the necessary permissions.

Version

02.01.00

Plug-in tags

Configure JP1,Linux

Plug-in name displayed in the task log

jp1commonSilentInstall_Unix

Return code

0: Normal

12: Error (user error): Invalid property

21: Error (invalid environment): No command was found. (An error was detected in the plug-in script.)

27: Error (Check the error details from a task log.)

41: Error (error detected in plug-in): Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.mediaStoredPath	Installer media deployment path	Specify the location, as a full path, where the Hitachi integrated installer media are deployed.	--	Input	R
JP1.productPlatformType	Product platform type	Specify the platform type of the product to be installed.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
JP1.productModel	Product model	Specify the model of the product to be installed.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.5.2 JP1 silent install (Windows)

Function

This plug-in performs silent installation of the JP1 product stored on the Hitachi Integrated Installer media, on the Windows execution target server.

This plug-in requires the following server:

- An execution target server

This plug-in will be executed on this server.

This plug-in applies to JP1 Version 11 or later.

The script in this plug-in executes the following processing:

- The following command is executed:

path-to-the-media-where-the-installer-is-stored(value for the JP1.mediaStoredPath property)_OWNEXE\HPPSINST.BAT

/path-to-the-DISK1-folder-of-the-product(value for the JP1.productDisk1Path property)

/installation-path-for-the-product(value for theJP1.productInstallPath property)

For the values that can be specified for the arguments of HPPSINST.BAT, see the description of how to install the JP1 product by using the silent installation function in the release notes for the JP1 product you want to install.

Use situation

Used to perform silent installation of the JP1 product stored on the Hitachi Integrated Installer media.

Prerequisites

For the latest support information about [Prerequisite product in the system]/[Prerequisite OS running on the execution target server], see the release notes.

[Prerequisite product in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution target server]

See the release notes for the JP1 product you want to install.

[Prerequisite OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Requirements for the prerequisite products on the execution target server]

See the release notes for the JP1 product you want to install.

Cautions

(1) For a plug-in property, do not specify a character string that contains a double quotation mark (") or single quotation mark (').

(2) For a property that specifies a path, do not specify a character string that contains an exclamation mark (!) or a percent sign (%).

Execution privilege

(1) The user who connects to the execution server to install the JP1 product must have the necessary permissions.

Version

02.01.00

Plug-in tags

Configure JP1,Windows

Plug-in name displayed in the task log

jp1commonSilentInstall_Win

Return code

0: Normal

12: Error (user error): Invalid property

21: Error (invalid environment): No command was found. (An error was detected in the plug-in script.)

27: Error (Check the error details from a task log.)

41: Error (error detected in plug-in): Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.mediaStoredPath	Installer media deployment path	Specify the location, as a full path, where the Hitachi integrated installer media are deployed.	--	Input	R
JP1.productDisk1Path	Product DISK1 folder path	Specify the DISK1 folder, as a full path, that contains the product media.	--	Input	R
JP1.productInstallPath	Product installation destination path	Specify the installation destination for the product as a full path.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.5.3 JP1 apply patch (UNIX)

Function

This plug-in applies the correction patch for the JP1 product you installed, on the UNIX execution target server.

This plug-in requires the following server:

- An execution target server

This plug-in will be executed on this server.

This plug-in applies to JP1 Version 11 or later.

The script in this plug-in executes the following command:

- mkdir

-p path-to-the-directory-to-which-the-correction-patch-is-to-be-expanded(JP1.patchDestDirPath property)

- tar

zxf path-to-the-correction-patch-file(JP1.patchSourceFilePath property)

-C path-to-the-directory-to-which-the-correction-patch-is-to-be-expanded(JP1.patchDestDirPath property)

- UPDATE

-f

-D path-to-the-output-file(common.outputLogFile property)

Depending on the correction patch, some other operations (for example, restarting the OS) might be required when applying the patch. See the document RELEASE.TXT "Procedure for applying the patch and how to operate it" provided with the correction patch.

The files and folders in the folder specified as the folder to which the correction patch is to be expanded (JP1.patchDestFolderPath property) are not deleted.

Use situation

Used to apply the correction patch for the JP1 product.

Prerequisites

For the latest support information about [Prerequisite product in the system]/[Prerequisite OS running on the execution target server], see the release notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution target server]

See the documentation provided with the correction patch, and the release notes for the JP1 product to which you want to apply the correction patch.

[Prerequisite OS running on the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Requirements for the prerequisite products on the execution target server]

See the documentation provided with the correction patch, and the release notes for the JP1 product to which you want to apply the correction patch.

Cautions

(1) For a plug-in property, do not specify a character string that contains a double quotation mark (") or a single quotation mark (').

(2) For a property that specifies a path, do not specify a character string that contains a single-byte space, an exclamation mark (!), a dollar sign ($), a yen sign (\), or a grave accent mark (`).

Execution privilege

(1) The user who connects to the execution server must have the necessary permissions to apply the correction patch.

Version

02.01.00

Plug-in tags

Configure JP1,Linux

Plug-in name displayed in the task log

jp1commonApplyPatch_Unix

Return code

0: Normal

12: Error (user error): Invalid property

14: File access disabled

21: Error (invalid environment): No command was found. (An error was detected in the plug-in script.)

27: Error (Check the error details from a task log.)

41: Error (error detected in plug-in): Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.patchSourceFilePath	Fix patch file path	Specify a fix patch file as a full path.	--	Input	R
JP1.patchDestDirPath	Fix patch expansion destination directory path	Specify the directory, as a full path, where the fix patch is to be expanded.	--	Input	R
common.outputLogFile	Output file path	Specify an output log file as a full path.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.5.4 JP1 apply patch (Windows)

Function

This plug-in applies the correction patch for the installed JP1 product on the Windows execution target server.

This plug-in requires the following server:

- An execution target server

This plug-in will be executed on this server.

This plug-in applies to JP1 Version 11 or later.

The script in this plug-in executes the following command:

- MKDIR

path-to-the-folder-to-which-the-correction-patch-is-to-be-expanded(JP1.patchDestFolderPath property)

- EXE file specified for the file path to the correction patch (JP1.patchSourceFilePath property)

-D path-to-the-folder-to-which-the-correction-patch-is-to-be-expanded(JP1.patchDestFolderPath property)

- SETUP.EXE

/s

/D path-to-the-output-file(common.outputLogFile property)

Depending on the correction patch, some other operations (for example, restarting the OS) might be required to apply the patch. See the document RELEASE.TXT "Procedure for applying the patch and how to operate it" provided with the correction patch.

The files and folders in the folder specified as the folder to which the correction patch is to be expanded (JP1.patchDestFolderPath property) are not deleted.

Use situation

Used to apply the correction patch for the JP1 product.

Prerequisites

For the latest support information about [Prerequisite product in the system]/[Prerequisite OS running on the execution target server], see the release notes.

[Prerequisite product in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution target server]

See the documents provided with the correction patch, and the release notes for the JP1 product to which you want to apply the correction patch.

[Prerequisite OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Requirements for the prerequisite products on the execution target server]

See the documents provided with the correction patch, and the release notes for the JP1 product to which you want to apply the correction patch.

Cautions

(1) For a plug-in property, do not specify a character string that contains a double quotation mark (") or a single quotation mark (').

(2) For a property that specifies a path, do not specify a character string that contains an exclamation mark (!) or a percent sign (%).

Execution privilege

(1) The user who connects to the execution server to apply the correction patch must have the necessary permissions.

Version

02.01.00

Plug-in tags

Configure JP1,Windows

Plug-in name displayed in the task log

jp1commonApplyPatch_Win

Return code

0: Normal

12: Error (user error): Invalid property

14: File access disabled

21: Error (invalid environment): No command was found. (An error was detected in the plug-in script.)

27: Error (Check the error details from a task log.)

41: Error (error detected in plug-in): Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.patchSourceFilePath	Fix patch file path	Specify a fix patch file as a full path.	--	Input	R
JP1.patchDestFolderPath	Fix patch expansion destination folder path	Specify the folder, as a full path, where the fix patch is to be expanded.	--	Input	R
common.outputLogFile	Output file path	Specify an output log file as a full path.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6 JP1/AJS-related Plug-ins

4.6.1 Register for JP1/AJS jobnet fixed execution

Function

This component registers the fixed execution of a jobnet of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) of the specified server.

This component requires the following server:

- Job server (Execution target server)

This is the server that executes a jobnet of JP1/AJS. The JP1/AJS described in the pre-conditions needs to have been set up.

With this component, only the registration of the fixed execution of a jobnet is available.

- When executing a jobnet on a particular date and time (Specify date and time)

Specify the fixed execution date and time.

- When specifying and executing the scheduled execution number of generations of jobnet (Specify number of future generations)

Specify the number of future generations.

Make sure that one of the above is specified.

Before the execution, check the format of the fixed execution date and the fixed execution time.

Use situation

The following methods of registering the fixed execution are available for the jobnet created.

- Specify the fixed execution date and time (Specify date and time) to register the fixed execution.

- Specify the number of future generations (Specify number of future generations) to register the fixed execution.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The jobnet for execution registration must be already created.

(2) The calendar and schedule rule of the jobnet for execution registration must be already defined.

(3) Specify the JP1 user name in the JP1AJS.executeJP1UserName property for registering jobnet execution for the execution target server. If execution is registered by a JP1 user with the same name as the OS user connected from JP1/AO, the value does not need to be specified for this property.

(4) When registering the jobnet defined on the logical host in a cluster configuration, perform the following:

- Specify the physical host name or the logical host name of the execution server in the plugin.destinationHost property.

- Specify the scheduler server name running on the logical host in the JP1AJS.serviceName property.

- Specify the logical host name where the scheduler service is running in the JP1.logicalHostName property.

(5) If the job server OS is UNIX, set the same setting for the character code of the JP1/AJS environment setting parameter of the application server and for the default locale of the OS user used when connecting to the application server.

Cautions

(1) Specify the scheduler service name that is set to the JP1AJS.serviceName property using 30 bytes or less.

(2) When specifying a particular date and time (Specify date and time), specify both the JP1AJS.executeDate and JP1AJS.executeTime properties.

(3) For other usage notes, see the usage notes of the ajsentry command in Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

- The JP1 user that is mapped to the OS user when connected to the job server has operation privileges for the jobnet that is registered for execution.

- If a JP1 user that is mapped to the OS user when connected to the job server does not exist, specify the JP1 user that has operation privileges for the jobnet that is registered for execution to the jp1ajs.executeJP1UserName property.

Version

02.00.00

Plug-in tags

Configure JP1,AJS,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1ajsRegisterFixedExecution

Return code

0: Normal

12: Error (Mistake by user) Invalid property

21: Error (Environmental error) No command was found (An error was detected in the component script)

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.entryJobnetName	Jobnet name	Specifies the name of the jobnet where execution registration or scheduled execution results are output as a complete name. The manager job group name and manager jobnet name cannot be specified.	--	Input	R
JP1AJS.macroParameter	JP1/AJS macro variable	Specifies the macro variable of JP1/AJS combined with a value by using a colon (:). Multiple items separated by a comma can be specified. Up to 32 items can be specified. (Example) AJS2AA:5,AJS2BB:test	--	Input	O
JP1AJS.executeJP1UserName	JP1 user name that executes the AJS command to register fixed execution of jobnet	Specifies the JP1 user name used for executing the AJS command to register the jobnet for fixed execution. This does not need to be	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.executeJP1UserNam e	JP1 user name that executes the AJS command to register fixed execution of jobnet	specified when executed by a JP1 user with the same name as the OS user name when connecting to the application server.	--	Input	O
JP1AJS.executeDate	Jobnet fixed execution date	The fixed execution date when the jobnet is registered for fixed execution is separated by a hyphen (-) or slash (/) and specified in the following format: YYYY-MM-DD or YYYY/MM/DD.	--	Input	O
JP1AJS.executeTime	Jobnet fixed execution time (hh:mm)	The fixed execution time when the jobnet is registered for fixed execution is separated by a colon (:) and specified in the format hh:mm. The colon (:) and minutes can be omitted. When omitted, this is assumed to be 0 minutes.	--	Input	O
JP1AJS.executeGenerattion	Future scheduled number of generations for jobnet	Specifies the scheduled number of generations to be executed from the next time when the jobnet is registered for fixed execution.	--	Input	O
JP1AJS.executePrior	Scheduled execution required during stopped scheduler service	If scheduled execution date passed during stopped scheduler service, specifies scheduled execution upon scheduler service restart, or from next scheduled execution. (true: Execute passed scheduled execution, false: Execute from next scheduled execution)	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.2 Forced termination of JP1/AJS jobnet

Function

This plug-in performs forced termination of the jobnet or job for the instance of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) on the specified server.

The following servers are required for this plug-in:

- Job server (execution target server)

This is the server on which the JP1/AJS jobnet is executed. JP1/AJS, which is described in prerequisites, must be set up.

This plug-in can only perform forced termination of the jobnet or job.

If you want to check the status of the jobnet after executing this plug-in, you need to use the Get JP1/AJS jobnet execution results (jp1ajsCheck plug-in) to obtain the results.

The scripts in this plug-in perform the following processes:

- If a value is specified for the logical host name of the job server (JP1.logicalHostName property), sets the JP1_HOSTNAME environment variable to the value of the logical host name.

- If a value is specified for the JP1 user name (JP1AJS.jp1UserName property), sets the JP1_USERNAME environment variable to the value of the JP1 user name.

- Executes the following command:

ajskill [-F "the-value-of-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

"the-value-of-the-unit-name-(JP1AJS.unitName-property)"#

#: Specify the name in the following format: [[scheduler-service-name]:]unit-name[:@execution-ID].

For details about the ajskill command, see the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Use situation

This plug-in is used to perform forced termination of the JP1/AJS jobnet or job.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) For the JP1 user name (JP1AJS.jp1UserName property), specify the JP1 user name to perform forced termination of the jobnet on the execution target server. If you perform forced termination of the jobnet by using the JP1 user account that has the same name as the user of the OS this product connects to, you do not need to specify a value for this property.

(2) If you perform forced termination of the jobnet that is defined on the logical host in a cluster, the following settings must be specified:

- Specify a physical host name of the execution target server or a logical host name as the host name (plugin.destinationHost property) of the execution target server.

- Specify the name of the logical host, where the scheduler service is running, as the logical host name (JP1.logicalHostName property) of the execution target server.

- Specify the name of the scheduler service, which is running on the logical host, as the JP1/AJS service name (JP1AJS.serviceName property).

(3) If the OS running on the job server is UNIX, the character encoding setting of the environment setting parameter in the JP1/AJS instance on the job server must correspond to the default locale setting of the connected user account that connects to the job server.

Cautions

(1) Do not use double quotation marks (") or single quotation marks (') for the property of the plug-in.

(2) Even if the unit name (JP1AJS.unitName property) contains symbol characters (&, *, <, >, ?, [, \,], ^, ', {, |, }, ~) that are escaped by using a backslash (\), you do not need to use double quotation marks (") at the beginning and the end of the strings in the property.

(3) For the unit name (JP1AJS.unitName property), explicitly specify the name of the jobnet or job to be terminated forcibly. Do not use the wildcard characters (*, ?, [,]) in the unit name.

(4) For other cautions, see cautions described in Killing the jobnets and the jobs being executed in the manual Job Management Partner 1/Automatic Job Management System 3 Operator's Guide and cautions about the ajskill command described in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user account that is mapped to the OS user account connecting to the job server must have the permissions to the jobnet to be operated.

(2) If the JP1 user account that is mapped to the OS user account connecting to the job server does not exist, specify a JP1 user account that has permissions to the jobnet to be operated as the JP1 user name (JP1AJS.jp1UserName property).

Version

02.00.00

Plug-in tags

Control JP1,AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsKillExecution

Return code

0: Normal

21: Error (Environmental error) No command was found. (An error was detected in the component script.)

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.jp1UserName	JP1 user name	Specify a JP1 user name. You do not need to specify this property if you execute a command with a JP1 user name that is the same as the OS user name used for connecting to the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.unitName	Unit name	Specify the jobnet name or job name that is to be forcibly terminated.	--	Input	R
JP1AJS.execRegistrationNum ber	Execution registration number	Specify the execution registration number of the jobnet or job that is to be forcibly terminated in YYYYMMDDNNN format.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.3 Register for JP1/AJS jobnet planned execution

Function

This component registers the scheduled execution of a jobnet of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) of the specified server.

This component requires the following server:

- Job server (Execution target server)

This is the server that executes a jobnet of JP1/AJS. The JP1/AJS described in the pre-conditions needs to have been set up.

You must define in advance the calendar and schedule rule of the jobnet for execution registration.

With this component, only the registration of scheduled execution of a jobnet is available.

Use situation

Performs the scheduled execution registration for the jobnet created.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The jobnet for execution registration must be already created.

(2) The calendar and schedule rule of the jobnet for execution registration must be already defined.

(3) Specify the JP1 user name in the JP1AJS.executeJP1UserName property for registering jobnet execution for the execution target server. If execution is registered by a JP1 user with the same name as the OS user connected from JP1/AO, the value does not need to be specified for this property.

(4) When registering the jobnet defined on the logical host in a cluster configuration, perform the following:

- Specify the physical host name or the logical host name of the execution server in the plugin.destinationHost property.

- Specify the scheduler server name running on the logical host in the JP1AJS.serviceName property.

- Specify the logical host name where the scheduler service is running in the JP1.logicalHostName property.

(5) If the job server OS is UNIX, set the same setting for the character code of the JP1/AJS environment setting parameter of the job server and for the default locale of the OS user used when connecting to the application server.

Cautions

(1) Specify the scheduler service name that is set to the JP1AJS.serviceName property using 30 bytes or less.

(2) For other usage notes, see the usage notes of the ajsentry command in Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

- The JP1 user that is mapped to the OS user when connected to the job server has operation privileges for the jobnet that is registered for execution.

- If a JP1 user that is mapped to the OS user when connected to the job server does not exist, specify the JP1 user that has operation privileges for the jobnet that is registered for execution to the jp1ajs.executeJP1UserName property.

Version

02.00.00

Plug-in tags

Configure JP1,AJS,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1ajsRegisterPlannedExecution

Return code

0: Normal

21: Error (Environmental error) No command was found (An error was detected in the component script)

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.entryJobnetName	Jobnet name	Specifies the name of the jobnet where execution registration or scheduled execution results are	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.entryJobnetName	Jobnet name	output as a complete name. The manager job group name and manager jobnet name cannot be specified.	--	Input	R
JP1AJS.macroParameter	JP1/AJS macro variable	Specifies the macro variable of JP1/AJS combined with a value by using a colon (:). Multiple items separated by a comma can be specified. Up to 32 items can be specified. (Example) AJS2AA:5,AJS2BB:test	--	Input	O
JP1AJS.executeJP1UserName e	JP1 user name that executes the AJS command to register scheduled execution of jobnet	Specifies the JP1 user name used for executing the AJS command to register the jobnet for planned execution. This does not need to be specified when executed by a JP1 user with the same name as the OS user name when connecting to the application server.	--	Input	O
JP1AJS.executePrior	Scheduled execution required during stopped scheduler service	If scheduled execution date passed during stopped scheduler service, specifies scheduled execution upon scheduler service restart, or from next scheduled execution. (true: Execute passed scheduled execution, false: Execute from next scheduled execution)	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.4 Re-execute JP1/AJS jobnet

Function

This plug-in re-executes the jobnet or job for the instance of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) on the specified server.

The following servers are required for this plug-in:

- Job server (execution target server)

This is the server on which the JP1/AJS jobnet is executed. JP1/AJS, which is described in prerequisites, must be set up.

This plug-in can only re-execute the jobnet or job.

If you want to check the status of the jobnet after executing this plug-in, you need to use the Get JP1/AJS jobnet execution results (jp1ajsCheck plug-in) to obtain the results.

The scripts in this plug-in perform the following processes:

- If a value is specified for the logical host name of the job server (JP1.logicalHostName property), sets the JP1_HOSTNAME environment variable to the value of the logical host name.

- If a value is specified for the JP1 user name (JP1AJS.jp1UserName property), sets the JP1_USERNAME environment variable to the value of the JP1 user name.

- Executes the following command:

ajsrerun [-F "the-value-of-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-the-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

{-t|-s|-n|-a|-w|-f|-p|-e}#1

[-h]#2

[-c]#3

"the-value-of-the-unit-name-(JP1AJS.unitName-property)"#4

#1: The option which corresponds to the value of the re-execution method (JP1AJS.rerunMethod property) will be set.

In the case of FromTop: -t (re-executes the jobnet from the top)

In the case of FromAbnormallyJobnet: -s (re-executes the jobnet, which includes the job that terminated with an error, from the top)

In the case of FromAfterAbnormallyJob: -n (re-executes from the next job after the job that terminated with an error)

In the case of FromAbnormallyJob: -a (re-executes from the job that terminated with an error)

In the case of OnlyWarningJob: -w (re-executes the job that is completed with an alert warning detected)

In the case of FromSpecifiedUnit: -f (re-executes from the specified jobnet or job)

In the case of OnlySpecifiedUnit: -p (re-executes the specified jobnet or job)

In the case of FromAfterSpecifiedUnit: -e (re-executes from the jobnet or job after the specified jobnet or job)

#2: This option will be set if you specify true as the hold status setting (JP1AJS.rerunWithHold property).

#3: This option will be set if you specify true as the alert warning detection change setting (JP1AJS.setSkippedJobsToWarning property).

#4: Specify the name in the following format: [[scheduler-service-name]:]unit-name[:@execution-ID].

For details about the ajsrerun command, see the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Use situation

This plug-in is used to re-execute the JP1/AJS jobnet or job.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) For the JP1 user name (JP1AJS.jp1UserName property), specify the JP1 user name to re-execute the jobnet on the execution target server. If you re-execute the jobnet by using the JP1 user account that has the same name as the user of the OS this product connects to, you do not need to specify a value for this property.

(2) If you re-execute the jobnet that is defined on the logical host in a cluster, the following settings must be specified:

- Specify a physical host name of the execution target server or a logical host name as the host name (plugin.destinationHost property) of the execution target server.

- Specify the name of the logical host, where the scheduler service is running, as the logical host name (JP1.logicalHostName property) of the execution target server.

- Specify the name of the scheduler service, which is running on the logical host, as the JP1/AJS service name (JP1AJS.serviceName property).

(3) If the OS running on the job server is UNIX, the character encoding setting of the environment setting parameter in the JP1/AJS instance on the job server must correspond to the default locale setting of the connected user account that connects to the job server.

Cautions

(1) Do not use double quotation marks (") or single quotation marks (') for the property of the plug-in.

(2) Even if the unit name (JP1AJS.unitName property) contains symbol characters (&, *, <, >, ?, [, \,], ^, ', {, |, }, ~) that are escaped by using a backslash (\), you do not need to use double quotation marks (") at the beginning and the end of the strings in the property.

(3) For the unit name (JP1AJS.unitName property), explicitly specify the name of the jobnet or job to be re-executed. Do not use the wildcard characters (*, ?, [,]) in the unit name.

(4) For other cautions, see the cautions about the ajsrerun command described in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user account that is mapped to the OS user account connecting to the job server must have the permissions to the jobnet to be operated.

(2) If the JP1 user account that is mapped to the OS user account connecting to the job server does not exist, specify a JP1 user account that has permissions to the jobnet to be operated as the JP1 user name (JP1AJS.jp1UserName property).

Version

02.00.01

Plug-in tags

Control JP1,AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsRerun

Return code

0: Normal

12: Error (Mistake by user) Invalid property

21: Error (Environmental error) No command was found. (An error was detected in the component script.)

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.jp1UserName	JP1 user name	Specify a JP1 user name. You do not need to specify this property if you execute a command with a JP1 user name that is the same as the OS user name used for connecting to the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.unitName	Unit name	Specify the jobnet name or job name to be re-executed.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.execRegistrationNum ber	Execution registration number	Specify the execution registration number of the jobnet or job to be re-executed in YYYYMMDDNNN format.	--	Input	O
JP1AJS.rerunMethod	Re-execution method	Specify how to re-execute a jobnet or job. You can specify FromTop, FromAbnormallyJobnet, FromAfterAbnormallyJob, FromAbnormallyJob, OnlyWarningJob, FromSpecifiedUnit, OnlySpecifiedUnit, or FromAfterSpecifiedUnit. The default is FromAbnormallyJob.	--	Input	O
JP1AJS.rerunWithHold	Whether to suspend the processing	Specify true to suspend the jobnet or job to be re-executed. If you do not specify true, the processing is not suspended and is continued.	--	Input	O
JP1AJS.setSkippedJobsToWa rning	Whether to end the processing by the warning detection	Specify true to end the preceding jobnet or job in the abnormal status by changing its end status to warning detection. If you do not specify true, the processing does not end by the warning detection, and is continued.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.5 Change JP1/AJS jobnet execution schedule

Function

This plug-in temporarily changes the execution start date and time of the jobnet or immediately executes the jobnet for the instance of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) on the specified server.

If you want to change the execution start date and time of the jobnet, specify ChangeTime as the schedule change operation (JP1AJS.scheduleChangeOperation property).

If you want to change the jobnet immediately, specify ExecuteImmediately as the schedule change operation (JP1AJS.scheduleChangeOperation property).

The following servers are required for this plug-in:

- Job server (execution target server)

This is the server on which the JP1/AJS jobnet is executed. JP1/AJS, which is described in prerequisites, must be set up.

If you execute the jobnet immediately, this plug-in can only perform immediate execution of the jobnet.

If you want to check the status of the jobnet after executing this plug-in, you need to use the Get JP1/AJS jobnet execution results (jp1ajsCheck plug-in) to obtain the results.

The scripts in this plug-in perform the following processes:

- If a value is specified for the logical host name of the job server (JP1.logicalHostName property), sets the JP1_HOSTNAME environment variable to the value of the logical host name.

- If a value is specified for the JP1 user name (JP1AJS.jp1UserName property), sets the JP1_USERNAME environment variable to the value of the JP1 user name.

- Executes the following command:

(a) If you specify ChangeTime as the schedule change operation (JP1AJS.scheduleChangeOperation property):

ajsplan [-F "the-value-of-the-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-the-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

[-d "the-value-of-the-execution-start-date-(JP1AJS.nextExecutionDate-property)"]

[-t "the-value-of-the-execution-start-time-(JP1AJS.nextExecutionTime-property)"]

[-p]#1

[-i]#2

"the-value-of-the-jobnet-name-(JP1AJS.jobnetName-property)"#3

(b) If you specify ExecuteImmediately as the schedule change operation (JP1AJS.scheduleChangeOperation property):

ajsplan [-F "the-value-of-the-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-the-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

-q

[-p]#1

[-i]#2

"the-value-of-the-jobnet-name-(JP1AJS.jobnetName-property)"#3

#1: This will be set if you specify true as the next execution schedule cancellation setting (JP1AJS.cancelNextExecution property).

#2: This will be set if you specify true as the start date and time change setting (JP1AJS.changeLowerJobnets property) in the lower jobnet.

#3: Specify the name in the following format: [[scheduler-service-name]:]jobnet-name[:@execution-ID].

For details about the ajsplan command, see the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Use situation

This plug-in is used to temporarily change the execution schedule of the JP1/AJS jobnet.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) For the JP1 user name (JP1AJS.jp1UserName property), specify the JP1 user name to change the execution schedule of the jobnet on the execution target server. If you change the execution schedule of the jobnet by using the JP1 user account that has the same name as the user of the OS this product connects to, you do not need to specify a value for this property.

(2) If you change the execution schedule of the jobnet that is defined on the logical host in a cluster, the following settings must be specified:

- Specify a physical host name of the execution target server or a logical host name as the host name (plugin.destinationHost property) of the execution target server.

- Specify the name of the logical host, where the scheduler service is running, as the logical host name (JP1.logicalHostName property) of the execution target server.

- Specify the name of the scheduler service, which is running on the logical host, as the JP1/AJS service name (JP1AJS.serviceName property).

(3) If the OS running on the job server is UNIX, the character encoding setting of the environment setting parameter in the JP1/AJS instance on the job server must correspond to the default locale setting of the connected user account that connects to the job server.

Cautions

(1) Do not use double quotation marks (") or single quotation marks (') for the property of the plug-in.

(2) Even if the jobnet name (JP1AJS.jobnetName property) contains symbol characters (&, *, <, >, ?, [, \,], ^, ', {, |, }, ~) that are escaped by using a backslash (\), you do not need to use double quotation marks (") at the beginning and the end of the strings in the property.

(3) For the jobnet name (JP1AJS.jobnetName property), explicitly specify the name of the jobnet whose execution schedule is to be changed. Do not use the wildcard characters (*, ?, [,]) in the jobnet name.

(4) If you specify ChangeTime for schedule change operation (JP1AJS.scheduleChangeOperation property), specify either one or both of the following properties:

- The execution start date (JP1AJS.nextExecutionDate property)

- The execution start time (JP1AJS.nextExecutionTime property)

(5) For other cautions, see cautions described in Changing the execution start time of a jobnet and Immediately executing the execution schedule of a jobnet in the manual Job Management Partner 1/Automatic Job Management System 3 Operator's Guide, and cautions about the ajsplan command described in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user account that is mapped to the OS user account connecting to the job server must have the permissions to the jobnet to be operated.

(2) If the JP1 user account that is mapped to the OS user account connecting to the job server does not exist, specify a JP1 user account that has permissions to the jobnet to be operated as the JP1 user name (JP1AJS.jp1UserName property).

Version

02.00.01

Plug-in tags

Control JP1,AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsChangeSchedule

Return code

0: Normal

12: Error (Mistake by user) Invalid property

21: Error (Environmental error) No command was found. (An error was detected in the component script.)

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.jp1UserName	JP1 user name	Specify a JP1 user name. You do not need to specify this property if you execute a command with a JP1 user name that is the same as the OS user name used for connecting to the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.jobnetName	Jobnet name	Specify the name of the jobnet whose execution schedule is to be temporarily changed.	--	Input	R
JP1AJS.execRegistrationNumber	Execution registration number	Specify the execution registration number of the jobnet whose execution schedule is to be temporarily changed in YYYYMMDDNNN format.	--	Input	O
JP1AJS.scheduleChangeOperation	Schedule change operation	Specify ChangeTime to change the execution start date and time for a jobnet. Specify ExecuteImmediately to immediately execute the jobnet.	--	Input	R
JP1AJS.nextExecutionDate	Execution start date	Use the following format to specify the next execution date to be temporarily changed if you specify ChangeTime for the Schedule change operation property: [[year/]month/]day.	--	Input	O
JP1AJS.nextExecutionTime	Execution start time	Specify the next execution start time to be temporarily changed as an absolute time (in the format of hour[:minute]) if you specify ChangeTime for the Schedule change operation property.	--	Input	O
JP1AJS.cancelNextExecution	Whether to cancel the next execution schedule	If you accelerated the next execution schedule, specify "true" to cancel the next execution schedule before the acceleration. If you do not specify "true", the next execution schedule is not canceled, and processing continues.	--	Input	O
JP1AJS.changeLowerJobnets	Whether to change the start date and time of subordinate jobnets	Specify true if you want to relatively change start times of all jobnets existing under a jobnet. If you do not specify true, start times of only the specified jobnets are changed.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.6.6 Stop JP1/AJS jobnet execution

Function

This plug-in temporarily stops the execution of a jobnet or job for the instance of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) on the specified server.

The following servers are required for this plug-in:

- Job server (execution target server)

This is the server on which the JP1/AJS jobnet is executed. JP1/AJS, which is described in prerequisites, must be set up.

The scripts in this plug-in perform the following processes:

- If a value is specified for the logical host name of the job server (JP1.logicalHostName property), sets the JP1_HOSTNAME environment variable to the value of the logical host name.

- If a value is specified for the JP1 user name (JP1AJS.jp1UserName property), sets the JP1_USERNAME environment variable to the value of the JP1 user name.

- Executes the following command:

ajsplan [-F "the-value-of-the-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

-p

"the-value-of-the-unit-name-(JP1AJS.unitName-property)"#

#: Specify the name in the following format: [[scheduler-service-name]:]unit-name[:@execution-ID].

For details about the ajsplan command, see the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Use situation

This plug-in is used to temporarily stop execution of the JP1/AJS jobnet or job.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) For the JP1 user name (JP1AJS.jp1UserName property), specify the JP1 user name to stop the execution of the jobnet on the execution target server. If you stop the execution of the jobnet by using the JP1 user account that has the same name as the user of the OS this product connects to, you do not need to specify a value for this property.

(2) If you stop the execution of the jobnet that is defined on the logical host in a cluster, the following settings must be specified:

- Specify a physical host name of the execution target server or logical host name as the host name (plugin.destinationHost property) of the execution target server.

- Specify the name of the logical host, where the scheduler service is running, as the logical host name (JP1.logicalHostName property) of the execution target server.

- Specify the name of the scheduler service, which is running on the logical host, as the JP1/AJS service name (JP1AJS.serviceName property).

(3) If the OS running on the job server is UNIX, the character encoding setting of the environment setting parameter in the JP1/AJS instance on the job server must correspond to the default locale setting of the connected user account that connects to the job server.

Cautions

(1) Do not use double quotation marks (") or single quotation marks (') for the property of the plug-in.

(2) Even if the unit name (JP1AJS.unitName property) contains symbol characters (&, *, <, >, ?, [, \,], ^, ', {, |, }, ~) that are escaped by using a backslash (\), you do not need to use double quotation marks (") at the beginning and the end of the strings in the property.

(3) For the unit name (JP1AJS.unitName property), explicitly specify the name of the jobnet or job whose execution is to be stopped. Do not use the wildcard characters (*, ?, [,]) in the unit name.

(4) For other cautions, see cautions described in Temporarily canceling the execution of jobnets and jobs in the manual Job Management Partner 1/Automatic Job Management System 3 Operator's Guide and cautions about the ajsplan command described in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user account that is mapped to the OS user account connecting to the job server must have the permissions to the jobnet to be operated.

(2) If the JP1 user account that is mapped to the OS user account connecting to the job server does not exist, specify a JP1 user account that has permissions to the jobnet to be operated as the JP1 user name (JP1AJS.jp1UserName property).

Version

02.00.00

Plug-in tags

Control JP1,AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsProhibitExecution

Return code

0: Normal

21: Error (Environmental error) No command was found. (An error was detected in the component script.)

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.jp1UserName	JP1 user name	Specify a JP1 user name. You do not need to specify this property if you execute a command with a JP1 user name that is the same as the OS user name used for connecting to the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.unitName	Unit name	Specify the jobnet name or job name to be stopped temporarily.	--	Input	R
JP1AJS.execRegistrationNum ber	Execution registration number	Specify the execution registration number of the jobnet or job to be temporarily stopped in YYYYMMDDNNN format.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.7 Register JP1/AJS jobnet for execution

Function

Registers and executes on a specified server a jobnet for JP1/AJS3 - Manager (or JP1/AJS2 - Manager; hereafter, both are referred to collectively as JP1/AJS).

This plugin assumes the following server:

• Job server (Execution target server)

This is the server on which the JP1/AJS jobnet its to be executed. The JP1/AJS described in the prerequisites must have already been set up.

This plugin can perform only immediate execution of a jobnet. To check the jobnet's execution results, you must use the jp1ajsCheck plugin to obtain the results after you have used this plugin to register and execute the jobnet.

Use situation

If routine tasks in an operation procedure already exist as jobnets, you can use this plugin to execute a jobnet from a service. You can reference a jobnet's execution results by using the following plugins:

• jp1ajsCheck

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The jobnet to be registered and executed has already been created.

(2) Only registration and execution of a root jobnet is supported. Batch execution of job groups is not supported.

(3) Only registration and immediate execution of a jobnet is supported. Any start condition that is specified for the jobnet is ignored.

(4) You specify in the JP1AJS.executeJP1UserName property the name of the JP1 user who is to register and execute the jobnet on the execution target server. If this JP1 user has the same name as the OS user who is connected from JP1/AO, there is no need to specify this property.

(5) To register a jobnet defined on a logical host in a cluster configuration:

• Specify the active server's physical host name or logical host name in the plugin.destinationHost property.

• Specify the name of the scheduler service running on the logical host in the JP1AJS.serviceName property.

• Specify the name of the logical host on which the scheduler service is running in the JP1.logicalHostName property.

Cautions

(1) This plugin performs only immediate registration and execution of a jobnet. If necessary, you can use JP1/AJS3 - View to check the jobnet's execution status, especially if the jobnet requires a long time to process.

Execution privilege

The following settings are required for the OS user who will be connecting from JP1/AO to the job server.

If the JP1 user name and the OS user name are not the same, make sure that you specify the jp1ajs.executeJP1UserName property.

[Common to both Windows and UNIX]

The OS user name must be the same as the name of a JP1 user to whom JP1_AJS_Operator, JP1_AJS_Manager, or JP1_AJS_Admin permissions are granted.

Version

02.00.00

Plug-in tags

Configure JP1,AJS,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1ajsExecute

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.Specify the service name of the JP1/AJS on logical host (when using business server in a cluster configuration).	--	Input	O
JP1AJS.jobnetName	Jobnet name	Specify the name of the jobnet to be registered for execution.	--	Input	R
JP1AJS.macroParameter	JP1/AJS macro variable	Specify a comma-separated list of JP1/AJS macro variable name and value pairs in <name>:<value> format. Example: AJS2AA:5,AJS2BB:test	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1AJS.executeJP1UserNam e	JP1 user name for executing the jobnet	Specify the name of the JP1 user who will execute the jobnet. You do not need to specify this property if the name of the JP1 user who will execute the jobnet is the same as the OS user name specified during connection to the execution target server.	--	Input	O
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.8 JP1/AJS jobnet scheduled execution results output

Function

This component outputs the following to the specified scheduled execution results file on the job server: the information including the execution results up to the previous time, the current status, and next execution schedule of the jobnet

whose execution has been registered for JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) of the specified server.

This component requires the following server:

- Job server (Execution target server)

This is the server that executes a jobnet of JP1/AJS. The JP1/AJS described in the pre-conditions needs to have been set up.

Before the execution, check the format and the order of the start date and the end date of the scheduled execution results output.

Use situation

Outputs the next execution schedule in the specified period of the jobnet whose execution has been registered to a file on the specified job server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The referenced jobnet must be already created.

(2) The referenced jobnet calendar and schedule rules must be already defined.

(3) Specify the JP1 user name in the JP1AJS.executeJP1UserName property for outputting jobnet scheduled execution results by the execution target server. If scheduled execution results are output by a JP1 user with the same name as the OS user connected from JP1/AO, the value does not need to be specified for this property.

(4) When referencing the jobnet defined on the logical host in a cluster configuration, perform the following:

- Specify the physical host name or the logical host name of the execution server in the plugin.destinationHost property.

- Specify the scheduler server name running on the logical host in the JP1AJS.serviceName property.

- Specify the logical host name where the scheduler service is running in the JP1.logicalHostName property.

(5) If the application server OS is UNIX, set the same setting for the character code of the JP1/AJS environment setting parameter of the application server and for the default locale of the OS user used when connecting to the job server.

Cautions

(1) Specify the scheduler service name that is set to the JP1AJS.serviceName property using 30 bytes or less.

(2) For the value to be set in the JP1AJS.outputFormat property, see the description of the -i option of the ajsshow command in "Command Reference 1" of the JP1/AJS manual .

(3) If the job server OS is Windows and multibyte characters are specified, specify the scheduled execution results file that is set to the common.outputFileName property using a maximum length of 256 bytes.

(4) If a scheduled execution results file already exists, the existing file is overwritten.

(5) If a folder of the path specified in the scheduled execution result file does not exist, the folder is created. The created folder remains and is not deleted. Delete unused folders on a regular basis.

(6) The content is output as specified by the format specifier that has been set in the JP1AJS.outputFormat property. If the jobnet name includes double quotations ("), an error might occur when the ODBC driver reads the name, so replace the mark with a character as needed.

(7) For other usage notes, see the usage notes of the ajsshow command in Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

- The JP1 user that is mapped to the OS user when connected to the application server has browsing privileges for the jobnet that is registered for execution.

- If a JP1 user that is mapped to the OS user when connected to the application server does not exist, specify the JP1 user that has browsing privileges for the target jobnet in the jp1ajs.executeJP1UserName property.

Version

02.00.00

Plug-in tags

Gather JP1 information,AJS,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1ajsOutputSchedule

Return code

0: Normal

12: Error (Mistake by user) Invalid property

14: Error (Mistake by user) File inaccessible

21: Error (Environmental error) No command was found (An error was detected in the component script)

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.entryJobnetName	Jobnet name	Specifies the name of the jobnet where execution registration or scheduled execution results are output as a complete name. The manager job group name and manager jobnet name cannot be specified.	--	Input	R
JP1AJS.executeJP1UserNam e	JP1 user name that executes the AJS command to output the scheduled execution results of jobnet	Specifies the JP1 user name used for executing the AJS command to output the scheduled execution results file of the jobnet. No need to specify when executed by a JP1 user with the same name as the OS user name when connecting to the application server.	--	Input	O
JP1AJS.outputStartDate	Jobnet scheduled execution results output start date	The output start date of the scheduled execution results of the jobnet is separated by a hyphen (-) or slash (/) and specified in the following format: YYYY-MM-DD or YYYY/MM/DD.	--	Input	R
JP1AJS.outputEndDate	Jobnet scheduled execution results output end date	The output end date of the scheduled execution results of the jobnet is separated by a hyphen (-) or slash (/) and specified in the following format: YYYY-MM-DD or YYYY/MM/DD.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.outputFormat	Format of the scheduled execution results file	Specifies the format specifier of the -i option of the ajsshow command.	--	Input	R
common.outputFileName	Scheduled execution results file	Specifies the file to which the scheduled execution results of the jobnet are output.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this component is stored.	--	Outpu t	O

4.6.9 Suspend JP1/AJS jobnet

Function

This plug-in suspends the jobnet for the instance of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) on the specified server.

The following servers are required for this plug-in:

- Job server (execution target server)

This is the server on which the JP1/AJS jobnet is executed. JP1/AJS, which is described in prerequisites, must be set up.

This plug-in can only suspend the jobnet.

If you want to check the status of the jobnet after executing this plug-in, you need to use the Get JP1/AJS jobnet execution results (jp1ajsCheck plug-in) to obtain the results.

The scripts in this plug-in perform the following processes:

- If a value is specified for the logical host name of the job server (JP1.logicalHostName property), sets the JP1_HOSTNAME environment variable to the value of the logical host name.

- If a value is specified for the JP1 user name (JP1AJS.jp1UserName property), sets the JP1_USERNAME environment variable to the value of the JP1 user name.

- Executes the following command:

ajsintrpt [-F "the-value-of-the-JP1/AJS service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-the-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

"the-value-of-the-jobnet-name-(JP1AJS.jobnetName-property)"#

#: Specify the name in the following format: [[scheduler-service-name]:]jobnet-name[:@execution-ID].

For details about the ajsintrpt command, see the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Use situation

This plug-in is used to suspend the JP1/AJS jobnet execution.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) For the JP1 user name (JP1AJS.jp1UserName property), specify the JP1 user name to suspend the jobnet on the execution target server. If you suspend the jobnet by using the JP1 user account that has the same name as the user of the OS this product connects to, you do not need to specify a value for this property.

(2) If you suspend the jobnet that is defined on the logical host in a cluster, the following settings must be specified:

- Specify a physical host name of the execution target server or a logical host name for the host name (plugin.destinationHost property) of the execution target server.

- Specify the name of the logical host, where the scheduler service is running, as the logical host name (JP1.logicalHostName property) of the execution target server.

- Specify the name of the scheduler service, which is running on the logical host, as the JP1/AJS service name (JP1AJS.serviceName property).

(3) If the OS running on the job server is UNIX, the character encoding setting of the environment setting parameter in the JP1/AJS instance on the job server must correspond to the default locale setting of the connected user account that connects to the job server.

Cautions

(1) Do not use double quotation marks (") or single quotation marks (') for the property of the plug-in.

(2) Even if the jobnet name (JP1AJS.jobnetName property) contains symbol characters (&, *, <, >, ?, [, \,], ^, ', {, |, }, ~) that are escaped by using a backslash (\), you do not need to use double quotation marks (") at the beginning and the end of the strings in the property.

(3) For the jobnet name (JP1AJS.jobnetName property), explicitly specify the name of the jobnet to be suspended. Do not use the wildcard characters (*, ?, [,]) in the jobnet name.

(4) For other cautions, see cautions described in Interrupting a jobnet being executed in the manual Job Management Partner 1/Automatic Job Management System 3 Operator's Guide and cautions about the ajsintrpt command described in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user account that is mapped to the OS user account connecting to the job server must have the permissions to the jobnet to be operated.

(2) If the JP1 user account that is mapped to the OS user account connecting to the job server does not exist, specify a JP1 account that has permissions to the jobnet to be operated as the JP1 user name (JP1AJS.jp1UserName property).

Version

02.00.00

Plug-in tags

Control JP1,AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsStopExecution

Return code

0: Normal

21: Error (Environmental error) No command was found. (An error was detected in the component script.)

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.jp1UserName	JP1 user name	Specify a JP1 user name. You do not need to specify this property if you execute a command with a JP1 user name that is the same as the	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.jp1UserName	JP1 user name	OS user name used for connecting to the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.jobnetName	Jobnet name	Specify the jobnet name to be suspended.	--	Input	R
JP1AJS.execRegistrationNum ber	Execution registration number	Specify the execution registration number of the jobnet to be suspended in YYYYMMDDNNN format.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.10 Change hold attribute for JP1/AJS jobnet

Function

This plug-in temporarily changes the hold attribute of a jobnet or job for the instance of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) on the specified server.

If you want to hold the jobnet or job, specify hold as the hold attribute change setting (JP1AJS.changeHoldAttribute property).

If you want to release the jobnet or job, specify release as the hold attribute change setting (JP1AJS.changeHoldAttribute property).

The following servers are required for this plug-in:

- Job server (execution target server)

This is the server on which the JP1/AJS jobnet is executed. JP1/AJS, which is described in prerequisites, must be set up.

The scripts in this plug-in perform the following processes:

- If a value is specified for the logical host name of the job server (JP1.logicalHostName property), sets the JP1_HOSTNAME environment variable to the value of the logical host name.

- If a value is specified for the JP1 user name (JP1AJS.jp1UserName property), sets the JP1_USERNAME environment variable to the value of the JP1 user name.

- Executes the following command:

(a) If you specify hold as the hold attribute change (JP1AJS.changeHoldAttribute property):

ajsplan [-F "the-value-of-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-the-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

-h

"the-value-of-the-unit-name-(JP1AJS.unitName-property)"#

(b) If you specify release as the hold attribute change setting (JP1AJS.changeHoldAttribute property):

ajsplan [-F "the-value-of-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-the-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

-r

"the-value-of-the-unit-name-(JP1AJS.unitName-property)"#

#: Specify the name in the following format: [[scheduler-service-name]:]unit-name[:@execution-ID].

For details about the ajsplan command, see the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Use situation

This plug-in is used to temporarily change the hold attribute of the JP1/AJS jobnet or job.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) For the JP1 user name (JP1AJS.jp1UserName property), specify the JP1 user name to change the jobnet hold status on the execution target server. If you change the hold status of the jobnet by using the JP1 user account that has the same name as the user of the OS this product connects to, you do not need to specify a value for this property.

(2) If you change the hold status of the jobnet that is defined on the logical host in a cluster, the following settings must be specified:

- Specify a physical host name of the execution target server or a logical host name as the host name (plugin.destinationHost property) of the execution target server.

- Specify the name of the logical host, where the scheduler service is running, as the logical host name (JP1.logicalHostName property) of the execution target server.

- Specify the name of the scheduler service, which is running on the logical host, as the JP1/AJS service name (JP1AJS.serviceName property).

(3) If the OS running on the job server is UNIX, the character encoding setting of the environment setting parameter in the JP1/AJS instance on the job server must correspond to the default locale setting of the connected user account that connects to the job server.

Cautions

(1) Do not use double quotation marks (") or single quotation marks (') for the property of the plug-in.

(2) Even if the unit name (JP1AJS.unitName property) contains symbol characters (&, *, <, >, ?, [, \,], ^, ', {, |, }, ~) that are escaped by using a backslash (\), you do not need to use double quotation marks (") at the beginning and the end of the strings in the property.

(3) For the unit name (JP1AJS.unitName property), explicitly specify the name of the jobnet or job whose hold attribute is to be changed. Do not use the wildcard characters (*, ?, [,]) in the unit name.

(4) For other cautions, see the cautions about the ajsplan commands described in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user account that is mapped to the OS user account connecting to the job server must have the permissions to the jobnet to be operated.

(2) If the JP1 user account that is mapped to the OS user account connecting to the job server does not exist, specify a JP1 user account that has permissions to the jobnet to be operated as the JP1 user name (JP1AJS.jp1UserName property).

Version

02.00.01

Plug-in tags

Control JP1,AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsChangeHoldAttribute

Return code

0: Normal

12: Error (Mistake by user) Invalid property

21: Error (Environmental error) No command was found. (An error was detected in the component script.)

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.jp1UserName	JP1 user name	Specify a JP1 user name. You do not need to specify this property if you execute a command with a JP1 user name that is the same as the OS user name used for connecting to the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.unitName	Unit name	Specify the jobnet name or job name whose hold attribute is to be changed temporarily.	--	Input	R
JP1AJS.execRegistrationNum ber	Execution registration number	Specify the execution registration number of the jobnet or job in YYYYMMDDNNN format to temporarily change the hold attribute.	--	Input	O
JP1AJS.newHoldAttribute	Hold attributes after changes	Specify "hold" to hold the execution of the jobnet or job. Specify "release" to release the execution of the jobnet or job.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.11 Change JP1/AJS job status

Function

This plug-in changes the job status for the instance of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) on the specified server.

The following servers are required for this plug-in:

- Job server (execution target server)

This is the server on which the JP1/AJS jobnet is executed. JP1/AJS, which is described in prerequisites, must be set up.

This plug-in can only change the job status. With the job status change, the status of the jobnet that includes the changed job is also changed.

The scripts in this plug-in perform the following processes:

- If a value is specified for the logical host name of the job server (JP1.logicalHostName property), sets the JP1_HOSTNAME environment variable to the value of the logical host name.

- If a value is specified for the JP1 user name (JP1AJS.jp1UserName property), sets the JP1_USERNAME environment variable to the value of the JP1 user name.

- Executes the following command:

ajschgstat [-F "the-value-of-the-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

[-B "the-value-of-the-execution-registration-number-(JP1AJS.execRegistrationNumber-property)"]

-t "the-value-of-the-status-after-the-change-(JP1AJS.newStatus-property)"

[-c "the-value-of-the-return-code-(JP1AJS.returnCode-property)"]

"the-value-of-the-job-name-(JP1AJS.jobName-property)"#

#: Specify the name in the following format: [[scheduler-service-name]:]job-name[:@execution-ID].

For details about the ajschgstat command, see the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Use situation

This plug-in is used to change the JP1/AJS job status.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) For the JP1 user name (JP1AJS.jp1UserName property), specify the JP1 user name to change the job status on the execution target server. If you change the job status using the JP1 user account that has the same name as the user of the OS this product connects to, you do not need to specify a value for this property.

(2) If you change the status of the job that is defined on the logical host in a cluster, the following settings must be specified:

- Specify a physical host name of the execution target server or a logical host name as the host name (plugin.destinationHost property) of the execution target server.

- Specify the name of the logical host, where the scheduler service is running, as the logical host name (JP1.logicalHostName property) of the execution target server.

- Specify the name of the scheduler service, which is running on the logical host, as the JP1/AJS service name (JP1AJS.serviceName property).

(3) If the OS running on the job server is UNIX, the character encoding setting of the environment setting parameter in the JP1/AJS instance on the job server must correspond to the default locale setting of the connected user account that connects to the job server.

Cautions

(1) Do not use double quotation marks (") or single quotation marks (') for the property of the plug-in.

(2) Even if the job name (JP1AJS.jobName property) contains symbol characters (&, *, <, >, ?, [, \,], ^, ', {, |, }, ~) that are escaped by using a backslash (\), you do not need to use double quotation marks (") at the beginning and the end of the strings in the property.

(3) For the job name (JP1AJS.jobName property), explicitly specify the name of the job whose status is to be changed. Do not use the wildcard characters (*, ?, [,]) in the job name.

(4) For other cautions, see cautions described in Changing the status of jobs in the manual Job Management Partner 1/Automatic Job Management System 3 Operator's Guide and cautions about the ajschgstat command described in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user account that is mapped to the OS user account connecting to the job server must have the permissions to the job to be operated.

(2) If the JP1 user account that is mapped to the OS user account connecting to the job server does not exist, specify a JP1 user account that has permissions to the job to be operated as the JP1 user name (JP1AJS.jp1UserName property).

Version

02.00.00

Plug-in tags

Control JP1,AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsChangeStatus

Return code

0: Normal

21: Error (Environmental error) No command was found. (An error was detected in the component script.)

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requi red
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.jp1UserName	JP1 user name	Specify a JP1 user name. You do not need to specify this property if you execute a command with a JP1 user name that is the same as the OS user name used for connecting to the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.jobName	Job name	Specify the name of the job whose status you want to change.	--	Input	R
JP1AJS.execRegistrationNum ber	Execution registration number	Specify the execution registration number of the jobnet that includes the job whose status you want to change in YYYYMMDDNNN format.	--	Input	O
JP1AJS.newStatus	Status after a change	Specify the status to which you change a job. You can specify normal, fail, warning, abnormal, bypass, or exit.	--	Input	R
JP1AJS.returnCode	End code	Specify the end code of a job.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.12 Get JP1/AJS jobnet execution results

Function

Obtains on a specified server a jobnet's execution results for JP1/AJS3 - Manager (or JP1/AJS2 - Manager; hereafter, both are referred to collectively as JP1/AJS).

This plugin assumes the following server:

• Job server (Execution target server)

This is the server that obtains the execution results of a JP1/AJS jobnet. The JP1/AJS described in the prerequisites must have already been set up.

Use situation

You use this plugin to acquire the execution results of a jobnet executed by the jp1ajsExecute plugin.

Because the execution results are stored in the jobnetState property, you can change the behavior of the service template on the basis of the results that are obtained.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The jobnet to be registered and executed has already been created.

(2) You specify in the JP1AJS.executeJP1UserName property the name of the JP1 user who is to acquire the jobnet execution results on the execution target server. If this JP1 user has the same name as the OS user who is connected from JP1/AO, there is no need to specify this property.

(3) To acquire the jobnet execution results defined on a logical host in a cluster configuration:

• Specify the active server's physical host name or logical host name in the plugin.destinationHost property.

• Specify the name of the scheduler service running on the logical host in the JP1AJS.serviceName property.

• Specify the name of the logical host on which the scheduler service is running in the JP1.logicalHostName property.

Cautions

(1) If multiple jp1ajsExecute plugins are executed in parallel on the same jobnet of the same scheduler, the plugin acquires the results of the last jobnet that executes.

Execution privilege

The following settings are required for the OS user who will be connecting from JP1/AO to the job server.

If the JP1 user name and the OS user name are not the same, make sure that you specify the jp1ajs.executeJP1UserName property.

[Common to both Windows and UNIX]

The user name must be the same as the name of a JP1 user to whom JP1_AJS_Guest, JP1_AJS_Operator, JP1_AJS_Editor, JP1_AJS_Manager, or JP1_AJS_Admin permissions are granted.

Version

02.00.00

Plug-in tags

Gather JP1 information,AJS,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1ajsCheck

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.Specify the service name of the JP1/AJS on logical host (when using business server in a cluster configuration).	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.jobnetName	Jobnet name	Specify the name of the jobnet whose execution results are to be acquired.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1AJS.executeJP1UserNam e	Name of the JP1 user to review the jobnet results	Specify the name of the JP1 user to review the results from the jobnet. This does not need to be specified if the executing JP1 user has the same name as the OS user who is connected to the execution target server.	--	Input	O
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.jobnetResult	Jobnet results	This property stores the result of jobnet execution.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.13 Get JP1/AJS troubleshooting information

Function

Collects troubleshooting information for JP1/AJS3 - Manager (or JP1/AJS2 - Manager; hereafter, both are referred to collectively as JP1/AJS) on a specified server.

This plugin assumes the following server:

• Job servers (Execution target server)

This is the server on which JP1/AJS troubleshooting information is collected. The JP1/AJS described in the prerequisites must have already been set up.

The plugin collects troubleshooting information in the folder specified in the JP1AJS.logFolder property.

The plugin collects the information described below (for details about the information that is collected and the storage format, see the JP1/AJS manual):

• All information that can be collected by JP1/AJS's data collection tool (with no options specified)

Messages output by JP1/AJS's data collection tool are stored as jp1imGetLog_result.log immediately under the folder specified in the JP1AJS.logFolder property.

Use situation

You use this plugin to collect JP1/AJS troubleshooting information for purposes of investigating problems that occur in JP1/AJS.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) When the OS of Job Management Partner 1/AJS2 - Manager or Job Management Partner 1/AJS3 - Manager is Windows, the data collection tool's output destination is set to the default value (%TEMP%\jp1ajs2\backlog).

(2) If the execution target server's JP1/AJS has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/AJS's logical host is running, and specify JP1/AJS's logical host name in the JP1.logicalHostName property.

Cautions

(1) Do not execute multiple instances of this plugin concurrently on the same execution target server.

Version

02.00.00

Plug-in tags

Troubleshoot JP1,AJS,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1ajsGetLog

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.logFolder	Folder for storing collected files	Specify the full path of the folder that will store files collected by the JP1/AJS information collection tool.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.6.14 Start JP1/AJS(UNIX)

Function

This component starts JP1/AJS on the execution target server in UNIX.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following command:

- jajs_spmd

[-h "value of the logical host name of the execution target server (JP1.logicalHostName property)"]

[-n "value of the process name(n) option (JP1AJS.processNameOption property)"]

[-F "value of the scheduler service name(F) option (JP1AJS.schedulerServiceNameOption property)"]

[-id "value of the embedded database setup ID(id) option (JP1AJS.embeddedDatabaseSetupIDOption property)"]

["value of the startup mode option (JP1AJS.startupModeOption property)"]

[-q "value of the initialize job information(q) option (JP1AJS.initializeJobInformationOption property)"]

[-HA]*1

*1: [-HA] is set when you set true for the value of the HA option (JP1.haOption property).

For details on the jajs_spmd command of JP1/AJS, see the description for the command in the JP1/AJS manuals.

Use situation

Use this component when you restart JP1/AJS after modifying JP1/AJS settings to make the modification take effect.

Note that this component finishes asynchronously without waiting until JP1/AJS starts completely, but you can use the "Obtain Status of JP1/AJS" component after executing this component to wait until JP1/AJS starts.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/AJS 09-00 or later, or

JP1/AJS 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) JP1/AJS is stopped. (Except when you specify the [Process name(n)] option [JP1AJS.processNameOption property])

(2) If the execution target server's JP1/AJS has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/AJS's logical host is running, and specify in the JP1.logicalHostName property JP1/AJS's logical host name.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/AJS manual.

Execution privilege

root permission

Version

02.02.00

Plug-in tags

Control JP1,AJS,Linux

Plug-in name displayed in the task log

jp1ajsStart

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.processNameOption	process name(n) option	If you want to set the [Process name(n)] option for the command to be executed, specify jajs_schd/jajs_agtd/jajs_dbmd. If this is omitted, the [Process name(n)] option is not set.	--	Input	O
JP1AJS.schedulerServiceNameOption	scheduler service name(F) option	If you want to set the [Scheduler service name(F)] option for the command to be executed, specify the scheduler service name. If this is omitted, the [Scheduler service name(F)] option is not set.	--	Input	O
JP1AJS.embeddedDatabaseSetupIDOption	embedded database setup ID(id) option	If you want to set the [Embedded DB setup identifier(id)] option for the command to be executed, specify the embedded DB setup identifier. If this is omitted, the [Embedded DB setup identifier(id)] option is not set.	--	Input	O
JP1AJS.startupModeOption	startup mode option	If you want to set the [Startup mode] option for the command to be executed, specify hot/warm/cold/disaster. If this is omitted, the [Startup mode] option is not set.	--	Input	O
JP1AJS.initializeJobInformationOption	initialize job information(q) option	If you want to set the [Initialize job information(q)] option for the	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.initializeJobInformationOption	initialize job information(q) option	command to be executed, specify clear/noclear. If this is omitted, the [Initialize job information(q)] option is not set.	--	Input	O
JP1.haOption	HA option	Specify true if you want to set the [HA] option for the command to be executed. If true is not specified, the [HA] option is not set.	false	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.6.15 Obtain Status of JP1/AJS

Function

This component obtains the status of JP1/AJS on the execution target server in Windows or UNIX.

Additionally, you can suspend the completion of the component until JP1/AJS achieves a specific status.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following process.

- Execute the following command:

jajs_spmd_status

[-h "value of the logical host name of the execution target server (JP1.logicalHostName property)"]

["value of the status display option(JP1.statusDisplayOption property)"]

[-t "value of the time option (JP1.timeOption property)"]

- If you specify the return value of the waiting status (JP1.waitStatusReturnCode property), the jajs_spmd_status command is executed repeatedly at the interval of the retries specified for the verification of the waiting status (JP1.waitStatusRetryInterval property) until the waiting status becomes the specified value or until the number of retries to verify the waiting status (JP1.waitStatusRetryCount property) is fulfilled.

For details on the jajs_spmd_status command of JP1/AJS, see the description for the command in the JP1/AJS manuals.

Use situation

Use this component when you restart JP1/AJS after modifying JP1/AJS settings to make the modification take effect.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/AJS 09-00 or later, or

JP1/AJS 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/AJS has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/AJS's logical host is running, and specify in the JP1.logicalHostName property JP1/AJS's logical host name.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/AJS manual.

Execution privilege

Windows: Administrator permission

UNIX: root permission

Version

02.02.00

Plug-in tags

Gather JP1 information,AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsGetStatus

Return code

0: Normal

12: Error (mistake by user) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1.statusDisplayOption	status display option	If you want to set the [status display] option to be executed, specify -s/-a. If this is omitted, the [status display] option is not set.	--	Input	O
JP1.timeOption	time(t) option	If you want to set the [Time(t)] option for the command to be executed, specify the time. If this is omitted, the [Time(t)] option is not set.	--	Input	O
JP1.waitStatusReturnCode	wait status return code	Executes the status checking command repeatedly until the return value of the status acquisition command becomes the specified value. If this is omitted, the repeated process is not performed.	--	Input	O
JP1.waitStatusRetryCount	wait status retry count	Specify the number of retries when executing the status acquisition command.	60	Input	O
JP1.waitStatusRetryInterval	wait status retry interval	Specify the retry interval in seconds when executing the status acquisition command.	10	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.commandExitCode	Return value for the execution command	The return value for the execution command is stored.	--	Output	O
common.commandOutput	Output of the execution command	The standard output and standard error output of the execution command are stored.	--	Output	O

4.6.16 Stop JP1/AJS(UNIX)

Function

This component stops JP1/AJS on the execution target server in UNIX.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following command:

- jajs_spmd_stop

[-h "value of the logical host name (JP1.logicalHostName property)"]

[-n "value of the process name(n) option (JP1AJS.processNameOption property)"]

[-F "value of the scheduler service name(F) option (JP1AJS.schedulerServiceNameOption property)"]

[-id "value of the embedded database setup ID(id) option (JP1AJS.embeddedDatabaseSetupIDOption property)"]

["value of the termination mode option (JP1AJS.terminationModeOption property)"]

For details on the jajs_spmd_stop command of JP1/AJS, see the description for the command in the JP1/AJS manuals.

Use situation

Use this component when you restart JP1/AJS after modifying JP1/AJS settings to make the modification take effect.

Note that this component finishes asynchronously without waiting until JP1/AJS starts completely, but you can use the "Obtain Status of JP1/AJS" component after executing this component to wait until JP1/AJS starts.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/AJS 09-00 or later, or

JP1/AJS 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) JP1/AJS is running.

(2) If the execution target server's JP1/AJS has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/AJS's logical host is running, and specify in the JP1.logicalHostName property JP1/AJS's logical host name.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/AJS manual.

Execution privilege

root permission

Version

02.02.00

Plug-in tags

Control JP1,AJS,Linux

Plug-in name displayed in the task log

jp1ajsStop

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1AJS.processNameOption	process name(n) option	If you want to set the [Process name(n)] option for the command to be executed, specify jajs_schd/ jajs_agtd/jajs_dbmd. If this is omitted, the [Process name(n)] option is not set.	--	Input	O
JP1AJS.schedulerServiceNameOption	scheduler service name(F) option	If you want to set the [Scheduler service name(F)] option for the command to be executed, specify the scheduler service name. If this is omitted, the [Scheduler service name(F)] option is not set.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1AJS.embeddedDatabaseS etupIDOption	embedded database setup ID(id) option	If you want to set the [Embedded DB setup identifier(id)] option for the command to be executed, specify the embedded DB setup identifier. If this is omitted, the [Embedded DB setup identifier(id)] option is not set.	--	Input	O
JP1AJS.terminationModeOpti on	termination mode option	If you want to set the [Termination mode] option for the command to be executed, specify -job/-kill. If this is omitted, the [Termination mode] option is not set.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.6.17 Check JP1/AJS unit existence

Function

This plug-in checks if the unit exists in the instance of JP1/AJS3 - Manager (or JP1/AJS2 - Manager, collectively referred to as JP1/AJS hereafter) on the specified server.

The following servers are required for this plug-in:

- Job server (execution target server)

This is the server on which the JP1/AJS jobnet is executed. JP1/AJS, which is described in prerequisites, must be set up.

This plug-in returns a return value of 0 if the unit specified in the unit name (unitName property) exists.

If the unit does not exist or the existence check fails, this plug-in returns a value other than 0.

The scripts in this plug-in perform the following processes:

- If a value is specified for the logical host name of the job server (JP1.logicalHostName property), sets the JP1_HOSTNAME environment variable to the value of the logical host name.

- If a value is specified for the JP1 user name (JP1AJS.jp1UserName property), sets the JP1_USERNAME environment variable to the value of the JP1 user name.

- Executes the following command:

ajsname [-F "the-value-of-the-JP1/AJS-service-name-(JP1AJS.serviceName-property)"]

"the-value-of-the-unit-name-(JP1AJS.unitName-property)"#

#: Specify the name in the following format: [[scheduler-service-name]:]unit-name.

For details about the ajsname command, see the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Use situation

For example, it is used to check the existence of the JP1/AJS unit before operating the unit in other plug-ins.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Automatic Job Management System 3 - Manager 09-00 or later, or

JP1/Automatic Job Management System 3 - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) For the JP1 user name (JP1AJS.jp1UserName property), specify the JP1 user name to check the existence of the unit on the execution target server. If you check the existence of the unit by using the JP1 user account that has the same name as the user of the OS this product connects to, you do not need to specify a value for this property.

(2) If you check the existence of the unit that is defined on the logical host in a cluster, the following settings must be specified:

- Specify a physical host name or a logical host name of the execution target server as the host name (plugin.destinationHost property) of the execution target server.

- Specify the name of the logical host, where the scheduler service is running, as the logical host name (JP1.logicalHostName property) of the execution target server.

- Specify the name of the scheduler service, which is running on the logical host, as the JP1/AJS service name (JP1AJS.serviceName property).

(3) If the OS running on the job server is UNIX, the character encoding setting of the environment setting parameter in the JP1/AJS instance on the job server must correspond to the default locale setting of the connected user account that connects to the job server.

Cautions

(1) Do not use double quotation marks (") or single quotation marks (') for the property of the plug-in.

(2) Even if the unit name (JP1AJS.unitName property) contains symbol characters (&, *, <, >, ?, [, \,], ^, ', {, |, }, ~) that are escaped by using a backslash (\), you do not need to use double quotation marks (") at the beginning and the end of the strings in the property.

(3) For the unit name (JP1AJS.unitName property), explicitly specify the name of the unit whose existence is to be checked. Do not use the wildcard characters (*, ?, [,]) in the unit name.

(4) For other cautions, see the cautions about the ajsname command described in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1.

Execution privilege

(1) The JP1 user account that is mapped to the OS user account connecting to the job server must have the read permission for the unit to be checked.

(2) If the JP1 user account that is mapped to the OS user account connecting to the job server does not exist, specify a JP1 user account that has read permission for the unit to be checked as the JP1 user name (JP1AJS.jp1UserName property).

Version

02.00.00

Plug-in tags

Gather JP1 information, AJS,Windows,Linux

Plug-in name displayed in the task log

jp1ajsExists

Return code

0: Normal

21: Error (Environmental error) No command was found. (An error was detected in the component script.)

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
JP1AJS.jp1UserName	JP1 user name	Specify a JP1 user name. You do not need to specify this property if you execute a command with a JP1 user name that is the same as the OS user name used for connecting to the execution target server.	--	Input	O
JP1AJS.serviceName	JP1/AJS service name	Specify the service name of the scheduler.	--	Input	O
JP1AJS.unitName	Unit name	Specify the name of the unit to confirm its existence.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7 JP1/Base-related Plug-ins

4.7.1 Start event service of JP1/Base(UNIX)

Function

This component starts event service of JP1/Base on the execution target server in UNIX.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following command:

- jevstart ["value of the event server name (JP1Base.eventServerName property)"]

For details on the jevstart command of JP1/Base, see the description for the command in the JP1/Base manuals.

Use situation

Use this component when you restart event service of JP1/Base after modifying JP1/Base settings to make the modification take effect.

Note that this component finishes asynchronously without waiting until event service of JP1/Base starts completely, but you can use the "Obtain event service Status of JP1/Base" component after executing this component to wait until event service of JP1/Base starts.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) Event service of JP1/Base is stopped.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/Base manual.

Execution privilege

root permission

Version

02.02.00

Plug-in tags

Control JP1,Base,Linux

Plug-in name displayed in the task log

jp1baseEventStart

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1Base.eventServerName	Event server name	Specify the event server name.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.2 Obtain event service Status of JP1/Base

Function

This component obtains the event service status of JP1/Base on the execution target server in Windows or UNIX.

Additionally, you can suspend the completion of the component until event service of JP1/Base achieves a specific status.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following process.

- Execute the following command:

jevstat ["value of the event server name (JP1Base.eventServerName property)"]

[-t "value of time option (JP1.timeOption property)"]

- If you specify the return value of the waiting status (JP1.waitStatusReturnCode property), the jevstat command is executed repeatedly at the interval of the retries specified for the verification of the waiting status (JP1.waitStatusRetryInterval property) until the waiting status becomes the specified value or until the number of retries to verify the waiting status (JP1.waitStatusRetryCount property) is fulfilled.

For details on the jevstat command of JP1/Base, see the description for the command in the JP1/Base manuals.

Use situation

Use this component when you restart event service of JP1/Base after modifying JP1/Base settings to make the modification take effect.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/Base manual.

Execution privilege

Windows: Administrator permission

UNIX: root permission

Version

02.02.00

Plug-in tags

Gather JP1 information,Base,Windows,Linux

Plug-in name displayed in the task log

jp1baseEventGetStatus

Return code

0: Normal

12: Error (mistake by user) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1Base.eventServerName	Event server name	Specify the event server name.	--	Input	O
JP1.timeOption	time(t) option	If you want to set the [Time(t)] option for the command to be executed, specify the time. If this is omitted, the [Time(t)] option is not set.	--	Input	O
JP1.waitStatusReturnCode	wait status return code	Executes the status checking command repeatedly until the return value of the status acquisition command becomes the specified value. If this is omitted, the repeated process is not performed.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.waitStatusRetryCount	wait status retry count	Specify the number of retries when executing the status acquisition command.	60	Input	O
JP1.waitStatusRetryInterval	wait status retry interval	Specify the retry interval in seconds when executing the status acquisition command.	10	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.commandExitCode	Return value for the execution command	The return value for the execution command is stored.	--	Output	O
common.commandOutput	Output of the execution command	The standard output and standard error output of the execution command are stored.	--	Output	O

4.7.3 Stop event service of JP1/Base(UNIX)

Function

This component stops event service of JP1/Base on the execution target server in UNIX.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following command:

- jevstop ["value of the event server name (JP1Base.eventServerName property)"]

For details on the jevstop command of JP1/Base, see the description for the command in the JP1/Base manuals.

Use situation

Use this component when you restart event service of JP1/Base after modifying JP1/Base settings to make the modification take effect.

Note that this component finishes asynchronously without waiting until event service of JP1/Base stops completely, but you can use the "Obtain event service Status of JP1/Base" component after executing this component to wait until event service of JP1/Base stops.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) Event service of JP1/Base is running.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/Base manual.

Execution privilege

root permission

Version

02.02.00

Plug-in tags

Control JP1,Base,Linux

Plug-in name displayed in the task log

jp1baseEventStop

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1Base.eventServerName	Event server name	Specify the event server name.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.4 Get JP1/Base troubleshooting information

Function

Collects troubleshooting information for JP1/Base on a specified server.

This plugin assumes the following server:

• Monitoring server (Execution target server)

This is the server on which JP1/Base troubleshooting information is collected. The JP1/Base described in the prerequisites must have already been set up.

The plugin collects troubleshooting information in the folder specified in the JP1Base.logFolder property.

The plugin collects the information described below (for details about the information that is collected and the storage format, see the JP1/Base manual):

• All information that can be collected by JP1/Base's data collection tool (with no options specified)

Messages output by JP1/Base's data collection tool are stored as jp1imGetLog_result.log immediately under the folder specified in the JP1Base.logFolder property.

Use situation

You use this plugin to collect JP1/Base troubleshooting information for purposes of investigating problems that occur in JP1/Base.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify JP1/Base's logical host name in the JP1.logicalHostName property.

Cautions

(1) If the OS of the target server is Windows and an existing folder is specified in JP1Base.logFolder, the plugin deletes that folder and then re-creates it. Do not specify the name of a folder that contains files that should not be deleted.

Version

02.00.00

Plug-in tags

Troubleshoot JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseGetLog

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1Base.logFolder	Folder for storing collected files	Specify the full path of the folder that will store files collected by the JP1/Base information collection tool.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.5 Change password management information in JP1/Base

Function

Adds an OS user to the password management information or changes an OS user password that has already been registered in JP1/Base on a specified server (Windows only).

This plugin assumes the following server:

• Agent server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up.

The built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Change password management information in JP1/Base(SYSTEM)" plug-in that executes with the system account.

Use situation

When you register a JP1 user, you use this plugin to also register OS user information to be mapped to JP1/Base. You can optimize the JP1 user-related settings by executing this plugin together with the following plugins:

• jp1baseAddJp1User

• jp1baseSetPermission

• jp1baseAddMapping

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/Base has a cluster configuration, specify in the common.targetHostname property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) If the specified OS user name does not match any of the OS user names registered in JP1/Base's password management information, it is added as a new OS user name.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows

Plug-in name displayed in the task log

jp1baseChangeUserInfo

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
common.osUserName	OS user name	Specify the name of the OS user whose JP1/Base password management information is to be registered or updated.	--	Input	R
common.osUserPassword	OS user password	Specify the password of the OS user whose JP1/Base password management information is to be registered or updated.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.6 Change password management information in JP1/Base(SYSTEM)

Function

Adds an OS user to the password management information or changes an OS user password that has already been registered in JP1/Base on a specified server (Windows only).

This plugin assumes the following server:

• Agent server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up.

Use situation

When you register a JP1 user, you use this plugin to also register OS user information to be mapped to JP1/Base. You can optimize the JP1 user-related settings by executing this plugin together with the following plugins:

• jp1baseAddJp1User

• jp1baseSetPermission

• jp1baseAddMapping

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/Base has a cluster configuration, specify in the common.targetHostname property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) If the specified OS user name does not match any of the OS user names registered in JP1/Base's password management information, it is added as a new OS user name.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows

Plug-in name displayed in the task log

jp1baseChangeUserInfo_System

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
common.osUserName	OS user name	Specify the name of the OS user whose JP1/Base password management information is to be registered or updated.	--	Input	R
common.osUserPassword	OS user password	Specify the password of the OS user whose JP1/Base password management information is to be registered or updated.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.7 Add JP1/Base user mapping

Function

Adds user mapping definitions in JP1/Base on a specified server.

This plugin assumes the following server:

• Agent server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Add JP1/Base user mapping(SYSTEM)" plug-in that executes with the system account.

Use situation

You use this plugin to add user mapping definitions after you have registered a JP1 user and OS user in a JP1/AJS3 job execution environment or in a monitoring system using JP1/IM.

You can optimize the JP1 user-related settings by executing this plugin together with the following plugins:

• jp1baseAddUser

• jp1baseSetPermission

• jp1baseChangeUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseAddMapping

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the name of the JP1 user to create a user mapping for.	--	Input	R
JP1Base.serverHostName	Server host name	Specify the host name of the server that the specified JP1 user can operate.	--	Input	R
common.osUserName	OS user name	Specify the user name of the OS user to map to a JP1 user.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.8 Add JP1/Base user mapping(SYSTEM)

Function

Adds user mapping definitions in JP1/Base on a specified server.

This plugin assumes the following server:

• Agent server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up.

Use situation

You use this plugin to add user mapping definitions after you have registered a JP1 user and OS user in a JP1/AJS3 job execution environment or in a monitoring system using JP1/IM.

You can optimize the JP1 user-related settings by executing this plugin together with the following plugins:

• jp1baseAddUser

• jp1baseSetPermission

• jp1baseChangeUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseAddMapping_System

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the name of the JP1 user to create a user mapping for.	--	Input	R
JP1Base.serverHostName	Server host name	Specify the host name of the server that the specified JP1 user can operate.	--	Input	R
common.osUserName	OS user name	Specify the user name of the OS user to map to a JP1 user.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.9 Start JP1/Base

Function

This component starts JP1/Base on the execution target server in UNIX.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following command:

- jbs_spmd [-h "value of the logical host name of the execution target server (JP1.logicalHostName property)"]

[-HA]*1

*1: [-HA] is set when you set true for the value of the HA option (JP1.haOption property).

For details on the jbs_spmd command of JP1/Base, see the description for the command in the JP1/Base manuals.

Use situation

Use this component when you restart JP1/Base after modifying JP1/Base settings to make the modification take effect.

Note that this component finishes asynchronously without waiting until JP1/Base starts completely, but you can use the "Obtain Status of JP1/Base" component after executing this component to wait until JP1/Base starts.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) JP1/Base is stopped.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/Base manual.

Execution privilege

root permission

Version

02.02.00

Plug-in tags

Control JP1,Base,Linux

Plug-in name displayed in the task log

jp1baseStart

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1.haOption	HA option	Specify true if you want to set the [HA] option for the command to be executed. If true is not specified, the [HA] option is not set.	false	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.10 Obtain Status of JP1/Base

Function

This component obtains the status of JP1/Base on the execution target server in Windows or UNIX.

Additionally, you can suspend the completion of the component until JP1/Base achieves a specific status.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following process.

- Execute the following command:

jbs_spmd_status [-h "value of logical host name (JP1.logicalHostName property)"]

[-t "value of time option (JP1.timeOption property)"]

- If you specify the return value of the waiting status (JP1.waitStatusReturnCode property), the jbs_spmd_status command is executed repeatedly at the interval of the retries specified for the verification of the waiting status

(JP1.waitStatusRetryInterval property) until the waiting status becomes the specified value or until the number of retries to verify the waiting status (JP1.waitStatusRetryCount property) is fulfilled.

For details on the jbs_spmd_status command of JP1/Base, see the description for the command in the JP1/Base manuals.

Use situation

Use this component when you restart JP1/Base after modifying the JP1/Base settings to make the modification take effect.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/Base manual.

Execution privilege

Windows: Administrator permission

UNIX: root permission

Version

02.02.00

Plug-in tags

Gather JP1 information,Base,Windows,Linux

Plug-in name displayed in the task log

jp1baseGetStatus

Return code

0: Normal

12: Error (mistake by user) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1.timeOption	time(t) option	If you want to set the [Time(t)] option for the command to be executed, specify the time. If this is omitted, the [Time(t)] option is not set.	--	Input	O
JP1.waitStatusReturnCode	wait status return code	Executes the status checking command repeatedly until the return value of the status acquisition command becomes the specified value. If this is omitted, the repeated process is not performed.	--	Input	O
JP1.waitStatusRetryCount	wait status retry count	Specify the number of retries when executing the status acquisition command.	60	Input	O
JP1.waitStatusRetryInterval	wait status retry interval	Specify the retry interval in seconds when executing the status acquisition command.	10	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.commandExitCode	Return value for the execution command	The return value for the execution command is stored.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.commandOutput	Output of the execution command	The standard output and standard error output of the execution command are stored.	--	Outpu t	O

4.7.11 Stop JP1/Base(UNIX)

Function

This component stops JP1/Base on the execution target server in UNIX.

The server's prerequisites for this component are described below.

- Execution target server

Target server for executing this component

The script in this component executes the following command:

- jbs_spmd_stop [-h "value of the logical host name (JP1.logicalHostName property)"]

[-kill]*1

*1: [-kill] is set when you specify true for the value of the kill option (JP1.killOption property).

For details on the jbs_spmd_stop command of JP1/Base, see the description for the command in the JP1/Base manuals.

Use situation

Use this component when you restart JP1/Base after modifying the JP1/Base settings to make the modification take effect.

Note that this component is finishes asynchronously without waiting until JP1/Base stops completely, but you can use the "Obtain Status of JP1/Base" component after executing this component to wait until JP1/Base stops.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) JP1/Base is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For other notes on the command, see the JP1/Base manual.

Execution privilege

root permission

Version

02.02.00

Plug-in tags

Control JP1,Base,Linux

Plug-in name displayed in the task log

jp1baseStop

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1.killOption	kill option	Specify true if you want to set the [kill] option for the command to be executed. If true is not specified, the [kill] option is not set.	false	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.12 Delete JP1/Base user mapping

Function

Deletes user mapping definitions in JP1/Base on a specified server.

This plugin assumes the following server:

• Agent server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Delete JP1/Base user mapping(SYSTEM)" plug-in that executes with the system account.

Use situation

When you delete an OS user for operations, you use this plugin to also delete the user mapping information. You can optimize the JP1 user deletion task by using this plugin together with the following plugins to delete user mapping information, password management information, and operation permissions, which must be done when a JP1 user is deleted:

• jp1baseDeleteJp1User

• jp1baseDeletePermission

• jp1baseDeleteUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

(2) To delete all the mapping information defined to a JP1 user, do so without specifying the property JP1Base.serverHostName.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseDeleteMapping

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the JP1 user name whose mapping information is to be deleted.	--	Input	R
JP1Base.serverHostName	Server host name	Specify the host name of the server where the specified JP1 user is set. If this property is omitted, all the mapping information for the specified user will be deleted.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.13 Delete JP1/Base user mapping(SYSTEM)

Function

Deletes user mapping definitions in JP1/Base on a specified server.

This plugin assumes the following server:

• Agent server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up.

Use situation

When you delete an OS user for operations, you use this plugin to also delete the user mapping information. You can optimize the JP1 user deletion task by using this plugin together with the following plugins to delete user mapping information, password management information, and operation permissions, which must be done when a JP1 user is deleted:

• jp1baseDeleteJp1User

• jp1baseDeletePermission

• jp1baseDeleteUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

(2) To delete all the mapping information defined to a JP1 user, do so without specifying the property JP1Base.serverHostName.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseDeleteMapping_System

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the JP1 user name whose mapping information is to be deleted.	--	Input	R
JP1Base.serverHostName	Server host name	Specify the host name of the server where the specified JP1 user is set. If this property is omitted, all the mapping information for the specified user will be deleted.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.14 JP1/Base common definition information setting

Function

This component sets the common definition information for JP1/Base for the specified server.

The following server is required for this component:

- Execution target server

This is the target server where this component is executed.

Use situation

You can use this to set common definition information in the installed JP1/Base, if, for example, the number of managed servers increases.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 08-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

None.

Cautions

(1) If this service is executed for a UNIX environment, do not use multibyte characters in the properties.

(2) This component might be terminated normally even if the statements in the common definition settings file are invalid. Carefully check that there are no mistakes in the common definition settings file.

When invalid common definition information is set, or if unnecessary settings still remain even after the correct common definition information is set again, make the corrections manually.

(3) If JP1/Base is in a cluster configuration, execution in the environment matching the logical host specified within the common definition settings file is possible. If executed to an environment that does not match the logical host, the component is terminated normally, but the execution target server does not operate correctly.

Execution privilege

For Windows: Administrator privileges

For UNIX: Root privileges

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseSetCommonDefinitionInfo

Return code

0: Normal

21: Error (Environmental error) No command was found (An error was detected in the component script)

27: Error (Check the task log for the error details)

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

42: Error (An error has been detected in the component) Internal error (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1Base.commonDefinitionFi leName	File name for JP1/Base common definition settings	Specifies the file name for JP1/Base common definition settings as a full path.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.15 Set JP1/Base permissions

Function

Specifies JP1 user operation permissions (JP1 resource group and access level) for JP1/Base on a specified server.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Set JP1/Base permissions(SYSTEM)" plug-in that executes with the system account.

Use situation

You use this plugin to specify operation permissions after you have registered a new JP1 user in a JP1/AJS3 job execution environment or in a monitoring system using JP1/IM.

You can optimize the JP1 user-related settings by executing this plugin together with the following plugins:

- jp1baseAddJp1User (Windows only)

- jp1baseAddMapping

- jp1baseChangeUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

(3) User-level files (JP1_UserLevel) are prepared.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseSetPermission

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/ Base authentication server.	--	Input	O
JP1Base.definitionFileName	Path to the JP1 user permission level file	Specify the full path of the JP1/Base user permission level file.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.16 Set JP1/Base permissions(SYSTEM)

Function

Specifies JP1 user operation permissions (JP1 resource group and access level) for JP1/Base on a specified server.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

Use situation

You use this plugin to specify operation permissions after you have registered a new JP1 user in a JP1/AJS3 job execution environment or in a monitoring system using JP1/IM.

You can optimize the JP1 user-related settings by executing this plugin together with the following plugins:

• jp1baseAddJp1User (Windows only)

• jp1baseAddMapping

• jp1baseChangeUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

(3) User-level files (JP1_UserLevel) are prepared.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseSetPermission_System

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/Base authentication server.	--	Input	O
JP1Base.definitionFileName	Path to the JP1 user permission level file	Specify the full path of the JP1/Base user permission level file.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.17 Registration of a JP1 event

Function

This component registers JP1 events to JP1/Base on a specified server.

If a destination event server name is specified, it confirms whether a JP1 event has reached the destination.

The component assumes the following server as a prerequisite:

- Agent server (Execution target server)

Server running this component. JP1/Base has been set up and the event server is up and running.

If a destination event server name is specified, the component will first confirm three seconds later whether a JP1 event has reached the destination. Thereafter, the component will continue to confirm whether the JP1 event has reached the destination each time the number of seconds specified as the confirmation frequency elapses until it reaches the specified number of confirmation retries. The maximum confirmation time is expressed by "3 + (confirmation frequency) x (number of confirmation retries) seconds".

Use situation

Registers a problem during JP1/AO processing as a JP1 event to JP1/IM - Manager.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1) Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The JP1/Base event service is up and running.

Cautions

(1) If you are executing this component for an environment where the OS running on the agent server is UNIX, do not use any multi-byte characters in properties.

(2) If a destination event server name is specified and if a KAJP1743-E message indicating that "the event has not been confirmed to have reached the destination event server" is output to the standard output of the component, JP1 event sending continues. If so, use JP1/IM - View on the host sending the JP1 event to confirm whether the JP1 event has reached the destination.

(3) If a value starting with "=" is specified in an extended property (jp1base.extendedAttribute1 to jp1base.extendedAttribute20), the property will be ignored.

Version

02.00.00

Plug-in tags

Control JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseSendEvent

Return code

0: Normal

12: Abnormal (User error) - Invalid property

21: Abnormal (Environment error) - The command is not found. (The component script has detected an error.)

25: Abnormal (Environment error) - Communication error

26: Abnormal (Linkage product problem) - Internal error

41: Abnormal (Error detected inside the component) - A property is not specified. (The component script has detected an error.)

42: Abnormal (Error detected inside the component) - Internal error (The component script has detected an error.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1Base.eventID	Event ID	Specify the event ID of the JP1 event to be registered.	--	Input	O
JP1Base.message	Message	Specify message text for the JP1 event to be registered.	--	Input	O
JP1Base.destinationEventSer verName	Destination event server name	To send the JP1 event to be registered to an event server, specify the destination event server.	--	Input	O
JP1Base.sourceEventServerN ame	Source event server name	Specifies event server of the logical host for a cluster configuration. When not specifying the destination event server name, registers the JP1 event in this event server. When specifying the server name, uses this event server to transfer the JP1 event.	--	Input	O
JP1Base.checkInterval	Confirmation frequency	Specifies the checking interval (sec.) if the registered JP1 event reached the specified destination event server. This interval plus the checking frequency is the maximum checking time. Always specify when specifying the destination event server name.	--	Input	O
JP1Base.checkCount	Number of confirmation retries	Specify the number of retries to confirm whether the registered JP1 event has reached the specified destination event server. If a destination event server name is specified, be sure to specify this parameter.	--	Input	O
JP1Base.extendedAttribute1	Extended attribute 1	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute2	Extended attribute 2	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
JP1Base.extendedAttribute2	Extended attribute 2	"extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute3	Extended attribute 3	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute4	Extended attribute 4	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute5	Extended attribute 5	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute6	Extended attribute 6	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute7	Extended attribute 7	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute8	Extended attribute 8	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute9	Extended attribute 9	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute10	Extended attribute 10	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute11	Extended attribute 11	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute12	Extended attribute 12	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1Base.extendedAttribute13	Extended attribute 13	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute14	Extended attribute 14	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute15	Extended attribute 15	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute16	Extended attribute 16	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute17	Extended attribute 17	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute18	Extended attribute 18	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute19	Extended attribute 19	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
JP1Base.extendedAttribute20	Extended attribute 20	Specify an extended attribute for the JP1 event to be registered. Specify the attribute in the format "extended attribute name=extended attribute value".	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.18 Change JP1 user password

Function

Changes the password for a JP1 user in JP1/Base on a specified server.

When executing this plug-in in a UNIX environment, please use it in "Change operational user" or "Batch change of operation users" service template. It does not support using other service templates.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Change JP1 user password(SYSTEM)" plug-in that executes with the system account.

Use situation

You use this plugin to change the password for a JP1 user registered into JP1/Base's authentication server in a JP1/AJS3 job execution environment or in a monitoring system using JP1/IM.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseChangePassword

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/ Base authentication server.	--	Input	O
JP1Base.password	JP1 user password	Specify the JP1 user password.	--	Input	O
JP1Base.newPassword	New JP1 user password	Specify the new password for the JP1 user.	--	Input	O
JP1Base.newpasswordReEnte r	Enter the new JP1 user password again	Specify the new password for the JP1 user again.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the name of the JP1 user whose password is to be changed.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
common.tmpFileID	Temporary file ID	When executing this plug-in in a UNIX environment, specify the ID used to identify temporary files.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.19 Change JP1 user password(SYSTEM)

Function

Changes the password for a JP1 user in JP1/Base on a specified server.

When executing this plug-in in a UNIX environment, please use it in "Change operational user" or "Batch change of operation users" service template. It does not support using other service templates.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

Use situation

You use this plugin to change the password for a JP1 user registered into JP1/Base's authentication server in a JP1/AJS3 job execution environment or in a monitoring system using JP1/IM.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseChangePassword_System

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/ Base authentication server.	--	Input	O
JP1Base.password	JP1 user password	Specify the JP1 user password.	--	Input	O
JP1Base.newPassword	New JP1 user password	Specify the new password for the JP1 user.	--	Input	O
JP1Base.newpasswordReEnte r	Enter the new JP1 user password again	Specify the new password for the JP1 user again.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the name of the JP1 user whose password is to be changed.	--	Input	R
common.tmpFileID	Temporary file ID	When executing this plug-in in a UNIX environment, specify the ID used to identify temporary files.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.20 Get list of JP1 users

Function

This plugin outputs a list of JP1 users in a specified file in text format. The output format of the file is the same as the output result of the JP1/Base's jbslistuser command.

Use situation

When JP1 is running, This plugin is used to check JP1 users that have been defined.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The authentication server of JP1/Base is running.

Cautions

(1)If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

Execution privilege

Windows: Administrator permission

UNIX: root permission

Version

02.00.00

Plug-in tags

Gather JP1 information,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseShowUsers

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1Base.jp1BaseLHostName	JP1/Base logical host name	Specifies the JP1/Base logical host name.	--	Input	O
JP1Base.listJP1UserOutputFil eName	List JP1 users output file name	Specify the full path name of the output file for the list of JP1 users.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.21 Delete JP1 user

Function

Deletes a JP1 user from JP1/Base on a specified server.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Delete JP1 user(SYSTEM)" plug-in that executes with the system account.

Use situation

When you delete an OS user for operations, you use this plugin to also delete the JP1 user. You can optimize the JP1 user deletion task by using this plugin together with the following plugins to delete user mapping information, password management information, and operation permissions, which must be done when a JP1 user is deleted:

• jp1baseDeletePermission

• jp1baseDeleteMapping

• jp1baseDeleteUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseDeleteJp1user

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/ Base authentication server.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the name of the JP1 user to be deleted.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.22 Delete JP1 user(SYSTEM)

Function

Deletes a JP1 user from JP1/Base on a specified server.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

Use situation

When you delete an OS user for operations, you use this plugin to also delete the JP1 user. You can optimize the JP1 user deletion task by using this plugin together with the following plugins to delete user mapping information, password management information, and operation permissions, which must be done when a JP1 user is deleted:

- jp1baseDeletePermission

- jp1baseDeleteMapping

- jp1baseDeleteUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseDeleteJp1user_System

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/Base authentication server.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the name of the JP1 user to be deleted.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.23 Delete JP1 user permissions

Function

Deletes JP1 user operation permissions (JP1 resource groups and access levels) for JP1/Base on a specified server.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Delete JP1 user permissions(SYSTEM)" plug-in that executes with the system account.

Use situation

You can optimize the JP1 user deletion task by using this plugin to delete user mapping information, password management information, and operation permissions, which must be done when a JP1 user is deleted.

You can use this plugin together with the following plugins:

• jp1baseDeleteMapping

• jp1baseDeleteUserInfo

• jp1baseDeleteJP1User

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseDeletePermission

Return code

0: Normal

12: Error (user error) Invalid property

14: Error (user error) File access disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/ Base authentication server.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1Base.jp1UserName	JP1 user name	Specify name of JP1 user whose permissions are to be deleted.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.24 Delete JP1 user permissions(SYSTEM)

Function

Deletes JP1 user operation permissions (JP1 resource groups and access levels) for JP1/Base on a specified server.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

Use situation

You can optimize the JP1 user deletion task by using this plugin to delete user mapping information, password management information, and operation permissions, which must be done when a JP1 user is deleted.

You can use this plugin together with the following plugins:

• jp1baseDeleteMapping

• jp1baseDeleteUserInfo

• jp1baseDeleteJP1User

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseDeletePermission_System

Return code

0: Normal

12: Error (user error) Invalid property

14: Error (user error) File access disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/ Base authentication server.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify name of JP1 user whose permissions are to be deleted.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.25 Add JP1 user

Function

Adds a JP1 user to JP1/Base on a specified server.

When executing this plug-in in a UNIX environment, please use it in "Add operational user" service template. It does not support using other service templates.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Add JP1 user(SYSTEM)" plug-in that executes with the system account.

Use situation

You use this plugin to register a new JP1 user in a JP1/AJS3 job execution environment or in a monitoring system using JP1/IM.

You can optimize the JP1 user-related settings by executing this plugin together with the following plugins:

• jp1baseSetPermission

• jp1baseAddMapping

• jp1baseChangeUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) An environment in which authentication is linked with Active Directory is not supported.

(2) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseAddJp1user

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServer Name	Authentication server name	Specify the host name of the JP1/ Base authentication server.	--	Input	O
JP1Base.password	JP1 user password	Specify the JP1 user password.	--	Input	O
JP1Base.newpasswordReEnte r	Enter the new JP1 user password again	Specify the new password for the JP1 user again.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the name of the JP1 user to be created.	--	Input	R
common.tmpFileID	Temporary file ID	When executing this plug-in in a UNIX environment, specify the ID used to identify temporary files.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.26 Add JP1 user(SYSTEM)

Function

Adds a JP1 user to JP1/Base on a specified server.

When executing this plug-in in a UNIX environment, please use it in "Add operational user" service template. It does not support using other service templates.

This plugin assumes the following server:

• JP1 authentication server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up and that the authentication server must be running.

Use situation

You use this plugin to register a new JP1 user in a JP1/AJS3 job execution environment or in a monitoring system using JP1/IM.

You can optimize the JP1 user-related settings by executing this plugin together with the following plugins:

• jp1baseSetPermission

• jp1baseAddMapping

• jp1baseChangeUserInfo

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Cautions

(1) An environment in which authentication is linked with Active Directory is not supported.

(2) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseAddJp1user_System

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
JP1Base.authenticationServerName	Authentication server name	Specify the host name of the JP1/Base authentication server.	--	Input	O
JP1Base.password	JP1 user password	Specify the JP1 user password.	--	Input	O
JP1Base.newpasswordReEnter	Enter the new JP1 user password again	Specify the new password for the JP1 user again.	--	Input	O
JP1Base.jp1UserName	JP1 user name	Specify the name of the JP1 user to be created.	--	Input	R
common.tmpFileID	Temporary file ID	When executing this plug-in in a UNIX environment, specify the ID used to identify temporary files.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.27 Delete OS user information

Function

Deletes OS user information from the password management information in JP1/Base on a specified server (Windows only).

This plugin assumes the following server:

• Agent server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up.

The built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Delete OS user information(SYSTEM)" plug-in that executes with the system account.

Use situation

When you delete an OS user for operations, you use this plugin to also delete the OS user information from the password management information. You can optimize the JP1 user deletion task by using this plugin together with the following plugins to delete user mapping information, password management information, and operation permissions, which must be done when a JP1 user is deleted:

• jp1baseDeleteJp1User

• jp1baseDeleteMapping

• jp1baseDeletePermission

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the common.targetHostname property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Version

02.00.00

Plug-in tags

Configure JP1,Base,Windows

Plug-in name displayed in the task log

jp1baseDeleteUserInfo

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
common.osUserName	OS user name	Specify the user name of the OS user to be deleted from the JP1/Base password management information.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.7.28 Delete OS user information(SYSTEM)

Function

Deletes OS user information from the password management information in JP1/Base on a specified server (Windows only).

This plugin assumes the following server:

• Agent server (Execution target server)

This is the server on which this plugin is executed. JP1/Base must be set up.

Use situation

When you delete an OS user for operations, you use this plugin to also delete the OS user information from the password management information. You can optimize the JP1 user deletion task by using this plugin together with the following plugins to delete user mapping information, password management information, and operation permissions, which must be done when a JP1 user is deleted:

• jp1baseDeleteJp1User_System

• jp1baseDeleteMapping_System

• jp1baseDeletePermission_System

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for required products on the execution target server]

(1) JP1/Base's authentication server is running.

(2) If the execution target server's JP1/Base has a cluster configuration, specify in the common.targetHostname property the name of the physical host on which JP1/Base's logical host is running, and specify in the JP1.logicalHostName property JP1/Base's logical host name.

Version

02.50.01

Plug-in tags

Configure JP1,Base,Windows

Plug-in name displayed in the task log

jp1baseDeleteUserInfo_System

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O
common.osUserName	OS user name	Specify the user name of the OS user to be deleted from the JP1/Base password management information.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.7.29 Check mapping information

Function

This plugin outputs JP1 user and OS user mapping information to a specified file in text format (the same format as the user mapping definition file (jp1BsUmap.conf)). The output format of the file is the same as the output result of JP1/Base's jbsgetumap command.

Use situation

When JP1/AJS3 - Manager or JP1/IM - Manager is running, the executing agent's JP1 user and OS user mapping information can be checked.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Base 09-00 or later, or

JP1/Base 11-00 or later

[Prerequisite product OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The authentication server of JP1/Base is running.

Cautions

(1)If you are executing this service in a UNIX environment, do not use multibyte characters in properties.

Execution privilege

Windows: Administrator permission

UNIX: root permission

Version

02.00.00

Plug-in tags

Gather JP1 information,Base,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1baseConfirmMapping

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1Base.jp1BaseLHostName	JP1/Base logical host name	Specifies the JP1/Base logical host name.	--	Input	O
JP1Base.listJP1UserMapping OutputFileName	Name of the JP1 user mapping definition output file	Specify the full path name of the output file for the JP1 user mapping definition.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.8 JP1/IM-related Plug-ins

4.8.1 Collect JP1/IM troubleshooting information

Function

Collects troubleshooting information for JP1/Integrated Management - Manager (hereafter called JP1/IM) on a specified server.

This plugin assumes the following server:

• Monitoring server (Execution target server)

This is the server on which JP1/IM troubleshooting information is collected. The JP1/IM described in the prerequisites must have already been set up.

The plugin collects troubleshooting information in the folder specified in the JP1IM.logFolder property.

The plugin collects the information described below (for details about the information that is collected and the storage format, see the JP1/IM manual):

• All information that can be collected by JP1/IM's data collection tool (with no options specified)

Messages output by JP1/IM's data collection tool are stored as jp1imGetLog_result.log immediately under the folder specified in the JP1IM.logFolder property.

Use situation

You use this plugin to collect JP1/IM troubleshooting information for purposes of investigating problems that occur in JP1/IM.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Integrated Management - Manager 09-00 or later, or

JP1/Integrated Management - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/IM has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/IM's logical host is running, and specify JP1/IM's logical host name in the JP1.logicalHostName property.

Cautions

(1) Do not execute multiple instances of this plugin concurrently on the same execution target server.

(2) If the OS of the target server is Windows and an existing folder is specified in JP1IM.logFolder, the plugin deletes that folder and then re-creates it. Do not specify the name of a folder that contains files that should not be deleted.

Version

02.00.00

Plug-in tags

Troubleshoot JP1,IM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1imGetLog

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1IM.logFolder	Folder for storing collected files	Specify the full path of the folder that will store files collected by the JP1/IM information collection tool.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the JP1 logical host name of the execution target server.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.8.2 Changing the JP1 event action status

Function

Applies a change in the action status of an on-going important JP1 event to JP1/IM - Manager (hereafter called "JP1/IM") on a specified server, or deletes a JP1 event from the Severe Event pages of JP1/IM - View.

Specify one of the following important event action status keys to change the action status:

(Legend) Key: Changed action status

PROCESSED: Completed

PROCESSING: Processing

HELD: Pending

UNPROCESSED:

This component assumes the following server as a prerequisite:

- Monitoring server (Execution target server)

Server where JP1/IM - Manager is installed

Use situation

Used to change the action status of a sent JP1 event to "Completed", and then delete the event from JP1/IM - View after error recovery.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1) Job Management Partner 1/Integrated Management - Manager 09-00 or later, or

JP1/Integrated Management - Manager 11-00 or later

OS running the prerequisite product for the target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

The following conditions must be met to use the prerequisite product for the target server:

(1) JP1/IM is up and running.

Execution privilege

Windows: Administrators permissions

UNIX: None

Version

02.00.00

Plug-in tags

Control JP1,IM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1imChangeEventStatus

Return code

0: Normal

12: Abnormal (User error) - Invalid property

13: Abnormal (User error) - Authentication failed

20: Abnormal (User error) - Other user error

21: Abnormal (Environment error) - The command is not found. (The component script has detected an error.)

25: Abnormal (Environment error) - Communication error

26: Abnormal (Linkage product problem) - Internal error

41: Abnormal (Error detected inside the component) - A property is not specified. (The component script has detected an error.)

42: Abnormal (Error detected inside the component) - Internal error (The component script has detected an error.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1IM.jp1imLHostName	JP1/IM logical host name	Specifies the JP1/IM logical host name.	--	Input	O
JP1IM.severeEventResponseStatusKey	Important event action status key	Specify a key value that indicates the action status of the important event. Specify one of the following keys: PROCESSED, PROCESSING, HELD, or UNPROCESSED.	--	Input	R
JP1IM.deleteSevereEventFromIMView	Important event deletion from JP1/IM-View	Specifies whether to delete the specified important event from the JP1/IM - View screen. When deleting it, be sure to enter "yes". If another value or no value is specified, the event is not deleted. Note that the event is not deleted from the event DB.	--	Input	O
JP1IM.serialNumber	Serial number for the user in the event database	Specifies serial no. within the event DB of an important event that changes the situation of the action. Up to 10 numbers within the event DB can be specified. When specifying multiple numbers, separate with comma. No space allowed before or after a comma.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.8.3 Get JP1 event

Function

Information about JP1 events registered in the integrated monitoring database is output to a specified file in CSV format, for a specified server's JP1/IM - Manager over a specified period. The output format of the file is the same as the output result of JP1/IM's jcoevtreport command. The format for time of registration, time of arrival, start time and finish time is YYYYMMDDhhmmss; the header is output in DISP format.

This plugin assumes that the following servers are being used.

• Monitoring server (Execution target servers)

The server that acquires the number of JP1/IM - Manager events.

Use situation

The plugin can be used to investigate events arriving at JP1/IM - Manager.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Integrated Management - Manager 09-00 or later, or

JP1/Integrated Management - Manager 11-00 or later

[Prerequisite product OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) If the execution target server's JP1/IM - Manager is in a cluster configuration, specify the name of the physical host on which the IM logical host is running in property plugin.destinationHost, and the logical host name of JP1/IM - Manager in property JP1IM.jp1imLHostName.

(2) An integrated monitoring database must be running.

(3) The range of dates and times that can be specified is: 1970/01/01 00:00:00 through 2038/01/19 03:14:07 (GMT). If the time zone of the command execution host is Japan, this becomes 1970/01/01 09:00:00 through 2038/01/19 12:14:07 (GMT+9:00).

(4) If the OS is UNIX, the default locale of the connected user defined in the agentless connection target must be set to the language code used by the JP1/IM - Manager

Cautions

(1) Do not run multiple instances of this component on the same execution target server.

(2) Do not execute jcoevtreport simultaneous with the execution of this plugin.

Version

02.00.00

Plug-in tags

Gather JP1 information,IM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1imRetrieveEvent

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1IM.outputFileName	output file name	Specifies the name of the CSV file to which the JP1 event information acquired.	--	Input	R
JP1IM.jp1imStartTime	Output target start date and time	Specifies the start date of the events to output. The specification format is YYYY-MM-DD. The time is set to 00:00:00.	--	Input	R
JP1IM.jp1imEndtime	Output target end date and time	Specifies the end date of the events to output. The specification format is YYYY-MM-DD. The time is set to 00:00:00.	--	Input	R
JP1IM.jp1imFilterName	Filter file name	Specifies the full path name of the filter file for output of event reports.	--	Input	O
JP1IM.jp1imLHostName	JP1/IM logical host name	Specifies the JP1/IM logical host name.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.9 JP1/NNMi-related Plug-ins

4.9.1 Output of the NNMi topology database content

Function

Acquires the content of the topology database of JP1/Cm2/NNMi, and outputs them to the file in the specified output type.

This component requires the following server:

- NNMi server (Execution target server)

This is the target server where this component is executed. JP1/Cm2/NNMi needs to have been set up.

For details about how to specify the output type, see the JP1/Cm2/NNMi manual.

Use situation

This can be used when checking the contents of the topology database after adding or deleting the monitoring target to/from JP1/Cm2/NNMi.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Cm2/Network Node Manager i 10-00, 10-10, 10-50

(2)JP1/Network Node Manager i 11-00, 11-10, 11-50, 12-00, 12-10, 12-50, 12-60

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

If JP1/Cm2/NNMi 09-10 is used, the account credentials (values that are used in the user name and password when executing the JP1/Cm2/NNMi script) in the NNMi server must already be set.

Cautions

(1) Do not execute multiple instances of this component simultaneously on the NNMi server.

(2) This component executes the nnmtopodump command on the NNMi server. For this reason, do not execute the nnmtopodump command on the NNMI server while this component is being executed. In the same way, do not execute this component while the nnmtopodump command is being executed on the NNMi server.

(3) If the OS running on NNMi server is Linux, a command is executed at the default locale of the connected user defined in the agentless connection target. Set a locale supported by JP1/Cm2/NNMi for the default locale of the connection user. For details, see "Locale set for operation target devices during plug-in execution" and "Character set used for communication by JP1/AO during plug-in execution" in the JP1/AO manual and the JP1/Cm2/NNMi manual.

Version

02.00.00

Plug-in tags

Gather JP1 information,NNMi,Windows,Linux

Plug-in name displayed in the task log

jp1nnmGetTopoDump

Return code

0: Normal

12: Error (Mistake by user) Invalid property

14: Error (Mistake by user) File inaccessible

21: Error (Environmental error) No command was found (An error was detected in the component script)

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	localhost	Input	R
JP1CM2NNM.dumpType	Output type of the topology database content	Specifies the output type of the JP1/Cm2/NNMi topology database content.	node	Input	R
common.outputFilePath	Output file path	Specifies the file to be output as a full path.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.9.2 Delete monitored node

Function

Deletes a specified node from being monitored by JP1/Cm2/NNMi.

This plugin assumes the following server:

• NNMi server (Execution target server)

This is the server on which this plugin is executed. JP1/Cm2/NNMi must be set up.

• Node being monitored

This is a server or device that is deleted from the targets monitored by JP1/Cm2/NNMi.

Use situation

When a server being managed has been removed, you use this plugin to delete a node that was being monitored.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1) Job Management Partner 1/Cm2/Network Node Manager i 10-00, 10-10, 10-50

(2) JP1/Network Node Manager i 11-00, 11-10, 11-50, 12-00, 12-10, 12-50, 12-60

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) If JP1/Cm2/NNMi 09-10 is used, the account credentials (values that are used in the user name and password when executing the JP1/Cm2/NNMi script) in the NNMi server must already be set.

Cautions

(1) An IPv6 address cannot be specified as the IP address of a monitored node.

Version

02.00.00

Plug-in tags

Configure JP1,NNMi,Windows,Linux

Plug-in name displayed in the task log

jp1nnmDeleteHost

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1CM2NNM.monitoringNo deIPaddress	IP address of the monitored node	Specify the IP address of the monitored node. IPv6 addresses are not supported.	--	Input	R
JP1CM2NNM.monitoringNo deHostname	Host name of the monitored node	Specify the host name of the monitored node.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.9.3 Add monitored node

Function

Adds a specified node as a monitored target of JP1/Cm2/NNMi.

This plugin assumes the following server:

• NNM server (Execution target server)

This is the server on which this plugin is executed. This is a server or device that is to be added to JP1/Cm2/NNMi as a monitored target.

• Node being monitored

This is a server or device that is deleted from the targets monitored by JP1/Cm2/NNMi.

Use situation

When the number of servers to be managed has increased, you use this plugin to add a node that is to be monitored.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1) Job Management Partner 1/Cm2/Network Node Manager i 10-00, 10-10, 10-50

(2) JP1/Network Node Manager i 11-00, 11-10, 11-50, 12-00, 12-10, 12-50, 12-60

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) When HP NNM-SE is used, the five processes ovspmd, ovwdb, pmd, ovtopmd, and netmon must be running.

Cautions

(1) An IPv6 address cannot be specified as the IP address of a monitored node.

(2) To support multi-tenancy in JP1/Cm2/NNMi, a node must be moved after it has been added.

(3) In JP1/Cm2/NNMi, it is recommended that seeds be deleted after nodes have been added (for details, see Release Notes for JP1/Cm2/NNMi).

Version

02.00.00

Plug-in tags

Configure JP1,NNMi,Windows,Linux

Plug-in name displayed in the task log

jp1nnmAddHost

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1CM2NNM.monitoringNo deIPaddress	IP address of the monitored node	Specify the IP address of the monitored node. IPv6 addresses are not supported.	--	Input	R
JP1CM2NNM.monitoringNo deHostname	Host name of the monitored node	Specify the host name of the monitored node.	--	Input	O
JP1CM2NNM.targetSubnetM ask	Subnet mask of the monitored node	Specify the subnet mask of the monitored node.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10 JP1/PFM-related Plug-ins

4.10.1 Set Store database storage conditions

Function

Specifies performance data storage conditions for an agent managed by JP1/PFM.

This plugin assumes the following server:

• PFM management server (Execution target server)

This is the server on which this plugin is executed. JP1/PFM - Web Console must have already been set up.

Use situation

You use this plugin to initialize an added remote agent in a system using JP1/PFM - RM for performance monitoring.

You can optimize the monitoring configuration task in JP1/PFM - RM by using this plugin together with the following plugins:

• jp1pfmSetRemoteAgent

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Web Console 10-00 or later, or

JP1/Performance Management - Web Console 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The following file is stored on the execution target server:

• Storage condition definition file (file specified in the jpcaspsv update command)

Specify in the storage condition definition file the following value for the service:

7S1#INSTANCENAME#[#REMOTEMONITORHOST#]

(2) A key file for authentication has been created on the execution target server, by using a user account with the JP1/PFM administrator user permissions.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmAddStoreDataDef

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1PFM.storageConditionDefinitionFileName	Storage conditions definition file name	Specify the full path of the JP1/PFM storage conditions definition file on the execution target server.	--	Input	R
JP1PFM.instanceName	Name of a JP1/PFM - RM instance	Specify the name of the JP1/PFM - RM instance that the monitored server's remote agent belongs to.	--	Input	O
JP1PFM.remoteMonitorHost	Remote Monitor Collector service activity host name	Specifies the Remote Monitor Collector service activity host name.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.10.2 Copy alarm table (JP1/PFM)

Function

This plug-in copies a JP1/PFM alarm table or alarm to create a new alarm table or alarm.

The following describes the server that this plug-in requires:

- PFM management server (execution target server)

The server on which this plug-in is executed. JP1/PFM - Manager must be set up on this server.

The properties to be specified for this plug-in differ depending on the copy target.

(1) To create a new alarm table by copying an existing alarm table, specify the JP1PFM.serviceKey, JP1PFM.sourceAlarmTableName, and JP1PFM.destinationAlarmTableName properties.

(2) To create a new alarm by copying an alarm in an existing alarm table, specify the JP1PFM.serviceKey, JP1PFM.sourceAlarmTableName, JP1PFM.sourceAlarmName, and JP1PFM.destinationAlarmTableName properties.

You cannot copy an alarm from an alarm table to another alarm table.

Use situation

In a system whose performance is monitored by JP1/PFM - Manager, this plug-in allows you to create a new alarm table by copying an existing alarm table. The plug-in also allows you to create a new alarm by copying an existing alarm and add monitoring conditions to the new alarm.

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Performance Management - Manager 09-00 or later, or

JP1/Performance Management - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using prerequisite products on the execution target server:

(1) The following JP1/Performance Management - Manager services must be running:

- Name Server service

- Master Manager service

- View Server service

(2) The conditions for using the JP1/PFM jpctool alarm copy command (for JP1/PFM - Manager 09-00 or later, the jpcalarm copy command) must be satisfied.

Cautions

(1) Do not simultaneously execute multiple instances of this plug-in on the same execution target server.

(2) If JP1/PFM - Manager on the execution target server is in a cluster configuration, execute the plug-in on the active node.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmCopyAlarm

Return code

0: Normal

12: Error (Mistake by user) Invalid property

13: Error (user error) Authentication disabled

20: Error (Mistake by user)

21: Error (Environmental error) No command was found (An error was detected in the component script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (Invalid environment) The environment requirements are not met.

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1PFM.serviceKey	JP1/PFM product's service key	Specify the JP1/PFM - Agent (or JP1/PFM - RM) service key. If the functionality to display the product name is enabled, you can also specify the product name.	--	Input	R
JP1PFM.sourceAlarmTableN ame	Alarm table name of the copy source	Specify the alarm table name of the copy source.	--	Input	R
JP1PFM.sourceAlarmName	Alarm name of the copy source	Specify the alarm name of the copy source.	--	Input	O
JP1PFM.destinationAlarmTab leName	Alarm table name or alarm name of the copy destination	Specify the alarm table name or alarm name of the copy destination.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.3 Delete alarm table (JP1/PFM)

Function

This plug-in deletes JP1/PFM alarm tables or alarms.

The following describes the server that this plug-in requires:

- PFM management server (execution target server)

The server on which this plug-in is executed. JP1/PFM - Manager must be set up on this server.

The properties to be specified for this plug-in differ depending on the deletion target.

(1) To delete alarm tables, specify the JP1PFM.serviceKey and JP1PFM.targetAlarmTableName properties.

(2) To delete a specific alarm in an existing alarm table, specify the JP1PFM.serviceKey, JP1PFM.targetAlarmTableName, and JP1PFM.targetAlarmName properties.

Use situation

This plug-in allows you to delete alarm tables or alarms in a system whose performance is being monitored by JP1/PFM - Manager.

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Performance Management - Manager 09-00 or later, or

JP1/Performance Management - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using prerequisite products on the execution target server:

(1) The following JP1/Performance Management - Manager services must be running:

- Name Server service

- Master Manager service

- View Server service

(2) The conditions for using the JP1/PFM jpctool alarm delete command (for JP1/PFM - Manager 09-00 or later, the jpcalarm delete command) must be satisfied.

Cautions

(1) Do not simultaneously execute multiple instances of this plug-in on the same execution target server.

(2) If JP1/PFM - Manager on the execution target server is in a cluster configuration, execute the plug-in on the active node.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmDeleteAlarm

Return code

0: Normal

12: Error (Mistake by user) Invalid property

13: Error (user error) Authentication disabled

14: Error (Mistake by user) File inaccessible

20: Error (Mistake by user) No row matches the specified key value

21: Error (Environmental error) No command was found (An error was detected in the component script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (Invalid environment) The environment requirements are not met.

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1PFM.serviceKey	JP1/PFM product's service key	Specify the JP1/PFM - Agent (or JP1/PFM - RM) service key. If the functionality to display the product name is enabled, you can also specify the product name.	--	Input	R
JP1PFM.targetAlarmTableNa me	Alarm table name to be deleted	Specify the alarm table name to be deleted.	--	Input	R
JP1PFM.targetAlarmName	Alarm name to be deleted	Specify the alarm name to be deleted.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.4 Acquire alarm table information (JP1/PFM)

Function

This plug-in obtains a list of alarm tables defined in JP1/PFM - Manager and the bind information about those alarm tables.

The following describes the server that this plug-in requires:

- PFM management server (execution target server)

The server on which this plug-in is executed. JP1/PFM - Manager must be set up on this server.

The properties to be specified for this plug-in differ depending on the information to be obtained.

(1) To obtain a list of alarm tables defined for a specific JP1/PFM - Agent (or JP1/PFM - RM) host, specify the JP1PFM.serviceKey property only.

(2) To obtain the names of alarms in the specified alarm table, whether the alarm is enabled, and list of agents to which the alarm table is bound, specify the JP1PFM.serviceKey and JP1PFM.alarmTableName properties.

(3) To obtain a list of alarm tables that are bound to the specified agent, specify the JP1PFM.agentServiceID property only. Note that you can specify this property only if the version of JP1/PFM - Manager on the PFM management server is 08-50 or later. If you specify the property in other cases, this plug-in terminates abnormally with return value 12.

Use situation

This plug-in can be used to check the names of alarm tables defined in a system whose performance is monitored by JP1/PFM - Manager. This plug-in can also be used to check the alarm tables bound to a specific JP1/PFM - Agent (or JP1/PFM - RM) host.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Performance Management - Manager 09-00 or later, or

JP1/Performance Management - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using prerequisite products on the execution target server:

(1) The following JP1/Performance Management - Manager services must be running:

- Name Server service

- Master Manager service

- View Server service

(2) The conditions for using the JP1/PFM jpctool alarm list command (for JP1/PFM - Manager 09-00 or later, the jpcalarm list command) must be satisfied.

Cautions

(1) Do not simultaneously execute multiple instances of this plug-in on the same execution target server.

(2) If JP1/PFM - Manager on the execution target server is in a cluster configuration, execute the plug-in on the active node.

Version

02.00.00

Plug-in tags

Gather JP1 information,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmShowAlarmBindList

Return code

0: Normal

12: Error (Mistake by user) Invalid property

13: Error (user error) Authentication disabled

14: Error (Mistake by user) File inaccessible

20: Error (Mistake by user) No row matches the specified key value

21: Error (Environmental error) No command was found (An error was detected in the component script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (Invalid environment) The environment requirements are not met.

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1PFM.reportOutputFileName	Report Output File Name	Specify the full path for the file that outputs JP1/PFM alarm information.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
JP1PFM.serviceKey	JP1/PFM product's service key	Specify the JP1/PFM - Agent (or JP1/PFM - RM) service key. If the functionality to display the product name is enabled, you can also specify the product name. This property cannot be specified at the same time as JP1PFM.agentServiceID.	--	Input	O
JP1PFM.alarmTableName	Alarm table name	Specify the JP1/PFM alarm table name. Specify this property at the same time as JP1PFM.serviceKey.	--	Input	O
JP1PFM.agentServiceID	Agent service ID	Specify the service ID of the JP1/PFM Agent Collector service, Remote Monitor Collector service, remote agent, or group agent. This service ID cannot be specified at the same time as JP1PFM.serviceKey and JP1PFM.alarmTableName.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.10.5 Get list of alarm table names (JP1/PFM - RM)

Function

This plugin acquires a list of the alarm table names defined by JP1/PFM - Manager.

This plugin assumes that the following server is being used.

• PFM management server (Execution target server)

This is the target that executes This plugin. JP1/PFM - Manager must have been set up.

Use situation

In systems that monitor performance using JP1/PFM - Manager, this plugin can be used to check the alarm table names that are defined.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Manager 10-00 or later, or

JP1/Performance Management - Manager 11-00 or later

[Prerequisite product OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1)JP1/PFM - Manager is running.

Cautions

(1) Do not run multiple instances of this component on the same execution target server.

Execution privilege

Windows: Administrator permission

UNIX: root permission

Version

02.00.00

Plug-in tags

Gather JP1 information,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmShowAlarm

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1PFM.reportOutputFileNa me	Report Output File Name	Specifies the name of the file to which the report is to be output.	--	Input	R
JP1PFM.serviceKey	JP1/PFM product's service key	Specify the service key of JP1/PFM - RM.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.6 Unbind alarm (JP1/PFM - RM)

Function

Unbinds an alarm table from an agent managed by JP1/PFM.

This plugin assumes the following server:

• PFM management server (Execution target server)

This is the server on which this plugin is executed. JP1/PFM - Manager must have already been set up.

The plugin unbinds the alarm table specified in the JP1PFM.alarmTableName property from the agent specified in JP1PFM.serviceID. If no alarm table name is specified in JP1PFM.alarmTableName, the plugin unbinds the following alarm table:

For JP1/PFM - Manager V8: PFM Windows Solution Alarms 8.00 (when the JP1/PFM - Manager host is Windows) or PFM UNIX Solution Alarms 8.00 (when the JP1/PFM - Manager host is UNIX)

For JP1/PFM - Manager V9 or later: PFM RM Platform Template Alarms 09.00

Use situation

You use this plugin to stop monitoring thresholds by a remote agent in a system using JP1/PFM - RM for performance monitoring.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Manager 10-00 or later, or

JP1/Performance Management - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The following services of JP1/PFM - Manage are running:

• Name server service

• Master manager service

• View server service

Cautions

(1) Do not execute multiple instances of this plugin concurrently on the same execution target server.

(2) If the execution target server's JP1/PFM - Manager has a cluster configuration, execute this plugin on the executing node.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmReleaseAlarm

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1PFM.serviceKey	JP1/PFM product's service key	Specify the JP1/PFM - RM service key to unbind from the alarm.	--	Input	R
JP1PFM.serviceID	JP1/PFM - RM agent's service ID	Specify the service ID of the JP1/PFM agent to unbind from the alarm.	--	Input	R
JP1PFM.alarmTableName	Alarm table name	Specify the name of the JP1/PFM alarm table to unbind.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.7 Bind alarm (JP1/PFM - RM)

Function

This plug-in binds an alarm table to an agent managed by JP1/PFM.

The following shows the servers that this plug-in requires:

- PFM management server (execution target server)

The server on which this plug-in is executed. JP1/PFM - Manager must be set up on this server.

The alarm table specified by the JP1PFM.alarmTableName property is bound to the agents specified by the JP1PFM.serviceID property. Note, however, that if no alarm table name is specified by the JP1PFM.alarmTableName property, the following alarm table is bound:

For JP1/PFM - Manager v8: "PFM Windows Solution Alarms 8.00" (if the JP1/PFM - Manager host OS is Windows) or "PFM UNIX Solution Alarms 8.00" (if the JP1/PFM - Manager host OS is Linux)

For JP1/PFM - Manager v9 or later: "PFM RM Platform Template Alarms 09.00"

In an environment in which multiple alarm tables can be bound, the specified alarm table can be additionally bound to the specified agents. To do this, specify "true" for the JP1PFM.bindMultipleAlarmTable property of JP1/PFM - Manager on the PFM management server. In an environment in which multiple alarm tables cannot be bound, make sure that "false" is specified for the JP1PFM.bindMultipleAlarmTable property. If "false" is specified for this property, all alarm tables bound to the specified agents are unbound, and only the alarm table specified for this plug-in is bound.

Use situation

This plug-in can be used when thresholds are to be monitored by using a remote agent added in a system in which JP1/PFM - RM performs performance monitoring.

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Performance Management - Manager 09-00 or later, or

JP1/Performance Management - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using prerequisite products on the execution target server:

(1) The following JP1/Performance Management - Manager services must be running:

- Name Server service

- Master Manager service

- View Server service

(2) The conditions for using the JP1/PFM jpctool alarm bind command (for JP1/PFM - Manager 09-00 or later, the jpcalarm bind command) must be satisfied.

Cautions

(1) Do not simultaneously execute multiple instances of this plug-in on the same execution target server.

(2) If JP1/PFM - Manager on the execution target server is in a cluster configuration, execute the plug-in on the active node.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmBindAlarm

Return code

0: Normal

12: Error (Mistake by user) Invalid property

13: Error (user error) Authentication disabled

14: Error (Mistake by user) File inaccessible

20: Error (Mistake by user)

21: Error (Environmental error) No command was found (An error was detected in the component script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (Invalid environment) The environment requirements are not met.

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

42: Error (error detected in module) Internal error (error detected in the module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1PFM.serviceKey	JP1/PFM product's service key	Specify a service key of JP1/PFM - RM product to be bind alarm.	--	Input	R
JP1PFM.serviceID	JP1/PFM - RM agent's service ID	Specify the service ID of the agent of JP1/PFM - RM to be bind alarm.	--	Input	R
JP1PFM.alarmTableName	Alarm table name	Specify the name of the JP1/PFM alarm table to be bound.	--	Input	O
JP1PFM.bindMultipleAlarmTable	Whether it is necessary to add a binding to the alarm table	Specify true to add a binding to the alarm table, or specify false to not add one.	true	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.10.8 Import alarm definition file (JP1/PFM)

Function

This plug-in imports JP1/PFM alarm definitions.

The following describes the server that this plug-in requires:

- PFM management server (execution target server)

The server on which this plug-in is executed. JP1/PFM - Manager must be set up on this server.

By specifying "true" for the JP1PFM.overwriteAlarm property, the alarm definitions in the alarm definition file can be registered forcibly.

Use situation

This plug-in can be used to update the alarm definitions in a system whose performance is monitored by JP1/PFM.

By using this plug-in with the following plug-ins, the JP1/PFM monitoring conditions can be changed automatically:

- jp1pfmExportAlarmDef

- osReplaceString

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Job Management Partner 1/Performance Management - Manager 09-00 or later, or

JP1/Performance Management - Manager 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using prerequisite products on the execution target server:

(1) The following JP1/Performance Management - Manager services must be running:

- Name Server service

- Master Manager service

- View Server service

(2) The conditions for using the JP1/PFM jpctool alarm import command (for JP1/PFM - Manager 09-00 or later, the jpcalarm import command) must be satisfied.

Cautions

(1) Do not simultaneously execute multiple instances of this plug-in on the same execution target server.

(2) If JP1/PFM - Manager on the execution target server is in a cluster configuration, execute the plug-in on the active node.

(3) If you specify "false" for the JP1PFM.overwriteAlarm property, the plug-in returns a value of 0 without importing alarm definitions that have already been registered in the JP1/PFM system. In this case, the common.commandExitCode property is set to 11. However, if the OS of the PFM management server is UNIX and the version of PFM - Manager is from 09-50 to 09-50-05, that property is set to 0. For details about the values that can be returned, see the section that describes the jpctool alarm import command (if the JP1/PFM - Manager version is 08-00 or later, the jpcalarm import command) in the applicable JP11/PFM manual.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmImportAlarmDef

Return code

0: Normal

11: Error (Mistake by user) Invalid content in the definition file

12: Error (Mistake by user) Invalid property

13: Error (user error) Authentication disabled

14: Error (Mistake by user) File inaccessible

20: Error (Mistake by user)

21: Error (Environmental error) No command was found (An error was detected in the component script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (Invalid environment) The environment requirements are not met.

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
JP1PFM.alarmDefinitionFile Name	Alarm definition file name	Specify the full path for the alarm definition file in a format that is able to be imported to JP1/PFM - Manager.	--	Input	R
JP1PFM.overwriteAlarm	Whether it is necessary to overwrite the alarm definition file	Specify true to overwrite the alarm definition file, or specify false to not overwrite it.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.commandExitCode	Return value for the execution command	The return value for the execution command is stored.	--	Output	O

4.10.9 Export alarm definition file (JP1/PFM)

Function

This plug-in exports JP1/PFM alarm definitions.

The following describes the server that this plug-in requires:

- PFM management server (execution target server)

The server on which this plug-in is executed. JP1/PFM - Manager must be set up on this server.

The properties to be specified for this plug-in differ depending on the information to be exported. The following shows the kinds of information that can be exported and the property specifications. The information exported to the file specified by the JP1PFM.alarmDefinitionFileName property.

(1) To export the alarm definition file template, specify "true" for the JP1PFM.exportTemplate property.

(2) To export the JP1/PFM - Agent (or JP1/PFM - RM) definitions of the alarms (registered in JP1/PFM - Manager on the execution target server) that match the specified service key, specify the JP1PFM.serviceKey property.

(3) To export the definitions of all alarms included in the specified alarm table to an alarm definition file, specify the JP1PFM.serviceKey and JP1PFM.alarmTableName properties.

(4) To export the definition of a specific alarm in a specific alarm table to an alarm definition file, specify the JP1PFM.serviceKey, JP1PFM.alarmTableName, and JP1PFM.alarmName properties.

If you specify both the JP1PFM.exportTemplate and JP1PFM.serviceKey properties, the plug-in ignores the JP1PFM.exportTemplate property. If you specify neither of these properties, the plug-in terminates abnormally with return value 41.

Note that if the file specified by the JP1PFM.alarmDefinitionFileName property already exists, the existing file is overwritten.

Use situation

This plug-in can be used to update the alarm definitions in a system whose performance is monitored by JP1/PFM.

By using this plug-in with the following plug-ins, the JP1/PFM monitoring conditions can be changed automatically:

- jp1pfmImportAlarmDef

- osReplaceString

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Job Management Partner 1/Performance Management - Manager 09-00 or later, or

JP1/Performance Management - Manager 11-00 or later

OSs of prerequisite products on the execution target server:

(1) Windows Server 2008 R2 (Standard/Enterprise/Datacenter)

(2) Windows Server 2012 (Standard/Datacenter) or Windows Server 2012 R2 (Standard/Datacenter)

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86/x64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

Conditions for using prerequisite products on the execution target server:

(1) Before you specify a JP1/PFM product service key as a property, make sure that the following JP1/Performance Management - Manager services are running:

- Name Server service

- Master Manager service

- View Server service

(2) The conditions for using the JP1/PFM jpctool alarm export command (for JP1/PFM - Manager 09-00 or later, the jpcalarm export command) must be satisfied.

Cautions

(1) Do not simultaneously execute multiple instances of this plug-in on the same execution target server.

(2) If JP1/PFM - Manager on the execution target server is in a cluster configuration, execute the plug-in on the active node.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmExportAlarmDef

Return code

0: Normal

12: Error (Mistake by user) Invalid property

13: Error (user error) Authentication disabled

14: Error (Mistake by user) File inaccessible

20: Error (Mistake by user)

21: Error (Environmental error) No command was found (An error was detected in the component script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (Invalid environment) The environment requirements are not met.

24: Error (invalid environment) Start status is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1PFM.alarmDefinitionFile Name	Alarm definition file name	Specify the full path for the file that exports JP1/PFM alarm definition information.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
JP1PFM.serviceKey	JP1/PFM product's service key	Specify the JP1/PFM - Agent (or JP1/PFM - RM) service key. If the functionality to display the product name is enabled, you can also specify the product name. This property cannot be specified at the same time as JP1PFM.exportTemplate.	--	Input	O
JP1PFM.alarmTableName	Alarm table name	Specify the JP1/PFM alarm table name. Specify this property at the same time as JP1PFM.serviceKey.	--	Input	O
JP1PFM.alarmName	alarm name	Specify the alarm name. Specify this property at the same time as JP1PFM.serviceKey and JP1PFM.alarmTableName.	--	Input	O
JP1PFM.exportTemplate	Whether it is necessary to output the template	Specify true to output the template of the alarm definition file. This property cannot be specified at the same time as JP1PFM.serviceKey.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.10.10 Set agent hierarchy

Function

Imports JP1/PFM's agent hierarchy definition information and creates and updates the agent hierarchy displayed in JP1/PFM's GUI.

This plugin assumes the following servers:

• Execution target server

This server executes the plugin and imports the agent hierarchy definition file. JP1/PFM - Manager must have already been set up.

Use situation

When you have added a remote agent to JP1/PFM - RM by using the jp1pfmAddRemoteAgent plugin, you use this plugin to display the added remote agent in the User Agents.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Manager 10-00 or later, or

JP1/Performance Management - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The following file is stored on the execution target server:

• Agent hierarchy definition file (file specified in the jpcconf agttree import command)

(2) If the execution target server has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/PFM - Manager's logical host is running, and specify the JP1/PFM - Manager's logical host name in the JP1.logicalHostName property.

Cautions

(1) This command cannot be executed if JP1/PFM - Manager's View Server service is stopped on the execution target server.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmAddAgentTreeDef

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1PFM.agentLevelDefinitio nFileName	Agent tree definition file name	Specify the full path of the JP1/PFM agent tree definition file on the execution target server.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the logical host name in JP1/PFM - Manager of the execution target server.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.11 Synchronize service information

Function

Synchronizes the service information registered in JP1/PFM - Manager with the service information in JP1/PFM - Web Console.

This plugin assumes the following servers:

• Execution target server

This server executes the plugin and synchronizes the service information registered in JP1/PFM - Manager and JP1/PFM - Web Console. JP1/PFM - Manager must have already been set up.

Use situation

When you have deleted a remote agent from JP1/PFM - RM by using the jp1pfmDeleteRemoteAgent plugin, you use this plugin to delete the deleted remote agent from the Products Agents.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Manager 10-00 or later, or

JP1/Performance Management - Manager 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/PFM - Manage is running.

(2) If the execution target server has a cluster configuration, specify in the plugin.destinationHost property the name of the physical host on which JP1/PFM - Manager's logical host is running, and specify JP1/PFM - Manager's logical host name in the JP1.logicalHostName property.

Cautions

(1) Agents added to the User Agents tree in JP1/PFM - Web Console's Agents cannot be deleted by executing this plugin.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmSyncServiceInfo

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

24: Error (invalid environment) Start status is invalid

26: Error (linked product error) Internal error

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1.logicalHostName	Logical host name for the execution target server	Specify the logical host name in JP1/PFM - Manager of the execution target server.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.12 Get list of process monitoring settings

Function

This plugin acquires a list of process monitoring settings of monitoring target hosts.

This plugin assumes that the following server is being used.

• PFM management server (Execution target server)

This is the target that executes This plugin. JP1/PFM - WEB Console must have been set up.

Use situation

This plugin enables checking of a list of application definition names defined in monitoring target hosts.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Web Console 10-00 or later, or

JP1/Performance Management - Web Console 11-00 or later

(2)Job Management Partner 1/Performance Management - Manager 10-00 or later, or

JP1/Performance Management - Manager 11-00 or later

(3)Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-00 or later, or

JP1/Performance Management - Remote Monitor for Platform 11-00 or later

[Prerequisite product OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None.

[Other usage conditions]

(1) The JP1/PFM - Manager connected with the JP1/PFM - Web Console, which is a prerequisite product on the execution target server, and the JP1/PFM - RM corresponding to the service ID are running.

Execution privilege

Windows: Administrator permission

Linux: root permission

Version

02.00.00

Plug-in tags

Gather JP1 information,PFM,Windows,Linux

Plug-in name displayed in the task log

jp1pfmShowProcessDef

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

15: Error (user error) No more agents can be added to the specified instance because 50 agents have already been added (error detected in the plugin script)

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1PFM.processMonitorList OutputFileName	Output file name	Specifies the name of the output file for the list of process monitoring settings.	--	Input	R
JP1PFM.serviceID	JP1/PFM - RM agent's service ID	Specify the service ID of the JP1/PFM - RM remote agent to be defined.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.13 Add process monitoring settings

Function

Adds new application definitions (definition information used to monitor processes in JP1/PFM) for an agent managed by JP1/PFM.

This plugin assumes the following server:

• PFM management server (Execution target server)

This is the server on which this plugin is executed. JP1/PFM - Web Console must have already been set up.

Use situation

You use this plugin to initialize an added remote agent in a system using JP1/PFM - RM for performance monitoring.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Web Console 10-00 or later, or

JP1/Performance Management - Web Console 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The following file is stored on the execution target server:

• Application definition file (file specified in the jpcprocdef create command)

(2) A key file for authentication has been created on the execution target server, by using a user account with the JP1/PFM administrator user permissions.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmAddProcessDef

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1PFM.serviceID	JP1/PFM - RM agent's service ID	Specify the service ID of the JP1/PFM - RM remote agent to be defined.	--	Input	R
JP1PFM.applicationDefinitio nFileName	Application definition file name	Specify the full path of the application definition file required for JP1/PFM processes monitoring.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.14 Get report

Function

This plugin collects the performance information of the monitoring target agent.

This plugin assumes that the following server is being used.

• PFM management server (Execution target server)

This is the target that executes This plugin. JP1/PFM - WEB Console must have been set up.

Use situation

This plugin is used to create reports on systems that monitor performance.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Web Console 10-00 or later, or

JP1/Performance Management - Web Console 11-00 or later

(2)Job Management Partner 1/Performance Management - Manager 10-00 or later, or

JP1/Performance Management - Manager 11-00 or later

(3)Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-00 or later, or

JP1/Performance Management - Remote Monitor for Platform 11-00 or later

[Prerequisite product OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None.

[Other usage conditions]

(1) The JP1/PFM - Manager connected with the JP1/PFM - Web Console, which is a prerequisite product on the execution target server, and the JP1/PFM - RM corresponding to the service ID are running.

Cautions

(1) Reports cannot be output in HTML format. Do not specify <html-output> in the input file definitions.

Execution privilege

Windows: Administrator permission

Linux: root permission

Version

02.00.00

Plug-in tags

Gather JP1 information,PFM,Windows,Linux

Plug-in name displayed in the task log

jp1pfmReportRemoteAgent

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

15: Error (user error) No more agents can be added to the specified instance because 50 agents have already been added (error detected in the plugin script)

16: Error (user error) <html-output> is specified in the input file definition

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1PFM.inputFileName	Input File Name	Specifies the name of the input file that contains the definitions for displaying the report.	--	Input	R
JP1PFM.serviceID	JP1/PFM - RM agent's service ID	Specify the service ID of the JP1/PFM - RM remote agent to be defined.	--	Input	R
JP1PFM.reportOutputFileNa me	Report Output File Name	Specifies the name of the file to which the report is to be output.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.15 Add monitoring setting

Function

Specifies the performance data recording method for an agent managed by JP1/PFM.

This plugin assumes the following server:

• PFM management server (Execution target server)

This is the server on which this plugin is executed. JP1/PFM - Web Console must have already been set up.

Use situation

You use this plugin to initialize an added remote agent in a system using JP1/PFM - RM for performance monitoring.

You can optimize the monitoring configuration task in JP1/PFM - RM by using this plugin together with the following plugins:

• jp1pfmAddStoreDataDef

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Web Console 10-00 or later, or

JP1/Performance Management - Web Console 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) The following file is stored on the execution target server:

• Recording method definition file (file specified in the jpcasrec update command)

If the following character strings are specified in the service tags in the file, they are replaced with the specified property values as shown below:

#INSTANCENAME#: Job Management Partner 1PFM - RM's instance name

#AGENTNAME#: Monitored server's host name

#REMOTEMONITORHOST#: Name of the host on which the Remote Monitor Collector service is running

Example service tag specifications:

<service id="7A1#INSTANCENAME#[#REMOTEMONITORHOST#]">

<service id="7A1#INSTANCENAME#[#AGENTNAME#@#REMOTEMONITORHOST#]">

(2) A key file for authentication has been created on the execution target server, by using a user account with the JP1/PFM administrator user permissions.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1pfmSetRemoteAgent

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1PFM.recordingMethodDefinitionFileName	Recording method definition file name	Specify the full path of the JP1/PFM recording method definition file on the execution target server.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
JP1PFM.instanceName	Name of a JP1/PFM - RM instance	Specify the name of the JP1/PFM - RM instance that the monitored server's remote agent belongs to.	--	Input	O
JP1PFM.targetName	Host name of the monitored server	Specify the host name of the monitored server.	--	Input	O
JP1PFM.remoteMonitorHost	Remote Monitor Collector service activity host name	Specifies the Remote Monitor Collector service activity host name.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.10.16 Delete monitoring target (JP1/PFM - RM)

Function

Deletes a monitored target (remote agent) from JP1/PFM - RM for Platform (hereafter called JP1/PFM - RM).

This plugin assumes the following server:

• PFM-RM server (Execution target server)

This is the server on which this plugin is executed. JP1/PFM - RM must have already been set up.

• Server being monitored

This is a server that is added to JP1/PFM - RM as a target to be monitored.

Use situation

You use this plugin to delete a monitored server from a system using JP1/PFM - RM for performance monitoring. You can optimize the monitoring configuration task in JP1/PFM - RM by using this plugin together with the following plugins:

• jp1pfmReleaseAlarm

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-00 or later, or

JP1/Performance Management - Remote Monitor for Platform 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) A monitoring instance is running on the JP1/PFM - RM to which a monitored server is to be added.

(2) If the execution target server has a cluster configuration, specify in the common.targetHostName property the name of the physical host on which JP1/PFM - RM's logical host is running, and specify JP1/PFM - RM's logical host name in the JP1.logicalHostName property.

(3) The product name display function is enabled in the execution target server's JP1/PFM - RM.

Cautions

(1) Do not execute multiple instances of this plugin concurrently on the same execution target server.

(2) After you have executed this plugin, delete any unneeded agent from the JP1/PFM - Web Console's Agents tree that is displayed by selecting User Agents.

(3) Before you delete a monitored server to which any alarm table has been bound, first unbind all the alarm tables that are bound to the agents of the monitored server.

(4) Specify "RMPlatform" for the JP1PFM.serviceKey property. Operation with any other value specified is not supported.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux

Plug-in name displayed in the task log

jp1pfmDeleteRemoteAgent

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1PFM.serviceKey	JP1/PFM product's service key	Specify RMPlatform as the JP1/PFM - RM service key.	--	Input	R
JP1PFM.instanceName	Name of a JP1/PFM - RM instance	Specify the name of the JP1/PFM - RM instance that the monitored server's remote agent belongs to.	--	Input	R
JP1PFM.targetName	Host name of the monitored server	Specify the host name of the monitored server.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the logical host name in JP1/PFM - RM of the execution target server.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.10.17 Add monitoring target (JP1/PFM - RM)

Function

Adds a monitored target (remote agent) to JP1/PFM - RM for Platform (hereafter called JP1/PFM - RM).

This plugin assumes the following server:

• PFM-RM server (Execution target server)

This is the server on which this plugin is executed. JP1/PFM - RM must have already been set up.

• Server being monitored

This is a server that is added to JP1/PFM - RM as a target to be monitored.

Use situation

You use this plugin to add a newly configured server as a monitored target in a system using JP1/PFM - RM for performance monitoring.

You can optimize the monitoring configuration task in JP1/PFM - RM by using this plugin together with the following plugins:

• jp1pfmSetRemoteAgent

• jp1pfmAddStoreDataDef

• jp1pfmBindAlarm

• jp1pfmAddProcessDef

• jp1pfmAddAgentTreeDef

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-00 or later, or

JP1/Performance Management - Remote Monitor for Platform 11-00 or later

[Prerequisite product OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) A monitoring instance is running on the JP1/PFM - RM to which a monitored server is to be added.

(2) The following file is stored on the execution target server:

• Monitored target definition file (file name specified in the jpcconf target setup command)

In the monitored target definition file, specify the following value for Target Host:

#AGENTNAME#

(3) If the execution target server has a cluster configuration, specify in the common.targetHostName property the name of the physical host on which JP1/PFM - RM's logical host is running, and specify JP1/PFM - RM's logical host name in the JP1.logicalHostName property.

(4) The product name display function is enabled in the execution target server's JP1/PFM - RM.

Cautions

(1) Do not execute multiple instances of this plugin concurrently on the same execution target server.

(2) The OSs that can be monitored depend on the OS of JP1/PFM - RM:

In JP1/PFM - RM on Linux, only UNIX and Linux can be monitored.

In JP1/PFM - RM on Windows, Windows, UNIX, and Linux can be monitored.

(3) The maximum number of remote agents that can be added to a single monitoring instance of JP1/PFM - RM is 50. When the number of remote agents exceeds 50, this plugin results in an error.

(4) Specify "RMPlatform" for the JP1PFM.serviceKey property. Operation with any other value specified is not supported.

Version

02.00.00

Plug-in tags

Configure JP1,PFM,Windows,Linux

Plug-in name displayed in the task log

jp1pfmAddRemoteAgent

Return code

0: Normal

11: Error (user error) Definition file's contents are invalid

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

15: Error (user error) No more agents can be added to the specified instance because 50 agents have already been added (error detected in the plugin script)

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

25: Error (invalid environment) Communication error

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1PFM.serviceKey	JP1/PFM product's service key	Specify RMPlatform as the JP1/PFM - RM service key.	--	Input	R
JP1PFM.instanceName	Name of a JP1/PFM - RM instance	Specify the name of the JP1/PFM - RM instance that the monitored server's remote agent belongs to.	--	Input	R
JP1PFM.targetName	Host name of the monitored server	Specify the host name of the monitored server.	--	Input	R
JP1PFM.targetDefinitionFile Name	Monitoring target definition file name	Specify the full path of the monitoring target definition file on the execution target server.	--	Input	R
JP1.logicalHostName	Logical host name for the execution target server	Specify the logical host name in JP1/PFM - RM of the execution target server.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.10.18 Display monitoring targets (JP1/PFM - RM)

Function

This plugin displays the subjects of monitoring by JP1/PFM - RM for Platform (remote agents).

This plugin assumes that the following server is being used.

• PFM-RM server (Execution target server)

This is the target that executes This plugin. JP1/PFM - RM for Platform must have been set up.

Use situation

In systems that monitor performance using JP1/PFM - RM for Platform, this plugin can be used to check the servers that are being monitored before and after servers to monitor are added.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Job Management Partner 1/Performance Management - Remote Monitor for Platform 10-00 or later, or

JP1/Performance Management - Remote Monitor for Platform 11-00 or later

[Prerequisite product OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None.

Cautions

(1) Do not run multiple instances of this component on the same execution target server.

(2) In property JP1PFM.serviceKey, specify "RMPlatform". Operation is not supported if other values are entered.

Execution privilege

Windows: Administrator permission

Linux: root permission

Version

02.00.00

Plug-in tags

Gather JP1 information,PFM,Windows,Linux

Plug-in name displayed in the task log

jp1pfmShowRemoteAgent

Return code

0: Normal

12: Error (user error) Invalid property

13: Error (user error) Authentication disabled

14: Error (user error) File access disabled

20: Error (user error) Other user error

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

22: Error (invalid environment) Insufficient memory or disk capacity

23: Error (invalid environment) Required environment is invalid

26: Error (linked product error) Internal error

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
JP1PFM.reportOutputFileName	Report Output File Name	Specifies the name of the file to which the report is to be output.	--	Input	R
JP1PFM.serviceKey	JP1/PFM product's service key	Specify the service key of JP1/PFM - RM.	--	Input	R
JP1PFM.instanceName	Name of a JP1/PFM - RM instance	Specify the name of the JP1/PFM - RM instance that the monitored server's remote agent belongs to.	--	Input	R
JP1PFM.remoteMonitorHost	Remote Monitor Collector service activity host name	Specifies the Remote Monitor Collector service activity host name.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.11 JP1/SS-related Plug-ins

4.11.1 Update JP1/IM-SS Instance

Function

This plug-in is used to issue the JP1/IM-SS command jssitemedit for updating information about Items registered in a JP1/IM-SS process workboard.

This plug-in requires the following servers:

- JP1/IM-SS server

A server on which JP1/IM-SS is operating

The following is an overview of the processing:

(1) The specified properties of a specified Item on the JP1/IM-SS server are updated to the specified values. Only properties that are explicitly specified are updated.

(2) The values of the following properties must be specified by using the keys set in the code mapping file (by default, jp1imss_itemedit_codemap.conf):

a) Status (JP1IMSS.statusTypeCode)

b) Cause code (JP1IMSS.causeTypeCode)

c) Result code (JP1IMSS.resultTypeCode)

d) Workaround type code (JP1IMSS.avoidTypeCode)

e) Solution type code (JP1IMSS.solvedTypeCode)

The following default keys can be used for each setting:

a) Status (JP1IMSS.statusTypeCode)

- Received

- Investigating

- Planning

- Discussing

- Support requested

- Reviewing

- Acknowledged

- Close

- Extended status 01 to 40

b) Cause code (JP1IMSS.causeTypeCode)

- Blank

- New software error

- Known software error

- New hardware error

- Known hardware error

- Document error

- Document missing

- User error

- Specifications

- Third-party error

- Process error

- Customer request

- Function extension

- Business requirement

- Incident and problem fix

- Process improvement

c) Result code (JP1IMSS.resultTypeCode)

- Blank

- Completed

- Canceled

- Not confirmed

- Change completed

- Known problem

- Unknown cause

- Succeeded

- Failed (planning error)

- Failed (human error)

- Failed (others)

d) Workaround type code (JP1IMSS.avoidTypeCode)

- Blank

- None

- Not operated

- Operated in degraded mode

- Restarted

- File recovered

- Change rolled back

- Others

e) Solution type code (JP1IMSS.solvedTypeCode)

- Blank

- Knowledge

- Document

- User solution

- Secondary support

- Problem management

- Third-party investigation

To use keys other than the default keys above, create a code mapping file, and then specify the name of that file for the item that sets the remote code mapping file path (jp1imss.codeMappingFile).

For details about the code mapping file, see the "JP1/Service Support Configuration and Operation Guide".

Use situation

This service template updates the status of a JP1/IM-SS Item as an extension of problem-recovery processing.

For example, after checking a registered Item, a JP1/IM-SS operator opens the service execution window of JP1/ Automatic Operation (hereafter referred to as "JP1/AO") and executes the service template for problem recovery, which includes plug-ins for correcting the failure and updating the Item status on the JP1/IM-SS server. By this process, this service template can be used to update the status of a JP1/IM-SS Item.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) The following product must be running on the JP1/IM-SS server:

- Job Management Partner 1/Integrated Management - Service Support 10-10 or later, or

JP1/Service Support 11-00 or later

OSs for the prerequisite products on the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

(1) The Item to be updated must exist on the JP1/IM-SS server.

(2) The user ID to be specified as a property must be defined on the JP1/IM-SS server.

(3) The role ID to be specified as a property must be defined on the JP1/IM-SS server.

Cautions

(1) Only properties that are explicitly specified are registered. To register properties that are not specified, update the Item information from the JP1/IM-SS GUI or CLI.

(2)The free column in which a 1024 or more character setup is possible at JP1/IM-SS can be inputted only to 1024 characters by JP1/AO.

(3) Do not specify a value that begins with "//" for any of the above properties.

(4) If the user ID set in the authentication information of Connection Destination definitions setting is not the built-in Administrator, one of the following conditions must be satisfied.

- The UAC feature in Windows is completely disabled.

- An RDP session has been established for the user ID set in the authentication information of the Connection Destination definitions setting on the target of connection destinations.

Execution privilege

Administrators permissions

Version

02.00.00

Plug-in tags

Configure JP1,SS,Windows

Plug-in name displayed in the task log

jp1IMSSeditItem

Return code

0: Normal

12: Error (Mistake by user) Invalid property

21: Error (Environmental error) No command was found (An error was detected in the component script)

25: Error (invalid environment) Communication error

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

42: Error (error detected in module) Internal error (error detected in the module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1IMSS.itemID	Instance ID	Specify the instance ID of the JP1/IM-SS to update.	--	Input	R
JP1IMSS.registerID	Registrar ID	Specify the ID of the user that will be the registrar of the instance.	--	Input	R
JP1IMSS.staffType	Staff Type	Specify the staff type ("USER" or "ROLE").	--	Input	R
JP1IMSS.staffID	Staff ID	Specify the ID of the user or the ID of the role that will be the staff in charge of the instance.	--	Input	R
JP1IMSS.statusTypeCode	Status	Specify the status to configure to the instance.	--	Input	R
JP1IMSS.closeDateTime	Closing Date and Time (YYYY/MM/DD hh:mm[:ss])	Specify the closing date and time of the instance as YYYY/MM/DD hh:mm:ss or YYYY/MM/DD hh:mm.	--	Input	O
JP1IMSS.causeTypeCode	Cause Code	Specify the cause code to configure to the instance.	--	Input	O
JP1IMSS.resultTypeCode	Result Code	Specify the result code to configure to the instance.	--	Input	O
JP1IMSS.avoidTypeCode	Avoidance Type Code	Specify the avoidance type code to configure to the instance.	--	Input	O
JP1IMSS.solvedTypeCode	Solution Type Code	Specify the solution type code to configure to the instance.	--	Input	O
JP1IMSS.freeText	Free Input Field	Specify a character string to configure for the free input field of the instance.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1IMSS.codeMappingFile	Code Mapping File (Remote)	Specify the full path of the code mapping file name on the JP1/IM-SS server when using a code mapping file defined by a user.	--	Input	O
JP1IMSS.forceWrite	Update of Instances Being Edited	Specify "true" to update instances even when the instances are being edited. Otherwise, specify "false".	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.11.2 Register JP1/IM-SS Instance

Function

This plug-in is used to issue the JP1/IM-SS command jssitementry for registering a new Item in a JP1/IM-SS process workboard.

If the environment settings for linking with JP1/AO are specified in JP1/IM-SS, this plug-in can also be used to register the "related information" required to call the JP1/AO service execution dialog box from the JP1/IM-SS window.

This plug-in requires the following servers:

- JP1/IM-SS server

A server on which JP1/IM-SS is operating

The following is an overview of the processing:

(1) An Item is registered with the specified values in the specified process workboard on the JP1/IM-SS server. Only properties that are explicitly specified are registered.

(2) The values of the following properties must be specified by using the keys set in the JP1/IM-SS code mapping file (by default, jp1imss_itementry_codemap.conf):

a) Severity (JP1IMSS.severity)

b) Influence (JP1IMSS.influence)

c) Priority (JP1IMSS.priority)

d) Item type (JP1IMSS.incidentType)

e) Problem field (JP1IMSS.filedType)

The following default keys can be used for each setting:

a) Severity (JP1IMSS.severity)

Note: The names displayed in the default Item form are enclosed in parentheses.

- Emergency (Emergency)

- Alert (Alert)

- Critical (Critical)

- Error (Error)

- Warning (Warning)

- Notice (Notice)

- Information (Information)

- Debug (Debug)

b) Influence (JP1IMSS.influence)

Note: The names displayed in the default Item form are enclosed in parentheses.

- S (Small)

- M (Medium)

- B (Large)

c) Priority (JP1IMSS.priority)

Note: The names displayed in the default Item form are enclosed in parentheses.

- N (Standard)

- M (Urgent)

- H (Very urgent)

d) Item type (JP1IMSS.incidentType)

Note: The names displayed in the default Item form are enclosed in parentheses.

- QUE (Inquiry)

- FAL (Failure)

- CR (Customer request)

e) Problem field (JP1IMSS.filedType)

Note: The names displayed in the default Item form are enclosed in parentheses.

- APP (Application)

- MID (Middleware)

- OS (OS)

- HRD (Hardware)

- NET (Network)

- PRO (Process)

To use keys other than the default keys above, create a code mapping file, and then specify the name of that file for the item that sets the remote code mapping file path (jp1imss.codeMappingFile).

For details about the code mapping file, see the "JP1/Service Support Configuration and Operation Guide".

(3) The values that can be specified for extended code data (JP1IMSS.extendData) must be defined by creating a code mapping file.

(4) To use the JP1/IM-SS function for JP1/AO linkage, the keywords used to specify the service name and service group name of the JP1/AO service to be called must be specified in the JP1/IM-SS system properties file (hptl_jp1_imss_main_setting.properties). If extended text data is specified for the properties below, user settings can be changed by simply changing the property values, regardless of which extended text data element is to be used.

- JP1IMSS.relatedResourceGroupName (Name of the service group that includes the service to be called by the JP1/IM-SS function for JP1/AO linkage)

- JP1IMSS.relatedResourceGroupNumber (Number of the extended text data element to be assigned to the service group that includes the service to be called by the JP1/IM-SS function for JP1/AO linkage)

- JP1IMSS.relatedServiceName (Name of the service to be called by the JP1/IM-SS function for JP1/AO linkage)

- JP1IMSS.relatedServiceNumber (Number of the extended text data element to be assigned to the service to be called by the JP1/IM-SS function for JP1/AO linkage)

Use situation

This service template registers an Item in JP1/IM-SS as an extension of an automatic action of JP1/Integrated Management - Manager (hereafter referred to as "JP1/IM").

For example, when failure information is registered in JP1/IM, a JP1/IM automatic action calls a JP1/Automatic Operation (hereafter referred to as JP1/AO) service template that includes plug-ins for determining whether the failure is already known, obtaining failure information, and registering an Item to the JP1/IM-SS server. By this process, this service template can be used to register Items to JP1/IM-SS.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) The following product must be running on the job server:

- Job Management Partner 1/Integrated Management - Service Support 10-10 or later, or

JP1/Service Support 11-00 or later

OSs for the prerequisite products on the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products on the execution-target server:

(1) The process workboard to which Items are to be registered must be defined on the JP1/IM-SS server.

(2) The user ID to be specified as a property must be defined on the JP1/IM-SS server.

(3) The role ID to be specified as a property must be defined on the JP1/IM-SS server.

Conditions for using the JP1/IM-SS function for JP1/AO linkage:

(1) The JP1/IM-SS server and the JP1/AO server must be linked by single sign-on.

For details about how to set up single sign-on, see the section that describes linkage with JP1/AO in the "JP1/Service Support Configuration and Operation Guide".

(2) Extended text data must be added to the Item form.

The name of the service group that includes the service called by the JP1/IM-SS function for JP1/AO linkage and the extended text data for that service must be added to the Item form of JP1/IM-SS.

For details about how to set up the Item form, see the section that describes Item form customization in the "JP1/Service Support Configuration and Operation Guide".

(3) The item IDs for extended text data must be set in the system properties file.

Set the item IDs for the extended text data added to the Item form in the JP1/IM-SS system properties file (hptl_jp1_imss_main_setting.properties). At this time, specify the item IDs as information (the service group name and service name of the service) to be inherited by JP1/AO.

For details about how to set up the system properties file, see the section that describes linkage with JP1/AO in the "Job Management Partner 1/Integrated Management - Service Support Configuration and Operation Guide".

(4) The service to be called by the JP1/IM-SS function for JP1/AO linkage must exist as a service on the JP/AO server.

Cautions

(1) Only properties that are explicitly specified are registered. To register properties that are not specified, update the Item information from the JP1/IM-SS GUI or CLI.

(2) To register the "related information" for calling the JP1/AO service execution dialog box from the JP1/IM-SS window, specify all of the following properties:

- JP1IMSS.relatedInformationName

- JP1IMSS.referURL

- JP1IMSS.relatedResourceGroupName

- JP1IMSS.relatedResourceGroupNumber

- JP1IMSS.relatedServiceName

- JP1IMSS.relatedServiceNumber

(3) If you specify all of properties listed below, for the extended text data elements corresponding to the numbers specified in properties (b) and (d), the values of properties (a) and (c) will be given priority over the values of properties JP1IMSS.extendText1 to JP1IMSS.extendText20.

(a) JP1IMSS.relatedResourceGroupName

(b) JP1IMSS.relatedResourceGroupNumber

(c) JP1IMSS.relatedServiceName

(d) JP1IMSS.relatedServiceNumber

(4) Do not specify a value that begins with "//" for any of the above properties.

(5) If the user ID set in the authentication information of Connection Destination definitions setting is not the built-in Administrator, one of the following conditions must be satisfied.

- The UAC feature in Windows is completely disabled.

- An RDP session has been established for the user ID set in the authentication information of the Connection Destination definitions setting on the target of connection destinations.

Execution privilege

Administrators permissions

Version

02.00.00

Plug-in tags

Configure JP1,SS,Windows

Plug-in name displayed in the task log

jp1IMSSentryItem

Return code

0: Normal

12: Error (Mistake by user) Invalid property

21: Error (Environmental error) No command was found (An error was detected in the component script)

25: Error (invalid environment) Communication error

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

42: Error (error detected in module) Internal error (error detected in the module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1IMSS.processWorkBoardID	Process Workboard ID	Specify the ID of the process workboard of the JP1/IM server.	--	Input	R
JP1IMSS.subjectTitle	Instance Title	Specify the title of the instance.	--	Input	R
JP1IMSS.registerID	Registrar ID	Specify the ID of the user that will be the registrar of the instance.	--	Input	R
JP1IMSS.staffType	Staff Type	Specify the staff type ("USER" or "ROLE").	--	Input	R
JP1IMSS.staffID	Staff ID	Specify the ID of the user or the ID of the role that will be the staff in charge of the instance.	--	Input	R
JP1IMSS.severity	Severity	Specify the severity to configure for the instance.	--	Input	O
JP1IMSS.influence	Influence	Specify the influence to configure for the instance.	--	Input	O
JP1IMSS.priority	Priority	Specify the priority to configure for the instance. When the instance automatic input settings are enabled, the value specified in the instance automatic input property file for the command will be configured.	--	Input	O
JP1IMSS.incidentType	Instance Type	Specify the instance type.	--	Input	O
JP1IMSS.filedType	Problem Field	Specify the problem field of the instance.	--	Input	O
JP1IMSS.customerName	Customer Name	Specify the name of the customer to configure for the instance.	--	Input	O
JP1IMSS.reqName	Requestor	Specify the requestor to configure for the instance.	--	Input	O
JP1IMSS.impacts	Influenced Tasks	Specify the influenced tasks to configure for the instance. You can configure a letter sequence replacement configuration file to replace certain letters with a line break and register a sequence of letters.	--	Input	O
JP1IMSS.summary	Summary	Specify the summary of the instance. You can configure a letter sequence replacement configuration file to replace certain letters with a line break and register a sequence of letters.	--	Input	O
JP1IMSS.relatedInformationName	Display Name of Related Information of Instance	Specify the display name of the related information of the instance.	--	Input	O
JP1IMSS.referURL	Related Information	Specify the URL for related information.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1IMSS.linkItemID	Related Instance ID (Multiple Entries Accepted)	Specify the ID of related instances in order to link to related instances. Specify the ID with a character string of up to 128 bytes. Separate entries with a comma when specifying multiple items. A maximum of 10 items can be specified.	--	Input	O
JP1IMSS.occurenceDateTime	Occurrence Date and Time	Specify the occurrence date and time of the instance as YYYY/MM/DD hh:mm:ss or YYYY/MM/DD hh:mm. If the instance automatic input settings of the process workboard are enabled, the command execution time will be configured when this field is omitted.	--	Input	O
JP1IMSS.startDateTime	Start Date and Time	Specify the start date and time of the instance as YYYY/MM/DD hh:mm:ss or YYYY/MM/DD hh:mm. If the instance automatic input settings of the process workboard are enabled, the command execution time will be configured when this field is omitted.	--	Input	O
JP1IMSS.deadLine	Task Deadline	Specify the task deadline of the instance as YYYY/MM/DD hh:mm:ss or YYYY/MM/DD hh:mm. If the instance automatic input settings are enabled, a value of the configured time added to the command execution time will be configured when this field is omitted.	--	Input	O
JP1IMSS.extendText1	Extended Text Data 1	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText2	Extended Text Data 2	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText3	Extended Text Data 3	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText4	Extended Text Data 4	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText5	Extended Text Data 5	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText6	Extended Text Data 6	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText7	Extended Text Data 7	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText8	Extended Text Data 8	Specify the item as a character string customized by the user.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
JP1IMSS.extendText9	Extended Text Data 9	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText10	Extended Text Data 10	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText11	Extended Text Data 11	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText12	Extended Text Data 12	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText13	Extended Text Data 13	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText14	Extended Text Data 14	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText15	Extended Text Data 15	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText16	Extended Text Data 16	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText17	Extended Text Data 17	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText18	Extended Text Data 18	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText19	Extended Text Data 19	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendText20	Extended Text Data 20	Specify the item as a character string customized by the user.	--	Input	O
JP1IMSS.extendDateTime	Extended Time Data (Multiple Entries Accepted)	Specify the item as a DATE customized by the user. This item can be entered as YYYY/MM/DD hh:mm:ss or YYYY/MM/DD hh:mm. Separate entries with a comma when specifying multiple items. A maximum of 5 items can be specified.	--	Input	O
JP1IMSS.extendData	Extended Code Data (Multiple Entries Accepted)	Specify the item as a code customized by the user. Separate entries with a comma when specifying multiple items. A maximum of 5 items can be specified. Make sure to specify a code mapping file when using extended code data.	--	Input	O
JP1IMSS.extendNumericValue	Extended Numeric Value Data (Multiple Entries Accepted)	Specify the item as a numeric value customized by the user. This item can be entered as a decimal integer value in the range of 0 to 2147483647. Separate entries with a comma when specifying multiple items. A maximum of 5 items can be specified.	--	Input	O
JP1IMSS.extendUserID	User ID or Role ID (Multiple Entries Accepted)	Specify the item as a user or role customized by the user. This	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
JP1IMSS.extendUserID	User ID or Role ID (Multiple Entries Accepted)	item can be entered as a "USER user ID" or a "ROLE role ID". Separate entries with a comma when specifying multiple items. A maximum of 5 items can be specified.	--	Input	O
JP1IMSS.codeMappingFile	Code Mapping File (Remote)	Specify the full path of the code mapping file name on the JP1/IM-SS server when using a code mapping file defined by a user.	--	Input	O
JP1IMSS.relatedResourceGroupName	Name of Service Group to which Instance Update Service of JP1/IM-SS Belongs	Specify the name of the service group to which the instance update service of JP1/IM-SS belongs.	--	Input	O
JP1IMSS.relatedResourceGroupNumber	Extended Text Data Number to Assign to Name of Service Group to which Instance Update Service of JP1/IM-SS belongs	Specify the number of the extended text data that stores the service group name. Specify the number of the extended text data to the system property file of JP1/IM-SS (hptl_jp1_imss_main_setting.properties).	--	Input	O
JP1IMSS.relatedServiceName	Service Name of Instance Update Service of JP1/IM-SS	Specify the service name of the instance update service of JP1/IM-SS.	--	Input	O
JP1IMSS.relatedServiceNumber	Extended Text Data Number to Assign to Service Name of Instance Update Service of JP1/IM-SS	Specify the number of the extended text data that stores the service name. Specify the number of the extended text data to the system property file of JP1/IM-SS (hptl_jp1_imss_main_setting.properties).	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.12 JP1/VERITAS-related Plug-ins

4.12.1 Execute instant recovery (JP1/VERITAS)

Function

This plugin uses the latest backup of a virtual server created on the JP1/VERITAS NetBackup server to perform instant recoveries (the nbrestorevm -ir_activate command) of the virtual server on the backup-source JP1/VERITAS NetBackup server. The plugin confirms that the instant recovery job has started normally (that is, the instant recovery job for the specified virtual server name exists in the output results of the nbrestorevm -ir_listvm command). Then, the plugin outputs the details list (output results of the nbrestorevm -ir_listvm command) for the running instant recovery job to the details list output file (JP1VERITAS.jobListOutputFileName) for this instant recovery job. The specified virtual server is instantly recovered to the ESX server that was managed when the virtual server was backed up.

The following describes the notes on setting properties.

- If you specify "true" for the JP1VERITAS.startVM property (whether to start the virtual server), the virtual server starts after the instant recovery job is executed. If you specify a value other than "true", the virtual server does not start.

- Specify a created data store for the temporary data store name (JP1VERITAS.dataStoreName property).

- If the JP1/VERITAS NetBackup master server and media server exist on different servers, specify the host name of the media server in the JP1VERITAS.mediaServerHost property.

- The virtual server name (JP1VERITAS.vmName property) is not case sensitive.

- To confirm that the instant recovery job has started normally, the plugin waits for the time (seconds) specified for the wait interval (JP1VERITAS.waitJobActInterval property), and then performs confirmation operations the number of times specified for the wait count (JP1VERITAS.waitJobActCount property). If the job starts by the time the confirmation is performed the specified number of times, the plugin ends normally. If the job does not start, the plugin ends abnormally.

- For the temporary data store name (JP1VERITAS.dataStoreName property), specify the name of the data store managed by the destination ESX server for instant recovery.

This plugin requires the following server:

- JP1/VERITAS NetBackup server (execution target server)

The server on which JP1/VERITAS NetBackup (master server) runs

Use situation

This plugin is used to start the instance recovery to quickly recover a VMWare virtual server backed up on the JP1/VERITAS NetBackup server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1)JP1/VERITAS NetBackup 7.6, 7.7

(2)JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3)JP1/VERITAS NetBackup 9.0, 9.1

OSs of prerequisite products on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) On the JP1/VERITAS NetBackup server, a backup of the virtual server specified by the virtual server name (JP1VERITAS.vmName property) must be created under the following conditions:

- The VM display name must be specified as the Primary VM identifier in the backup policy.

- The Windows server must be specified as the backup host in the backup policy.

(2) Conditions relating to virtual servers

- The virtual servers being managed by a vCenter instance must have unique names.

- For the virtual servers managed by a vCenter instance, the virtual server specified for the virtual server name (JP1VERITAS.vmName property) must not exist.

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) Do not simultaneously execute this plugin and the nbrestorevm -ir_activate command with the same virtual server name specified (in the JP1VERITAS.vmName property). If they are executed simultaneously, even if the plugin ends normally, the instant recovery job might not start normally. Therefore, confirm that the following items in the details list for the running instant recovery job are set to the values specified for this plugin: Virtual server name (VM Display Name), temporary data store name (Temporary datastore name for writes), and the media server name (Media Server Name), which needs to be checked only if the host name of the media server (JP1VERITAS.mediaServerHost property) is specified.

(3) If the virtual server for which the instant recovery job is running is specified for the virtual server name (JP1VERITAS.vmName property), the plugin ends abnormally.

(4) If the file specified for the detail-list output file name for the running instant recovery job (JP1VERITAS.jobListOutputFileName property) already exists, the existing file is overwritten. Therefore, take special care to confirm that the specified file name is correct.

(5) If no folder is included in the path to the file to be created, a folder will be created.

Execution privilege

- For Windows, users must belong to the Administrators group.

- For UNIX, users must have root privileges.

Version

02.00.00

Plug-in tags

Control JP1,VERITAS,Windows,Linux

Plug-in name displayed in the task log

jp1veritasStartInstantRecovery

Return code

0: Normal

12: Error (Mistake by user) Invalid property

21: Error (Environmental error) No command was found (An error was detected in the component script)

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error was detected in the component) Property not entered (An error was detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.mediaServerHo st	Media server host name	Specifies the host name of the media server for JP1/VERITAS NetBackUp. Specify this parameter if the master server and media server are different computers.	--	Input	O
JP1VERITAS.dataStoreName	Temporary datastore name	Specifies the temporary datastore on the ESX server to which snapshots are written until the virtual server is restored. Specify an existing datastore.	--	Input	R
JP1VERITAS.vmName	Virtual server name	Specifies the name of the virtual server. Note that the name you specify is the display name for the	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1VERITAS.vmName	Virtual server name	virtual server in VMware vCenter Server, rather than the host name in the OS.	--	Input	R
JP1VERITAS.startVM	Whether to start the virtual server	To start the virtual server after the instant recovery, specify "true". If the value of this property is not "true", the instant recovery ends without starting the virtual server.	true	Input	R
JP1VERITAS.jobListOutputF ileName	File of the details list for the current instant recovery job	Specifies the full path name of the details list file that is output for the instant recovery job that is currently running.	--	Input	R
JP1VERITAS.waitJobActCou nt	Startup check count for instant recovery jobs	Specifies the maximum number of times the startup of the instant recovery job is checked. You can specify a value in the range from 1 to 3,600.	60	Input	R
JP1VERITAS.waitJobActInte rval	Startup check interval for instant recovery jobs	Specifies the interval (in seconds) at which the startup of the instant recovery job is checked. You can specify a value in the range from 1 to 60.	10	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.12.2 End instant recovery (JP1/VERITAS)

Function

This plugin performs end processing (the nbrestorevm -ir_done command) for the instant recovery job running on the JP1/VERITAS NetBackup server. Then, the plugin confirms that the instant recovery job ended normally (that is, the instant recovery job with the specified instant recovery ID does not exist in the output results of the nbrestorevm -ir_listvm command).

The following are notes concerning the setting properties.

- For details on the values that can be entered for the instant recovery ID (JP1VERITAS.instantRecoveryID property), see the details list for the running instant recovery job (output results of the nbrestorevm -ir_listvm command).

- To confirm that the instant recovery job ended normally, the plugin waits for the time (seconds) specified for the wait interval (JP1VERITAS.waitJobFinInterval property), and performs confirmation operations the number of times specified for the wait count (JP1VERITAS.waitJobFinCount property). If the job ends by the time the confirmation is performed the specified number of times, the plugin ends normally. If the job does not end, the plugin ends abnormally.

This plugin requires the following server:

- JP1/VERITAS NetBackup server (execution target server)

The server on which JP1/VERITAS NetBackup (master server) runs

Use situation

This plugin is used to end the instance recovery when a VMWare virtual server is quickly recovered on the JP1/VERITAS NetBackup server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1)JP1/VERITAS NetBackup 7.6, 7.7

(2)JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3)JP1/VERITAS NetBackup 9.0, 9.1

OSs of prerequisite products on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the execution-target server:

(1) The instant recovery job specified by the instant recovery ID (JP1VERITAS.instantRecoveryID property) must be running on the JP1/VERITAS NetBackup server.

(2) Condition relating to the virtual server

- The virtual servers being managed by a vCenter instance must have unique names.

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If the instant recovery ID of an instant recovery job that is not started is specified for the JP1VERITAS.instantRecoveryID property, the plugin ends abnormally.

Execution privilege

- For Windows, users must belong to the Administrators group.

- For UNIX, users must have root privileges.

Version

02.00.00

Plug-in tags

Control JP1,VERITAS,Windows,Linux

Plug-in name displayed in the task log

jp1veritasFinishInstantRecovery

Return code

0: Normal

12: Error (Mistake by user) Invalid property

21: Error (Environmental error) No command was found (An error was detected in the component script)

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error was detected in the component) Property not entered (An error was detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.instantRecoveryID	Instant recovery ID	Specifies the ID of the instant recovery job to be terminated.	--	Input	R
JP1VERITAS.waitJobFinCount	Termination check count for instant recovery jobs	Specifies the maximum number of times the termination of the instant recovery job is checked. You can specify a value in the range from 1 to 3,600.	60	Input	R
JP1VERITAS.waitJobFinInterval	Termination check interval for instant recovery jobs	Specifies the interval (in seconds) at which the termination of the instant recovery job is checked. You can specify a value in the range from 1 to 60.	10	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.12.3 Initialize Backup Policy (VMware)

Function

This plug-in initializes the specified backup policy (as a policy in VMware format) in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following server:

- JP1/VERITAS NetBackup (execution-target server)

The server that runs JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The script in this plug-in executes the following command:

- bpplinfo <backup-policy-name> Note: This is the value of the JP1VERITAS.backupPolicyName property.

-pt VMware Note: This is a fixed value.

[-residence <storage-unit-name>] Note: This is the value of the JP1VERITAS.residence property.

[-blkincr <whether-to-permit-BLI-backup>] Note: This is the value of the JP1VERITAS.blockLevelIncremental property.

[-use_accelerator <whether-to-use-Accelerator>] Note: This is the value of the JP1VERITAS.useAccelerator property.

For details about the bpplinfo command of JP1/VERITAS NetBackup, see the JP1/VERITAS NetBackup manual.

Use situation

The following plug-ins can be used to create and set up a backup policy:

- Create Backup Policy

- Initialize Backup Policy

- Change Backup Policy Attributes

- Add Schedule to Backup Policy

- Change Backup Policy Schedule Attributes

- Add Clients to Backup Policy

- Add File List to Backup Policy

Prerequisites

For the latest support information about [Required product for the system], [Required products for the execution-target server], and [OS of the execution-target server], see the release notes.

[Required product for the system]

JP1/Automatic Operation 11-00 or later

[Required products for the execution-target server]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[OS of the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the required products on the execution-target server]

No special conditions apply.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For the backup policy name (JP1VERITAS.backupPolicyName property), you can specify single-byte alphanumeric characters and periods (.), hyphens (-), plus signs (+), and underscores (_). However, the task terminates abnormally if the specified name begins or ends with a period (.) or hyphen (-), or includes non-specifiable characters.

(3) For other notes on the command, see the JP1/VERITAS NetBackup manual.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.00

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasInitializePolicy_VMware

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plug-in) Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
JP1VERITAS.backupPolicyName	Backup Policy Name	Specifies the name of the backup policy.	--	Input	R
JP1VERITAS.residence	Backup-Destination Storage Unit Label	Specifies the label of the storage unit on which backup data is to be stored.	--	Input	O
JP1VERITAS.blockLevelIncremental	Whether to Enable BLI Backup	To enable block level incremental (BLI) backup, specify 1. To disable it, specify 0.	--	Input	O
JP1VERITAS.useAccelerator	Whether to Use Accelerator	To enable the accelerator, specify 1. To disable it, specify 0.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.12.4 Change Backup Policy Attributes (VMware)

Function

This plug-in changes the attributes of the specified backup policy (as a policy in VMware format) in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following server:

- JP1/VERITAS NetBackup (execution-target server)

The server that runs JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The script in this plug-in executes the following command:

- bpplinfo <backup-policy-name> Note: This is the value of the JP1VERITAS.backupPolicyName property.

-modify

-use_virtual_machine 1 Note: This is a fixed value.

-alt_client_name <alternate-client-name> Note: This is the value of the JP1VERITAS.altClientName property.

-snapshot_method_args [file_system_optimaization=<whether-to-exclude-deleted-blocks>]

Note: This is the value of the JP1VERITAS.fileSystemOpt property.

,[snapact="<orphaned-snapshot-handling>"] Note: This is the value of the JP1VERITAS.snapAct property.

,[Virtual_machine_backup="<whether-to-enable-recovery-from-VM-backup>"] Note: This is the value of the JP1VERITAS.vmBackup property.

,[nameuse="<primary-VM-identifier>"] Note: This is the value of the JP1VERITAS.nameUse property.

,[exclude_swap="<whether-to-exclude-swap-and-paging-files>"] Note: This is the value of the JP1VERITAS.excludeSwap property.

,[trantype="<transport-mode>"] Note: This is the value of the JP1VERITAS.tranType property.

,drive_selection=0 Note: This is a fixed value.

,enable_vCloud=0 Note: This is a fixed value.

,multi_org=0 Note: This is a fixed value.

,disable_quiesce=0 Note: This is a fixed value.

,skipnodisk=0 Note: This is a fixed value.

,post_events=1 Note: This is a fixed value.

,ignore_irvm=0 Note: This is a fixed value.

,rLim=10 Note: This is a fixed value.

,rTO=0 Note: This is a fixed value.

,rHz=10 Note: This is a fixed value.

For details about the bpplinfo command of JP1/VERITAS NetBackup, see the JP1/VERITAS NetBackup manual.

Use situation

The following plug-ins can be used to create and set up a backup policy:

- Create Backup Policy

- Initialize Backup Policy

- Change Backup Policy Attributes

- Add Schedule to Backup Policy

- Change Backup Policy Schedule Attributes

- Add Clients to Backup Policy

- Add File List to Backup Policy

Prerequisites

For the latest support information about [Required product for the system], [Required products for the execution-target server], and [OS of the execution-target server], see the release notes.

[Required product for the system]

JP1/Automatic Operation 11-00 or later

[Required products for the execution-target server]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[OS of the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the required products on the execution-target server]

No special conditions apply.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For the backup policy name (JP1VERITAS.backupPolicyName property), you can specify single-byte alphanumeric characters and periods (.), hyphens (-), plus signs (+), and underscores (_). However, the task terminates abnormally if the specified name begins or ends with a period (.) or hyphen (-), or includes non-specifiable characters.

(3) For other notes on the command, see the JP1/VERITAS NetBackup manual.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.00

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasUppdatePolicy_VMware

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plug-in) Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.backupPolicyName	Backup Policy Name	Specifies the name of the backup policy.	--	Input	R
JP1VERITAS.altClientName	Alternate Client Name	Specifies the VMware backup host (NetBackup access host). You can specify any backup host or the constant MEDIA_SERVER.	--	Input	R
JP1VERITAS.fileSystemOpt	Whether to Exclude Deleted Blocks	To enable the [Exclude deleted blocks] option of [VMware] in the policy GUI, specify 1. To disable the option, specify 0.	--	Input	O
JP1VERITAS.snapAct	Orphaned Snapshot Handling	Specifies the value for the [Orphaned snapshot handling] option of [VMware] in the policy GUI. You can specify 0 (ignore), 1 (cancel), or 2 (delete NetBackup).	--	Input	O
JP1VERITAS.vmBackup	Whether to Enable Recovery from a VM Backup	Specifies the value for the [Enable file recovery from VM backup] option of [VMware] in the policy GUI. You can specify 1 (disable) or 2 (enable).	--	Input	O
JP1VERITAS.nameUse	Primary VM Identifier	Specifies the value for the [Primary VM identifier] option of [VMware] in the policy GUI. You can specify 0 (VM host name), 1 (VM display name), 2 (VM BIOS UUID), 3 (VM DNS name), or 4 (VM instance UUID).	--	Input	O
JP1VERITAS.excludeSwap	Whether to Exclude Swap and Paging Files	Specifies the value for the [Exclude swap and paging files] option of [VMware] in the policy GUI. To enable the option, specify 1. To disable the option, specify 0.	--	Input	O
JP1VERITAS.tranType	Transport Mode	Specifies the value for the [Transport modes] option of [VMware] in the policy GUI. You can specify "san", "hotadd", "nbd", or "nbdssl". To specify multiple values, use a colon (:) as a separator.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.12.5 Create Backup Policy

Function

This plug-in creates a backup policy in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following server:

- JP1/VERITAS NetBackup (execution-target server)

The server that runs JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The script in this plug-in executes the following command:

- bppolicynew <backup-policy-name> Note: This is the value of the JP1VERITAS.backupPolicyName property.

For details about the bppolicynew command of JP1/VERITAS NetBackup, see the JP1/VERITAS NetBackup manual.

Use situation

The following plug-ins can be used to create and set up a backup policy:

- Create Backup Policy

- Initialize Backup Policy

- Change Backup Policy Attributes

- Add Schedule to Backup Policy

- Change Backup Policy Schedule Attributes

- Add Clients to Backup Policy

- Add File List to Backup Policy

Prerequisites

For the latest support information about [Required product for the system], [Required products for the execution-target server], and [OS of the execution-target server], see the release notes.

[Required product for the system]

JP1/Automatic Operation 11-00 or later

[Required products for the execution-target server]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[OS of the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the required products on the execution-target server]

No special conditions apply.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For the backup policy name (JP1VERITAS.backupPolicyName property), you can specify single-byte alphanumeric characters and periods (.), hyphens (-), plus signs (+), and underscores (_). However, the task terminates abnormally if the specified name begins or ends with a period (.) or hyphen (-), or includes non-specifiable characters.

(3) For other notes on the command, see the JP1/VERITAS NetBackup manual.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.00

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasCreatePolicy

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plug-in) Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.backupPolicyN ame	Backup Policy Name	Specifies the name of the backup policy.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.12.6 Add Clients to Backup Policy

Function

This plug-in adds clients to the specified backup policy in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following server:

- JP1/VERITAS NetBackup (execution-target server)

The server that runs JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The script in this plug-in executes the following command:

- bpplclients <backup-policy-name> Note: This is the value of the JP1VERITAS.backupPolicyName property.

-add <client-host-name> Note: This is the value of the JP1VERITAS.clientHostName property.

<hardware-name> Note: This is the value of the JP1VERITAS.hardwareName property.

<OS-name> Note: This is the value of the JP1VERITAS.osName property.

For details about the bpplclients command of JP1/VERITAS NetBackup, see the JP1/VERITAS NetBackup manual.

Use situation

The following plug-ins can be used to create and set up a backup policy:

- Create Backup Policy

- Initialize Backup Policy

- Change Backup Policy Attributes

- Add Schedule to Backup Policy

- Change Backup Policy Schedule Attributes

- Add Clients to Backup Policy

- Add File List to Backup Policy

Prerequisites

For the latest support information about [Required product for the system], [Required products for the execution-target server], and [OS of the execution-target server], see the release notes.

[Required product for the system]

JP1/Automatic Operation 11-00 or later

[Required products for the execution-target server]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[OS of the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the required products on the execution-target server]

No special conditions apply.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For the backup policy name (JP1VERITAS.backupPolicyName property), you can specify single-byte alphanumeric characters and periods (.), hyphens (-), plus signs (+), and underscores (_). However, the task terminates abnormally if the specified name begins or ends with a period (.) or hyphen (-), or includes non-specifiable characters.

(3) For other notes on the command, see the JP1/VERITAS NetBackup manual.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.00

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasAddClient

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plug-in) Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.backupPolicyName	Backup Policy Name	Specifies the name of the backup policy.	--	Input	R
JP1VERITAS.clientHostName	Client Host Name	Specifies the host name of the client to be added to the backup policy.	--	Input	R
JP1VERITAS.hardwareName	Hardware Name	Specifies the hardware name of the client to be added to the backup policy. Note that the currently specifiable value is only "VMware", which is specifiable for a policy in VMware format.	--	Input	R
JP1VERITAS.osName	OS Name	Specifies the OS name of the client to be added to the backup policy. Note that the currently specifiable value is only "Virtual_Machine", which is specifiable for a policy in VMware format.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.12.7 Change Backup Policy Schedule Attributes

Function

This plug-in changes the schedule attributes of the specified backup policy in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following server:

- JP1/VERITAS NetBackup (execution-target server)

The server that runs JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The script in this plug-in executes the following command:

- bpplschedrep <policy-name> Note: This is the value of the JP1VERITAS.backupPolicyName property.

<schedule-label> Note: This is the value of the JP1VERITAS.scheduleLabel property.

[-freq <backup-interval>] Note: This is the value of the JP1VERITAS.backupFrequency property.

[-checksum_change_detection <whether-to-enable-forced-rescan-of-accelerator>]

Note: This is the value of the JP1VERITAS.accelForceRescan property.

[-0 <Sunday-backup-period-start-time> Note: This is the value of the JP1VERITAS.sunStart property.

<Sunday-backup-period-duration>] Note: This is the value of the JP1VERITAS.sunDuration property.

[-1 <Monday-backup-period-start-time> Note: This is the value of the JP1VERITAS.monStart property.

<Monday-backup-period-duration>] Note: This is the value of the JP1VERITAS.monDuration property.

[-2 <Tuesday-backup-period-start-time> Note: This is the value of the JP1VERITAS.tueStart property.

<Tuesday-backup-period-duration>] Note: This is the value of the JP1VERITAS.tueDuration property.

[-3 <Wednesday-backup-period-start-time> Note: This is the value of the JP1VERITAS.wedStart property.

<Wednesday-backup-period-duration>] Note: This is the value of the JP1VERITAS.wedDuration property.

[-4 <Thursday-backup-period-start-time> Note: This is the value of the JP1VERITAS.thuStart property.

<Thursday-backup-period-duration>] Note: This is the value of the JP1VERITAS.thuDuration property.

[-5 <Friday-backup-period-start-time> Note: This is the value of the JP1VERITAS.friStart property.

<Friday-backup-period-duration>] Note: This is the value of the JP1VERITAS.friDuration property.

[-6 <Saturday-backup-period-start-time> Note: This is the value of the JP1VERITAS.satStart property.

<Saturday-backup-period-duration>] Note: This is the value of the JP1VERITAS.satDuration property.

[-rl <backup-retention>] Note: This is the value of the JP1VERITAS.retention property.

For details about the bpplschedrep command of JP1/VERITAS NetBackup, see the JP1/VERITAS NetBackup manual.

Note on property specification:

- For the -0 to -6 options, specify both the backup period start time and backup period duration (JP1VERITAS.xxxStart and JP1VERITAS.xxxDuration properties). If only one of these values is specified for a day of the week, the specification is ignored, and no backup period is set for the day.

Use situation

The following plug-ins can be used to create and set up a backup policy:

- Create Backup Policy

- Initialize Backup Policy

- Change Backup Policy Attributes

- Add Schedule to Backup Policy

- Change Backup Policy Schedule Attributes

- Add Clients to Backup Policy

- Add File List to Backup Policy

Prerequisites

For the latest support information about [Required product for the system], [Required products for the execution-target server], and [OS of the execution-target server], see the release notes.

[Required product for the system]

JP1/Automatic Operation 11-00 or later

[Required products for the execution-target server]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[OS of the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the required products on the execution-target server]

No special conditions apply.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For the backup policy name (JP1VERITAS.backupPolicyName property), you can specify single-byte alphanumeric characters and periods (.), hyphens (-), plus signs (+), and underscores (_). However, the task terminates abnormally if the specified name begins or ends with a period (.) or hyphen (-), or includes non-specifiable characters.

(3) For other notes on the command, see the JP1/VERITAS NetBackup manual.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.00

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasModifySchedule

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plug-in) Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.backupPolicyName	Backup Policy Name	Specifies the name of the backup policy.	--	Input	R
JP1VERITAS.scheduleLabel	Schedule Label	Specifies the label of the schedule.	--	Input	R
JP1VERITAS.backupFrequency	Backup Interval	Specifies in seconds the interval of automatic backup.	--	Input	O
JP1VERITAS.accelForceRescan	Forced Rescan of Accelerator	To enable forced rescan of the accelerator, specify 1. To disable it, specify 0.	--	Input	O
JP1VERITAS.sunStart	Backup Period Start Time (Sunday)	Specifies the start time of a backup to be performed on Sundays. The start time is specified in seconds from 0:00.	--	Input	O
JP1VERITAS.sunDuration	Backup Period Duration (Sunday)	Specifies (in seconds) the duration of a backup to be performed on Sundays.	--	Input	O
JP1VERITAS.monStart	Backup Period Start Time (Monday)	Specifies the start time of a backup to be performed on Mondays. The start time is specified in seconds from 0:00.	--	Input	O
JP1VERITAS.monDuration	Backup Period Duration (Monday)	Specifies (in seconds) the duration of a backup to be performed on Mondays.	--	Input	O
JP1VERITAS.tueStart	Backup Period Start Time (Tuesday)	Specifies the start time of a backup to be performed on Tuesdays. The start time is specified in seconds from 0:00.	--	Input	O
JP1VERITAS.tueDuration	Backup Period Duration (Tuesday)	Specifies (in seconds) the duration of a backup to be performed on Tuesdays.	--	Input	O
JP1VERITAS.wedStart	Backup Period Start Time (Wednesday)	Specifies the start time of a backup to be performed on Wednesdays. The start time is specified in seconds from 0:00.	--	Input	O
JP1VERITAS.wedDuration	Backup Period Duration (Wednesday)	Specifies (in seconds) the duration of a backup to be performed on Wednesdays.	--	Input	O
JP1VERITAS.thuStart	Backup Period Start Time (Thursday)	Specifies the start time of a backup to be performed on Thursdays. The start time is specified in seconds from 0:00.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1VERITAS.thuDuration	Backup Period Duration (Thursday)	Specifies (in seconds) the duration of a backup to be performed on Thursdays.	--	Input	O
JP1VERITAS.friStart	Backup Period Start Time (Friday)	Specifies the start time of a backup to be performed on Fridays. The start time is specified in seconds from 0:00.	--	Input	O
JP1VERITAS.friDuration	Backup Period Duration (Friday)	Specifies (in seconds) the duration of a backup to be performed on Fridays.	--	Input	O
JP1VERITAS.satStart	Backup Period Start Time (Saturday)	Specifies the start time of a backup to be performed on Saturdays. The start time is specified in seconds from 0:00.	--	Input	O
JP1VERITAS.satDuration	Backup Period Duration (Saturday)	Specifies (in seconds) the duration of a backup to be performed on Saturdays.	--	Input	O
JP1VERITAS.retention	Backup Retention	Specifies the retention period of the obtained backup data. The specifiable values are as follows: 0 (1 week), 1 (2 weeks), 2 (3 weeks), 3 (1 month), 4 (2 months), 5 (3 months), 6 (6 months), 7 (9 months), 8 (1 year), 9 to 24 (indefinite)	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.12.8 Add Schedule to Backup Policy

Function

This plug-in adds a schedule to the specified backup policy in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following server:

- JP1/VERITAS NetBackup (execution-target server)

The server that runs JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The script in this plug-in executes the following command:

- bpplsched <backup-policy-name> Note: This is the value of the JP1VERITAS.backupPolicyName property.

-add <schedule-label> Note: This is the value of the JP1VERITAS.scheduleLabel property.

-st <schedule-type> Note: This is the value of the JP1VERITAS.scheduleType property.

For details about the bpplsched command of JP1/VERITAS NetBackup, see the JP1/VERITAS NetBackup manual.

Use situation

The following plug-ins can be used to create and set up a backup policy:

- Create Backup Policy

- Initialize Backup Policy

- Change Backup Policy Attributes

- Add Schedule to Backup Policy

- Change Backup Policy Schedule Attributes

- Add Clients to Backup Policy

- Add File List to Backup Policy

Prerequisites

For the latest support information about [Required product for the system], [Required products for the execution-target server], and [OS of the execution-target server], see the release notes.

[Required product for the system]

JP1/Automatic Operation 11-00 or later

[Required products for the execution-target server]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[OS of the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the required products on the execution-target server]

No special conditions apply.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For the backup policy name (JP1VERITAS.backupPolicyName property), you can specify single-byte alphanumeric characters and periods (.), hyphens (-), plus signs (+), and underscores (_). However, the task terminates abnormally if the specified name begins or ends with a period (.) or hyphen (-), or includes non-specifiable characters.

(3) For other notes on the command, see the JP1/VERITAS NetBackup manual.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.00

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasAddSchedule

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plug-in) Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.backupPolicyN ame	Backup Policy Name	Specifies the name of the backup policy.	--	Input	R
JP1VERITAS.scheduleLabel	Schedule Label	Specifies the label of the schedule.	--	Input	R
JP1VERITAS.scheduleType	Schedule Type	Specifies the schedule type. You can specify FULL (full backup), INCR (differential incremental backup), CINC (cumulative incremental backup), UBAK (user backup), or UARC (user archive).	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.12.9 Add File List to Backup Policy

Function

This plug-in adds a file list to the specified backup policy in cooperation with JP1/VERITAS NetBackup.

This plug-in assumes the following server:

- JP1/VERITAS NetBackup (execution-target server)

The server that runs JP1/VERITAS NetBackup (master server). This product forwards the plug-in to this server, where the plug-in is executed.

The script in this plug-in executes the following command:

- bpplinclude <backup-policy-name> Note: This is the value of the JP1VERITAS.backupPolicyName property.

-add <file-list-path> Note: This is the value of the JP1VERITAS.fileListPath property.

For details about the bpplinclude command of JP1/VERITAS NetBackup, see the JP1/VERITAS NetBackup manual.

Use situation

The following plug-ins can be used to create and set up a backup policy:

- Create Backup Policy

- Initialize Backup Policy

- Change Backup Policy Attributes

- Add Schedule to Backup Policy

- Change Backup Policy Schedule Attributes

- Add Clients to Backup Policy

- Add File List to Backup Policy

Prerequisites

For the latest support information about [Required product for the system], [Required products for the execution-target server], and [OS of the execution-target server], see the release notes.

[Required product for the system]

JP1/Automatic Operation 11-00 or later

[Required products for the execution-target server]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[OS of the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the required products on the execution-target server]

No special conditions apply.

Cautions

(1) For the properties of this plug-in, do not specify a string that includes a double quotation mark (") or single quotation mark (').

(2) For the backup policy name (JP1VERITAS.backupPolicyName property), you can specify single-byte alphanumeric characters and periods (.), hyphens (-), plus signs (+), and underscores (_). However, the task terminates abnormally if the specified name begins or ends with a period (.) or hyphen (-), or includes non-specifiable characters.

(3) Do not specify a character string that includes an exclamation mark (!) or percent sign (%) in the path name (JP1VERITAS.fileListPath property) of a file list path.

(4) For other notes on the command, see the JP1/VERITAS NetBackup manual.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.01

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasAddFileList

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plug-in) Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.backupPolicyN ame	Backup Policy Name	Specifies the name of the backup policy.	--	Input	R
JP1VERITAS.fileListPath	File List Paths	Specifies the full paths of file lists to be added to the backup policy by using a comma (,)	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1VERITAS.fileListPath	File List Paths	as a separator. Note that the currently specifiable value is only "ALL_LOCAL_DRIVES", which is specifiable only for a policy in VMware format.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.12.10 Perform backup (JP1/VERITAS)

Function

This plugin executes a backup with JP1/VERITAS NetBackup, and after backup execution finishes, the plugin shuts down.

This plugin assumes that the following server is being used.

• Backup execution server (Execution target server)

The server running JP1/VERITAS NetBackup. The backup policy to be executed must already exist.

Use situation

Making a backup of the server in question periodically or when necessary.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)JP1/VERITAS NetBackup 7.0, 7.1, 7.5, 7.6, 7.7

(2)JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3)JP1/VERITAS NetBackup 9.0, 9.1

[Prerequisite product OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products on the execution target server]

(1) JP1/VERITAS NetBackup is running.

(2) The backup policy to be executed has been set up.

(3) Set the following to define a backup policy with JP1/VERITAS NetBackup.

• Do not set the Start Window of the schedule.

Set up schedule execution with JP1/Automatic Operation.

• Uncheck "Bare Metal Restore". This function is not supported for JP1/VERITAS NetBackup 7.0 or 7.1.

The default with JP1/VERITAS NetBackup 7.0 is for this to be checked, so confirm this prior to plugin execution.

Other unsupported functions of JP1/VERITAS NetBackup are described in the software documentation for JP1/VERITAS NetBackup.

Do not set these functions.

Cautions

(1) To cancel a backup that is being executed, you must cancel the job from the JP1/VERITAS NetBackup side.

Canceling (forced quit) an executing task on the JP1/Automatic Operation side does not cancel a JP1/VERITAS NetBackup job.

(2) Using the following functions will cause plugin execution to fail. Do not use these functions.

• Backups that define multiple clients for a single backup policy

• Secondary backups when Disk Staging is used

(3) When the following functions are used, multiple instances of the JP1/VERITAS NetBackup job are executed. The plugin shuts down normally only when all jobs are normal; the plugin ends abnormally in all other cases.

• Backup using multiple data streams

• Backups using multiple copies

• Catalog backups

Execution privilege

Windows: Administrator permission

UNIX: root permission

Version

02.00.00

Plug-in tags

Control JP1,VERITAS,Windows,Linux,AIX

Plug-in name displayed in the task log

jp1veritasBackup

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.jp1nbuPolicyN ame	Backup policy name	Specifies the name of the backup policy registered in JP1/ VERITAS NetBackup.	--	Input	R
JP1VERITAS.jp1nbuSchedul eName	Schedule name	Specifies the name of the schedule defined in the specified backup policy.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.12.11 Virtual-machine restoration

Function

This plug-in restores a virtual machine in a vSphere environment on a specified server linked with JP1/ VERITAS NetBackup.

This plug-in assumes the following servers:

- Execution-target server

The execution-target server refers to a server on which JP1/VERITAS NetBackup (master server) is running. This product transfers plug-ins to this server, and the plug-ins are executed on this server.

- ESX server

The ESX server refers to a server on which the restore-target virtual machine and VMware vSphere ESXi are running.

If an existing virtual machine on the restore-destination ESX has the same name as the restore-target virtual machine, the existing virtual machine is overwritten with the restore-target virtual machine.

You must place a rename file on the execution-target server when you restore a virtual machine on an ESX server different from the backup source or change settings such as virtual-machine display name and datastore. Use the rename file creation plug-in to output the rename file.

The script in this plug-in executes the following command:

- nbrestorevm -vmw -C <restore-target-virtual-machine-name> ' JP1VERITAS.restoreVmName property

[-R <rename-file-path>] ' JP1VERITAS.renameFilePath property

[-vmproxy <backup-server-name>] ' JP1VERITAS.recoveryHost property

[-vmserver <restore-target-vCenter-server-name>] ' JP1VERITAS.restorevCenterServer property)

-O -vmtm nbd -vmkeephv -w

For details about the nbrestorevm command of JP1/VERITAS NetBackup, see descriptions of the command in the relevant manual for JP1/VERITAS NetBackup.

Use situation

Use this plug-in to restore a virtual machine backed up by JP1/VERITAS NetBackup.

Prerequisites

For the latest support information about [Required product for the system]/[Required product for the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required product for the system executing the service template]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Use conditions of required product for the system]

None

Cautions

(1) Do not use a character string that includes a double quotation mark (") or single quotation mark (') in a property of this plug-in.

(2) Do not specify a character string that includes an exclamation mark (!) or percent sign (%) in the path name (JP1VERITAS.renameFilePath property) of a rename file.

(3) For other points to be noted, see the notes on the corresponding command in the relevant manual for JP1/VERITAS NetBackup.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.00

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasRestoreVm

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plug-in) Missing property (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
JP1VERITAS.restoreVmNam e	Restore-target virtual machine name	This parameter specifies the name of the virtual machine to be restored. The virtual machine name must match the type of name that was selected in the Primary VM identifier option of the backup policy.	--	Input	R
JP1VERITAS.restorevCenter Server	Restore-target vCenter server name	Specify the name of the vCenter server to be restored. If you restore the vCenter server as a vCenter	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1VERITAS.restorevCenter Server	Restore-target vCenter server name	server different from the backup source, specify this parameter.	--	Input	O
JP1VERITAS.recoveryHost	Backup server name	Specify the name of the backup server to perform the restoration. If you use a backup server different from the one used for backup execution, specify this parameter.	--	Input	O
JP1VERITAS.renameFilePath Option	Rename-file path	Specify the absolute path name of the rename file. Specify this parameter if you will change the location or settings of the virtual machine to be restored.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.12.12 Rename-file creation

Function

This plug-in creates a rename file to be used to restore a virtual machine in a vSphere environment linked with JP1/VERITAS NetBackup. The path name of the rename file created by this plug-in is specified in the JP1VERITAS.renameFilePath property of the virtual-machine restoration plug-in.

This plug-in assumes the following server:

- Execution-target server

The execution-target server refers to a server on which JP1/VERITAS NetBackup (master server) is running. The rename file is output to the folder that has the specified path name on the execution-target server.

The script in this plug-in outputs the rename file having the following content to the folder that has the specified path name:

[change vmname to virtual-machine-display-name (JP1VERITAS.newDisplayName property)]

[change esxhost to restore-destination-ESX-server (JP1VERITAS.newEsxHost property)]

[change datacenter to restore-destination-datacenter (JP1VERITAS.newDatacenter property)]

[change folder to restore-destination-folder (JP1VERITAS.newFolder property)]

[change resourcepool to restore-destination-resource-pool (JP1VERITAS.newResourcePool property)]

[change datastore to restore-destination-datastore (JP1VERITAS.newVmxDatastore property)]

[change original-vmdk-file-path-1 (JP1VERITAS.originalVmdkPath1 property) to restore-destination-vmdk-file-path-1 (JP1VERITAS.newVmdkPath1 property)]

[change original-vmdk-file-path-2 (JP1VERITAS.originalVmdkPath2 property) to restore-destination-vmdk-file-path-2 (JP1VERITAS.newVmdkPath2 property)]

[change original-vmdk-file-path-3 (JP1VERITAS.originalVmdkPath3 property) to restore-destination-vmdk-file-path-3 (JP1VERITAS.newVmdkPath3 property)]

[change original-vmdk-file-path-4 (JP1VERITAS.originalVmdkPath4 property) to restore-destination-vmdk-file-path-4 (JP1VERITAS.newVmdkPath4 property)]

[change original-vmdk-file-path-5 (JP1VERITAS.originalVmdkPath5 property) to restore-destination-vmdk-file-path-5 (JP1VERITAS.newVmdkPath5 property)]

[change original-vmdk-file-path-6 (JP1VERITAS.originalVmdkPath6 property) to restore-destination-vmdk-file-path-6 (JP1VERITAS.newVmdkPath6 property)]

[change original-vmdk-file-path-7 (JP1VERITAS.originalVmdkPath7 property) to restore-destination-vmdk-file-path-7 (JP1VERITAS.newVmdkPath7 property)]

[change original-vmdk-file-path-8 (JP1VERITAS.originalVmdkPath8 property) to restore-destination-vmdk-file-path-8 (JP1VERITAS.newVmdkPath8 property)]

[change original-vmdk-file-path-9 (JP1VERITAS.originalVmdkPath9 property) to restore-destination-vmdk-file-path-9 (JP1VERITAS.newVmdkPath9 property)]

[change original-vmdk-file-path-10 (JP1VERITAS.originalVmdkPath10 property) to restore-destination-vmdk-file-path-10 (JP1VERITAS.newVmdkPath10 property)]

[change network network-name (JP1VERITAS.newNetwork property)]

For details about the rename file, see descriptions of the nbrestorevm in the relevant manual for JP1/VERITAS NetBackup.

Use situation

Use this plug-in in combination with the virtual-machine restoration plug-in when restoring a virtual machine backed up by JP1/VERITAS NetBackup.

Prerequisites

For the latest support information about [Required product for the system]/[Required product for the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required product for the system executing the service template]

(1) JP1/VERITAS NetBackup 7.6, 7.7

(2) JP1/VERITAS NetBackup 8.0, 8.1, 8.2, 8.3

(3) JP1/VERITAS NetBackup 9.0, 9.1

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Use conditions of required product for the system]

None

Cautions

(1) Do not use a character string that includes a double quotation mark (") or single quotation mark (') in a property of this plug-in.

(2) Do not specify a character string that includes an exclamation mark (!) or percent sign (%) in the path name (JP1VERITAS.renameFilePath property) of a rename file.

(3) If an existing file has the same path name as that of the rename file (path name specified in the JP1VERITAS.renameFilePath property), the existing file is overwritten with the rename file. Make sure that a correct path name has been specified for the rename file.

(4) If the folder with a path name included in the path name of the rename file to be created does not exist, create the folder.

Execution privilege

The user who executes this plug-in must be a member of the Administrators group.

Version

02.01.01

Plug-in tags

Control JP1,VERITAS,Windows

Plug-in name displayed in the task log

jp1veritasCreateRenameFile

Return code

0: Normal

14: Error (user error) File cannot be accessed

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

41: Error (error detected in plug-in) Missing property (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
JP1VERITAS.renameFilePath	Rename-file path	Specify the absolute path name of the rename file.	--	Input	R
JP1VERITAS.newDisplayName	Virtual-machine display name	Specify the display name of the virtual machine to be restored. If this parameter is omitted, the original display name of the virtual machine is used.	--	Input	O
JP1VERITAS.newEsxHost	Restore-destination ESX server	Specify the ESX server in which to restore the virtual machine. If you restore the virtual machine on an ESX server different from the backup source, specify this parameter.	--	Input	O
JP1VERITAS.newDatacenter	Restore-destination datacenter	Specify the datacenter in which to restore the virtual machine. For the specification, use the format "/datacenter-name". If no datacenter is found at the restore destination, specify "None" in this parameter.	--	Input	O
JP1VERITAS.newFolder	Restore-destination folder	Specify the folder in which to restore the virtual machine. For the specification, use the format "/datacenter-name/folder-name". If no folder is found at the restore destination, specify "None" in this parameter.	--	Input	O
JP1VERITAS.newResourcePool	Restore-destination resource pool	Specify the resource pool in which to restore the virtual machine. For the specification, use the format "/datacenter-name/host/ESX-server-name/resources/resource-pool-name".	--	Input	O
JP1VERITAS.newVmxDatastore	Restore-destination datastore	Specify the datastore in which to restore the virtual machine.	--	Input	O
JP1VERITAS.originalVmdkPath1	Original vmdk file path 1	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath1	Restore-destination vmdk file path 1	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.originalVmdkPath2	Original vmdk file path 2	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath2	Restore-destination vmdk file path 2	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
JP1VERITAS.originalVmdkP ath3	Original vmdk file path 3	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath 3	Restore-destination vmdk file path 3	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.originalVmdkP ath4	Original vmdk file path 4	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath 4	Restore-destination vmdk file path 4	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.originalVmdkP ath5	Original vmdk file path 5	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath 5	Restore-destination vmdk file path 5	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.originalVmdkP ath6	Original vmdk file path 6	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath 6	Restore-destination vmdk file path 6	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.originalVmdkP ath7	Original vmdk file path 7	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath 7	Restore-destination vmdk file path 7	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.originalVmdkP ath8	Original vmdk file path 8	Specify the path name of the original vmdk file. If you restore the virtual machine in a	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
JP1VERITAS.originalVmdkPath8	Original vmdk file path 8	datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath8	Restore-destination vmdk file path 8	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.originalVmdkPath9	Original vmdk file path 9	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath9	Restore-destination vmdk file path 9	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.originalVmdkPath10	Original vmdk file path 10	Specify the path name of the original vmdk file. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newVmdkPath10	Restore-destination vmdk file path 10	Specify the path name of the vmdk file at the restore destination. If you restore the virtual machine in a datastore different from the original datastore, specify this parameter.	--	Input	O
JP1VERITAS.newNetwork	Network name	Specify a new network name for the virtual machine to be restored. If you specify multiple network names, separate them by a comma (,).	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13 OS-related Plug-ins

4.13.1 Update cell data in a CSV/Excel file

Function

This plug-in updates cells in CSV (Comma Separated Values) files or excel sheets created in Microsoft Excel with the specified input data. In a Windows environment, this plug-in can update the data in a CSV file or Excel file. In a UNIX environment, this plug-in can update the data in a CSV file.

The updated data will be displayed according to the display format of cells.

Do not specify any confidential information, such as passwords, as input data because the input data will be output to the task log file.

This plug-in can be used for files that meet the following conditions:

- In a Windows environment, the file can be edited in Microsoft Excel.

- For CSV files, the file must be a text file with the csv extension.

- In a UNIX environment, the CSV file must be written with the encoding specified for the LANG user environment variable, and must use LF as the line break code.

- In a UNIX environment, when you specify a CSV file name, make sure that the length of the file name, excluding the path name, does not exceed 225 bytes.

- For Excel files, the file must have the xls extension (Excel format saved as "Excel 97 - 2003 book") or the xlsx or xlsm extension (Excel book or Excel macro enabled book of Excel 2007 or later).

This plug-in requires the following server:

- Execution-target server

The server on which this plug-in is to be executed. In a Windows environment, the prerequisite version of Microsoft Excel must be installed on this server.

The script in this plug-in performs the following processing:

- Updates the cells specified in the list of cells (the property excel.cellList) of the file whose name is specified for the file name property (common.fileName) with the data specified as input data (the properties excel.inputValue1 to 50)

A maximum of 5,120 characters in total can be specified as input data.

In a UNIX environment, make sure that the length of each row does not exceed 127 KB after the file is updated with input data.

In a UNIX environment, this plug-in can update the data of only existing rows or columns. An attempt to update non-existent rows or columns results in an error.

This plug-in does not create a file even if the specified CSV file or Excel file does not exist.

In a Windows environment, if the specified file is already opened by the built-in Administrator, this plug-in ends abnormally.

When using 32-bit version of Microsoft Excel, if the following folder does not exist, the folder is created.

%SystemRoot%\SysWOW64\config\systemprofile\Desktop

When using 64-bit version of Microsoft Excel, you need to create the following folder in advance.

%SystemRoot%\System32\config\systemprofile\Desktop

%SystemRoot% mentioned above specifies the same folder as the environment variable "SystemRoot".

In a UNIX environment, this plug-in creates a temporary file whose name is the specified CSV file name suffixed by a string in -tmp-yyyymmdd_hhmmss-pid format (yyyymmdd_hhmmss: date and time that the plug-in was run, pid: PID of the plug-in). Note that a new temporary file will overwrite an existing temporary file if the names of these temporary files include the same CSV file name.

For example, if you specify /tmp/data.csv as the target CSV file, the temporary file to be created will have the following name:

/tmp/data.csv-tmp-yyyymmdd_hhmmss-pid

(yyyymmdd_hhmmss: date and time that the plug-in was run, pid: PID of the plug-in)

Note that this temporary file is deleted when the plug-in terminates.

In a UNIX environment, the directory that contains the target CSV file must have free space whose size is equal to or larger than the CSV file.

In a UNIX environment, if an ordinary user other than the owner of the CSV file runs the plug-in, the owner and group of the CSV file are replaced with the respective information of that user after the plug-in is run.

Use situation

You can use this plug-in to write data, such as output information and the results of services that were already executed, to CSV or Excel files.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products on the execution-target server:

In a Windows environment

(1) Microsoft Excel 2007

(2) Microsoft Excel 2010

(3) Microsoft Excel 2013

(4) Microsoft Excel 2016

(5) Microsoft Excel 2019

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

- Notes when the server is running in a Windows environment

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) This plug-in cannot be used for Excel files for which read passwords or write passwords are set.

(3) Do not simultaneously execute multiple instances of this plug-in for the same file.

(4) To input data to merged cells, in the list of cells (the property excel.cellList), specify only the cell at the upper left corner of the merged range. If you specify a cell other than the cell at the upper left corner of the merged range, the plug-in ends normally but the data is not input.

(5) If this plug-in terminated abnormally and "80080005 Server execution failed" was output in the task log, the Excel file might be open on the execution-target server. Confirm the status of the Excel file. At this time, the process "OfficeC2RClient.exe" might start up. If you want to terminate this process, operate with Task Manager, etc.

(6) If the plug-in ends abnormally, the file will not be updated. Accordingly, data already input to the file will not be saved.

- Notes when the server is running in a UNIX environment

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) If a locale environment variable (such as LC_ALL or LC_MESSAGES) that has higher priority than LANG has been specified, the higher-priority locale environment variable will take precedence over LANG. Therefore, when executing

a plug-in, cancel the higher-priority locale environment variable (such as LC_ALL or LC_MESSAGES) or change its value to the same value as the LANG environment variable.

(3) Do not simultaneously execute multiple instances of this plug-in for the same file.

(4) If the plug-in ends abnormally, the file will not be updated. Accordingly, data already input to the file will not be saved.

(5) The data of each cell in a CSV file cannot include a comma (,) or line break. Cells that include a comma (,) or line break are not correctly handled as columns.

Execution privilege

Windows environment: User with Administrator permission

UNIX environment: Root user or the owner of the CSV file and read permission for the CSV file and write permission for the parent directory of the CSV file

Version

02.51.00

Plug-in tags

Control OS,File Operations,Windows,Linux

Plug-in name displayed in the task log

osUpdateCSVExcelFileCell

Return code

0: Normal

12: Error (mistake by user) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specify the full path of the target CSV or Excel file to be updated.	--	Input	R
common.sheetName	Worksheet name in Excel file	Specifies the name of the worksheet in the Excel file. Does not need to be specified in the case of a CSV file.	Sheet1	Input	O
excel.cellList	List of cells	In a Windows environment, use the A1-style cell reference string or cell name to specify the location of the cell which data to be input.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
excel.cellList	List of cells	You can specify a maximum of 50 cells delimited by commas (,). In a UNIX environment, use the "R;C" format (R: row number, C: column number) to specify the location of the cell which data to be input. You can specify a maximum of 50 cells delimited by commas (,).	--	Input	R
excel.inputValue1	InputData 1	Specify the data to be input to the 1st column specified in excel.cellList.	--	Input	O
excel.inputValue2	InputData 2	Specify the data to be input to the 2nd column specified in excel.cellList.	--	Input	O
excel.inputValue3	InputData 3	Specify the data to be input to the 3rd column specified in excel.cellList.	--	Input	O
excel.inputValue4	InputData 4	Specify the data to be input to the 4th column specified in excel.cellList.	--	Input	O
excel.inputValue5	InputData 5	Specify the data to be input to the 5th column specified in excel.cellList.	--	Input	O
excel.inputValue6	InputData 6	Specify the data to be input to the 6th column specified in excel.cellList.	--	Input	O
excel.inputValue7	InputData 7	Specify the data to be input to the 7th column specified in excel.cellList.	--	Input	O
excel.inputValue8	InputData 8	Specify the data to be input to the 8th column specified in excel.cellList.	--	Input	O
excel.inputValue9	InputData 9	Specify the data to be input to the 9th column specified in excel.cellList.	--	Input	O
excel.inputValue10	InputData 10	Specify the data to be input to the 10th column specified in excel.cellList.	--	Input	O
excel.inputValue11	InputData 11	Specify the data to be input to the 11th column specified in excel.cellList.	--	Input	O
excel.inputValue12	InputData 12	Specify the data to be input to the 12th column specified in excel.cellList.	--	Input	O
excel.inputValue13	InputData 13	Specify the data to be input to the 13th column specified in excel.cellList.	--	Input	O
excel.inputValue14	InputData 14	Specify the data to be input to the 14th column specified in excel.cellList.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
excel.inputValue15	InputData 15	Specify the data to be input to the 15th column specified in excel.cellList.	--	Input	O
excel.inputValue16	InputData 16	Specify the data to be input to the 16th column specified in excel.cellList.	--	Input	O
excel.inputValue17	InputData 17	Specify the data to be input to the 17th column specified in excel.cellList.	--	Input	O
excel.inputValue18	InputData 18	Specify the data to be input to the 18th column specified in excel.cellList.	--	Input	O
excel.inputValue19	InputData 19	Specify the data to be input to the 19th column specified in excel.cellList.	--	Input	O
excel.inputValue20	InputData 20	Specify the data to be input to the 20th column specified in excel.cellList.	--	Input	O
excel.inputValue21	InputData 21	Specify the data to be input to the 21st column specified in excel.cellList.	--	Input	O
excel.inputValue22	InputData 22	Specify the data to be input to the 22nd column specified in excel.cellList.	--	Input	O
excel.inputValue23	InputData 23	Specify the data to be input to the 23rd column specified in excel.cellList.	--	Input	O
excel.inputValue24	InputData 24	Specify the data to be input to the 24th column specified in excel.cellList.	--	Input	O
excel.inputValue25	InputData 25	Specify the data to be input to the 25th column specified in excel.cellList.	--	Input	O
excel.inputValue26	InputData 26	Specify the data to be input to the 26th column specified in excel.cellList.	--	Input	O
excel.inputValue27	InputData 27	Specify the data to be input to the 27th column specified in excel.cellList.	--	Input	O
excel.inputValue28	InputData 28	Specify the data to be input to the 28th column specified in excel.cellList.	--	Input	O
excel.inputValue29	InputData 29	Specify the data to be input to the 29th column specified in excel.cellList.	--	Input	O
excel.inputValue30	InputData 30	Specify the data to be input to the 30th column specified in excel.cellList.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
excel.inputValue31	InputData 31	Specify the data to be input to the 31st column specified in excel.cellList.	--	Input	O
excel.inputValue32	InputData 32	Specify the data to be input to the 32nd column specified in excel.cellList.	--	Input	O
excel.inputValue33	InputData 33	Specify the data to be input to the 33rd column specified in excel.cellList.	--	Input	O
excel.inputValue34	InputData 34	Specify the data to be input to the 34th column specified in excel.cellList.	--	Input	O
excel.inputValue35	InputData 35	Specify the data to be input to the 35th column specified in excel.cellList.	--	Input	O
excel.inputValue36	InputData 36	Specify the data to be input to the 36th column specified in excel.cellList.	--	Input	O
excel.inputValue37	InputData 37	Specify the data to be input to the 37th column specified in excel.cellList.	--	Input	O
excel.inputValue38	InputData 38	Specify the data to be input to the 38th column specified in excel.cellList.	--	Input	O
excel.inputValue39	InputData 39	Specify the data to be input to the 39th column specified in excel.cellList.	--	Input	O
excel.inputValue40	InputData 40	Specify the data to be input to the 40th column specified in excel.cellList.	--	Input	O
excel.inputValue41	InputData 41	Specify the data to be input to the 41st column specified in excel.cellList.	--	Input	O
excel.inputValue42	InputData 42	Specify the data to be input to the 42nd column specified in excel.cellList.	--	Input	O
excel.inputValue43	InputData 43	Specify the data to be input to the 43rd column specified in excel.cellList.	--	Input	O
excel.inputValue44	InputData 44	Specify the data to be input to the 44th column specified in excel.cellList.	--	Input	O
excel.inputValue45	InputData 45	Specify the data to be input to the 45th column specified in excel.cellList.	--	Input	O
excel.inputValue46	InputData 46	Specify the data to be input to the 46th column specified in excel.cellList.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
excel.inputValue47	InputData 47	Specify the data to be input to the 47th column specified in excel.cellList.	--	Input	O
excel.inputValue48	InputData 48	Specify the data to be input to the 48th column specified in excel.cellList.	--	Input	O
excel.inputValue49	InputData 49	Specify the data to be input to the 49th column specified in excel.cellList.	--	Input	O
excel.inputValue50	InputData 50	Specify the data to be input to the 50th column specified in excel.cellList.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.2 Acquisition of cell data from a CSV/Excel file

Function

This plug-in retrieves data from the specified cells in a CSV (Comma Separated Values) file or Microsoft Excel worksheet, and then sets the retrieved data in the output property. In a Windows environment, this plug-in can retrieve data from a CSV file or Excel file. In a UNIX environment, this plug-in can retrieve data from a CSV file.

When the data retrieved from the cells is set in the output property, the data is output to the task log.

Note that the data is not output to the task log when the output level of the task log is set to the default value (10) and the task ends normally.

This plug-in can be used for files that meet the following conditions:

- In a Windows environment, the file can be edited in Microsoft Excel.

- For CSV files, the file must be a text file with the csv extension.

- In a UNIX environment, the CSV file must be written with the encoding specified for the LANG user environment variable, and must use LF as the line break code.

- For Excel files, the file must have the xls extension (Excel format saved as "Excel 97 - 2003 book") or the xlsx or xlsm extension (Excel book or Excel macro enabled book of Excel 2007 or later).

This plug-in requires the following server:

- Execution-target server

The server on which this plug-in is to be executed. In a Windows environment, the prerequisite version of Microsoft Excel must be installed on this server.

The script contained in this plug-in performs the following process:

From the input file specified in the file name property (common.fileName), data in the cells specified in the cell list property (excel.cellList) are retrieved and then output to the output properties (excel.OutputValue1 to excel.OutputValue50).

When using 32-bit version of Microsoft Excel, if the following folder does not exist, the folder is created.

%SystemRoot%\SysWOW64\config\systemprofile\Desktop

When using 64-bit version of Microsoft Excel, you need to create the following folder in advance.

%SystemRoot%\System32\config\systemprofile\Desktop

%SystemRoot% mentioned above specifies the same folder as the environment variable "SystemRoot".

In a UNIX environment, this plug-in checks whether the following condition is met for each cell of the retrieved data. If the condition is met, the plug-in terminates abnormally.

(a) The data length in the cell exceeds 1,024 bytes.

Use situation

You can acquire the data from the CSV/Excel file containing management information, and use the data as input for a service.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products on the execution-target server:

In a Windows environment

(1) Microsoft Excel 2007

(2) Microsoft Excel 2010

(3) Microsoft Excel 2013

(4) Microsoft Excel 2016

(5) Microsoft Excel 2019

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

- Notes when the server is running in a Windows environment

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) This plug-in cannot be used for Excel files for which read passwords or write passwords are set.

(3) This plug-in can retrieve strings in the same format as that displayed in cells in Excel files. Note the following:

- Depending on the versions of the OS and Excel, the data might be retrieved in a different format from that displayed in the cell.

For example, from an Excel 2007 file on a device running Windows Server 2008 R2 or Windows Server 2012 R2 environment, even if data is displayed in the format "yyyy/mm/dd", the retrieved data might be displayed as "2017/4/1" instead of "2017/04/01".

- The maximum length of data that this plug-in can retrieve is the same as the maximum number of characters that Windows PowerShell can retrieve.

For example, from an Excel 2007 file on a device running Windows Server 2008 R2 or Windows Server 2012 R2 environment, you can retrieve a maximum of 8,221 characters.

(4) If this plug-in terminated abnormally and "80080005 Server execution failed" was output in the task log, the Excel file might be open on the execution-target server. Confirm the status of the Excel file. At this time, the process "OfficeC2RClient.exe" might start up. If you want to terminate this process, operate with Task Manager, etc.

- Notes when the server is running in a UNIX environment

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) The data of each cell in a CSV file cannot include a comma (,) or line break. Cells that include a comma (,) or line break are not correctly handled as columns.

(3) If a locale environment variable (such as LC_ALL or LC_MESSAGES) that has higher priority than LANG has been specified, the higher-priority locale environment variable will take precedence over LANG. Therefore, when executing a plug-in, cancel the higher-priority locale environment variable (such as LC_ALL or LC_MESSAGES) or change its value to the same value as the LANG environment variable.

Execution privilege

Windows environment: User with Administrator permission

UNIX environment: User with read permission for the CSV file

Version

02.51.00

Plug-in tags

File Operations,Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osReadCSVExcelFileCell

Return code

0: Normal

11: Error (Mistake by user) Invalid content in the definition file

12: Error (mistake by user) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specify the full path of the target CSV or Excel file to be retrieved data.	--	Input	R
common.sheetName	Worksheet name in Excel file	Specifies the name of the worksheet in the Excel file. Does not need to be specified in the case of a CSV file.	Sheet1	Input	O
excel.cellList	List of cells	In a Windows environment, use the A1-style cell reference string or cell name to specify the location of the cell whose data you want to retrieve. You can specify a maximum of 50 cells delimited by commas (,). In a UNIX environment, use the "R;C" format (R: row number, C: column number) to specify the location of the cell whose data you want to retrieve. You can specify a maximum of 50 cells delimited by commas (,).	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
excel.OutputValue1	Data 1	Stores the retrieved data.	--	Output	O
excel.OutputValue2	Data 2	Stores the retrieved data.	--	Output	O
excel.OutputValue3	Data 3	Stores the retrieved data.	--	Output	O
excel.OutputValue4	Data 4	Stores the retrieved data.	--	Output	O
excel.OutputValue5	Data 5	Stores the retrieved data.	--	Output	O
excel.OutputValue6	Data 6	Stores the retrieved data.	--	Output	O
excel.OutputValue7	Data 7	Stores the retrieved data.	--	Output	O
excel.OutputValue8	Data 8	Stores the retrieved data.	--	Output	O
excel.OutputValue9	Data 9	Stores the retrieved data.	--	Output	O
excel.OutputValue10	Data 10	Stores the retrieved data.	--	Output	O
excel.OutputValue11	Data 11	Stores the retrieved data.	--	Output	O
excel.OutputValue12	Data 12	Stores the retrieved data.	--	Output	O
excel.OutputValue13	Data 13	Stores the retrieved data.	--	Output	O
excel.OutputValue14	Data 14	Stores the retrieved data.	--	Output	O
excel.OutputValue15	Data 15	Stores the retrieved data.	--	Output	O
excel.OutputValue16	Data 16	Stores the retrieved data.	--	Output	O
excel.OutputValue17	Data 17	Stores the retrieved data.	--	Output	O
excel.OutputValue18	Data 18	Stores the retrieved data.	--	Output	O
excel.OutputValue19	Data 19	Stores the retrieved data.	--	Output	O
excel.OutputValue20	Data 20	Stores the retrieved data.	--	Output	O
excel.OutputValue21	Data 21	Stores the retrieved data.	--	Output	O
excel.OutputValue22	Data 22	Stores the retrieved data.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Requ ired
excel.OutputValue23	Data 23	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue24	Data 24	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue25	Data 25	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue26	Data 26	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue27	Data 27	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue28	Data 28	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue29	Data 29	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue30	Data 30	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue31	Data 31	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue32	Data 32	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue33	Data 33	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue34	Data 34	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue35	Data 35	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue36	Data 36	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue37	Data 37	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue38	Data 38	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue39	Data 39	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue40	Data 40	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue41	Data 41	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue42	Data 42	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue43	Data 43	Stores the retrieved data.	--	Outpu t	O
excel.OutputValue44	Data 44	Stores the retrieved data.	--	Outpu t	O

Property key	Property name	Description	Default value	I/O type	Required
excel.OutputValue45	Data 45	Stores the retrieved data.	--	Output	O
excel.OutputValue46	Data 46	Stores the retrieved data.	--	Output	O
excel.OutputValue47	Data 47	Stores the retrieved data.	--	Output	O
excel.OutputValue48	Data 48	Stores the retrieved data.	--	Output	O
excel.OutputValue49	Data 49	Stores the retrieved data.	--	Output	O
excel.OutputValue50	Data 50	Stores the retrieved data.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.3 Division of data from a CSV/Excel file

Function

This plug-in divides a CSV (Comma Separated Values) file or a spreadsheet created in Microsoft Excel, into multiple files containing the specified number of rows. In a Windows environment, the plug-in can divide a CSV file or Excel file. In a UNIX environment, the plug-in can divide a CSV file.

You can also specify column filter conditions so that only rows that meet those conditions are output to the files resulting from the division (hereinafter referred to as the output files).

This plug-in can be used for files that meet the following conditions:

- In a Windows environment, the file can be edited in Microsoft Excel.

- The column names are entered in the first row. The items in the first row are copied, as column names, into each of the output files.

- For CSV files, the file must be a text file with the csv extension.

- For Excel files, the file must have the xls extension (Excel format saved as "Excel 97 - 2003 book") or the xlsx or xlsm extension (Excel book or Excel macro enabled book of Excel 2007 or later).

- In a UNIX environment, the CSV file must be written with the encoding specified for the LANG user environment variable, and must use LF as the line break code.

- In a UNIX environment built with Red Hat Enterprise Linux Server 6 or CentOS 6, this plug-in can divide a file into no more than 100 output files. If the number of output files exceeds 100, the plug-in terminates abnormally.

This plug-in requires the following server:

- Execution-target server

The server on which this plug-in is to be executed. In a Windows environment, the prerequisite version of Microsoft Excel must be installed on this server.

In a Windows environment, the script of this plug-in performs the following processes:

(1) The input file specified for the file name(common.fileName property) is copied to an output file (serial number 0)#.

(2) If a list of columns to undergo filter processing (excel.filterColumnList property) has been specified, rows that do not meet the column data's filter conditions (properties from excel.filterColumnString1 to excel.filterColumnString10) are deleted from an output file (serial number 0)#. If multiple conditions are specified, only rows that meet all conditions are extracted, and the rest of the rows are deleted.

(3) The rows are copied in batches of the number of rows specified for number of rows to be divided (common.divideLineCount property), from a temporary file (serial number 0)# to each of the other output files (serial number 1 onward)#. The first row of the temporary file (serial number 0)# is assumed as the column name, and is copied to the first row of each output file (serial number 1 onward)#. When dividing an Excel file, the sheet name of the divided file is "Sheet1".

In a UNIX environment, the script of this plug-in performs the following processes:

(1) Deletes existing files whose names use the same naming convention as output files (all of elements (a), (b), and (c) are the same)#.

(2) Copies the input file specified in the file name (common.fileName property) to generate a temporary file (serial number 0)# at the destination folder path for file output (common.outputFolderPath property).

(3) If a list of columns to undergo filter processing (excel.filterColumnList property) has been specified, rows that do not meet the column data's filter conditions (properties from excel.filterColumnString1 to excel.filterColumnString10) are deleted from a temporary file (serial number 0)#. If multiple conditions are specified, only rows that meet all conditions are extracted, and the rest of the rows are deleted.

(4) The rows are copied in batches of the number of rows specified for number of rows to be divided (common.divideLineCount property), from a temporary file (serial number 0)# to each of the other output files (serial number 00 onward)#. The first row of the temporary file (serial number 0)# is assumed as the column name, and is copied to the first row of each output file (serial number 00 onward)#.

#: The temporary file and output files are assigned a name that is made by concatenating the following elements:

(a) Path of the folder to which the file is output (value of the common.outputFolderPath property) (Example:C:\temp)

(b) Folder delimiter character "\" or "/"

(c) File prefix (value of the common.filePrefix property) (Example:result)

(d) Serial number based on the character string associated with the repeated execution plug-in (value of the common.loopInputProperties property) (Example:0, 1)

(e) File extension (value of the common.fileExtension property) (Example:.csv)

In the preceding example, the output files will have names "C:\temp\result0.csv" and "C:\temp\result1.csv".

If the folder specified as the destination folder path for file output (common.outputFolderPath property) does not exist, the folder is created and is used as the output destination for the output files. If an existing file has the same name as an output file, that file is overwritten.

In addition, when using 32-bit version of Microsoft Excel, if the following folder does not exist, the folder is created.

%SystemRoot%\SysWOW64\config\systemprofile\Desktop

When using 64-bit version of Microsoft Excel, you need to create the following folder in advance.

%SystemRoot%\System32\config\systemprofile\Desktop

%SystemRoot% mentioned above specifies the same folder as the environment variable "SystemRoot".

In a UNIX environment, the attributes of output files created by this plug-in do not depend on the target file.

- The local execution function is disabled

The attributes of output files are set according to the user who runs the plug-in and umask settings. If you change the umask, specify the umask settings by using the .bashrc file of the user who runs the plug-in.

- The local execution function is enabled

Execution user of a plug-in is root user, and the umask is fixed to "0066".

Use situation

When values entered in the rows of a CSV/Excel file are processed by using a repeated execution plug-in, dividing the CSV/Excel file by using this plug-in allows you to process a greater number of rows than the maximum number of repetitions allowed by the repeated execution plug-in.

In addition, by specifying filter conditions for columns of your choice, you can choose to extract and process only rows that meet those conditions.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, and supported OSs for the execution-target server, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products on the execution-target server:

In a Windows environment

(1) Microsoft Excel 2007

(2) Microsoft Excel 2010

(3) Microsoft Excel 2013

(4) Microsoft Excel 2016

(5) Microsoft Excel 2019

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions for using the prerequisite products on the execution-target server:

None

Cautions

- Notes when the server is running in a Windows environment

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) If a file with the number of columns of 257 or more is specified for the file name (common.fileName property), the component is abnormally terminated.

(3) Specify an integer value of 65535 or less for the number of rows to be divided (common.divideLineCount property). The component is abnormally terminated if a value of 65536 or more is specified.

(4) If no files are created, for attention because no rows met the filter conditions, the string for the repeated execution plug-in (serial numbers of output file names) (common.loopInputProperties property) is left empty. Therefore, if this property is passed on as is to a repeated execution plug-in, the repeated execution plug-in ends abnormally.

(5) In this plug-in, the number of the column to be filtered also includes the empty columns on the left side of the column where the column name or the data is described first. But it does not include them in "Acquisition of column data from a CSV/Excel file" plug-in and "Acquisition of row data from a CSV/Excel file" plug-in. Therefore, be careful when using in combination with "Acquisition of column data from a CSV/Excel file" plug-in and "Acquisition of row data from a CSV/Excel file" plug-in.

(6) If this plug-in terminated abnormally and "80080005 Server execution failed" was output in the task log, the Excel file might be open on the execution-target server. Confirm the status of the Excel file. At this time, the process "OfficeC2RClient.exe" might start up. If you want to terminate this process, operate with Task Manager, etc.

(7) Do not run two or more instances of this plug-in if the temporary files or output files created by the instances will have the same name.

(8) The following characters cannot be used in the file prefix (common.filePrefix property).

< > ? [ ] : | *

- Notes when the server is running in a UNIX environment

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) The data of each cell in a CSV file cannot include a comma (,) or line break. Cells that include a comma (,) or line break are not correctly handled as columns.

(3) This plug-in does not ignore any halfwidth spaces and tabs at the beginning and end of each row in a CSV file. However, the "Acquisition of row data from a CSV/Excel file" plug-in ignores those spaces and tabs. Keep this in mind when using both of these plug-ins.

(4) If no files are created, for example because no rows met the filter conditions, the string for the repeated execution plug-in (serial numbers of output file names) (common.loopInputProperties property) is left empty. Therefore, if this property is passed on as is to a repeated execution plug-in, the repeated execution plug-in ends abnormally.

(5) If a locale environment variable (such as LC_ALL or LC_MESSAGES) that has higher priority than LANG has been specified, the higher-priority locale environment variable will take precedence over LANG. Therefore, when executing a plug-in, cancel the higher-priority locale environment variable (such as LC_ALL or LC_MESSAGES) or change its value to the same value as the LANG environment variable.

(6) Do not run two or more instances of this plug-in if the temporary files or output files created by the instances will have the same name.

(7) For the first character of the file prefix (common.filePrefix property), the following characters cannot be used.

- .

Execution privilege

Windows environment: User with Administrator permission

UNIX environment: User with read permission for the CSV file and write permission for the output destination directory. If the output destination directory does not exist, write permission for the parent directory of the output destination directory is required.

Version

02.51.00

Plug-in tags

Control OS,File Operations,Windows,Linux

Plug-in name displayed in the task log

osDivideCSVExcelFile

Return code

0: Normal

12: Error (mistake by user) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

27: Error (check task logs for the nature of error)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specify the full path of the target CSV or Excel file to be divided.	--	Input	R
common.sheetName	Worksheet name in Excel file	Specifies the name of the worksheet in the Excel file. Does not need to be specified in the case of a CSV file.	Sheet1	Input	O
common.outputFolderPath	Destination folder path for file output	Specify the full path of the folder to which to output the output files.	--	Input	R
common.filePrefix	File prefix	Specify the prefix of the output files.	--	Input	R
common.divideLineCount	Number of rows to be divided	Specify the number of rows (excluding the header) in each output file, in halfwidth numerical values.	--	Input	R
excel.isNumericHeader	Specified category of the header	If columns to undergo filter processing are specified by using numbers, specify TRUE. If columns are specified by name (string), specify FALSE.	True	Input	O
excel.filterColumnList	List of columns to undergo filter processing	In a Windows environment, specify the columns to undergo filter processing by either their column numbers or their column names (string), separated by commas. You can specify up to 10 column numbers (or column names). In a UNIX environment, specify a comma-separated list of column numbers. You can specify up to 10 column numbers.	--	Input	O
excel.filterColumnString1	Filter condition 1 for column data	Specify the regular expression of the filter to be applied to the first column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString2	Filter condition 2 for column data	Specify the regular expression of the filter to be applied to the second column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString3	Filter condition 3 for column data	Specify the regular expression of the filter to be applied to the third column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString4	Filter condition 4 for column data	Specify the regular expression of the filter to be applied to the fourth column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString5	Filter condition 5 for column data	Specify the regular expression of the filter to be applied	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
excel.filterColumnString5	Filter condition 5 for column data	to the fifth column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString6	Filter condition 6 for column data	Specify the regular expression of the filter to be applied to the sixth column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString7	Filter condition 7 for column data	Specify the regular expression of the filter to be applied to the seventh column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString8	Filter condition 8 for column data	Specify the regular expression of the filter to be applied to the eighth column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString9	Filter condition 9 for column data	Specify the regular expression of the filter to be applied to the ninth column specified in excel.filterColumnList.	--	Input	O
excel.filterColumnString10	Filter condition 10 for column data	Specify the regular expression of the filter to be applied to the tenth column specified in excel.filterColumnList.	--	Input	O
common.loopInputProperties	String for the repeated execution plug-in (serial numbers of output file names)	The serial number of an output file name can be stored as one or more numerical values separated by commas. You can process each output file by passing this property on to a repeated execution plug-in.	--	Output	O
common.fileExtension	File extension	This stores the output file extension including the initial period (.).	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.4 Acquisition of row data from a CSV/Excel file

Function

This component acquires the data from the CSV (Comma Separated Values) file or from the specified row in the Excel sheet created with Microsoft Excel, and then outputs the data to the output property, in a Windows or Linux environment.

In a Windows environment, obtain data from a CSV or Excel file. In a UNIX environment, obtain data from a CSV file.

This component supports data acquisition from files that meet the following requirements:

[For CSV files]

- The file must be a text file with the csv extension.

- In the first row of the file, a comma-separated (single byte) column names are written.

- If data are read with the column name specified, make sure to specify the column name in the first row of the file.

- When reading data with the column number specified, the column name can be omitted.

- In the second and subsequent row in the file, comma-separated (,) data to be read must be written. Note that regardless of whether the column name is written or not, the data will be read from the second row.

- In a Windows environment, the character code is written in MS932, and the line feed code is CR+LF. In a UNIX environment, the CSV file must be written with the encoding specified for the LANG user environment variable, and must use LF as the line break code.

[For Excel files]

- The file must have the xls extension (Excel format saved as "Excel 97 - 2003 book") or the xlsx or xlsm extension (Excel book of Excel 2007 or later, or an Excel macro enabled book)

- The column name must be written. The first description found after the first row will be the column name.

- In the next row of the line where the column name is written or in the subsequent rows, the value corresponding to the column name must be written.

The following shows a file description example:

[File description example]

Sheet name: ServerInfo (Excel file only)

First row: Host name, number of CPU cores, memory, disk capacity, and license key

Second row: hostVM001, 2, 2048, 30, key1

Third row: hostVM002, 1, 1024, 10, key2

...

By specifying the sheet name to acquire data, the column name (or number) where the key information is written, the key value of the row to be acquired, or the name (or number) of the columns from which data is acquired, up to 90 items of the column data of the specified row can be acquired.

Check the data read in the field about the following. If any of these conditions is met, the component terminates abnormally.

(a) The character string length in the field exceeds 1,024 bytes.

(b) The field contains any of the following special characters:

<, >, |, ; (semi-colon), &, or "(double quotations) except at each end.

(c) The field contains a control character (0x00 to 0x1f).

The output information is output to each specified column after storing in the odbc.OutputValue - odbc.OutputValue90 property the value of the column specified in the odbc.ColumnList property in the row that matches the key value. If the number of characters in the field in any of the columns exceeds 1,011, the component terminates abnormally.

[Use example of component]

When acquiring the number of CPU cores of hostVM002 or the disk capacity from the file described above in "File description example", specify the input property as follows:

[Input property example 1 (for specifying the column name in the odbc.ColumnList property)]

odbc.SheetName:ServerInfo (Excel file only)

odbc.KeyColumnName:Host name

odbc.KeyValue:hostVM002

odbc.ColumnList:number of CPU cores, disk capacity

odbc.ColumnsAreNumeric:FALSE

[Input property example 2 (for specifying the column number in the odbc.ColumnList property)]

odbc.SheetName:ServerInfo (Excel file only)

odbc.KeyColumnName:1

odbc.KeyValue:hostVM002

odbc.ColumnList:2, 4

odbc.ColumnsAreNumeric:TRUE

When specified as Input property example 1 or 2 described above, the output property of the component is as follows:

[Output property]

odbc.ColumnValue1:1

odbc.ColumnValue2:10

odbc.ColumnValue3 - 90: No value

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Acquisition of row data from a CSV/Excel file(SYSTEM)" plug-in that executes with the system account.

Use situation

You can acquire the data from the CSV or Excel file containing management information, and use the data as the input property of other component within the service.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-10 or later

[Required products on the execution target server]

(1) When specifying an Excel book or an Excel macro enabled book in Excel 2007 or later as the data acquisition target, the following Microsoft program needs to be installed.

- 2007 Office system driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None.

Cautions

- Notes when the server is running in a Windows environment

(1) Due to the limitations of the ODBC driver, [,], and ! cannot be used in file names.

(2) If the cells in the Excel file are merged, or if an error occurs in the mathematical expression, the obtained value becomes null. Also, the component is abnormally terminated if a written password is set. Remove these states from the read target file.

(3) Do not mix character string data and numerical data in the reading columns. If this data is mixed, the values might not be obtained properly depending on the ODBC driver specifications.

(a) Numerical data refers to character strings in the following formats:

Signed integer values (decimal format) Example: -12345

Values with fixed decimal point (decimal format) Example: 3.1415

Values with a floating decimal point (decimal format) Example: 6.543E+10

(b) Character string data refers to character strings in formats other than the above numerical formats.

(4) If columns containing different mixed data types is obtained from the file that is read, the following corrective action must be taken.

- For Excel files, add a single quotation mark (') to the beginning of the numerical data.

- For CSV files, enclose the numerical data in double quotations (").

(5) If the file being read is a CSV file, enclose the IP address in double quotations ("). If the value is not enclosed in double quotations ("), it might be falsely identified as numerical data, and the value will not be obtained properly.

(6) Specify the content shown below for the column name.

- Always specify a character string. Do not specify numerical data.

- The following characters cannot be used in the column name.

- For the first character of the column name serving as the key, the following characters cannot be used:

! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ / 0 1 2 3 4 5 6 7 8 9

- For the second and later characters of the column name serving as the key, the following characters cannot be used.

" # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- For a column name other than the column name serving as the key, the following characters cannot be used.

! [ ] ` , .

- The specified character string can include up to 64 characters and a mix of single-byte and double-byte characters.

(7) If the file being read is an Excel file, the displayed value and actual obtained value might differ depending on the data type of the data contained in the cell. Take careful note if the following data types are contained in the cell.

(a) Boolean type (True/False)

Displayed value: TRUE/FALSE

Value entered in cell: TRUE/FALSE

Actual obtained value: True/False

(b) Date data

Displayed value: mm (month) dd (day)

Value entered in cell: yyyy/mm/dd

Actual obtained value: yyyy/mm/dd

(c) Time data

Displayed value: hh:mm

Value entered in cell: hh:mm:ss

Actual obtained value: hh:mm:ss

(d) Percentage

Displayed value: ~% (Example: 10%)

Value entered in cell: ~% (Example: 10%)

Actual obtained value: 0.~ (Example: 0.1)

(e) Mathematical expression

Displayed value: (Result of mathematical expression)

Value entered in cell: (Mathematical expression)

Actual obtained value: (Result of mathematical expression)

To obtain values for the data in (a), (d), or (e) exactly as they are entered in the cell, add a single quotation (') at the start of the entry.

If the file being read is a CSV file, the values contained in the cells can be obtained without any changes.

(8) If the cells contain any of the data types in (7), make the entries so that the data excluding the column with the column names is a single data type only. If data in multiple types coexist in one line, data might not be able to be acquired.

(9) If column numbers are to be specified for the key column name property (odbc.KeyColumnName) and for the list of columns for which data is to be obtained (the property odbc.ColumnList), specify integer values less than or equal to 255 or less. If you specify values of 256 or greater, the plug-in ends abnormally. Note that empty columns are included in the column count.

(10) If a column name is specified for the key column name property (odbc.KeyColumnName) and for the list of columns for which data is to be obtained (the property odbc.ColumnList), specify the column name of a column on or before the 255th column. If you specify the column name of a column on or after the 256th column, this plug-in ends abnormally. Note that empty columns are included in the column count.

(11) Specify an integer value from 0 to 32,767 for the retry count for reading a file. The component is abnormally terminated if a value out of range is specified.

(12) Specify an integer from 1 to 60 for the retry interval for reading a file. The component is abnormally terminated if a value out of range is specified.

(13) For the value serving as the key, use characters other than double quotations (") and single quotations (').

(14) For CSV files, the character string length of the field should be within 255 bytes. If it is more than 256 bytes, the ODBC driver can not acquire the value correctly, and the component may be abnormally terminated.

(15) If you execute this plug-in on the same file at the same time, the file access may fail. In this case, adjust the retry count and retry interval, and then retry until you can avoid the error.

(16) Characters that cannot be displayed with MS932 in the data acquired from a Excel file are replaced with "?".

- Notes when the server is running in a UNIX environment

(1) Specify column names as follows:

- The following characters cannot be used as part of a column name.

- The following characters cannot be used as the first character of a key column name:

! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ / 0 1 2 3 4 5 6 7 8 9

- The following characters cannot be used as the second or subsequent characters of a key column name:

" # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- The following characters cannot be used for character names other than key column names:

! [ ] ` , .

- A maximum of 64 characters can be specified.

(2) Specify an integer value of 255 or less for the column number of the file being read. The component is abnormally terminated if a value of 256 or more is specified. Note that blank columns between data rows are also included in the number of columns.

(3) For key values, use characters other than double quotation marks (") or single quotation marks (').

(4) Commas (,) cannot be used in CSV file data. If you attempt to use commas in CSV file data, columns cannot be separated correctly, making it impossible to acquire data.

(5) Any number of single-byte spaces or tab characters at the beginning or end of a row in a CSV file are ignored.

(6) If a locale environment variable (such as LC_ALL or LC_MESSAGES) that has higher priority than LANG has been specified, the higher-priority locale environment variable will take precedence over LANG. Therefore, when executing a plug-in, cancel the higher-priority locale environment variable (such as LC_ALL or LC_MESSAGES) or change its value to the same value as the LANG environment variable.

Execution privilege

Built-in Administrator

Version

03.00.02

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osReadCSVExcelFileRow

Return code

0: Normal

11: Error (Mistake by user) Invalid content in the definition file

12: Error (Mistake by user) Invalid property

14: Error (Mistake by user) File inaccessible

15: Error (Mistake by user) No row matches the specified key value

27: Error (Check with the task log about the error detail)

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specify the file name.	--	Input	R
common.sheetName	Worksheet name in Excel file	Specifies the name of the worksheet in the Excel file. Does not need to be specified in the case of a CSV file.	Sheet1	Input	O
odbc.KeyColumnName	Column name serving as the key	Specifies the title character string of the column where the key information is to be stored, or the column numbers.	--	Input	R
odbc.KeyValue	Value serving as the key	Specifies the character string to identify the row from which data is acquired.	--	Input	R
odbc.ColumnList	List of the columns from which data is acquired.	Specifies the character string of the title of the columns from which data is acquired, or the comma-separated column numbers. Up to 90 column names (or column numbers) can be specified.	--	Input	R
odbc.ColumnsAreNumeric	Column number specification of the list of columns	Specify TRUE if numbers are used to specify the column where key information is stored and the columns for which data is to be obtained. Specify FALSE if column names (character strings) are used.	--	Input	R
odbc.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	20	Input	R
odbc.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a file fails (only applicable to Windows).	5	Input	R
odbc.OutputValue1	Data 1	Specifies the acquired data.	--	Output	O
odbc.OutputValue2	Data 2	Specifies the acquired data.	--	Output	O
odbc.OutputValue3	Data 3	Specifies the acquired data.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue4	Data 4	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue5	Data 5	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue6	Data 6	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue7	Data 7	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue8	Data 8	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue9	Data 9	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue10	Data 10	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue11	Data 11	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue12	Data 12	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue13	Data 13	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue14	Data 14	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue15	Data 15	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue16	Data 16	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue17	Data 17	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue18	Data 18	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue19	Data 19	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue20	Data 20	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue21	Data 21	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue22	Data 22	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue23	Data 23	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue24	Data 24	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue25	Data 25	Specifies the acquired data.	--	Outpu t	O

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue26	Data 26	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue27	Data 27	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue28	Data 28	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue29	Data 29	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue30	Data 30	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue31	Data 31	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue32	Data 32	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue33	Data 33	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue34	Data 34	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue35	Data 35	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue36	Data 36	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue37	Data 37	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue38	Data 38	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue39	Data 39	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue40	Data 40	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue41	Data 41	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue42	Data 42	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue43	Data 43	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue44	Data 44	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue45	Data 45	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue46	Data 46	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue47	Data 47	Specifies the acquired data.	--	Outpu t	O

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue48	Data 48	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue49	Data 49	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue50	Data 50	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue51	Data 51	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue52	Data 52	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue53	Data 53	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue54	Data 54	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue55	Data 55	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue56	Data 56	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue57	Data 57	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue58	Data 58	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue59	Data 59	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue60	Data 60	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue61	Data 61	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue62	Data 62	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue63	Data 63	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue64	Data 64	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue65	Data 65	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue66	Data 66	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue67	Data 67	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue68	Data 68	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue69	Data 69	Specifies the acquired data.	--	Outpu t	O

Property key	Property name	Description	Default value	I/O type	Required
odbc.OutputValue70	Data 70	Specifies the acquired data.	--	Output	O
odbc.OutputValue71	Data 71	Specifies the acquired data.	--	Output	O
odbc.OutputValue72	Data 72	Specifies the acquired data.	--	Output	O
odbc.OutputValue73	Data 73	Specifies the acquired data.	--	Output	O
odbc.OutputValue74	Data 74	Specifies the acquired data.	--	Output	O
odbc.OutputValue75	Data 75	Specifies the acquired data.	--	Output	O
odbc.OutputValue76	Data 76	Specifies the acquired data.	--	Output	O
odbc.OutputValue77	Data 77	Specifies the acquired data.	--	Output	O
odbc.OutputValue78	Data 78	Specifies the acquired data.	--	Output	O
odbc.OutputValue79	Data 79	Specifies the acquired data.	--	Output	O
odbc.OutputValue80	Data 80	Specifies the acquired data.	--	Output	O
odbc.OutputValue81	Data 81	Specifies the acquired data.	--	Output	O
odbc.OutputValue82	Data 82	Specifies the acquired data.	--	Output	O
odbc.OutputValue83	Data 83	Specifies the acquired data.	--	Output	O
odbc.OutputValue84	Data 84	Specifies the acquired data.	--	Output	O
odbc.OutputValue85	Data 85	Specifies the acquired data.	--	Output	O
odbc.OutputValue86	Data 86	Specifies the acquired data.	--	Output	O
odbc.OutputValue87	Data 87	Specifies the acquired data.	--	Output	O
odbc.OutputValue88	Data 88	Specifies the acquired data.	--	Output	O
odbc.OutputValue89	Data 89	Specifies the acquired data.	--	Output	O
odbc.OutputValue90	Data 90	Specifies the acquired data.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.5 Acquisition of row data from a CSV/Excel file(SYSTEM)

Function

This component acquires the data from the CSV (Comma Separated Values) file or from the specified row in the Excel sheet created with Microsoft Excel, and then outputs the data to the output property, in a Windows or Linux environment.

In a Windows environment, obtain data from a CSV or Excel file. In a UNIX environment, obtain data from a CSV file.

This component supports data acquisition from files that meet the following requirements:

[For CSV files]

- The file must be a text file with the csv extension.

- In the first row of the file, a comma-separated (single byte) column names are written.

- If data are read with the column name specified, make sure to specify the column name in the first row of the file.

- When reading data with the column number specified, the column name can be omitted.

- In the second and subsequent row in the file, comma-separated (,) data to be read must be written. Note that regardless of whether the column name is written or not, the data will be read from the second row.

- In a Windows environment, the character code is written in MS932, and the line feed code is CR+LF. In a UNIX environment, the CSV file must be written with the encoding specified for the LANG user environment variable, and must use LF as the line break code.

[For Excel files]

- The file must have the xls extension (Excel format saved as "Excel 97 - 2003 book") or the xlsx or xlsm extension (Excel book of Excel 2007 or later, or an Excel macro enabled book)

- The column name must be written. The first description found after the first row will be the column name.

- In the next row of the line where the column name is written or in the subsequent rows, the value corresponding to the column name must be written.

The following shows a file description example:

[File description example]

Sheet name: ServerInfo (Excel file only)

First row: Host name, number of CPU cores, memory, disk capacity, and license key

Second row: hostVM001, 2, 2048, 30, key1

Third row: hostVM002, 1, 1024, 10, key2

...

By specifying the sheet name to acquire data, the column name (or number) where the key information is written, the key value of the row to be acquired, or the name (or number) of the columns from which data is acquired, up to 90 items of the column data of the specified row can be acquired.

Check the data read in the field about the following. If any of these conditions is met, the component terminates abnormally.

(a) The character string length in the field exceeds 1,024 bytes.

(b) The field contains any of the following special characters:

<, >, |, ; (semi-colon), &, or "(double quotations) except at each end.

(c) The field contains a control character (0x00 to 0x1f).

The output information is output to each specified column after storing in the odbc.OutputValue - odbc.OutputValue90 property the value of the column specified in the odbc.ColumnList property in the row that matches the key value. If the number of characters in the field in any of the columns exceeds 1,011, the component terminates abnormally.

[Use example of component]

When acquiring the number of CPU cores of hostVM002 or the disk capacity from the file described above in "File description example", specify the input property as follows:

[Input property example 1 (for specifying the column name in the odbc.ColumnList property)]

odbc.SheetName:ServerInfo (Excel file only)

odbc.KeyColumnName:Host name

odbc.KeyValue:hostVM002

odbc.ColumnList:number of CPU cores, disk capacity

odbc.ColumnsAreNumeric:FALSE

[Input property example 2 (for specifying the column number in the odbc.ColumnList property)]

odbc.SheetName:ServerInfo (Excel file only)

odbc.KeyColumnName:1

odbc.KeyValue:hostVM002

odbc.ColumnList:2, 4

odbc.ColumnsAreNumeric:TRUE

When specified as Input property example 1 or 2 described above, the output property of the component is as follows:

[Output property]

odbc.ColumnValue1:1

odbc.ColumnValue2:10

odbc.ColumnValue3 - 90: No value

Use situation

You can acquire the data from the CSV or Excel file containing management information, and use the data as the input property of other component within the service.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-10 or later

[Required products on the execution target server]

(1) When specifying an Excel book or an Excel macro enabled book in Excel 2007 or later as the data acquisition target, the following Microsoft program needs to be installed.

- 2007 Office system driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None.

Cautions

- Notes when the server is running in a Windows environment

(1) Due to the limitations of the ODBC driver, [,], and ! cannot be used in file names.

(2) If the cells in the Excel file are merged, or if an error occurs in the mathematical expression, the obtained value becomes null. Also, the component is abnormally terminated if a written password is set. Remove these states from the read target file.

(3) Do not mix character string data and numerical data in the reading columns. If this data is mixed, the values might not be obtained properly depending on the ODBC driver specifications.

(a) Numerical data refers to character strings in the following formats:

Signed integer values (decimal format) Example: -12345

Values with fixed decimal point (decimal format) Example: 3.1415

Values with a floating decimal point (decimal format) Example: 6.543E+10

(b) Character string data refers to character strings in formats other than the above numerical formats.

(4) If columns containing different mixed data types is obtained from the file that is read, the following corrective action must be taken.

- For Excel files, add a single quotation mark (') to the beginning of the numerical data.

- For CSV files, enclose the numerical data in double quotations (").

(5) If the file being read is a CSV file, enclose the IP address in double quotations ("). If the value is not enclosed in double quotations ("), it might be falsely identified as numerical data, and the value will not be obtained properly.

(6) Specify the content shown below for the column name.

- Always specify a character string. Do not specify numerical data.

- The following characters cannot be used in the column name.

- For the first character of the column name serving as the key, the following characters cannot be used:

! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ / 0 1 2 3 4 5 6 7 8 9

- For the second and later characters of the column name serving as the key, the following characters cannot be used.

" # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- For a column name other than the column name serving as the key, the following characters cannot be used.

! [ ] ` , .

- The specified character string can include up to 64 characters and a mix of single-byte and double-byte characters.

(7) If the file being read is an Excel file, the displayed value and actual obtained value might differ depending on the data type of the data contained in the cell. Take careful note if the following data types are contained in the cell.

(a) Boolean type (True/False)

Displayed value: TRUE/FALSE

Value entered in cell: TRUE/FALSE

Actual obtained value: True/False

(b) Date data

Displayed value: mm (month) dd (day)

Value entered in cell: yyyy/mm/dd

Actual obtained value: yyyy/mm/dd

(c) Time data

Displayed value: hh:mm

Value entered in cell: hh:mm:ss

Actual obtained value: hh:mm:ss

(d) Percentage

Displayed value: ~% (Example: 10%)

Value entered in cell: ~% (Example: 10%)

Actual obtained value: 0.~ (Example: 0.1)

(e) Mathematical expression

Displayed value: (Result of mathematical expression)

Value entered in cell: (Mathematical expression)

Actual obtained value: (Result of mathematical expression)

To obtain values for the data in (a), (d), or (e) exactly as they are entered in the cell, add a single quotation (') at the start of the entry.

If the file being read is a CSV file, the values contained in the cells can be obtained without any changes.

(8) If the cells contain any of the data types in (7), make the entries so that the data excluding the column with the column names is a single data type only. If data in multiple types coexist in one line, data might not be able to be acquired.

(9) If column numbers are to be specified for the key column name property (odbc.KeyColumnName) and for the list of columns for which data is to be obtained (the property odbc.ColumnList), specify integer values less than or equal to 255 or less. If you specify values of 256 or greater, the plug-in ends abnormally. Note that empty columns are included in the column count.

(10) If a column name is specified for the key column name property (odbc.KeyColumnName) and for the list of columns for which data is to be obtained (the property odbc.ColumnList), specify the column name of a column on or before the 255th column. If you specify the column name of a column on or after the 256th column, this plug-in ends abnormally. Note that empty columns are included in the column count.

(11) Specify an integer value from 0 to 32,767 for the retry count for reading a file. The component is abnormally terminated if a value out of range is specified.

(12) Specify an integer from 1 to 60 for the retry interval for reading a file. The component is abnormally terminated if a value out of range is specified.

(13) For the value serving as the key, use characters other than double quotations (") and single quotations (').

(14) For CSV files, the character string length of the field should be within 255 bytes. If it is more than 256 bytes, the ODBC driver can not acquire the value correctly, and the component may be abnormally terminated.

(15) If you execute this plug-in on the same file at the same time, the file access may fail. In this case, adjust the retry count and retry interval, and then retry until you can avoid the error.

(16) Characters that cannot be displayed with MS932 in the data acquired from a Excel file are replaced with "?".

- Notes when the server is running in a UNIX environment

(1) Specify column names as follows:

- The following characters cannot be used as part of a column name.

- The following characters cannot be used as the first character of a key column name:

! " # $ % & ' ( ) - = ^ ~ \ | ` ; + * [ ] { } , . < > ? _ / 0 1 2 3 4 5 6 7 8 9

- The following characters cannot be used as the second or subsequent characters of a key column name:

" # % & ' ( ) - = ^ ~ \ | @ ; : + * [ ] { } , . < > ? /

- The following characters cannot be used for character names other than key column names:

! [ ] ` , .

- A maximum of 64 characters can be specified.

(2) Specify an integer value of 255 or less for the column number of the file being read. The component is abnormally terminated if a value of 256 or more is specified. Note that blank columns between data rows are also included in the number of columns.

(3) For key values, use characters other than double quotation marks (") or single quotation marks (').

(4) Commas (,) cannot be used in CSV file data. If you attempt to use commas in CSV file data, columns cannot be separated correctly, making it impossible to acquire data.

(5) Any number of single-byte spaces or tab characters at the beginning or end of a row in a CSV file are ignored.

(6) If a locale environment variable (such as LC_ALL or LC_MESSAGES) that has higher priority than LANG has been specified, the higher-priority locale environment variable will take precedence over LANG. Therefore, when executing a plug-in, cancel the higher-priority locale environment variable (such as LC_ALL or LC_MESSAGES) or change its value to the same value as the LANG environment variable.

Execution privilege

Users who belong to the Administrator group

Version

03.10.02

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osReadCSVExcelFileRow_System

Return code

0: Normal

11: Error (Mistake by user) Invalid content in the definition file

12: Error (Mistake by user) Invalid property

14: Error (Mistake by user) File inaccessible

15: Error (Mistake by user) No row matches the specified key value

27: Error (Check with the task log about the error detail)

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specify the file name.	--	Input	R
common.sheetName	Worksheet name in Excel file	Specifies the name of the worksheet in the Excel file. Does not need to be specified in the case of a CSV file.	Sheet1	Input	O
odbc.KeyColumnName	Column name serving as the key	Specifies the title character string of the column where the key information is to be stored, or the column numbers.	--	Input	R
odbc.KeyValue	Value serving as the key	Specifies the character string to identify the row from which data is acquired.	--	Input	R
odbc.ColumnList	List of the columns from which data is acquired.	Specifies the character string of the title of the columns from which data is acquired, or the comma-separated column numbers. Up to 90 column names (or column numbers) can be specified.	--	Input	R
odbc.ColumnsAreNumeric	Column number specification of the list of columns	Specify TRUE if numbers are used to specify the column where key information is stored and the columns for which data is to be obtained. Specify FALSE if column names (character strings) are used.	--	Input	R
odbc.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time.	20	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.fileOpenRetryCount	Retry count for reading a file: Windows specific	If "0" is specified, a retry is not performed.	20	Input	R
odbc.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a file fails (only applicable to Windows).	5	Input	R
odbc.OutputValue1	Data 1	Specifies the acquired data.	--	Output	O
odbc.OutputValue2	Data 2	Specifies the acquired data.	--	Output	O
odbc.OutputValue3	Data 3	Specifies the acquired data.	--	Output	O
odbc.OutputValue4	Data 4	Specifies the acquired data.	--	Output	O
odbc.OutputValue5	Data 5	Specifies the acquired data.	--	Output	O
odbc.OutputValue6	Data 6	Specifies the acquired data.	--	Output	O
odbc.OutputValue7	Data 7	Specifies the acquired data.	--	Output	O
odbc.OutputValue8	Data 8	Specifies the acquired data.	--	Output	O
odbc.OutputValue9	Data 9	Specifies the acquired data.	--	Output	O
odbc.OutputValue10	Data 10	Specifies the acquired data.	--	Output	O
odbc.OutputValue11	Data 11	Specifies the acquired data.	--	Output	O
odbc.OutputValue12	Data 12	Specifies the acquired data.	--	Output	O
odbc.OutputValue13	Data 13	Specifies the acquired data.	--	Output	O
odbc.OutputValue14	Data 14	Specifies the acquired data.	--	Output	O
odbc.OutputValue15	Data 15	Specifies the acquired data.	--	Output	O
odbc.OutputValue16	Data 16	Specifies the acquired data.	--	Output	O
odbc.OutputValue17	Data 17	Specifies the acquired data.	--	Output	O
odbc.OutputValue18	Data 18	Specifies the acquired data.	--	Output	O
odbc.OutputValue19	Data 19	Specifies the acquired data.	--	Output	O
odbc.OutputValue20	Data 20	Specifies the acquired data.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue21	Data 21	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue22	Data 22	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue23	Data 23	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue24	Data 24	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue25	Data 25	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue26	Data 26	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue27	Data 27	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue28	Data 28	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue29	Data 29	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue30	Data 30	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue31	Data 31	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue32	Data 32	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue33	Data 33	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue34	Data 34	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue35	Data 35	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue36	Data 36	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue37	Data 37	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue38	Data 38	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue39	Data 39	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue40	Data 40	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue41	Data 41	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue42	Data 42	Specifies the acquired data.	--	Outpu t	O

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue43	Data 43	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue44	Data 44	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue45	Data 45	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue46	Data 46	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue47	Data 47	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue48	Data 48	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue49	Data 49	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue50	Data 50	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue51	Data 51	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue52	Data 52	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue53	Data 53	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue54	Data 54	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue55	Data 55	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue56	Data 56	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue57	Data 57	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue58	Data 58	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue59	Data 59	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue60	Data 60	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue61	Data 61	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue62	Data 62	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue63	Data 63	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue64	Data 64	Specifies the acquired data.	--	Outpu t	O

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue65	Data 65	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue66	Data 66	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue67	Data 67	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue68	Data 68	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue69	Data 69	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue70	Data 70	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue71	Data 71	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue72	Data 72	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue73	Data 73	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue74	Data 74	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue75	Data 75	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue76	Data 76	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue77	Data 77	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue78	Data 78	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue79	Data 79	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue80	Data 80	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue81	Data 81	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue82	Data 82	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue83	Data 83	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue84	Data 84	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue85	Data 85	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue86	Data 86	Specifies the acquired data.	--	Outpu t	O

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue87	Data 87	Specifies the acquired data.	--	Output	O
odbc.OutputValue88	Data 88	Specifies the acquired data.	--	Output	O
odbc.OutputValue89	Data 89	Specifies the acquired data.	--	Output	O
odbc.OutputValue90	Data 90	Specifies the acquired data.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.6 Acquisition of column data from a CSV/Excel file

Function

This component acquires all the data from the CSV (Comma Separated Values) file or from the specified column in the Excel sheet created with Microsoft Excel, and then outputs the data to the output property, in a Windows or Linux environment.

In a Windows environment, obtain data from a CSV or Excel file. In a UNIX environment, obtain data from a CSV file.

This component supports data acquisition from files that meet the following requirements:

[For CSV files]

- The file must be a text file with the csv extension.

- If a column name is required, the comma-separated (single byte) column names must be written in the first row of the file. If no column name is required, it can be omitted.

- In the second and subsequent row in the file, comma-separated (,) data to be read must be written. Note that regardless of whether the column name is written or not, the data will be read from the second row.

- In a Windows environment, the character code is written in MS932, and the line feed code is CR+LF. In a UNIX environment, the CSV file must be written with the encoding specified for the LANG user environment variable, and must use LF as the line break code.

[For Excel files]

- The file must have the xls extension (Excel format saved as "Excel 97 - 2003 book") or the xlsx or xlsm extension (Excel book of Excel 2007 or later, or an Excel macro enabled book).

- The column name must be written. The first description found after the first row will be the column name.

- In the next row of the line where the column name is written or in the subsequent rows, the value corresponding to the column name must be written.

The following shows a file description example:

[Description example 1]

Host name

hostVM001

hostVM002

[Description example 2]

Host name, comment

hostVM001, #Comment1

hostVM002, #Comment2

Check the data read in the field for the conditions below. If any of these conditions is met, the component terminates abnormally.

(a) The character string length in the field exceeds 1,024 characters.

(b) The field contains any of the following special characters:

, (comma, in a Windows environment), <, >, |, ; (semi-colon), &, "(double quotations) except at each end, or a trailing \.

(c) The field contains a control character (0x00 to 0x1f).

The information is output to each specified row. If the number of data items exceeds 99 in any of the columns or the [(total of the number of characters in a field) + number of data lines] exceeds 1,017, the component terminates abnormally.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Acquisition of column data from a CSV/Excel file(SYSTEM)" plug-in that executes with the system account.

Use situation

- You can acquire the data from the CSV/Excel file containing management information, and use the data as input for a service.

- You can use this component to acquire the column as the key information of the CSV/Excel file and then use the information as the input to repeat components or Acquisition of row data from a CSV/Excel file components. By doing so, you can perform special processing for all the rows written in the file.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1) When specifying an Excel book or an Excel macro enabled book in Excel 2007 or later as the data acquisition target, the following Microsoft program needs to be installed.

- 2007 Office system driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None.

Cautions

- Notes when the server is running in a Windows environment

(1) Due to the limitations of the ODBC driver, [,], and ! are cannot be used in file names.

(2) If the cells in the Excel file are merged, or if an error occurs in the mathematical expression, the obtained value becomes null. Also, the component is abnormally terminated if a written password is set. Remove these states from the read target file.

(3) Do not mix character string data and numerical data in the reading columns. If this data is mixed, the values might not be obtained properly depending on the ODBC driver specifications.

(a) Numerical data refers to character strings in the following formats:

Signed integer values (decimal format) Example: -12345

Values with fixed decimal point (decimal format) Example: 3.1415

Values with a floating decimal point (decimal format) Example: 6.543E+10

(b) Character string data refers to character strings in formats other than the above numerical formats.

(4) If columns containing different mixed data types are obtained from the file that is read, the following corrective action must be taken:

- For Excel files, add a single quotation mark (') to the beginning of the numerical data.

- For CSV files, enclose the numerical data in double quotations (").

(5) If the file being read is a CSV file, enclose the IP address in double quotations ("). If the value is not enclosed in double quotations ("), it might be falsely identified as numerical data, and the value will not be obtained properly.

(6) If the file being read is an Excel file, the displayed value and actual obtained value might differ depending on the data type of the data contained in the cell. Take careful note if the following data types are contained in the cell.

(a) Boolean type (True/False)

Displayed value: TRUE/FALSE

Value entered in cell: TRUE/FALSE

Actual obtained value: True/False

(b) Date data

Displayed value: mm (month) dd (day)

Value entered in cell: yyyy/mm/dd

Actual obtained value: yyyy/mm/dd

(c) Time data

Displayed value: hh:mm

Value entered in cell: hh:mm:ss

Actual obtained value: hh:mm:ss

(d) Percentage

Displayed value: ~% (Example: 10%)

Value entered in cell: ~% (Example: 10%)

Actual obtained value: 0.~ (Example: 0.1)

(e) Mathematical expression

Displayed value: (Result of mathematical expression)

Value entered in cell: (Mathematical expression)

Actual obtained value: (Result of mathematical expression)

To obtain values for the data in (a), (d), or (e) exactly as they are entered in the cell, add a single quotation (') at the start of the entry.

If the file being read is a CSV file, the values contained in the cells can be obtained without any changes.

(7) If the cells contain any of the data types in (6), make the entries so that the data excluding the column with the column names is a single data type only. If data in multiple types coexist in one column, data might not be able to be acquired.

(8) Specify an integer value of 255 or less for the column number of the file being read. The component is abnormally terminated if a value of 256 or more is specified. Note that blank columns between data rows are also included in the number of columns.

(9) Specify an integer value from 0 to 32,767 for the retry count for reading a file. The component is abnormally terminated if a value out of range is specified.

(10) Specify an integer from 1 to 60 for the retry interval for reading a file. The component is abnormally terminated if a value out of range is specified.

(11) If there are blank rows between data rows of the file being read, the blank rows are also counted in the number of rows. Even if the number of rows containing data is 99 or less, if the number of rows counted by including blank rows in between is 100 or more, the component is abnormally terminated.

(12) For CSV files, the character string length of the field should be within 255 bytes. If it is more than 256 bytes, the ODBC driver can not acquire the value correctly, and the component may be abnormally terminated.

(13) If you execute this plug-in on the same file at the same time, the file access may fail. In this case, adjust the retry count and retry interval, and then retry until you can avoid the error.

(14) Characters that cannot be displayed with MS932 in the data acquired from a Excel file are replaced with "?".

- Notes when the server is running in a UNIX environment

(1) Specify an integer value of 255 or less for the column number of the file being read. The component is abnormally terminated if a value of 256 or more is specified. Note that blank columns between data rows are also included in the number of columns.

(2) If there are blank rows between data rows of the file being read, the blank rows are also counted in the number of rows. Even if the number of rows containing data is 99 or less, if the number of rows counted by including blank rows in between is 100 or more, the component is abnormally terminated.

(3) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(4) If a locale environment variable (such as LC_ALL or LC_MESSAGES) that has higher priority than LANG has been specified, the higher-priority locale environment variable will take precedence over LANG. Therefore, when executing a plug-in, cancel the higher-priority locale environment variable (such as LC_ALL or LC_MESSAGES) or change its value to the same value as the LANG environment variable.

Execution privilege

Built-in Administrator

Version

02.00.01

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osReadCSVExcelFileColumn

Return code

0: Normal

11: Error (Mistake by user) Invalid content in the definition file

12: Error (Mistake by user) Invalid property

14: Error (Mistake by user) File inaccessible

27: Error (Check with the task log about the error detail)

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specify the file name.	--	Input	R
common.sheetName	Worksheet name in Excel file	Specifies the name of the worksheet in the Excel file. Does not need to be specified in the case of a CSV file.	Sheet1	Input	O
odbc.Column1	Column number 1	Specifies the column number of the data to acquire.	--	Input	R
odbc.Column2	Column number 2	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column3	Column number 3	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column4	Column number 4	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column5	Column number 5	Specifies the column number of the data to acquire.	--	Input	O
odbc.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	20	Input	R
odbc.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a file fails (only applicable to Windows).	5	Input	R
odbc.OutputValue1	Data 1	Specifies the acquired data.	--	Output	O
odbc.OutputValue2	Data 2	Specifies the acquired data.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue3	Data 3	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue4	Data 4	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue5	Data 5	Specifies the acquired data.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.7 Acquisition of column data from a CSV/Excel file(SYSTEM)

Function

This component acquires all the data from the CSV (Comma Separated Values) file or from the specified column in the Excel sheet created with Microsoft Excel, and then outputs the data to the output property, in a Windows or Linux environment.

In a Windows environment, obtain data from a CSV or Excel file. In a UNIX environment, obtain data from a CSV file.

This component supports data acquisition from files that meet the following requirements:

[For CSV files]

- The file must be a text file with the csv extension.

- If a column name is required, the comma-separated (single byte) column names must be written in the first row of the file. If no column name is required, it can be omitted.

- In the second and subsequent row in the file, comma-separated (,) data to be read must be written. Note that regardless of whether the column name is written or not, the data will be read from the second row.

- In a Windows environment, the character code is written in MS932, and the line feed code is CR+LF. In a UNIX environment, the CSV file must be written with the encoding specified for the LANG user environment variable, and must use LF as the line break code.

[For Excel files]

- The file must have the xls extension (Excel format saved as "Excel 97 - 2003 book") or the xlsx or xlsm extension (Excel book of Excel 2007 or later, or an Excel macro enabled book).

- The column name must be written. The first description found after the first row will be the column name.

- In the next row of the line where the column name is written or in the subsequent rows, the value corresponding to the column name must be written.

The following shows a file description example:

[Description example 1]

Host name

hostVM001

hostVM002

[Description example 2]

Host name, comment

hostVM001, #Comment1

hostVM002, #Comment2

Check the data read in the field for the conditions below. If any of these conditions is met, the component terminates abnormally.

(a) The character string length in the field exceeds 1,024 characters.

(b) The field contains any of the following special characters:

, (comma, in a Windows environment), <, >, |, ; (semi-colon), &, "(double quotations) except at each end, or a trailing \.

(c) The field contains a control character (0x00 to 0x1f).

The information is output to each specified row. If the number of data items exceeds 99 in any of the columns or the [(total of the number of characters in a field) + number of data lines] exceeds 1,017, the component terminates abnormally.

Use situation

- You can acquire the data from the CSV/Excel file containing management information, and use the data as input for a service.

- You can use this component to acquire the column as the key information of the CSV/Excel file and then use the information as the input to repeat components or Acquisition of row data from a CSV/Excel file components. By doing so, you can perform special processing for all the rows written in the file.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1) When specifying an Excel book or an Excel macro enabled book in Excel 2007 or later as the data acquisition target, the following Microsoft program needs to be installed.

- 2007 Office system driver, or

Microsoft Access Database Engine 2010(32bit), or

Microsoft Access Database Engine 2016(32bit)

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None.

Cautions

- Notes when the server is running in a Windows environment

(1) Due to the limitations of the ODBC driver, [,], and ! are cannot be used in file names.

(2) If the cells in the Excel file are merged, or if an error occurs in the mathematical expression, the obtained value becomes null. Also, the component is abnormally terminated if a written password is set. Remove these states from the read target file.

(3) Do not mix character string data and numerical data in the reading columns. If this data is mixed, the values might not be obtained properly depending on the ODBC driver specifications.

(a) Numerical data refers to character strings in the following formats:

Signed integer values (decimal format) Example: -12345

Values with fixed decimal point (decimal format) Example: 3.1415

Values with a floating decimal point (decimal format) Example: 6.543E+10

(b) Character string data refers to character strings in formats other than the above numerical formats.

(4) If columns containing different mixed data types are obtained from the file that is read, the following corrective action must be taken:

- For Excel files, add a single quotation mark (') to the beginning of the numerical data.

- For CSV files, enclose the numerical data in double quotations (").

(5) If the file being read is a CSV file, enclose the IP address in double quotations ("). If the value is not enclosed in double quotations ("), it might be falsely identified as numerical data, and the value will not be obtained properly.

(6) If the file being read is an Excel file, the displayed value and actual obtained value might differ depending on the data type of the data contained in the cell. Take careful note if the following data types are contained in the cell.

(a) Boolean type (True/False)

Displayed value: TRUE/FALSE

Value entered in cell: TRUE/FALSE

Actual obtained value: True/False

(b) Date data

Displayed value: mm (month) dd (day)

Value entered in cell: yyyy/mm/dd

Actual obtained value: yyyy/mm/dd

(c) Time data

Displayed value: hh:mm

Value entered in cell: hh:mm:ss

Actual obtained value: hh:mm:ss

(d) Percentage

Displayed value: ~% (Example: 10%)

Value entered in cell: ~% (Example: 10%)

Actual obtained value: 0.~ (Example: 0.1)

(e) Mathematical expression

Displayed value: (Result of mathematical expression)

Value entered in cell: (Mathematical expression)

Actual obtained value: (Result of mathematical expression)

To obtain values for the data in (a), (d), or (e) exactly as they are entered in the cell, add a single quotation (') at the start of the entry.

If the file being read is a CSV file, the values contained in the cells can be obtained without any changes.

(7) If the cells contain any of the data types in (6), make the entries so that the data excluding the column with the column names is a single data type only. If data in multiple types coexist in one column, data might not be able to be acquired.

(8) Specify an integer value of 255 or less for the column number of the file being read. The component is abnormally terminated if a value of 256 or more is specified. Note that blank columns between data rows are also included in the number of columns.

(9) Specify an integer value from 0 to 32,767 for the retry count for reading a file. The component is abnormally terminated if a value out of range is specified.

(10) Specify an integer from 1 to 60 for the retry interval for reading a file. The component is abnormally terminated if a value out of range is specified.

(11) If there are blank rows between data rows of the file being read, the blank rows are also counted in the number of rows. Even if the number of rows containing data is 99 or less, if the number of rows counted by including blank rows in between is 100 or more, the component is abnormally terminated.

(12) For CSV files, the character string length of the field should be within 255 bytes. If it is more than 256 bytes, the ODBC driver can not acquire the value correctly, and the component may be abnormally terminated.

(13) If you execute this plug-in on the same file at the same time, the file access may fail. In this case, adjust the retry count and retry interval, and then retry until you can avoid the error.

(14) Characters that cannot be displayed with MS932 in the data acquired from a Excel file are replaced with "?".

- Notes when the server is running in a UNIX environment

(1) Specify an integer value of 255 or less for the column number of the file being read. The component is abnormally terminated if a value of 256 or more is specified. Note that blank columns between data rows are also included in the number of columns.

(2) If there are blank rows between data rows of the file being read, the blank rows are also counted in the number of rows. Even if the number of rows containing data is 99 or less, if the number of rows counted by including blank rows in between is 100 or more, the component is abnormally terminated.

(3) Commas (,) cannot be used in data. If you attempt to use commas in data, columns cannot be separated correctly, making it impossible to acquire data.

(4) If a locale environment variable (such as LC_ALL or LC_MESSAGES) that has higher priority than LANG has been specified, the higher-priority locale environment variable will take precedence over LANG. Therefore, when executing a plug-in, cancel the higher-priority locale environment variable (such as LC_ALL or LC_MESSAGES) or change its value to the same value as the LANG environment variable.

Execution privilege

Users who belong to the Administrator group

Version

03.10.00

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osReadCSVExcelFileColumn_System

Return code

0: Normal

11: Error (Mistake by user) Invalid content in the definition file

12: Error (Mistake by user) Invalid property

14: Error (Mistake by user) File inaccessible

27: Error (Check with the task log about the error detail)

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specify the file name.	--	Input	R
common.sheetName	Worksheet name in Excel file	Specifies the name of the worksheet in the Excel file. Does not need to be specified in the case of a CSV file.	Sheet1	Input	O
odbc.Column1	Column number 1	Specifies the column number of the data to acquire.	--	Input	R
odbc.Column2	Column number 2	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column3	Column number 3	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column4	Column number 4	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column5	Column number 5	Specifies the column number of the data to acquire.	--	Input	O
odbc.fileOpenRetryCount	Retry count for reading a file: Windows specific	Specifies the number of times to retry when reading a file fails (only applicable to Windows). This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	20	Input	R
odbc.fileOpenRetryInterval	Retry interval for reading a file: Windows specific	Specifies the retry interval in seconds for when reading a file fails (only applicable to Windows).	5	Input	R
odbc.OutputValue1	Data 1	Specifies the acquired data.	--	Output	O
odbc.OutputValue2	Data 2	Specifies the acquired data.	--	Output	O
odbc.OutputValue3	Data 3	Specifies the acquired data.	--	Output	O
odbc.OutputValue4	Data 4	Specifies the acquired data.	--	Output	O
odbc.OutputValue5	Data 5	Specifies the acquired data.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.8 Send ICMP echo request message

Function

Sends an ICMP echo request to a specified IP address on a specified Windows or UNIX server and returns a value indicating whether there was a response.

This plugin assumes the following servers:

• Execution target server

This server executes the plugin and sends an ICMP echo request

• Transmission destination server

This is the server to which the ICMP echo request is sent.

Execute this plugin with the IP address or host name of the transmission target server specified in the common.icmpSendAddress property.

If multiple IP addresses (host names) are specified, the plugin sends the ICMP echo request to all the specified IP addresses (host names).

If there is a response from at least one of the IP addresses (host names), the plugin returns 0.

If there is no response from any of the IP addresses (host names), the plugin returns a nonzero value.

The value of CommandExitCode: output by this plugin is as follows:

In Windows: the value of StatusCode (result of the ICMP echo request) of Win32_PingStatus class (MSDN)

In UNIX: Return value of the ping command

Use situation

After you have started a virtual server, you use this plugin to send an ICMP echo request to verify that communication with that transmission destination server is available.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

None.

Cautions

(1) Adjust the ICMP echo timeout value (common.icmpEchoTimeout property) according to the environment in use.

(2) If the OS of the transmission destination server is Windows, the transmission destination server's firewall must permit ICMP(ECHO) responses.

(3) Do not use a limited broadcast address (255.255.255.255) for this plugin.

(4) If the execution target server is Windows and the user ID set in the authentication information of Connection Destination definitions setting is not the built-in Administrator, one of the following conditions must be satisfied.

- The UAC feature in Windows is completely disabled.

- An RDP session has been established for the user ID set in the authentication information of the Connection Destination definitions setting on the target of connection destinations.

Execution privilege

Administrators permissions

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osSendIcmp

Return code

0: Normal

12: Error (user error) Invalid property

25: Error (invalid environment) Communication error

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.icmpSendAddress	ICMP echo destination	Specify a comma-separated list of IP addresses or host names to which an ICMP echo request will be sent.	--	Input	R
common.icmpEchoTimeout	Timeout value for response to an ICMP echo request	Specify (in ms) the timeout value for a response to an ICMP echo request.	4000	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.9 Set IP address

Function

This plugin sets an IP address for the specified NIC on a Windows or UNIX execution target server.

Use the NIC name (os.nicName property) to specify the NIC for which the IP address is to be set, or use MAC address (os.nicMacAddress property), when the execution target server is Windows, Red Hat Enterprise Linux 6 or CentOS 6.

If both of these properties are specified, the IP address is set for the NIC specified by the NIC name.

This plugin requires the following server:

- Execution target server

A server that executes the plugin to set an IP address

The following describes the NIC name (os.nicName property).

- Specify the interface name of the NIC for which the IP address is to be set.

The following describes the MAC address (os.nicMacAddress property).

- Specify the MAC address of the NIC for which the IP address is to be set.

- Use the XX:XX:XX:XX:XX:XX format.

The following describes the configuration files and setting items when the execution target server is Red Hat Enterprise Linux or CentOS.

- Configuration file and setting items for the IP address and subnet mask

File: /etc/sysconfig/network-scripts/ifcfg-XXX (XXX: NIC interface name)

Setting items:

(1) BOOTPROTO=none (If "static" is already set, "static" is not changed.)

(2) IPADDR=<IP-address>

(3) NETMASK=<subnet-mask>

- Configuration file and setting item for the default gateway

File: /etc/sysconfig/network

Setting item: (1) GATEWAY=<default-gateway>

- Configuration file and setting item for the IP address of the DNS server

File: /etc/sysconfig/network-scripts/ifcfg-XXX (XXX: NIC interface name)

Setting item: (1) DNS1=<DNS-server-IP-address>

The following provides examples of setting the NIC name.

- If the execution target server is Windows Server 2008 R2

For the NIC name, specify an interface name such as "local area connection" or "local area connection 2". This name is displayed for the Ethernet adapter by the ipconfig command.

- If the execution target server is Windows Server 2012 or Windows Server 2012 R2

For the NIC name, specify an interface name such as "Ethernet" or "Ethernet 2". This name is displayed for the Ethernet adapter by the ipconfig command.

- If the execution target server is Red Hat Enterprise Linux or CentOS

For the NIC name, specify an interface name such as "eth0" or "eth1". This name is displayed for the interface by the ifconfig command.

Use situation

You can use this plugin to set an IP address of an NIC recognized by the OS.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The net-tools package must be installed.

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

The net-tools package must be installed.

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

The net-tools package must be installed.

- CentOS 8 (64-bit x86_64)

The net-tools package must be installed.

- Oracle Linux 8 (64-bit x86_64)

The net-tools package must be installed.

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) Do not change the IP address of the NIC used for communication with the JP1/AO server. If this IP address is changed, communication with the JP1/AO server is disconnected and this plugin ends abnormally.

(3) Do not enter values that cannot be set as IP addresses for the IP address that is set to the OS. For example, you cannot specify network addresses, broadcast addresses, and special addresses such as "0.0.0.0" and "255.255.255.255".

(4) Make sure that the specified IP address is different from the IP addresses of other servers. If another server has the same IP address, the NIC is invalid, and the plugin might end abnormally.

(5) If the execution target server is Red Hat Enterprise Linux or CentOS, the setting items in the configuration files shown in "Description" are replaced with the specified values. Therefore, do not define multiple setting items with the same name, and do not comment out setting items. If you do so, this plugin ends normally but the settings are not applied.

Version

02.00.00

Plug-in tags

Configure OS,Windows,Linux

Plug-in name displayed in the task log

osSetIpAddress

Return code

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error was detected in the component) Property not entered (An error was detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
os.nicName	NIC name	Specifies the name of the NIC for which the IP address is to be set.	--	Input	O
os.nicMacAddress	MAC address	Specifies the MAC address of the NIC for which the IP address is to be set.	--	Input	O
os.nicIpAddress	IP address	Specifies the IP address to be set for the NIC. IPv6 addresses are not supported.	--	Input	R
os.nicSubnetMask	Subnet mask	Specifies the subnet mask to be set for the NIC. IPv6 addresses are not supported.	--	Input	R
os.nicDefaultGW	Default gateway	Specifies the default gateway to be set for the NIC. IPv6 addresses are not supported.	--	Input	O
os.nicDns	DNS server's IP address	Specifies the DNS server's IP address to be set for the NIC. IPv6 addresses are not supported.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.10 Operate OS Service

Function

This plug-in performs operations on OS services in a Windows or Linux environment.

The following terms are used in this document:

- OS services

Windows services and Linux services are referred to as "OS services" to avoid confusion with the services executed in JP1/AO.

This plug-in requires the following server:

- Execution-target server

A server on which this plug-in is executed

The property common.serviceName specifies the name of the OS service for which the operation is to be performed. The values that can be specified vary based on the OS of the execution-target server.

- If the OS is Windows, you can specify names (service display names) that are displayed in the [Name] column of the Services administrative tool in the Control Panel.

- If the OS is Linux, you can specify the names of service scripts in the directory /etc/init.d.

The property common.serviceCommand specifies the operation to be performed on the target OS service. The operations that can be performed (regardless of whether the OS is Windows or Linux) are as follows:

- start

- stop

- restart

- status (status acquisition)

- suspend*

- resume*

*Available only if Windows is used for the execution target server.

The specifications for each of these operations conform to the OS specifications of the execution-target server. For example, if the start operation is performed on an OS service that is already running or if the stop operation is performed on an OS service that is not running, the operation terminates normally instead of ending in an error. If the restart operation is performed on an OS service that is not running, the operation is treated as the start operation.

When the status operation is performed, the operation result is stored as a numeric value in the property common.serviceStatus. The meanings of the numeric values that can be stored are shown below.

- For Windows:

1: The service is not running.

2: The service is in the process of starting.

3: The service is in the process of stopping.

4: The service is running.

5: Continuation of the service is suspended.

6: The service is stopping temporarily.

7: The service is temporarily stopped.

99: The status of the service is unknown.

- For Linux:

The meanings of numeric values vary based on the specifications of the service script specified as the OS service. For example, the following shows the meanings in Red Hat Enterprise Linux:

0: The program is running.

1: The program is not running, but the process ID file still exists.

2: The program is not running, but the lock file still exists.

3: The program is not running.

4: The execution status of the program cannot be determined, because this plug-in does not have permission to read the process ID file.

Executing a suspend operation results in the following, depending on the status of the specified OS service:

Status of the OS service Result of the suspend operation

-------------------- ----------------------------

halt The plug-in terminates normally, and the OS service remains in "halt" status.

start The plug-in terminates normally, and the OS service enters "halt" status.

stop The plug-in stops abnormally, and the OS service remains in "stop" status.

Depending on the status of the specified OS service, executing a resume operation results in the following:

Status of the OS service Result of the resume operation

-------------------- ----------------------------

halt The plug-in terminates normally, and the OS service remains in "start" status.

start The plug-in terminates normally, and the OS service enters "start" status.

stop The plug-in stops abnormally, and the OS service remains in "stop" status.

Use situation

This plug-in can be used to obtain the status of an OS service or to control an OS service.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions for using the execution-target server:

None.

Cautions

(1) If the OS of the execution-target server is Windows, the connecting user defined on the agentless connection destination must have permission to access the OS service for which the operation is to be performed.

(2) If the OS of the execution-target server is Windows, the start and restart operations can be performed only for OS services whose startup type is "Manual" or "Automatic". These operations cannot be performed for OS services whose startup type is "Disabled".

(3) If the OS of the execution-target server is Windows, an operation performed on the specified OS service is not performed for other OS services that have a dependence relationship with the specified OS service. For this reason, the operation performed on the specified OS service might fail.

(4) If the OS of the execution-target server is Windows, this plug-in terminates abnormally when both of the following conditions are met:

- Another OS service is dependent on the OS service for which the stop or restart operation is performed.

- "False" is specified for the property Windows.dependOnServiceStop, which determines whether to stop OS services that have a dependence relationship with the OS service for which the operation is performed.

(5) If the OS of the execution-target server is Windows, when specifying properties, do not specify any string that includes a double quotation mark (") or single quotation mark ('). If you specify such a string, this plug-in terminates abnormally.

(6) If the OS of the execution-target server is Linux, when specifying properties, do not specify any string that includes a double quotation mark ("). If you specify such a string, this plug-in terminates abnormally.

(7) Regardless of the OS of the execution-target server, when specifying the OS service name for the property common.serviceName, specify the complete name.

You cannot specify only part of an OS service name or include any wildcard characters. In particular, if the OS is Linux, OS service names are case sensitive.

(8) If you specify an OS service that supports neither suspend nor resume when executing a suspend or resume operation, this plug-in terminates abnormally.

Execution privilege

For Windows: Administrator privileges

For Linux: Root privileges

Version

02.01.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osOperateService

Return code

0: Normal

12: Error (Mistake by user): Invalid property

21: Error (Environmental error): No command was found or could be executed (An error was detected in the component script)

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requi red
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.serviceName	OS Service Name	Specify the name of the OS service for which operations are to be performed. If the OS is Windows, specify a service display name. If the OS is Linux, specify a service script name.	--	Input	R
common.serviceCommand	Operation to the OS service	Specify operation (start / stop / restart / status / suspend / resume) to execute to the OS service.	status	Input	R
Windows.dependOnServiceStop	Whether to Stop Dependent OS Service (Windows only)	If the OS of the execution-target server is Windows, specify "true" to stop or restart the specified OS service even if other OS services depend on this service. If not stop	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
Windows.dependOnServiceStop	Whether to Stop Dependent OS Service (Windows only)	or restart the specified OS service, specify "false". The default set is "false".	--	Input	O
common.serviceStatus	OS Service Status	Stores the OS service status if the status was obtained.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.11 Change password for OS user

Function

Changes the password for an OS user in a Windows or UNIX environment.

In a Windows environment, you can change the password for a local user or a domain user.

When executing this plug-in in a UNIX environment, please use it in "Add operational user", "Change operational user" or "Batch change of operation users" service template. It does not support using other service templates.

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows or UNIX must have already been set up.

In a Windows environment, set one of the following values in the Windows.userType property to indicate the type of user whose password is to be changed:

For a local user: local

For a domain user: domain

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Change password for OS user(SYSTEM)" plug-in that executes with the system account.

Use situation

You use this plugin to change the password for a user for operations.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osChangePassword

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.osUserName	OS user name	Specify the user name of the OS user whose password is to be changed.	--	Input	O
common.osUserPassword	OS user password	Specify the new password for the OS user.	--	Input	O
common.osUserPasswordReE nter	Enter the new OS user password again	Re-enter the new password for the OS user.	--	Input	O
Windows.userType	OS user's type	Specify "local" or "domain" as the OS user type. If "domain" is specified, any operations will be performed for the primary domain controller for the domain of the target server. This property takes effect in only Windows.	local	Input	O
common.addOrChange	Command execution type	When executing this plug-in in a UNIX environment, specify "a" if the service to be executed is "Add operational user", and "c" for "Change operational user".	--	Input	O
common.tmpFileID	Temporary file ID	When executing this plug-in in a UNIX environment, specify the ID used to identify temporary files.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.12 Change password for OS user(SYSTEM)

Function

Changes the password for an OS user in a Windows or UNIX environment.

In a Windows environment, you can change the password for a local user or a domain user.

When executing this plug-in in a UNIX environment, please use it in "Add operational user", "Change operational user" or "Batch change of operation users" service template. It does not support using other service templates.

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows or UNIX must have already been set up.

In a Windows environment, set one of the following values in the Windows.userType property to indicate the type of user whose password is to be changed:

For a local user: local

For a domain user: domain

Use situation

You use this plugin to change the password for a user for operations.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osChangePassword_System

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.osUserName	OS user name	Specify the user name of the OS user whose password is to be changed.	--	Input	O
common.osUserPassword	OS user password	Specify the new password for the OS user.	--	Input	O
common.osUserPasswordReE nter	Enter the new OS user password again	Re-enter the new password for the OS user.	--	Input	O
Windows.userType	OS user's type	Specify "local" or "domain" as the OS user type. If "domain" is specified, any operations will be performed for the primary domain controller for the domain of the target server. This property takes effect in only Windows.	local	Input	O
common.addOrChange	Command execution type	When executing this plug-in in a UNIX environment, specify "a" if the service to be executed is "Add operational user", and "c" for "Change operational user".	--	Input	O
common.tmpFileID	Temporary file ID	When executing this plug-in in a UNIX environment, specify the ID used to identify temporary files.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.13 Get list of OS users

Function

This plugin acquires a list of Windows/UNIX OS users.

Use situation

Checking the OS users defined in the system.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running on the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for required products on the execution target server]

(1) A server is running.

Execution privilege

Windows: Administrator permission

UNIX: root permission

Version

02.00.00

Plug-in tags

Gather OS information,Linux,Windows,AIX

Plug-in name displayed in the task log

osShowUsers

Return code

0: Normal

12: Error (user error) Invalid property

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
common.fileName	File name	Specify the file name.	--	Input	R
OS.selectWorkgroupDomain	Select workgroup or domain	Specify whether the virtual server belongs to a workgroup or domain (Windows only).	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.14 Delete OS user

Function

Deletes an OS user in a Windows or UNIX environment.

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows or UNIX described in the prerequisites must have already been set up.

In Windows, you can delete a local user or a domain user, as set in the type of user to be deleted.

Set one of the following values in the Windows.userType property to indicate the type of user to be deleted:

For a local user: local

For a domain user: domain

In UNIX, you can also delete the home directory of the OS user that is to be deleted.

Specify the following value in the Linux.homeDirectoryDelete property:

To delete the OS user's home directory: yes

To not delete the OS user's home directory: no

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Delete OS user(SYSTEM)" plug-in that executes with the system account.

Use situation

You use this plugin to delete an OS user for operations.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Cautions

(1) If the execution target server's OS is UNIX and you have specified deletion of the user's home directory, first back up the data stored in the home directory, if necessary.

(2) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osDeleteUser

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
common.osUserName	OS user name	Specify the user name of the OS user to be deleted.	--	Input	R
Windows.userType	OS user's type	Specify "local" or "domain" as the OS user type. If "domain" is specified, any operations will be performed for the primary domain controller for the domain of the	local	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
Windows.userType	OS user's type	target server. This property takes effect in only Windows.	local	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Linux.homeDirectoryDelete	Whether to delete user's home directory	Specify whether to delete the user's home directory. Specifying "yes" deletes it, and specifying "no" does not. This property takes effect in only UNIX.	no	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.15 Delete OS user(SYSTEM)

Function

Deletes an OS user in a Windows or UNIX environment.

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows or UNIX described in the prerequisites must have already been set up.

In Windows, you can delete a local user or a domain user, as set in the type of user to be deleted.

Set one of the following values in the Windows.userType property to indicate the type of user to be deleted:

For a local user: local

For a domain user: domain

In UNIX, you can also delete the home directory of the OS user that is to be deleted.

Specify the following value in the Linux.homeDirectoryDelete property:

To delete the OS user's home directory: yes

To not delete the OS user's home directory: no

Use situation

You use this plugin to delete an OS user for operations.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Cautions

(1) If the execution target server's OS is UNIX and you have specified deletion of the user's home directory, first back up the data stored in the home directory, if necessary.

(2) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.50.01

Plug-in tags

Configure OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osDeleteUser_System

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
common.osUserName	OS user name	Specify the user name of the OS user to be deleted.	--	Input	R
Windows.userType	OS user's type	Specify "local" or "domain" as the OS user type. If "domain" is specified, any operations will be performed for the primary domain controller for the domain of the target server. This property takes effect in only Windows.	local	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Linux.homeDirectoryDelete	Whether to delete user's home directory	Specify whether to delete the user's home directory. Specifying "yes" deletes it, and specifying "no" does not. This property takes effect in only UNIX.	no	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.16 Output OS type

Function

Outputs the type of OS of the execution target server.

The plugin outputs one of the following to the standard output (depending on the execution target server's OS):

• OS is Windows: OSType:Windows

• OS is Linux: OSType:Linux

• OS is AIX: OSType:AIX

• OS is HP-UX: OSType:HP-UX

• OS is Solaris: OSType:Solaris

Use situation

You use this plugin in order to perform different processing depending on the type of OS in the service template.

The following explains how to use this plugin:

1. Execute this plugin on the execution target server.

2. Use the branch by property value plug-in to check the OS type is output.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

(14) HP-UX 11i V3 (IPF)

(15) Solaris 10 (SPARC), Solaris 11 (SPARC)

[Usage conditions for the target server]

None.

Version

02.12.00

Plug-in tags

Gather OS information,Windows,Linux,AIX,HP-UX,Solaris

Plug-in name displayed in the task log

osGetOsInfo

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	localhost	Input	R
common.osKind	OS type	This property indicates Windows, Linux, AIX, HP-UX, or Solaris as the OS type of the execution target server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.17 Shutdown Server

Function

This plug-in shuts down a server in a Windows or Linux environment.

This plug-in requires the following server:

- Execution-target server

A server on which this plug-in is executed

This plug-in shuts down (powers off) the server by using the appropriate shutdown command for the OS of the execution-target server.

Note the following when specifying properties:

(1) For the shutdown reason (the property Windows.shutdownReason), specify one of the codes listed below. To use your own codes, see the Microsoft support information.

Code Meaning

0:0 Reason other than those below (planned)

1:1 Hardware: Maintenance (planned)

1:2 Hardware: Installation (planned)

2:2 OS: Recovery (planned)

2:3 OS: Upgrading (planned)

2:4 OS: Reconfiguration (planned)

2:16 OS: Service pack (planned)

2:17 OS: Hot fix (planned)

2:18 OS: Security fix (planned)

4:1 Application: Maintenance (planned)

4:2 Application: Installation (planned)

5:19 Security problem (planned)

7:0 Legacy API shutdown (planned)

Use situation

This plug-in can be used to shut down the server, for example, when during a schedule power outage or when program update files are being applied.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions for using the execution-target server:

None.

Cautions

(1) Regardless of the OS of the execution-target server, this plug-in forcibly shuts down the server even if other users are logged in. The data that other users are working on is not saved.

(2) Processing for this plug-in finishes when the OS shutdown command is executed on the execution-target server. As a result, this plug-in and the shutdown operation work asynchronously.

(3) There is a fixed wait time between the execution of the OS shutdown command on the execution-target server and the start of the shutdown processing. During this wait time, JP1/AO performs preprocessing for shutdown. The wait time varies depending on the OS of the execution-target server. If the OS is Windows, the wait time is 180 seconds. If the OS is Linux, the wait time is 1 second.

(4) If the OS of the execution-target server is Windows, when specifying properties, do not specify any string that includes a double quotation mark ("). If you specify such a string, this plug-in terminates abnormally.

(5) If the OS of the execution-target server is Windows, do not omit the property Windows.shutdownReason (shutdown reason) or the property Windows.shutdownReasonComment (comment for the shutdown reason). If you omit either of these properties, this plug-in terminates abnormally.

(6) If the OS of the execution-target server is Windows, the OS event log entries registered by this plug-in conform to the specifications of the shutdown command.

(7) If the OS of the execution-target server is Windows, this plug-in references the environment variable SystemRoot when calling shutdown.exe. For this reason, if the value of this environment variable was changed from the value set during OS installation, this plug-in might terminate abnormally.

(8) If an error occurs in this plug-in, take action according to the message output for the shutdown command in the task log.

Execution privilege

For Windows: Administrator privileges

For Linux: Root privileges

Version

02.01.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osShutdownServer

Return code

0: Normal

Other than 0: Error (Check the task log for details of the error): Abnormal termination of the shutdown command

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.shutdownReason	Shutdown Reason (Windows only)	If the OS of the execution-target server is Windows, specify the reason for shutdown in "x:y" format. If the OS is Windows, you cannot omit this setting. If the OS is Linux, this setting is ignored.	0:0	Input	O
Windows.shutdownReasonCo mment	Comment on Shutdown Reason (Windows only)	If the OS of the execution-target server is Windows, specify a comment consisting of a maximum of 511 characters, about the reason for shutdown. If the OS is Windows, you cannot omit this setting. If the OS is Linux, this setting is ignored.	Server shutdown was done by this product.	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.18 Restart Server

Function

This plug-in restarts the server in a Windows or Linux environment.

This plug-in requires the following server:

- Execution-target server

A server on which this plug-in is executed

This plug-in shuts down and restarts the server by using the shutdown command that is appropriate for the OS of the execution-target server.

Note the following when specifying properties:

(1) For the shutdown reason (the property Windows.shutdownReason), specify one of the codes listed below. To use your own codes, see the Microsoft support information.

Code Meaning

0:0 Reason other than those below (planned)

1:1 Hardware: Maintenance (planned)

1:2 Hardware: Installation (planned)

2:2 OS: Recovery (planned)

2:3 OS: Upgrading (planned)

2:4 OS: Reconfiguration (planned)

2:16 OS: Service pack (planned)

2:17 OS: Hot fix (planned)

2:18 OS: Security fix (planned)

4:1 Application: Maintenance (planned)

4:2 Application: Installation (planned)

5:19 Security problem (planned)

7:0 Legacy API shutdown (planned)

Use situation

This plug-in can be used to shut down and then restart the server, for example, when program update files are being applied.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions for using the execution-target server:

None.

Cautions

(1) Regardless of the OS of the execution-target server, this plug-in forcibly shuts down the server even if other users are logged in. The data that other users are working on is not saved.

(2) Processing for this plug-in finishes when the OS shutdown command is executed on the execution-target server. As a result, this plug-in and the shutdown operation work asynchronously.

(3) There is a fixed wait time between the execution of the OS shutdown command on the execution-target server and the start of the shutdown processing. During this wait time, JP1/AO performs preprocessing for shutdown. The wait time varies depending on the OS of the execution-target server. If the OS is Windows, the wait time is 180 seconds. If the OS is Linux, the wait time is 1 second.

(4) If the OS of the execution-target server is Windows, when specifying properties, do not specify any string that includes a double quotation mark ("). If you specify such a string, this plug-in terminates abnormally.

(5) If the OS of the execution-target server is Windows, do not omit the property Windows.shutdownReason (shutdown reason) or the property Windows.shutdownReasonComment (comment for the shutdown reason). If you omit either of these properties, this plug-in terminates abnormally.

(6) If the OS of the execution-target server is Windows, the OS event log entries registered by this plug-in conform to the specifications of the shutdown command.

(7) If the OS of the execution-target server is Windows, this plug-in references the environment variable SystemRoot when calling shutdown.exe. For this reason, if the value of this environment variable was changed from the value set during OS installation, this plug-in might terminate abnormally.

(8) If an error occurs in this plug-in, take action according to the message output for the shutdown command in the task log.

Execution privilege

For Windows: Administrator privileges

For Linux: Root privileges

Version

02.01.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osRebootServer

Return code

0: Normal

Other than 0: Error (Check the task log for details of the error): Abnormal termination of the shutdown command

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.shutdownReason	Shutdown Reason (Windows only)	If the OS of the execution-target server is Windows, specify the reason for restart or shutdown in "x:y" format. If the OS is Windows, you cannot omit this setting. If the OS is Linux, this setting is ignored.	0:0	Input	O
Windows.shutdownReasonCo mment	Comment on Shutdown Reason (Windows only)	If the OS of the execution-target server is Windows, specify a comment consisting of a maximum of 511 characters, about the reason for restart or shutdown. If the OS is Windows, you cannot omit this setting. If the OS is Linux, this setting is ignored.	Server shutdown was done by this product.	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.19 Extract character string in a text file

Function

This plug-in sets the line specified by the specified text file to the output property on the Windows or Unix execution target server. If the specified line exceeds 1,024 bytes, character strings of 1,025 bytes or more will be truncated.

If no corresponding line exists (for instance, if

If no corresponding line exists (for instance, if the 21st line is specified for a text file having only 20 lines), a null character is set for the output property.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in.

Scripts in this plug-in perform the following processing:

- Checking the file path specified for the target file (common.targetFilePath property)

- Execution of the following command

- Windows

New-Object System.IO.StreamReader("target-file-path(common.targetFilePath-property)", [System.Text.Encoding]::Default)

The readLine method of the StreamReader object acquired by the above command is used to acquire the one line of character string specified in the line number (common.lineNum property).

For details about the readLine method of the StreamReader class, visit the Microsoft library Web site.

- Unix

head -n line-number(common.lineNum-property) "target-file-path(common.targetFilePath-property)" | tail -n 1

For details on the head and tail commands, run the man command of the OS to acquire the command information.

Use situation

Used when specifying part of a text file to the output property to be used as the input property of another product

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite product within the execution target server:

None

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions of using the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) You cannot use a wild card for specification to the target file path (common.targetFilePath property).

(3) The connected user defined for the agentless connection destination requires read permission for the specified file.

Version

02.00.00

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osFileOutputProperty

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetFilePath	Target file path	Enter the full path of the target file.	--	Input	R
common.lineNum	Line number	Specify a line from which you want to extract a character string.	--	Input	R
common.stdOutValue	Character string to be extracted	The character string extracted from the file is stored here.	--	Outpu t	O

Property key	Property name	Description	Default value	I/O type	Required
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.20 Copy file

Function

Copies a file or folder on a specified path to a specified file or folder.

This plugin assumes the following server:

• Execution target server

This is the server onto which the file or folder is to be copied.

If the OS of the target server is UNIX and the common.permissionOption property value is 1, the plugin copies the specified file or folder while retaining its owner, group, permissions, and timestamp. If you want to copy a file or folder without retaining these attributes or if the OS is Windows, specify 0 for this property value.

Use situation

You use this plugin to back up application definition files and to output command execution results to a file.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Cautions

(1) If an existing file or folder is specified in the common.destFilePath property, that file or folder will be overwritten.

(2) If a hidden file exists in a folder that is specified in the common.sourceFilePath property, that file will not be copied.

Version

03.01.01

Plug-in tags

Control OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osCopyFile

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	localhost	Input	R
common.sourceFilePath	Full path of the copy source file	Specify the full path of the copy-source file or folder.	--	Input	R
common.destFilePath	Full path of the copy destination file	Specify the full path of the copy-destination file or folder.	--	Input	R
common.permissionOption	Whether to retain file attributes	Specify whether to copy the file attributes (mode, ownership, and	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
common.permissionOption	Whether to retain file attributes	timestamps). Specifying 1 copies them, and specifying 0 does not.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.21 Obtaining the file size

Function

This plug-in outputs the total size of all files, including subfolders, at the specified path to a property.

The path (file path or folder path) is specified by the common.targetPath property. The value of this property cannot include wildcard characters.

This plug-in outputs, to the property, both the total file size and the unit in which that size is given.

The unit in which the file size is given is specified by the common.fileSizeUnit property. For this property, you can specify "B", "KB", "MB", "GB", or "TB". If you specify a value other than one of these values, the plug-in terminates abnormally.

If the specified unit is not "B", the size will be calculated by using the base number 1024 (rather than 1000). For the fractional part, a maximum of two decimal places are output. Subsequent decimal places are truncated.

Use situation

This plug-in can be used to check the size of files or folders created by another plug-in.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target system]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The bc package must be installed.

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

The bc package must be installed.

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

The bc package must be installed.

(10) CentOS 8 (64-bit x86_64)

The bc package must be installed.

(11) Oracle Linux 8 (64-bit x86_64)

The bc package must be installed.

[Conditions for using the execution-target server]

None.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) If the OS of the execution-target server is Windows and the target folder contains a file or subfolder that cannot be accessed (for example, because of access permission settings), this plug-in terminates abnormally.

(3) If the OS of the execution-target server is Windows and the target folder contains a symbolic link to a folder, this plug-in also obtains the size of the link-target folder. If the link-target folder is an upper-level folder, the plug-in terminates abnormally.

Version

02.00.00

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osMeasureFileSize

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetPath	Target path	Enter the full path of the target file or folder.	--	Input	R
common.fileSizeUnit	Unit of the file size	Enter the unit of the file size to be output. "B", "KB", "MB", "GB", or "TB" can be specified.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--
common.outputFileSize	File size to be output	Store the file or folder size to be output.	--	Output	--
common.outputFileSizeUnit	Unit of the file size to be output	Store the unit of the file size to be output.	--	Output	--

4.13.22 Compressing a file

Function

This plug-in compresses the specified file or folder on the execution-target server in a Windows or UNIX environment. If the OS of the execution-target server is Windows, the plug-in compresses the specified file or folder in ZIP format, and the resulting compressed file will have the extension .ZIP. If the OS is UNIX, the plug-in first archives the specified file or folder into a TAR file and then compresses the TAR file in GZIP format, and the resulting compressed file will have the extension .TGZ. The name of the resulting compressed file is the target file name (in Windows, the file name excluding the extension) to which the appropriate extension has been appended, and the compressed file is output to the output destination folder at the path specified by the common.outputDestFolderPath property. The compression-target files or folders in the path specified by the common.compressSourceFilePath property are not deleted after being compressed. The value of the common.compressSourceFilePath property cannot include wildcard characters.

Notes on the compression-target file path (common.compressSourceFilePath property):

- Specify the compression-target file or folder by its full path name.

Notes on the output destination folder path (common.outputDestFolderPath property):

- Specify the output destination folder by its full path name. If the specified folder does not exist, it will be automatically created.

Use situation

This plug-in can be used to compress data (such as log files) and transfer the compressed data to another server.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

If the OS of the execution-target server is Windows, .NET Framework 4.5.2 (or later) and Windows PowerShell 3.0 (or later) must be installed.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) If the OS of the execution-target server is UNIX, do not include single-byte backslashes (\) in the values of properties.

(3) You cannot specify multiple files or folders for the compression-target file path (common.compressSourceFilePath property).

(4) You cannot specify shortcuts or symbolic links as the compression target (common.compressSourceFilePath property).

(5) If the OS of the execution-target server is Windows, do not specify any folder that contains a symbolic link to an upper-level folder for the compression-target file path (common.compressSourceFilePath property). If you specify such a folder, the plug-in terminates abnormally.

(6) If the compression command fails on a UNIX execution-target server, the plug-in creates a file named "jp1ao_plug-in_error.log" in the output destination folder (specified by the common.outputDestFolderPath property), and then outputs

error details to the file. If this file is unnecessary, delete it. Note that the jp1ao_plug-in_error.log file will be overwritten with a new file.

(7) If the plug-in terminates abnormally and the following error message appears in the task log, remove the cause of the error by referring to jp1ao_plug-in_error.log:

KNAE08132-E Processing was interrupted because the size of the standard output for a command exceeded the upper limit (upper limit: 100 KB).

(8) If the OS of the execution-target server is Windows, you cannot specify a drive path as the compression-target file path (common.compressSourceFilePath property). If the OS is UNIX, you cannot specify the root path as the compression-target file path.

(9) When specifying the output destination folder path (common.outputDestFolderPath property), do not specify the folder in the compression-target file path (common.compressSourceFilePath property) or any subfolder of that folder. If you specify a folder or subfolder in the compression-target file path, the plug-in terminates abnormally.

(10) If the output destination folder (specified by the common.outputDestFolderPath property) already contains a file that has the same name as the compressed file to be created, this plug-in terminates abnormally without overwriting the existing file.

(11) If the OS of the execution-target server is Windows, the length of the output destination folder path must not exceed 247 characters, and the total length of the folder path and file name must not exceed 259 characters. If the specified path is too long, the plug-in cannot compress the file.

(12) Whether a file can be compressed depends on the size of installed memory. If a file is too large to be compressed, store it in a folder, and then compress the folder.

(13) This plug-in must wait until compression finishes for synchronization.

(14) The time required for compression depends on the file size.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osCompressFile

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.compressSourceFile Path	File path to be compressed	Enter the full path of the file or folder to be compressed.	--	Input	R
common.outputDestFolderPat h	Folder output path	Enter the full path of the folder output path.	--	Input	R
common.returnCompressFile Path	Compressed file path	This is the full path of the stored compressed file.	--	Outpu t	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

4.13.23 Decompressing a file

Function

This plug-in decompresses the specified compressed file on the execution-target server in a Windows or UNIX environment. If the OS of the execution-target server is Windows, the plug-in can decompress ZIP files. If the OS of the execution-target server is UNIX, the plug-in can decompress GZIP files (compressed collections of files archived as TAR files). The names of the files output by this plug-in are the names of the original files or folders (before compression). The decompressed files are output to the folder specified by the common.outputDestFolderPath property. The decompression-target file in the path specified by the common.uncompressSourceFilePath property is not deleted after being decompressed. The value of the common.uncompressSourceFilePath property cannot include wildcard characters.

Notes on the decompression-target file path (common.uncompressSourceFilePath property):

- Specify the decompression-target file by its full path name.

Notes on the output destination folder path (common.outputDestFolderPath property):

- Specify the output destination folder by its full path name. If the specified folder does not exist, it will be automatically created.

Use situation

This plug-in can be used to decompress files.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

If the OS of the execution-target server is Windows, .NET Framework 4.5.2 (or later) and Windows PowerShell 3.0 (or later) must be installed.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) If the OS of the execution-target server is UNIX, do not include single-byte backslashes (\) in the values of properties.

(3) You cannot specify multiple compressed files for the decompression-target file path (common.uncompressSourceFilePath property).

(4) If the output destination folder (specified by the common.outputDestFolderPath property) already contains a file that has the same name as a file to be decompressed, this plug-in terminates abnormally without overwriting the existing file.

(5) If the OS of the execution-target server is Windows, the length of the output destination folder path must not exceed 247 characters, and the total length of the folder path and file name must not exceed 259 characters. If the specified path is too long, the plug-in cannot decompress the file. If the plug-in terminates abnormally before decompression finishes, only files that were successfully decompressed will remain.

(6) This plug-in must wait until decompression finishes for synchronization.

(7) The time required for decompression depends on the file size.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osUncompressFile

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.uncompressSourceF ilePath	File path to be decompressed	Enter the full path of the compressed file to be decompressed.	--	Input	R
common.outputDestFolderPat h	Folder output path	Enter the full path of the folder output path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

4.13.24 Obtaining the latest update time stamp of a file

Function

This plug-in outputs the time when a file or folder (at a specified path) was last updated to a property.

The path is specified by the common.targetPath property. The value of this property cannot include wildcard characters.

Notes on the format of the time of last update (common.lastModifiedDateFormat property):

- Specify a character string whose length does not exceed 64 characters for the common.lastModifiedDateFormat property.

- The conversion specifiers included in the specified character string are converted to their corresponding values.

Characters other than conversion specifiers are stored in the property as is.

The following are examples of conversion specifiers.

Examples of conversion specifiers:

%Y: Four-digit year (according to the Western calendar, including the century).

%y: Last two digits of the year (according to the Western calendar, excluding the century). A zero is prefixed to one-digit values.

%m: Month. A zero is prefixed to one-digit values.

%d: Day. A zero is prefixed to one-digit values.

%H: Hour in 24-hour notation. A zero is prefixed to one-digit values.

%I: Hour in 12-hour notation. A zero is prefixed to one-digit values.

%M: Minute. A zero is prefixed to one-digit values.

%S: Second. A zero is prefixed to one-digit values.

%s: Number of seconds from 1970-01-01 00:00:00 UTC

If the common.waitFileModifiedForChange property is set to "true", the file update check function is enabled. This function checks whether the time when a file or folder was last updated has been changed from the first-obtained value. This check is performed at the interval specified by the common.waitFileModifiedInterval property (in seconds), for the number of times specified by the common.waitFileModifiedCount property. If the time of last update is changed during the time it takes to perform the check the specified number of times, the plug-in outputs the newest time of last update to the OS.lastModifiedDate property. Then, the plug-in sets the common.reacquisitionResultLastModifiedDate property to "true" (indicating that the time of last update was obtained again) and then terminates normally. If the time of last update does not change during the time it takes to perform the check the specified number of times, the plug-in outputs the time of last update that was obtained first to the common.lastModifiedDate property, sets the commonreacquisitionResultLastModifiedDate property to "false", and then terminates normally.

If the value of the common.waitFileModifiedForChange property is not "true", the plug-in outputs the time when the specified file or folder was last updated to the common.lastModifiedDate property, sets the common.reacquisitionResultLastModifiedDate property to "false", and then terminates normally.

Use situation

- This plug-in can be used to check whether files to be updated by another plug-in have been updated.

- When a plug-in is to be executed after a file has been updated by another system, this plug-in can be used to suppress the start of the execution of that plug-in until the file update finishes.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

None.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) If the OS of the execution-target server is Windows, do not include curly brackets ({}) in the value of the OS.lastModifiedDateFormat property, which specifies the format of the time of last update. If you do so, this plug-in terminates abnormally.

(3) The functional description does not cover all conversion specifiers that can be used. For a list of all conversion specifiers that can be used, see the manual for the Get-Date commandlet for PowerShell if the OS of the execution-target server is Windows, or the manual for the "date" command if the OS of the execution-target server is UNIX. However, do not use conversion specifiers that will be converted into control characters such as %n and %t.

(4) Be careful when you want to output a percent sign (%) to the OS.lastModifiedDate property (last file update time). In such cases, use "%%" instead of "%" in the value of the OS.lastModifiedDateFormat property, which specifies the format of the time of last update.

(5) If the OS of the execution-target server is Windows, do not specify only a percent sign (%) for lastModifiedDateFormat. If you do so, the plug-in terminates abnormally.

Version

02.00.00

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osGetModifiedDate

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetPath	Target path	Enter the full path of the target file or folder.	--	Input	R
common.lastModifiedDateFo rmat	Format of the latest update time stamp	Specify the format of the latest update time stamp of the specified file or folder.	%Y-%m-%dT%H:%M	Input	R
common.waitFileModifiedFo rChange	Whether to wait for file updates	Specify "true" to wait for the specified file or folder to update. If "true" is not specified, the processing ends without waiting for the folder to update, and the latest update time stamp is output.	false	Input	O
common.waitFileModifiedCo unt	Number of times to check for file updates	Specify the number of times to check the specified file or folder updates in the range from 1 to 192. You must specify the number if you want to wait for file updates.	--	Input	O
common.waitFileModifiedInt erval	Interval for checking for file updates	Specify the time interval for checking the specified file or folder updates in the range from 1 to 3600 (seconds). You must specify an interval if you want to wait for file updates.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--
common.lastModifiedDate	Latest update time stamp of a file	The latest update time stamp of the specified file or folder is stored in the defined format.	--	Output	--
common.reacquisitionResultL astModifiedDate	Results of the re-acquisition of the latest update time stamp	If the latest update time stamp is re-acquired, "true" will be stored. If not, "false" will be stored.	--	Output	--

4.13.25 Converting the character encoding of a file

Function

This plug-in converts the character encoding of a text file. The character encodings to be used before and after conversion are specified separately.

The path of the target file is specified by the common.targetFilePath property. The value of this property cannot include wildcard characters.

The plug-in reads the target file by using the character encoding specified by the common.characterEncodingFrom property. Next, the plug-in converts the character encoding to the encoding specified by the common.characterEncodingTo property, and then outputs the results to the file in the path specified by the common.outputFilePath property.

If no folder exists at the output destination path (common.outputFilePath property), a folder is created.

If a file already exists in the output destination path, the plug-in terminates abnormally.

The character encodings that can be specified are JIS, SJIS, EUC-JP, and UTF-8. If a character encoding other than one of these encodings is specified, the plug-in terminates abnormally. If UTF-8 is specified for the common.characterEncodingTo property (character encoding after conversion), the plug-in outputs the results to a text file without BOM.

Use situation

When files are moved between OSs, this plug-in can be used to convert the character encoding of the files to one that can be used on the destination OS.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

None.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) Depending on the type of character encoding to be converted, the character encoding might vary between OSs. As a result, such character encodings might not be converted correctly.

(3) If the OS of the execution-target server is UNIX, do not convert UTF-8 text files with BOM. If you convert such a file, the plug-in might terminate abnormally, or the text in the file might become corrupted.

(4) If the OS of the execution-target server is Windows and you attempt to convert an empty file, an empty file will be created at the destination path (specified in the common.outputFilePath property). If the OS of the execution-target server is UNIX and you attempt to convert an empty file, no file will be created.

(5) When specifying the conversion-target string, make sure it does not include platform-dependent characters or characters outside the range of the character encoding. If such characters are included, the plug-in might terminate abnormally or the text in the converted file might become corrupted.

(6) When specifying the path of the conversion-target file for the common.targetFilePath property, the conversion-source character encoding specified for the common.characterEncodingFrom property must be the same as the character encoding of the target file. If you specify a different character encoding, the plug-in might terminate abnormally or the text in the converted file might become corrupted.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osConvertFileCharacterEncoding

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetFilePath	Target file path	Enter the full path of the target file.	--	Input	R
common.characterEncodingFrom	Character encoding type (before conversion)	Specify "JIS", "SJIS", "EUC-JP", or "UTF-8" as the character encoding type for the file to be converted.	--	Input	R
common.characterEncodingTo	Character encoding type (after conversion)	Specify "JIS", "SJIS", "EUC-JP", or "UTF-8" as the character encoding type for the file after the conversion.	--	Input	R
common.outputFilePath	Output file path	Specifies the file to be output as a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

4.13.26 Acquiring access authority of a file or folder

Function

This plug-in outputs the authority information for the specified file on the Windows or UNIX execution target server. If you specify a folder, the plug-in outputs the authority information for the specified folder. The property of this plug-in allows the use of wild cards ("*","?",",") for only the path for the target file (common.targetFilePath property).

The file output format is as below. If authority information for more than one file is output, a line feed is inserted between the files.

- Windows

"Path","AccessToString"

"<target-file-path>", <user> Deny <authority>:<user> Allow <authority>

Note: For Windows, all authorities of files for each user are output.

- Unix

<target-file-path>,<access-authority(number)>,<access-authority(symbol)>,<owner's-user-name>,<owner's-group-name>

<access-permission(number)> consists of the owner's access permission, the group's access permission, and other access permissions in order from left to right.

<access-permission(symbol)> consists of symbols that indicate whether the path specified to the common.targetFilePath property belongs to a file (-), folder (d), or symbolic link (l), as well as the owner's access permission, the group's access permission, and other access permissions in order from left to right.

The numbers and symbols used for <access-permission(number)> and <access-permission(symbol)> are as follows.

Number: Symbol: Description

: -: File

: d: Folder

: l: Symbolic link

0: ---: No access permission is set.

1: --x: Execution permission

2: -w-: Write permission

3: -wx: Execution permission, write permission

4: r--: Read permission

5: r-x: Execution permission, read permission

6: rw-: Write permission, read permission

7: rwx: Execution permission, write permission, read permission

Example: <access-permission(number)>, <access-permission(symbol): 644,-rw-r--r--

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in.

The scripts in this plug-in perform the following processing:

- Checking the path for the target file (specified for the common.targetFilePath property) and the path for the output destination file (specified for the common.destinationFilePath property)

- Executing the following commands:

- Windows

Get-Acl -Path "<target-file-path>(the+F9 common.targetFilePath property)"

For details about the Get-Acl commandlet, visit the Microsoft library Web site.

- UNIX

stat -c%n,%a,%A,%U,%G <target-file-path>(the common.targetFilePath property)

For details on the stat command, run the man command of the OS to acquire the command information.

- Overwriting the file access permissions to the output destination file path (the common.destinationFilePath property); if no file exists, a new file is created.

Use situation

Use this if you want to leave, as evidence, a file describing access authority of the file specified after using the "file or folder access authority change" plug-in.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

None

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions of using the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) If the running OS on the execution target server is Windows, the connected user defined for the agentless connection destination requires read permission for the specified file.

(3) This plug-in allows the use of wild cards (* ? [ ]) for only the path for the target file (the common.targetFilePath property).

(4) This plug-in does not support drives or registries. Therefore, do not specify a drive or registry for the path of the target file (the common.targetFilePath property).

(5) If the running OS on the execution target server is Unix, do not specify a path that contains a space as the path for the target file (common.targetFilePath property). If you specify such a path, this plug-in will terminate abnormally.

(6) If a file is already specified for the output destination file path (common.destinationFilePath property), that file is overwritten. Therefore, make sure that the specified file name is correct.

(7) If no folder exists on the output destination file path (common.destinationFilePath property), the system creates that folder and outputs the result in it.

Version

02.00.01

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osGetPermission

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetFilePath	Target file path	Enter the full path of the target file.	--	Input	R
common.destinationFilePath	File output path	Enter the full path of the file output path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.27 Confirm file or folder existence

Function

This plug-in checks whether a specified file exists on Windows or UNIX execution-target servers.

You can specify a folder as a target for existence check. Specify the folder for the check target file name (the common.targetFileName property).

As an existence check result of the specified file, store "true" (the specified file was found) or "false" (the specified file was not found) in the existence check result (the common.validationResult property).

The following is an explanation of the confirmation target file name (the common.targetFileName property):

- Specify a string of 256 or fewer characters.

The following is an explanation of the information about the confirmed file (the common.validationResultInformation property):

- If the existence check result (the common.validationResult property) is true, this plug-in stores the information about the checked file (folder).

- For Windows execution-target servers, stores the result of the Get-ItemProperty commandlet of PowerShell.

- For UNIX execution-target servers, stores the result of the ls command (-l option, -d option).

Use situation

You can use this plug-in to check the existence of files or folders.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the release notes.

[Prerequisite products for the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

None.

[Supported OSs for the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Conditions for using the execution-target server]

None

Cautions

(1) Do not use the following characters for the check target file name (the common.targetFileName property): left angle brackets (<), right angle brackets (>), vertical bars (|), semicolons (;), ampersands (&), asterisks (*), question marks (?), double quotation marks ("), percent signs (%), single quotation marks ('), left square brackets ([), right square brackets (]), or grave accent marks (`).

(2) This plug-in is intended for normal files and folders. Therefore, it does not handle drives and registries as files or folders.

(3) You cannot specify multiple files or folders for the check target.

Version

02.02.00

Plug-in tags

Gather OS information,Windows,Linux,AIX

Plug-in name displayed in the task log

osValidationFileAndFolder

Return code

0: Normal

12: Error (mistake by the user): A property is invalid.

27: Error (Check the details on the error in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetFileName	File to be checked	Specify the full path to the file or folder whose existence you want to confirm.	--	Input	R
common.validationResult	Existence confirmation result	The result of confirming the existence is stored here. If the file exists, the value is true. If not, the value is false.	--	Output	O
common.validationResultInfo rmation	Information about checked file	The information about the checked file is stored here.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.28 Moving a file

Function

This plug-in moves the specified file or folder to the specified destination file or folder.

The path of the target file or folder is specified by the common.sourceMoveTargetPath property. The path of the destination file or folder is specified by the common.destMoveTargetPath property.

The values of these properties cannot include wildcard characters.

If a file or folder that has the same name as the specified destination file or folder already exists, this plug-in terminates abnormally without overwriting the existing file or folder.

Non-existent folders included in the path of the destination file or folder are automatically created.

If the OS of the execution-target server is Windows, to move files or folders to a different location on the same drive, use the "move" command. To move files or folders between different drives, use the "xcopy" command, and then use the "del" or "rmdir" command to delete the source files or folders.

If the OS of the execution-target server is UNIX, use the "mv" command to move files or folders.

If the source path is a folder path, the destination path is treated as a folder path. If the source path is a file path, the destination path is treated as a file path.

Use situation

This plug-in can be used to move files or folders to other files or folders.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

None.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) For the source path (common.sourceMoveTargetPath property) or destination path (common.destMoveTargetPath property), do not specify only a drive letter (in Windows) or only the root directory (in UNIX). If you specify only a drive letter or only the root directory, the plug-in terminates abnormally.

(3) If the OS of the execution-target server is Windows, moving files or folders between drives might take a time depending on the size of the file or folder.

(4) If the command to move a file or folder fails, the source file or folder might become corrupted. For this reason, we recommend that you back up source files and folders in advance.

(5) If the OS of the execution-target server is Windows and you want to move a file to a different location on the same drive, make sure the length of the destination path does not exceed 259 characters. If this path length is exceeded, the plug-in terminates abnormally. If you are moving a folder, the plug-in can run normally, even when the path length of the destination folder exceeds the maximum length (247 characters) or the path length of a file in that folder exceeds the maximum length (259 characters). Note, however, that, in such cases, it might not be possible to rename the moved folder. For this reason, we recommend that you do not move folders whose path lengths exceed 247 characters, or files whose path lengths exceed 259 characters.

(6) If the OS of the execution-target server is Windows, you cannot move read-disabled files or folders between drives. If you attempt to move such files or folders, the plug-in terminates abnormally, and the files or folders being copied remain

at the destination location. If the files or folders remaining at the destination are unnecessary, log in to the execution-target server, and then manually delete those files or folders.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osMoveFile

Return code

0: Normal

1: Error (An error was detected after the copy processing ended) An error was detected in the processing to delete the source file or folder that was moved.

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.sourceMoveTargetP ath	Source path	Enter the full path of the source file or folder.	--	Input	R
common.destMoveTargetPath	Destination path	Enter the full path of the destination file or folder.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

4.13.29 Obtaining a file list

Function

This plug-in outputs, to a text file in a specified location, information about a specified file or about the files and subfolders in a specified folder.

The path of the target folder or file is specified by the common.targetPath property, and the path of the output destination text file is specified by the common.outputFilePath property. The values of these properties cannot include wildcard characters.

If the OS of the execution-target server is Windows, the information is output in the same format as with the "dir /Q" command. If the OS of the execution-target server is UNIX, the information is output in the same format as with the "ls -la" command. Information about hidden files and system files is also output.

To output information about all files, including subfolders, set the "true" for the common.showAllFileList property. If you do not specify "true" for this property, information about files in the subfolders of the specified path will not be output.

If the specified file path includes a folder that does not exist, the folder will be created, and then the text file will be output in that folder. If files that has the same name as a file to be specified already exist in the folder, the existing files are overwritten.

Use situation

This plug-in can be used to check whether the files to be created by other plug-ins were successfully created.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Conditions for using the execution-target server]

None.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) If you specify to output the information for all files, including subfolders, processing might take a long time.

(3) If the OS of the execution-target server is Windows and the target folder contains a symbolic link to a folder, this plug-in also obtains information about the files and subfolders in the link-target folder. If the link-target folder is an upper-level folder, the plug-in terminates normally, but the obtained information is invalid.

Version

02.02.00

Plug-in tags

Gather OS information,Windows,Linux,AIX

Plug-in name displayed in the task log

osShowFileList

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetPath	Target path	Enter the full path of the target file or folder.	--	Input	R
common.showAllFileList	Obtaining information under subfolders	Specify "true" to obtain all file information including subfolders. If "true" is not specified, the file information under subfolders will not be collected.	false	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.outputFilePath	Output file path	Specifies the file to be output as a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

4.13.30 Delete file

Function

Deletes a file on a specified path on a specified target server.

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Delete file(SYSTEM)" plug-in that executes with the system account.

Use situation

You use this plugin to delete a file forwarded by means of a file-forwarding plugin or a file output by another plugin.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Cautions

(1) This plugin can delete files only. It cannot delete a folder or directory. To delete a folder or directory, use the osDeleteFolder plugin.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osDeleteFile

Return code

0: Normal

12: Error (user error) Invalid property

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.filePath	File path	Specify the full path of the file to be deleted.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.31 Delete file(SYSTEM)

Function

Deletes a file on a specified path on a specified target server.

Use situation

You use this plugin to delete a file forwarded by means of a file-forwarding plugin or a file output by another plugin.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Cautions

(1) This plugin can delete files only. It cannot delete a folder or directory. To delete a folder or directory, use the osDeleteFolder plugin.

Version

02.50.01

Plug-in tags

Control OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osDeleteFile_System

Return code

0: Normal

12: Error (user error) Invalid property

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.filePath	File path	Specify the full path of the file to be deleted.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.32 Create folder

Function

Creates a folder on a specified path in a Windows or UNIX environment. If the specified folder already exists, the plugin terminates normally without doing anything.

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows or UNIX described in the prerequisites must have already been set up.

Use situation

You use this plugin to create a storage folder during preprocessing and postprocessing for a file creation plugin.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osCreateFolder

Return code

0: Normal

12: Error (user error) Invalid property

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
common.folderPath	Folder path	Specify the full path of the folder to be created.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.33 Delete folder

Function

Deletes a folder on a specified path in a Windows or UNIX environment.

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows or UNIX described in the prerequisites must have already been set up.

Use situation

If you have created a temporary folder to store files, you can use this plugin to delete the folder when it is no longer needed.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Usage conditions for the target server]

None.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osDeleteFolder

Return code

0: Normal

12: Error (user error) Invalid property

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
common.folderPath	Folder path	Specify the full path name of the folder to be deleted.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.34 Acquiring process information

Function

This plug-in sets the information about the specified process to the output property on the Windows or Unix execution target server. If more than one process is specified, the processes are sorted in the order of process start time, beginning with the oldest, and each process is set for one output property.

Process information can be set for up to 20 output properties. If there are 21 or more processes to be output, true is set to the process overflow flag (the common.processOverflowFlag property). In other cases, false is set to the property.

Process information items to be set for each output property are as follows:

<process-name>,<process-ID>,<process-start-time>

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in.

Scripts in this plug-in performs the following processing:

- Execution of the following commands:

- Windows

Get-Process -Name "process-name(common.processName-property)"

For details of Get-Process commandlet, visit the Microsoft library Web site.

- Unix

ps --sort start_time --format comm,pid,start_time -C "process-name(common.processName-property)"

For details on the ps command, run the man command of the OS to acquire the command information.

- Sets obtained process information in ascending order by process start time, one line (one process) at a time, to <process-information>[x] (the common.processInfo[x] property)*

*[x] is an integer from 1 to 20.

Use situation

This can be used to check process information when a failure occurs.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

None

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions of using the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property.

(2) You cannot use a wild card for specification to the target file path (common.targetFilePath property).

(3) If the running OS on the execution target server is Windows, you cannot acquire process start time for a user that has higher authority. Processes for which time cannot be acquired are stored in the process information property later than the process information property that stores processes that acquired the time.

Version

02.00.01

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osGetProcessInfo

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.processName	Process name	Specify the name of the process for which you want to acquire information.	--	Input	R
common.processInfo1	Process information 1	Set the process information you acquired.	--	Output	O
common.processInfo2	Process information 2	Set the process information you acquired.	--	Output	O
common.processInfo3	Process information 3	Set the process information you acquired.	--	Output	O
common.processInfo4	Process information 4	Set the process information you acquired.	--	Output	O
common.processInfo5	Process information 5	Set the process information you acquired.	--	Output	O
common.processInfo6	Process information 6	Set the process information you acquired.	--	Output	O
common.processInfo7	Process information 7	Set the process information you acquired.	--	Output	O
common.processInfo8	Process information 8	Set the process information you acquired.	--	Output	O
common.processInfo9	Process information 9	Set the process information you acquired.	--	Output	O
common.processInfo10	Process information 10	Set the process information you acquired.	--	Output	O
common.processInfo11	Process information 11	Set the process information you acquired.	--	Output	O
common.processInfo12	Process information 12	Set the process information you acquired.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.processInfo13	Process information 13	Set the process information you acquired.	--	Outpu t	O
common.processInfo14	Process information 14	Set the process information you acquired.	--	Outpu t	O
common.processInfo15	Process information 15	Set the process information you acquired.	--	Outpu t	O
common.processInfo16	Process information 16	Set the process information you acquired.	--	Outpu t	O
common.processInfo17	Process information 17	Set the process information you acquired.	--	Outpu t	O
common.processInfo18	Process information 18	Set the process information you acquired.	--	Outpu t	O
common.processInfo19	Process information 19	Set the process information you acquired.	--	Outpu t	O
common.processInfo20	Process information 20	Set the process information you acquired.	--	Outpu t	O
common.processOverflowFla g	Flag for upper limit of a process	If the number of obtained processes is 21 or more, true is set. If the number is less than 21, false is set.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.35 Get host name

Function

Acquires the host name of the server that corresponds to a specified IP address, based on information registered in the target server.

The following types of host names are obtained:

(1) Host name resolved from an IP address

(2) Host name in short name format, which does not include a domain name (if the host name in (1) includes a domain name)

(For a host name that does not include a domain name, a name in the same format as (1) is obtained.)

This plugin assumes the following servers:

• Execution target server

This server executes the plugin, queries the DNS server, and retrieves information in the hosts file.

• Retrieval target server

This is the server whose host name is to be acquired from the IP address

If a DNS server is registered on the execution target server, the plugin queries the DNS server about the host name of the retrieval target server. If the query to the DNS server fails, the plugin acquires the host name of the retrieval target server from the hosts file on the execution target server.

Use situation

This plugin enables you to reduce the number of input properties in a service template that requires the IP address and host name of the target server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

(1) JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The bind-utils package must be installed.

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

The bind-utils package must be installed.

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

The bind-utils package must be installed.

(10) CentOS 8 (64-bit x86_64)

The bind-utils package must be installed.

(11) Oracle Linux 8 (64-bit x86_64)

The bind-utils package must be installed.

[Usage conditions for required products on the execution target server]

(1) The IP address and host name of the target server must be defined in the execution target system's DNS or target server's hosts file.

Cautions

(1) IPv6 cannot be specified as the IP address for the target server.

Version

02.00.00

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osGetHostName

Return code

0: Normal

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
OS.targetIPAddress	IP address of the search-target server	Specify the IP address of the search-target server. IPv6 addresses are not supported.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
OS.host2Ipaddr	Host name of the search-target server	The host name is set for the IP address of the specified search-target server.	--	Output	O
OS.shortHostName	Host name of the server being searched for (short name format)	Sets the host name in short name format for the IP address of the specified server being searched for.	--	Output	O

4.13.36 Execution Wait

Function

The specified Windows server waits for the specified number of seconds.

- Execution target server

The server on which the plug-in is executed and that is placed in wait status.

Use situation

This plug-in can be used to control the execution interval time between steps as specified by a property.

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

- Oracle Linux 8 (64-bit x86_64)

Conditions for using prerequisite products on the execution target server

None.

Cautions

(1) The actual wait time might be different from the specified time, depending on conditions such as the communication status.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osWaitTime

Return code

0: Normal

12: Error (Mistake by user) Invalid property

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	localhost	Input	R
common.waitTime	Standby processing time	Specifies (in seconds) the standby processing time.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.37 Calculating dates and times

Function

This plug-in adds or subtracts the specified time from the specified date/time. The calculated date/time is stored as the calculation result (common.calculateResult property) in the specified format.

This plug-in requires the following server:

- Execution-target server

The server on which this plug-in is to be executed.

The script of this plug-in performs the following processes:

(1) If the execution-target server uses Windows, execute the following commandlets:

- Obtain the object that has the specified date/time.

$Key = Get-Date "input-date/time-(common.inputDateAndTime property)-value"

- Add or subtract the specified time from the object you obtained in the previous step.

Get-Date -Date ($Key).method-name.Invoke("calculated-date/time-(common.calculateDateAndTime property)-value")

-UFormat "format-(common.dateAndTimeFormat property)-value"

The method name used in the commandlet shown earlier differs depending on the calculated unit (common.calculateUnit property) value.

For details about the Get-Date commandlet, see the relevant parts of the Microsoft library.

(2) If the execution-target server is UNIX, the following command is executed:

date -d "input-date/time-(common.inputDateAndTime property)-value

calculated-date/time-(common.calculateDateAndTime property)-numerical-value

calculated-unit-(common.calculateUnit property)-value

[ago]#1

"

"+format-(common.dateAndTimeFormat property)-value"

#1: Specify this when setting a negative number for the calculated date/time (common.calculateDateAndTime property).

For details about the date command, see the command information obtainable by using the OS "man" command.

Specify the input date/time (common.inputDateAndTime property) in "YYYY-MM-DD hh:mm:ss" format.

The format (common.dateAndTimeFormat property) is as follows:

- Specify a string within 64 characters.

- Any characters specified for conversion found in the string are converted to their corresponding values. Characters other than those specified for conversion are stored in the calculation result (common.calculateResult property) without being converted.

Examples of characters specified for conversion are shown below. For information on other characters specified for conversion, see the commandlets and command manuals shown earlier.

[Characters specified for conversion]

%Y A four-digit Western-calendar year, including the millennium and century.

%y Last two digits of the year. The year excluding the millennium and century. If this is in the single digits, prepend it with a 0.

%m Months. If the month is in the single digits, prepend it with a 0.

%d Days. If the day is in the single digits, prepend it with a 0.

%H Hours in 24-hour notation. If the hours are in the single digits, prepend them with a 0.

%I Hours in 12-hour notation. If the hours are in the single digits, prepend them with a 0.

%M Minutes. If the minutes are in the single digits, prepend them with a 0.

%S Seconds. If the seconds are in the single digits, prepend them with a 0.

%s Number of seconds elapsed since 1970-01-01 00:00:00 UTC.

Use situation

When creating a file or directory, you can use this when you want to use a calculated date/time as an identifier for the file name or directory name.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the release notes.

[Prerequisite products for the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

None.

[Supported OSs for the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

None.

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) The command specification differs between Windows and UNIX, so even if you specify the same value for a calculated date/time (common.calculateDateAndTime property), the calculated result (common.calculateResult property) might differ depending on the OS of the execution-target server.

Version

02.10.00

Plug-in tags

Gather OS information,Linux,Windows

Plug-in name displayed in the task log

osCalculateDateAndTime

Return code

0: Normal

27: Error (Check the details on the error in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.inputDateAndTime	Input date and time	Specify the date and time that is the calculation source as YYYY-MM-DD hh:mm:ss.	--	Input	R
common.calculateUnit	Calculation unit	Specify the unit of time you want to add or subtract from the input date/time. Specify one of the following: "years", "months", "days", "hours", "minutes", or "seconds".	--	Input	R
common.calculateDateAndTime	Calculation date and time	Specify the time you want to add or subtract from the input date/time, in halfwidth numerical values. To subtract, prepend the value with a minus sign (-).	--	Input	R
common.dateAndTimeFormat	Format	Specify the format in which to output the date/time after calculation.	%Y%m%d%H %M%S	Input	R
common.calculateResult	Calculation result	The date and time after calculating is stored here in the specified format.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.38 Obtain date and time

Function

This plug-in acquires the current time on the execution target server according to the specified format.

This plug-in stores the acquired date and time in the acquisition results (the common.getResult property).

Optionally, you can specify the time zone for the dates and times to be output.

The following is an explanation of the format (the common.dateAndTimeFormat property):

- Specify a string of 64 or fewer characters.

- The conversion specifier characters in the character string specified for the format (the common.dateAndTimeFormat property) is converted into corresponding values.

However, character strings other than conversion specifier characters are stored in the acquisition results (property common.getResult) without being converted.

Examples of conversion specifier characters are listed below.

[Conversion specifier characters]

%Y: 4-digit western calendar year including century

%y: Last 2 digits of a western calendar year, excluding the century. Pad 0 before a single-digit year.

%m: Month. Pad 0 before a single-digit month.

%d: Date. Pad 0 before a single-digit date.

%H: Hour in 24-hour notation. Pad 0 before a single-digit hour.

%I: Hour in 12-hour notation. Pad 0 before a single-digit hour.

%M: Minute. Pad 0 before a single-digit minute.

%S: Second. Pad 0 before a single-digit second.

%s: Seconds that have passed since 1970-01-01 00:00:00 UTC

The following is an explanation of the time zone (the OS.timeZone property):

- If specification of the time zone (the OS.timeZone property) is omitted, this plug-in acquires the current time in the time zone that is specified for the user that is connected to the execution target server by using agentless connection.

- For the Windows execution-target server, specify a time-zone ID that can be confirmed by using the TZUTIL command with the /l option specified.

Example specifications are:

Tokyo Standard Time

China Standard Time

GMT Standard Time

Pacific Standard Time

Eastern Standard Time

US Eastern Standard Time

Central Standard Time

Central America Standard Time

US Mountain Standard Time

Mountain Standard Time

Alaskan Standard Time

Hawaiian Standard Time

Singapore Standard Time

India Standard Time

- For the Linux execution-target server, specify a time zone file name that is in the /usr/share/zoneinfo directory.

Example specifications are:

America/Adak

America/Boise

America/Chicago

America/Denver

America/Detroit

America/Juneau

America/Kentucky/Monticello

America/Los_Angeles

America/Louisville

America/Monterrey

America/Montevideo

America/New_York

America/North_Dakota/Center

America/Shiprock

America/Tijuana

America/Vancouver

Asia/Chongqing

Asia/Hong_Kong

Asia/Kolkata

Asia/Macau

Asia/Shanghai

Asia/Singapore

Asia/Tokyo

Etc/UTC

Europe/London

Pacific/Honolulu

- For the AIX execution-target server, specify a time zone file name that is in the /usr/share/lib/zoneinfo directory.

For an example of how to specify this plug-in, see the description for when the OS of the execution-target server is Linux.

The following is an explanation of the acquisition results (the common.getResult property):

- This plug-in acquires the current time of the execution target server according to the format (the common.dateAndTimeFormat property).

- For the Windows execution-target server, this plug-in stores results of the Get-Date commandlet of PowerShell (the -UFormat option).

- For the UNIX execution-target server, this plug-in stores results of the date command.

Use situation

You can use this plug-in to use the current time by converting it into a particular format.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the release notes.

[Prerequisite products for the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

None.

[Supported OSs for the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Conditions for using the execution-target server]

(1) For the Windows execution-target server, Microsoft .Net Framework 3.5 or later must be installed to specify the time zone (the OS.timeZone property).

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) You can use conversion specifier characters other than those listed in the functional description. For the Windows execution-target server, see the manual for the Get-Date commandlet of PowerShell (the -UFormat option). For the UNIX execution-target server, see the manual for the date command. However, do not specify conversion specifier characters such as %n or %t that are converted into control characters

(3) For the Windows execution-target server, do not use curly brackets ({ or }) for the format (the common.dateAndTimeFormat property). If curly brackets are specified, this plug-in ends abnormally.

(4) For the UNIX execution-target server, when a time zone that is not defined on the OS is specified for the time zone (the OS.timeZone property), the time zone UTC is used. For the Linux server, make sure that the specified time zone is contained in the directory /usr/share/zoneinfo. For the AIX server, make sure that the specified time zone is contained in the directory /usr/share/lib/zoneinfo.

(5) Specify "%%" for the format (the common.dateAndTimeFormat property) to output "%" to the acquisition results (the common.getResult property)

(6) The value to be stored in the acquisition results (the common.getResult property) is not the execution start time of this plug-in. For the Window execution-target server, the time when the Get-Date commandlet of PowerShell was executed is stored. For the UNIX execution-target server, the time when the date command was executed is stored.

Version

02.02.00

Plug-in tags

Gather OS information,Windows,Linux,AIX

Plug-in name displayed in the task log

osGetDateAndTime

Return code

0: Normal

12: Error (mistake by the user): A property is invalid.

27: Error (Check the details on the error in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.dateAndTimeFormat	Format	Specify the format used to convert the current date and time.	%Y-%m-%dT%H:%M	Input	R
OS.timeZone	Time zone	Specify the time zone.	--	Input	O
common.getResult	Obtained result	The current date and time obtained in the specified format is stored here.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.39 Comparing dates and times

Function

This plug-in compares two time values.

It compares the standard time (common.standardDate property) and the target time (common.compareDate property). If the target time is later than the standard time, the plug-in returns "true". If the target time is earlier than the standard time, the plug-in returns "false". After comparison, the later time is stored in the common.newResultDate property, and the earlier time is stored in the common.oldResultDate property.

The smallest unit of time that can be used for comparison is seconds.

Notes on values to be specified for the common.standardDate and common.compareDate properties:

- Specify the values in "yyyy/mm/dd hh:MM:ss" format.

- If you omit the time, the default time 00:00:00 is set. If you omit the date, the date on which the plug-in is executed on the execution-target server is set.

Notes on the comparison result that is output to the common.compareResult property:

- If the compared time values are the same, "true" is returned.

Notes on the times that are output to the common.newResultDate and common.oldResultDate properties:

- The values of the common.standardDate and common.compareDate properties are stored in the common.newResultDate and common.oldResultDate properties, as is.

Use situation

This plug-in can be used to obtain and compare time information from two files, and to determine which file is newer (or older).

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

None.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) The functional description does not cover all supported time formats. Note, however, that there are some formats for which comparison cannot be performed correctly although the plug-in terminates normally. The following describes how to check whether the correct comparison result can be obtained for a time format.

If the OS of the execution-target server is Windows, execute the Get-Date command. If the OS of the execution-target server is UNIX, execute the date command (with the -d option specified). Then, check whether the input time and output time are the same.

The following is an example where the input time and output time are the same (on a UNIX execution-target server):

Input: date -d "2009-06-15 20:45"

Output: Mon Jun 15 20:45:00 JST 2009

The following is an example where the input time and output time are different (on a UNIX execution-target server):

Input: date -d "2015-03-03 T 14:18:27"

Output: Tue Mar 3 16:18:27 JST 2015

Version

02.00.00

Plug-in tags

Gather OS information,Windows,Linux

Plug-in name displayed in the task log

osCompareDateAndTime

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.standardDate	Reference date and time	This is the reference date and time used for comparisons.	--	Input	R
common.compareDate	Comparison date and time	This is the date and time used for comparisons with the reference date and time.	--	Input	R
common.compareResult	Comparison results	If the comparison date and time is newer than the reference date and time, "true" is returned. If not, "false" is returned. If the	--	Outpu t	--

Property key	Property name	Description	Default value	I/O type	Requ ired
common.compareResult	Comparison results	comparison date and time is same as the reference date and time, "true" is output.	--	Outpu t	--
common.newResultDate	Comparison results (new)	The comparison date and time and the reference date and time are compared, and then the newer date and time are output.	--	Outpu t	--
common.oldResultDate	Comparison results (old)	The comparison date and time and the reference date and time are compared, and then the older date and time are output.	--	Outpu t	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

4.13.40 Sorting character strings

Function

This plug-in sorts the specified character string and then outputs the sorting results to the output property.

The target character string is specified by the common.targetString property, and the elements in that character string are delimited by the separator specified by the common.delimiterChar property. The sorting results are output to the common.resultString property.

The elements are sorted in order of their character codes, and sorting is not case sensitive.

If a separator is not followed by another character (if no character exists between separators or if the target character string ends with a separator), sorting assumes that the separator is followed by a NULL string. When the separator is followed by a space character, the space character is treated as the character string. The following is an example of sorting a string where commas (,) are used as separators:

Before sorting: bb,,,cc, ,aa,

After sorting: ,,, ,aa,bb,cc

If the common.sortDescending property is set to "true", the elements are sorted in descending order. In other cases, the elements are sorted in ascending order.

For the common.delimiterChar property, specify a single ASCII alphanumeric character or symbol as the separator. To use a tab character as the separator, specify "TAB".

Use situation

This plug-in can be used to sort the property values output by another plug-in.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

None.

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osSortString

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetString	Target character strings	Specify the character strings that you want to sort by separating them with a one-byte ASCII character. (Example: aaa bbb ccc) We recommend that you specify a string of 1024 characters or less. If you specify a character string that exceeds the recommended value, part of the specified character string may be deleted depending on the OS of the execution target server.	--	Input	R
common.delimiterChar	Separator Character	Specify a character to be used as the delimiter for character strings by using single-byte alphanumeric characters. If not specified, a single-byte space will be used as the delimiter. To use a tab character as the delimiter, enter "TAB".	--	Input	O
common.sortDescending	Sorting in descending order	To sort in descending order, specify "true". If "true" is not specified, sorts will be performed in ascending order.	false	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--
common.sortedString	Character strings after sorting	The results of the sorted character strings will be saved. The delimiter is specified in the common.delimiterChar property.	--	Output	--

4.13.41 Filter Text

Function

This plug-in filters text in a specified text file in a Windows or Linux environment.

The following terms are used in this document:

- Filtering

This refers to the processing extracts the text in the specified range of rows and columns from the specified text file. This text file is called the "input file", and the text in the input file is called "input text".

- Column

This refers to the individual strings that make up a row. Columns within a row are separated by a specific character (delimiter).

The following properties can be used as the filtering conditions:

- Extraction-starting row

- Extraction-ending row

- Delimiter

- Extraction-target columns

Examples of filtering text are shown below.

- Input text:

num,family,poolID,capacity,usageRate

1,VSP,0,7225344,0

2,VSP,1,100423680,5

3,VSP,100,4085760,0

4,VSP,11,6150144,11

- Filtering result:

Each column in a row is delimited by the character specified as the delimiter.

Example 1 (when the extraction-starting row is 1, the extraction-ending row is 2, the delimiter is a comma (,), and the extraction-target columns are 1 and 3)

num,poolID

1,0

If the specified extraction-starting row or extraction-ending row does not exist, filtering is performed for existing rows only.

Example 2 (when the extraction-starting row is 5, the extraction-ending row is 6, the delimiter is a comma (,), and the extraction-target columns are 1 and 3)

4,11

If only one extraction-target column is specified, no delimiter is output in the filtering result.

Example 3 (when the extraction-starting row is 1, the extraction-ending row is 2, the delimiter is a comma (,), and the extraction-target column is 3)

poolID

0

If the specified extraction-target columns include non-existent columns, null strings are output for the non-existent columns.

Example 4 (when the extraction-starting row is 1, the extraction-ending row is 2, the delimiter is a comma (,), and the extraction-target columns are 1 and 6)

num,

1,

If no delimiter appears until the row end, the entire row is treated as the first column.

Example 5 (when the extraction-starting row is 1, the extraction-ending row is 2, the delimiter is a hash mark (#), and the extraction-target column is 1)

num,family,poolID,capacity,usageRate

1,VSP,0,7225344,0

The filtering results are output to a file (output file).

This plug-in requires the following server:

- Execution-target server

A server on which this plug-in is executed

Note the following when specifying properties:

(1) Regarding the extraction-starting row (the property common.rowPosBegin) and extraction-ending row (the property common.rowPosEnd)

- Specify an integer from 1 to 2,147,483,647.

- If you do not specify an extraction-starting row, the extraction-starting row is the first row.

- If you do not specify an extraction-ending row, the extraction-ending row is the last row. However, if the input file contains more than 2,147,483,647 rows, the rows after the 2,147,483,647th row will not be extracted.

- Make sure the number specified for the extraction-ending row number is equal to or greater than the number specified for the extraction-starting row.

(2) About the delimiter (the property common.delimiterChar)

- You can specify only one single-byte alphanumeric character or symbol. The default is a single-byte space.

- The single-byte symbols that can be specified vary depending on the OS of the execution-target server.

If the OS is Windows, you can specify a single-byte space or one of the following single-byte symbols: ! # $ % & ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } ~

Do not specify a double quotation mark (") or single quotation mark ('). If you specify either of these symbols, this plug-in terminates abnormally.

If the OS is Linux, you can specify a single-byte space or one of the following single-byte symbols: # % & ( ) * + , - . / : ; < = > ? @ [ ] ^ _ { | } ~

If you specify any one of the following symbols, this plug-in terminates abnormally: " ' ! $ \ `

(3) Regarding the extraction-target columns (the property common.columnPos)

- Specify an integer from 1 to 2,147,483,647. The value 1 indicates the first column.

- To extract multiple columns, specify column numbers delimited by commas (,). Do not insert space characters between the column numbers.

- If you do not specify an extraction-target column, all columns are subject to extraction.

- The value of this property must begin and end with a number. If you specify a value that does begins or ends with a non-numerical character, this plug-in terminates abnormally. Examples of values that violate this rule are as follows:

[,1,3] [1,3,] [,]

- Do not specify consecutive commas. If you specify consecutive commas, this plug-in terminates abnormally. An example of a value that violates this rule is as follows:

[1,,3]

Use situation

This plug-in can be used to filter text output by other plug-ins.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

Conditions for using the execution-target server:

None.

Cautions

(1) When specifying property values, do not specify any string that includes a single quotation mark (') or double quotation mark ("). If you specify such a string, this plug-in terminates abnormally.

(2) To execute this plug-in in a Linux environment, when specifying property values, do not specify any value that includes any of the characters below. If you specify such a value, this plug-in terminates abnormally.

! $ \ `

(3) Do not specify the same path for the input file path (the property common.inputFilePath) and the output file path (the property common.outputFilePath). If you specify the same path, this plug-in terminates abnormally.

(4) To execute multiple instances of this plug-in concurrently, do not specify the same output file.

(5) If "false" is specified for the property common.flagOverwriteOutputFile (which specifies whether the output file can be overwritten) and the output file already exists, this plug-in terminates abnormally.

(6) If you specify a single-byte space for the delimiter (the property common.delimiterChar), the following notes apply:

- If the strings for which filtering is to be performed are separated by two or more consecutive single-byte spaces, this plug-in treats those strings as if they are separated by one single-byte space.

- If the strings for which filtering is to be performed are preceded or followed by single-byte spaces, this plug-in ignores those spaces, regardless of the number of spaces.

- If the OS of the execution-target server is Linux, tab characters in the text for which filtering is to be performed are treated as single-byte spaces.

(7) If the input file contains no input text, this plug-in terminates normally.

(8) If the last row of the input file contains only EOF (End Of File), the handling of that row varies depending on the OS of the execution-target server.

- If the OS is Windows, the last row is not treated as input text.

- If the OS is Linux, the last row is treated as input text.

(9) If a locale environment variable higher than LANG (such as LC_ALL or LC_MESSAGES) is set, the higher locale environment variable takes precedence. Therefore, when executing a plug-in, clear higher locale environment variables, or change their value to that of the LANG environment variable.

Version

02.00.00

Plug-in tags

Control OS,Windows,Linux

Plug-in name displayed in the task log

osFilterString

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.inputFilePath	Input file path	Specify the full path of the target file in which the filtering-target text was stored.	--	Input	R
common.rowPosBegin	Starting Line to Extract	Specify a number indicating the line in the input text from which the filtering target starts. If you omit this setting, the filtering target starts from the first line.	--	Input	O
common.rowPosEnd	Ending Line to Extract	Specify a number indicating the line in the input text at which the filtering target ends. If you omit this setting, the filtering target ends at the last line.	--	Input	O
common.delimiterChar	Separator Character	Specify a single-byte alphanumeric character or symbol for the column separator used in the input text. The default setting is a single-byte space character.	--	Input	O
common.columnPos	Columns to Extract	Specify column numbers indicating the columns to be extracted from the input text. To specify multiple column numbers, use commas (,) as separators. If you omit this setting, all columns are extracted.	--	Input	O
common.outputFilePath	Output file path	Specify the full path of the target file to which the result of filtering is to be output. If the target file does not exist, it will be created.	--	Input	R
common.flagOverwriteOutpu tFile	Whether to Overwrite Output File	Specify whether to overwrite the output file if it already exists.	false	Input	R

Property key	Property name	Description	Default value	I/O type	Required
common.flagOverwriteOutputFile	Whether to Overwrite Output File	To overwrite the existing file, specify "true". If you do not want to overwrite the existing file, specify "false".	false	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.42 Search Text

Function

This plug-in searches for the specified keyword in the specified text file in a Windows or UNIX environment.

If the OS of the execution-target server is Windows, searches are performed by using the character encoding used in the ANSI code page. If the OS is UNIX, searches are performed by using the character encoding specified in the LANG environment variable.

This plug-in searches for the specified keyword in the text (input text) of the specified text file (input file) and then extracts the rows that contain the keyword.

An example of how to perform a search is shown below.

- Input text:

num,family,poolID,capacity,usageRate

1,VSP,0,7225344,0

2,VSP,1,100423680,5

3,VSP,100,4085760,0

4,VSP,11,6150144,11

- Search results when the keyword is '00':

2,VSP,1,100423680,5

3,VSP,100,4085760,0

The search results are output to a file (output file).

The value of the property common.findResult indicates whether the search returned any results for the specified keyword. If the value of the property is "true", the search returned one or more results. If the value of the property is "false", the search returned no results.

This plug-in requires the following server:

- Execution-target server

A server on which this plug-in is executed

Use situation

This plug-in can be used to search the text output from another plug-in.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

Conditions for using the execution-target server:

None.

Cautions

(1) When specifying property values, do not specify any string that includes a single quotation mark (') or double quotation mark ("). If you specify such a string, this plug-in terminates abnormally.

(2) To execute this plug-in in a UNIX environment, when specifying property values, do not specify any value that includes any of the characters below. If you specify a value that includes such a character, this plug-in will not return correct search results.

!, $, \, or `

(3) When specifying the keyword (the property common.keywordStr), you cannot use regular expressions.

(4) Do not specify the same path for the input file path (the property common.inputFilePath) and the output file path (the property common.outputFilePath). If you specify the same path, this plug-in terminates abnormally.

(5) To execute multiple instances of this plug-in concurrently, do not specify the same output file.

(6) If "false" is specified for the property common.flagOverwriteOutputFile (which specifies whether the output file can be overwritten) and the output file already exists, this plug-in terminates abnormally.

(7) If the input file contains no input text, this plug-in terminates normally.

(8) If a locale environment variable higher than LANG (such as LC_ALL or LC_MESSAGES) is set, the higher locale environment variable takes precedence. Therefore, when executing a plug-in, clear higher locale environment variables, or change their value to that of the LANG environment variable.

Version

02.02.00

Plug-in tags

Control OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osFindString

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.inputFilePath	Input file path	Specify the full path of the target file in which the searching-target text was stored.	--	Input	R
common.keywordStr	Keyword	Specify the string to be found in the input text. You can specify a maximum of 1,024 characters.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
common.outputFilePath	Output file path	Specify the full path of the target file to which the result of searching is to be output. If the target file does not exist, it will be created.	--	Input	R
common.flagOverwriteOutpu tFile	Whether to Overwrite Output File	Specify whether to overwrite the output file if it already exists. To overwrite the existing file, specify "true". If you do not want to overwrite the existing file, specify "false".	false	Input	R
common.findResult	Whether Search Results Exist	Stores whether lines containing the specified keyword exist. If such lines exist, "true" is stored. If such lines do not exist, "false" is stored.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.13.43 Replace character string

Function

In a Windows or UNIX environment, all occurrences of a specific character string in the specified file are replaced with the specified replacement string.

The file is overwritten with the replacement results.

If there are no occurrences of the string to be replaced, the file is not updated.

The following describes the server that this plug-in requires:

- Execution target server

The server on which this plug-in is executed.

Notes on specifying the common.replaceTarget property:

- Regular expressions are not supported.

- If the OS of the execution target server is Windows, to specify the following symbols, prefix a backslash (\) to them as an escape character: \ [ ] ? ^ + * . @

Note, however, that to specify \ at the end of a character string or to specify only \, enter \\\\.

To specify a character string that includes spaces or any of the following symbols, prefix a grave accent mark (`) to the string as an escape character: # { } ' ; & , ` < >

However, that to specify only one or more spaces, enclose it with single quote (') (Example. ' '). To specify (,), |, or $, prefix both a backslash and a grave accent mark (\`) to them as escape characters.

- If the OS of the execution target server is UNIX, to use a backslash (\) as an ordinary character, specify \\ instead of \. Also, to use the following symbols, prefix a backslash (\) to them as an escape character: ! $ [ ] / . ^ *

- Never enter a double quotation mark (") regardless of whether the OS is Windows or UNIX. To specify a double quotation mark ("), enter \0x22.

Notes on specifying the common.replaceStr property:

- If the OS of the execution target server is Windows, you can use the meta characters `t (tab) and `r`n (line break). To specify \ at the end of a character string or to specify only \, enter \\.

To specify a character string that includes spaces or any of the following symbols, prefix a grave accent mark (`) to the string as an escape character: ` # , @ | { } ' ; & ( ) < > $

However, that to specify only one or more spaces, enclose it with single quote (') (Example. ' ')

- If the OS of the execution target server is UNIX, you can use the meta characters \t (tab) and \n (line break). To use a backslash (\) as an ordinary character, specify \\, instead of \. Also, to include !, /, $, or & in a character string, prefix a backslash (\) to the string as an escape character.

- Never enter a double quotation mark (") regardless of whether the OS is Windows or UNIX. To specify a double quotation mark ("), enter \0x22.

Use situation

This plug-in can be used to edit definition files.

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the prerequisite products for the execution-target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

Conditions for using prerequisite products on the execution target server:

None.

Cautions

(1) Do not simultaneously execute multiple instances of this plug-in for the same file.

(2) You cannot specify surrogate pair characters or control characters.

(3) If a locale environment variable (such as LC_ALL or LC_MESSAGES) that has higher priority than LANG has been specified, the higher-priority locale environment variable will take precedence over LANG. Therefore, when executing a plug-in, cancel the higher-priority locale environment variable (such as LC_ALL or LC_MESSAGES) or change its value to the same value as the LANG environment variable.

Version

03.01.00

Plug-in tags

Control OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osReplaceString

Return code

0: Normal

14: Error (Mistake by user) File inaccessible

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.strFilePath	File path that replaces a character string	Specify the full path for the file that replaces a character string.	--	Input	R
common.replaceTarget	Character string to be replaced	Specify the character string to be replaced in the file. We recommend	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
common.replaceTarget	Character string to be replaced	that you specify a string of 1024 characters or less. If you specify a character string that exceeds the recommended value, part of the specified character string may be deleted depending on the OS of the execution target server.	--	Input	R
common.replaceStr	Replaced character string	Specify the replaced character string. We recommend that you specify a string of 1024 characters or less. If you specify a character string that exceeds the recommended value, part of the specified character string may be deleted depending on the OS of the execution target server.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.13.44 Adding a character string

Function

This plug-in adds a character string to the end of a file.

The path of the target file is specified by the common.strFilePath property, and the character string to be added is specified by the common.addStr property. This plug-in adds the specified character string to the line following the line containing "End Of File", and then inserts a line break after the added character string. If the specified file does not exist, this plug-in creates the file, adds the specified character string, and then inserts a line break.

The value of the common.strFilePath property cannot include wildcard characters.

If the OS of the execution-target server is Windows, the default character encoding is applied to the added character string. If the OS is UNIX, the character encoding specified by the LANG environment variable is applied.

Notes on the target file (common.strFilePath property):

- Specify the file by its full path name.

- If the file does not exist, this plug-in creates the file and then adds the specified character string to the file.

- If the specified file path includes non-existent folders, this plug-in creates the folders and the target file, and then adds the specified character string to the file.

Notes on the character string to be added (common.addStr property):

- The use of regular expressions is not supported.

- Regardless of whether the OS is Windows or UNIX, do not enter double quotation marks (") and single quotation marks ('). If the OS of the execution-target server is Windows or Linux, to use a double quotation mark (") as an ordinary character, enter "\0x22". To use a single quotation mark (') as an ordinary character, enter "\0x27". If the OS of the

execution-target server is AIX, to use a double quotation mark (") as an ordinary character, enter "\\0x22". To use a single quotation mark (') as an ordinary character, enter "\\0x27".

- If the OS of the execution-target server is Windows, you can use the meta characters "`t" (tab) and "`r`n" (line break).

- If the OS of the execution-target server is UNIX, you can use the meta characters "\t" (tab) and "\n" (line break). However, for Linux, the trailing "\n" (line break) in the character string will be ignored. For AIX, if "\\0x22" or "\\0x27" has been entered into the character string, the trailing "\n" (line break) will be ignored.

Use situation

This plug-in can be used to edit definition files.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target system]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(7) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(8) CentOS 6 (64-bit x86_64)

(9) CentOS 7 (64-bit x86_64)

(10) CentOS 8 (64-bit x86_64)

(11) Oracle Linux 8 (64-bit x86_64)

(12) AIX V6

(13) AIX V7

[Conditions for using the prerequisite products on the execution-target server]

None.

Cautions

(1) For the common.strFilePath property, do not specify any string that includes double quotation marks (") or single quotation marks (').

(2) Do not use this plug-in for binary files. If this plug-in is used for a binary file, the file might become corrupted.

(3) Make sure multiple instances of this plug-in do not simultaneously write data to the same file. If multiple instances of this plug-in write to the same file simultaneously, the processing to add character strings might fail.

(4) If LC_ALL, LC_MESSAGES, or another locale environment variable whose level is higher than LANG is set, the higher-level locale environment variable might override the specification of the LANG environment variable. For this reason, before executing the plug-in, clear the LC_ALL, LC_MESSAGES, and other higher-level locale environment variables. Alternatively, set them to the same value as LANG.

Version

02.02.00

Plug-in tags

Control OS,Windows,Linux,AIX

Plug-in name displayed in the task log

osAddString

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.strFilePath	File path to which character strings will be added	Specify the file path to which character strings will be added.	--	Input	R
common.addStr	Character string to be added	Specify the character string to be added to the file. We recommend that you specify a string of 1024 characters or less. If you specify a character string that exceeds the recommended value, part of the specified character string may be deleted depending on the OS of the execution target server.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

4.14 TELstaff-related Plug-ins

4.14.1 Notifications by TELstaff

Function

This plug-in implements notification by TELstaff on an execution-target Windows server.

This plug-in assumes the following server:

- Execution-target server

The execution-target server refers to the server on which this plug-in is executed.

The script in this plug-in executes the following processing:

- The script runs the following command:

teldial

-ni <network-ID> ' TELstaff.contactNetworkID property

[-fm <email-notification-text-file>] ' TELstaff.notificationFileMail property

[-fv <telephone-notification-text-file>] ' TELstaff.notificationFileVoice property

[-u <user-added-information>] ' TELstaff.UserInformation property

The teldial command does not output any data to the standard output or standard error output. Also, the return code output by the teldial command does not indicate whether a notification has succeeded, but only indicates whether the command has been accepted.

Therefore, to check whether a notification has succeeded, you must use the log viewer of TELstaff or another method.

If the teldial command is executed continually, the command might return a non-zero value because of the calling restriction function of TELstaff. Because this plug-in does not reference the value returned by the teldial command, no error is caused by the calling restriction function even when the teldial command is executed continually. To check how the calling restriction has been applied, use the log viewer of TELstaff.

For details about the teldial command, see the relevant manual for TELstaff.

Use situation

Use this plug-in when you need to notify system failures to the operator.

Prerequisites

For the latest support information about [Required product for the system]/[Required product for the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required product for the system executing the service template]

- JP1/TELstaff 11-00 or later

[Prerequisite product OS running in the system executing the service template]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not use a character string that includes a double quotation mark (") or single quotation mark (') in a property of this plug-in.

(2) For other points to be noted, see the notes on the corresponding command in the relevant manual for TELstaff.

Execution privilege

The user must belong to the Administrators group.

Version

02.01.00

Plug-in tags

Control JP1,TELstaff,Windows

Plug-in name displayed in the task log

TELstaffDial

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plug-in script)

41: Error (error detected in plug-in) Missing property (error detected in the plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
TELstaff.contactNetworkID	Network ID	Specify a network ID defined by TELstaff.	--	Input	R
TELstaff.notificationFileMail	Email notification text file	Specify the full path name of the email notification text file	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
TELstaff.notificationFileMail	Email notification text file	(containing the message text to be transmitted by email) on the execution-target server. If this parameter is omitted, the standard notification text file provided is used.	--	Input	O
TELstaff.notificationFileVoice	Telephone notification text file	Specify the full path name of the telephone notification text file(containing the message text to be transmitted by telephone) on the execution-target server. If this parameter is omitted, the standard notification text file provided is used.	--	Input	O
TELstaff.UserInformation	User-added information	The value specified in this parameter replaces the value of the UserInformation variable in the notification text file (message text to be transmitted as a notification). You can divide the information into multiple lines by using a semicolon (;).	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.15 UNIX-related Plug-ins

4.15.1 Add OS user (UNIX)

Function

In UNIX environments, this plug-in performs the following operations:

- Adding OS users

- Adding users to groups

- Creating home directories

If the specified OS user already exists, skip this process. (Return value: 0)

This plugin assumes the following server:

• Execution target server

This is the server on which this module is executed. UNIX must have already been set up.

Use situation

You use this plugin to add a user for operations in UNIX.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

(1)JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(4) CentOS 6 (64-bit x86_64)

(5) CentOS 7 (64-bit x86_64)

(6) CentOS 8 (64-bit x86_64)

(7) Oracle Linux 8 (64-bit x86_64)

(8) AIX V6

(9) AIX V7

[Usage conditions for required products in the execution target system]

None.

Cautions

(1) When you run this plugin in a UNIX environment, do not use multi-byte characters in the properties.

Version

02.00.00

Plug-in tags

Configure OS,Linux,AIX

Plug-in name displayed in the task log

osAddUser_Lin

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
Linux.accountComment	Explanation comment for the OS user	Specify a description of the user's account.	--	Input	O
Linux.userHomeDir	OS user's home directory	Specify the full path of the OS user's home directory.	--	Input	O
Linux.accountExpires	OS user's expiration date	Specify the OS user expiration date in YYYY-MM-DD format.	--	Input	O
Linux.osGroupName	OS user's group name	Specify the name of the group to be assigned to the OS user.	--	Input	O
Linux.osUserName	OS user name	Specify the name of the OS user to be created.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.15.2 Change file or directory access permissions

Function

This plug-in changes the access permissions of the specified file or directory on a UNIX execution-target server.

This plug-in assumes you are using the following server:

- Execution-target server

The server on which this plug-in is to be executed.

The script in this plug-in executes the following processing:

- Executes the following command:

chmod

[-R]#

<access-permission-value> ' common.permission property

<target-file-name> ' common.targetFileName property

Note: This option is set if "true" is set for the common.recursive property, which specifies whether to change the permissions recursively.

For details about the chmod command, see the information that is output by executing the man command of the OS.

Use situation

You can use this plug-in to set access permissions for files or directories.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the release notes.

[Prerequisite products for the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

None.

[Supported OSs for the execution-target server]

(1) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(2) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

(3) Red Hat Enterprise Linux Server 8 (64-bit x86_64)

(4) CentOS 6 (64-bit x86_64)

(5) CentOS 7 (64-bit x86_64)

(6) CentOS 8 (64-bit x86_64)

(7) Oracle Linux 8 (64-bit x86_64)

[Conditions for using the execution-target server]

(1) Files and directories for which access permissions will be set must exist.

Cautions

(1) Do not use the following characters for the file name of the access permission setting target (the common.targetFileName property): left angle brackets (<), right angle brackets (>), vertical bars (|), semicolons (;), ampersands (&), asterisks (*), question marks (?), double quotation marks ("), percent signs (%), single quotation marks ('), left square brackets ([), right square brackets (]), or grave accent marks (`).

(2) This plug-in is intended for normal files and folders. Therefore, it does not handle devices as files or directories.

Version

02.01.00

Plug-in tags

Control OS,Linux

Plug-in name displayed in the task log

osSetPermissionUNIX

Return code

0: Normal

12: Error (mistake by the user): A property is invalid.

27: Error (Check the details on the error in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetFileName	File to which access permissions are set	Specify the full path to the file or directory for which you want to change access permissions.	--	Input	R
common.permission	Permission of files or directories	Specify the permission value to change the file or directory access permissions.	--	Input	R
common.recursive	Recursion	Specify "true" to recursively process directories. Specify a value	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.recursive	Recursion	other than "true" to not recursively process directories.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16 Windows-related Plug-ins

4.16.1 Get CSV data

Function

This plugin acquires data from CSV files and sets it in output properties. It supports text files with an extension of csv.

This component supports data acquisition from files that meet the following requirements:

- The character code is written in MS932, and the line feed code is CR+LF.

Set the specified columns (up to 5) of data, separated by commas, in the output properties.

State the column name in the first line of the CSV file. State the data starting in the 2nd line.

(Example 1)

Host name

hostVM001

hostVM002

(Example 2)

Host name, comment

hostVM001,#Comment1

hostVM002,#Comment2

The fields read are checked for the following conditions. If any of these conditions are met, the plugin fails.

(a) Are there any blank (null) fields or lines?

(b) Do any fields exceed 256 characters in character string length?

(c) Do any fields contain the following special characters?

, < > | ; & * ? ` % or a double quote (") not at an end of a field, or a backslash (\) at the end of a field

(d) Does any field contain a control character (0x00 through 0x1f)?

The output information is output for each specified column. An error results if, in any of the strings,

(Total value of field character strings) + Data line count

exceeds 1,017 characters.

Use situation

Data can be acquired from managed CSV files and then used as the input values of the server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for required products on the execution target server]

None.

Cautions

(1) Due to ODBC driver restrictions, the following characters cannot be used in CSV file names: [ ] !

(2) If the file being read is a CSV file, enclose the IP address in double quotations ("). If the value is not enclosed in double quotations ("), it might be falsely identified as numerical data, and the value will not be obtained properly.

(3) Specify an integer value from 0 to 32,767 for the retry count for reading a file. The component is abnormally terminated if a value out of range is specified.

(4) Specify an integer from 1 to 60 for the retry interval for reading a file. The component is abnormally terminated if a value out of range is specified.

(5) The character string length of the field should be within 255 bytes. If it is more than 256 bytes, the ODBC driver can not acquire the value correctly, and the component may be abnormally terminated.

(6) If you execute this plug-in on the same file at the same time, the file access may fail. In this case, adjust the retry count and retry interval, and then retry until you can avoid the error.

(7) If the user ID set in the authentication information of Connection Destination definitions setting is not the built-in Administrator, one of the following conditions must be satisfied.

- The UAC feature in Windows is completely disabled.

- An RDP session has been established for the user ID set in the authentication information of the Connection Destination definitions setting on the target of connection destinations.

Execution privilege

Administrators permissions

Version

02.00.01

Plug-in tags

Gather OS information,Windows

Plug-in name displayed in the task log

osReadSpreadSheet

Return code

0: Normal

12: Error (user error) Invalid property

14: Error (user error) File access disabled

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specify the file name.	--	Input	R
odbc.Column1	Column number 1	Specifies the column number of the data to acquire.	--	Input	R
odbc.Column2	Column number 2	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column3	Column number 3	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column4	Column number 4	Specifies the column number of the data to acquire.	--	Input	O
odbc.Column5	Column number 5	Specifies the column number of the data to acquire.	--	Input	O
odbc.fileOpenRetryCount	Retry count for reading a file	Specifies the number of times to retry when reading a file fails. This value multiplied by the retry interval gives the maximum waiting time. If "0" is specified, a retry is not performed.	20	Input	R
odbc.fileOpenRetryInterval	Retry interval for reading a file	Specifies the retry interval in seconds for when reading a file fails.	5	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
odbc.OutputValue1	Data 1	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue2	Data 2	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue3	Data 3	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue4	Data 4	Specifies the acquired data.	--	Outpu t	O
odbc.OutputValue5	Data 5	Specifies the acquired data.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16.2 Send ICMP echo request message (confirm no response)

Function

This plugin sends an ICMP echo request to a specified IP address in a specified Windows server, and returns a value depending on whether there is a response.

This plugin assumes that the following servers are being used.

• Execution target server

These servers execute a plugin, and then transmit an ICMP echo request.

• Transmission destination server

These servers receive transmission of the ICMP echo request.

The IP address or host name of the transmission destination server is specified for execution in the property common.icmpSendAddress.

When multiple IP address (or host names) are specified, an ICMP echo request is sent to all specified IP addresses (or host names).

If there is no response to the ICMP echo from any IP address (or host name), a value of 0 is returned.

If there is a response to the ICMP echo from one or more IP addresses (or host names), a value other than 0 is returned.

The value of the CommandExitCode: that This plugin outputs is the StatusCode (ICMP echo result) of Win32_PingStatus class(MSDN).

Use situation

Transmission of an ICMP echo request can be used to confirm that an IP address you wish to use to deploy a virtual server is not already in use.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for required products on the execution target server]

None.

Cautions

(1) Adjust the ICMP echo timeout time (the common.icmpEchoTimeout property) according to the environment being used.

(2) Do not use the limited broadcast address (255.255.255.255) with this plugin.

(3) If the user ID set in the authentication information of Connection Destination definitions setting is not the built-in Administrator, one of the following conditions must be satisfied.

- The UAC feature in Windows is completely disabled.

- An RDP session has been established for the user ID set in the authentication information of the Connection Destination definitions setting on the target of connection destinations.

Execution privilege

Administrators permissions

Version

02.00.00

Plug-in tags

Control OS,Windows

Plug-in name displayed in the task log

osSendIcmp2

Return code

0: Normal

12: Error (user error) Invalid property

25: Error (invalid environment) Communication error

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.icmpSendAddress	ICMP echo destination	Specify a comma-separated list of IP addresses or host names to which an ICMP echo request will be sent.	--	Input	R
common.icmpEchoTimeout	Timeout value for response to an ICMP echo request	Specify (in ms) the timeout value for a response to an ICMP echo request.	4000	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.checkIPAddressResult	ICMP check result	Stores the result of determining whether the specified IP address is not in use.	--	Output	O

4.16.3 Changing the account for the OS service

Function

This plug-in changes the user name and password of the OS service on the Windows execution target server.

The following explains the meaning of an important term used in this document:

- OS service

To distinguish from services executed in JP1/AO, Windows services are generically referred to as OS services.

OS services specified for an OS service name (common.serviceNameproperty) have a name and a service display name displayed in Name when you click Control Panel, Administrative Tools, and then Services.

For an OS user name (Common.OSUserName), specify a user in the format of "domain-name\OS-user-name" or "\OS-user-name". To specify a built-in account, specify the OS user name (Common.OSUserName property) in the following format:

Built-in account OS user name (Common.OSUserName property)

--------------- --

Local System LocalSystem

Local Service NT AUTHORITY\LocalService

Network Service NT AUTHORITY\NetworkService

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in.

The scripts in this plug-in perform the following processing:

- Checking that no wildcard (* ? [ ]) is used for the specified OS service name (the common.serviceName property)

- Executing the following command:

Get-WmiObject -Class Win32_Service -Filter "DisplayName=OS-service-name (the common.serviceName property)"

Use the change method of the Win32_Service object obtained by the above command to change the OS service account (user name and password) to the OS user name (the Common.OSUserName property) and the OS user password (the common.osUserPassword property).

For details on the change method of the Win32_Service class, visit the Microsoft library Web site.

Use situation

This plug-in is used to change the user name in the initial settings for the registered OS service, and to the OS service password periodically as a security measure.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

None

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property. If you use such a character string, this plug-in will terminate abnormally.

(2) The connected user defined for the agentless connection destination requires access permission for the operation target OS service.

(3) When you specify an OS service name (common.serviceNameproperty), use its full name. You cannot use a partial match or a wild card.

(4) If you execute the plug-in by specifying an empty string to the OS user password (the common.osUserPassword property), the OS user password will be changed to the empty string.

Version

02.00.01

Plug-in tags

Control OS,Windows

Plug-in name displayed in the task log

osChangeServiceAccount

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.serviceName	Service Name	Name of the OS service for which you want to change the account.	--	Input	R
common.osUserName	OS user name	Specify the name of the OS user to be created.	--	Input	R
common.osUserPassword	OS user password	Specify the password of the OS user to be created.	--	Input	O
common.osUserPasswordReE nter	Re-entry of a password for the OS user	Re-enter the password for the OS user after the change.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16.4 Startup setting for the OS service

Function

This plug-in sets the OS startup type on the Windows execution target server according to the specified startup method.

The following explains the meaning of an important term used in this document:

- OS service

To distinguish from services executed in JP1/AO, Windows services are generically referred to as OS services.

OS services specified for an OS service name (common.serviceName property) have a name and a service display name displayed in Name when you click Control Panel, Administrative Tools, and then Services.

For the OS service activation method (common.serviceStartup property), specify delayed-auto (delayed activation), auto (auto activation), demand (manual activation), or disabled.

The prerequisite server for this plug-in is as follows:

- Execution target server

This server is used as the target for executing this plug-in.

Scripts in this plug-in perform the following processing:

- Checking that wild cards; or asterisks (*), question marks (?), and commas (,), are not used in the OS service name specified in the OS service name (common.serviceName property)

- Execution of the following command

sc config (sc GetDisplayName "OS-service-name(common.serviceName-property)") start= "OS-service-activation-method(common.serviceStartup-property)"

For details of the sc config, sc GetDisplayName command, visit the Microsoft library Web site.

Use situation

The command can be used to set the OS service activation method.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite product within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products within the execution target server:

None

Running OS on the execution target server:

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Conditions of using the execution target server:

None

Cautions

(1) Do not use a character string containing a double quotation mark (") or a single quotation mark (') in a plug-in property. If you use such a character string, this plug-in will terminate abnormally.

(2) The connected user defined for the agentless connection destination requires access permission for the operation target OS service.

(3) When you specify an OS service name (common.serviceName property), use its full name. You cannot use a partial match or a wild card.

Version

02.00.01

Plug-in tags

Control OS,Windows

Plug-in name displayed in the task log

osSetServiceStartup

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
common.serviceName	Service Name	Name of the service for which you want to change the startup type.	--	Input	R
common.serviceStartup	OS service activation method	Specify the method of activating Windows services by using one of delayed-auto (delayed activation), auto (auto activation), demand (manual activation), and disabled.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.16.5 Set group of OS user (Windows)

Function

Specifies a group to which an OS user belongs in a Windows environment. You can specify a group for a local user or a domain user.

When adding the group where the OS user belongs, if the OS user already belongs to the specified group, delete the OS user from the specified group, and then add the user to the group again.

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows must have already been set up.

Set one of the following values in the Windows.userType property to indicate the type of user that is specified.

For a local user: local

For a domain user: domain

The built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Set group of OS user (Windows)(SYSTEM)" plug-in that executes with the system account.

Use situation

When you have added an OS user for operations, you use this plugin to specify a group to which the user is to belong.

You can also use this plugin to delete a user from a specified group. You can optimize the OS user addition task by using this plugin together with the following plugins:

• osAddUser_Win

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for the target server]

None.

Version

02.00.00

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osChangeGroup_Win

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
common.osGroupName	OS user's group name	Specify the group name to be assigned to the OS user.	--	Input	R
common.osUserName	OS user name	Specify the user name of the OS user whose group is to be set.	--	Input	R
common.addOrDelete	Operation type	Specify ADD or DELETE to determine whether to add the user to the group or to delete the user from the group.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
Windows.userType	OS user's type	Specify "local" or "domain" as the OS user type. If "domain" is specified, any operations will be performed for the primary domain controller for the domain of the target server. This property takes effect in only Windows.	local	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16.6 Set group of OS user (Windows)(SYSTEM)

Function

Specifies a group to which an OS user belongs in a Windows environment. You can specify a group for a local user or a domain user.

When adding the group where the OS user belongs, if the OS user already belongs to the specified group, delete the OS user from the specified group, and then add the user to the group again.

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows must have already been set up.

Set one of the following values in the Windows.userType property to indicate the type of user that is specified.

For a local user: local

For a domain user: domain

Use situation

When you have added an OS user for operations, you use this plugin to specify a group to which the user is to belong.

You can also use this plugin to delete a user from a specified group. You can optimize the OS user addition task by using this plugin together with the following plugins:

• osAddUser_Win

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for the target server]

None.

Version

02.50.01

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osChangeGroup_Win_System

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
common.osGroupName	OS user's group name	Specify the group name to be assigned to the OS user.	--	Input	R
common.osUserName	OS user name	Specify the user name of the OS user whose group is to be set.	--	Input	R
common.addOrDelete	Operation type	Specify ADD or DELETE to determine whether to add the user to the group or to delete the user from the group.	--	Input	R
Windows.userType	OS user's type	Specify "local" or "domain" as the OS user type. If "domain" is specified, any operations will be performed for the primary domain	local	Input	O

Property key	Property name	Description	Default value	I/O type	Required
Windows.userType	OS user's type	controller for the domain of the target server. This property takes effect in only Windows.	local	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.16.7 Add OS user (Windows)

Function

Adds an OS user in a Windows environment. You can create a local user or a domain user.

If the specified OS user already exists, skip this process. (Return value: 0)

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows must have already been set up.

Set one of the following values in the Windows.userType property to indicate the type of user to be created:

For a local user: local

For a domain user: domain

The built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Add OS user (Windows)(SYSTEM)" plug-in that executes with the system account.

Use situation

You use this plugin to add a user for operations to Windows. You can optimize the user addition task by using this plugin together with the following plugins:

• osChangeGroup_Win

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for the target server]

None.

Version

02.00.00

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osAddUser_Win

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
common.osUserName	OS user name	Specify the name of the OS user to be created.	--	Input	R
common.osUserPassword	OS user password	Specify the password of the OS user to be created.	--	Input	R
common.osUserPasswordReE nter	Enter the new OS user password again	Specify the password for the OS user again.	--	Input	R
Windows.userType	OS user's type	Specify "local" or "domain" as the OS user type. If "domain" is specified, any operations will be performed for the primary domain controller for the domain of the target server. This property takes effect in only Windows.	local	Input	O

Property key	Property name	Description	Default value	I/O type	Required
Windows.accountActive	Whether to enable the OS user	Specify whether to enable the OS user's account. To enable the OS user's account, specify "true". To disable the OS user's account, specify "false". If "false" is specified, the OS user cannot access the server.	--	Input	O
Windows.accountComment	Comment for the OS user	Specify a description of the OS user's account.	--	Input	O
Windows.countryCode	OS country code	Specify the OS country code that will be used for Help and other messages. The value of 0 specifies the default country code.	--	Input	O
Windows.accountExpires	OS user expiration date	Specify the OS user's expiration date in DD/MM/YY format. If you do not want to set an expiration date, specify "never".	--	Input	O
Windows.userFullName	OS user's full name	Specify the full name of the user to be set as the OS user. Note that the name you specify here is not the OS user name.	--	Input	O
Windows.userHomeFolder	OS user's home folder	Specify the full path of the OS user's home folder. Make sure that you specify an existing path.	--	Input	O
Windows.passwordChange	Whether to enable password change	Specify whether to permit the OS user to change his or her password. Specifying "true" permits it, and specifying "false" does not.	--	Input	O
Windows.passwordRequest	Whether the OS user password is required	Specify whether to require the OS user to set a password. Specifying "true" requires it, and specifying "false" does not.	--	Input	O
Windows.userProfilePath	OS user's logon profile	Specify the full path of the OS user's logon profile.	--	Input	O
Windows.userScriptPath	OS user's logon script	Specify the full path of the OS user's logon script.	--	Input	O
Windows.userLogonTimes	Period that the OS user can log on	Specify the time periods during which the OS user can log on.	--	Input	O
Windows.userComment	User comment for the OS user	Specify a User comment of the OS user's account.	--	Input	O
Windows.workstations	Server allowing the OS user to log on to the network	Specify a maximum of eight host names for the servers from which the OS user can log on to the network. If this specification is omitted, the OS user can log on from any server.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16.8 Add OS user (Windows)(SYSTEM)

Function

Adds an OS user in a Windows environment. You can create a local user or a domain user.

If the specified OS user already exists, skip this process. (Return value: 0)

This plugin assumes the following server:

• Execution target server

This is the server on which this plugin is executed. Windows must have already been set up.

Set one of the following values in the Windows.userType property to indicate the type of user to be created:

For a local user: local

For a domain user: domain

Use situation

You use this plugin to add a user for operations to Windows. You can optimize the user addition task by using this plugin together with the following plugins:

• osChangeGroup_Win

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for the target server]

None.

Version

02.50.01

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osAddUser_Win_System

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
common.osUserName	OS user name	Specify the name of the OS user to be created.	--	Input	R
common.osUserPassword	OS user password	Specify the password of the OS user to be created.	--	Input	R
common.osUserPasswordReE nter	Enter the new OS user password again	Specify the password for the OS user again.	--	Input	R
Windows.userType	OS user's type	Specify "local" or "domain" as the OS user type. If "domain" is specified, any operations will be performed for the primary domain controller for the domain of the target server. This property takes effect in only Windows.	local	Input	O
Windows.accountActive	Whether to enable the OS user	Specify whether to enable the OS user's account. To enable the OS user's account, specify "true". To disable the OS user's account, specify "false". If "false" is specified, the OS user cannot access the server.	--	Input	O
Windows.accountComment	Comment for the OS user	Specify a description of the OS user's account.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
Windows.countryCode	OS country code	Specify the OS country code that will be used for Help and other messages. The value of 0 specifies the default country code.	--	Input	O
Windows.accountExpires	OS user expiration date	Specify the OS user's expiration date in DD/MM/YY format. If you do not want to set an expiration date, specify "never".	--	Input	O
Windows.userFullName	OS user's full name	Specify the full name of the user to be set as the OS user. Note that the name you specify here is not the OS user name.	--	Input	O
Windows.userHomeFolder	OS user's home folder	Specify the full path of the OS user's home folder. Make sure that you specify an existing path.	--	Input	O
Windows.passwordChange	Whether to enable password change	Specify whether to permit the OS user to change his or her password. Specifying "true" permits it, and specifying "false" does not.	--	Input	O
Windows.passwordRequest	Whether the OS user password is required	Specify whether to require the OS user to set a password. Specifying "true" requires it, and specifying "false" does not.	--	Input	O
Windows.userProfilePath	OS user's logon profile	Specify the full path of the OS user's logon profile.	--	Input	O
Windows.userScriptPath	OS user's logon script	Specify the full path of the OS user's logon script.	--	Input	O
Windows.userLogonTimes	Period that the OS user can log on	Specify the time periods during which the OS user can log on.	--	Input	O
Windows.userComment	User comment for the OS user	Specify a User comment of the OS user's account.	--	Input	O
Windows.workstations	Server allowing the OS user to log on to the network	Specify a maximum of eight host names for the servers from which the OS user can log on to the network. If this specification is omitted, the OS user can log on from any server.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16.9 Execute SQL Query

Function

This plug-in connects to a database server via ODBC and issues SQL statements.

This plug-in reads SQL statements sequentially from the text file specified by the Query File Path (Remote) property (database.queryFilePath), and then executes the statements one by one. (This text file is hereafter referred to as the "query file".) Then, as the execution results, CSV files are output to the folder specified by the Output Destination Folder Path (Remote) property (database.outputFolderPath). These CSV files are assigned names in the format "SQLRES_nnn.csv" (where nnn is the three-digit sequence number).

Example: SQLRES_001.csv

In the query file, each SQL statement must be specified on a single line. The query file can contain a maximum of 999 lines.

For each SQL statement in the query file, a CSV file is output as the execution result.

For reference-related SQL statements, this plug-in first outputs a header line and then the execution result. The default character encoding of the database control server is used for the CSV file.

For update-related SQL statements, no execution result is output. No CSV files are created, but sequence numbers are still issued. Sequence numbers for CSV files that were not created are treated as missing numbers.

The following is an example of the input query file and an example of the CSV files that are created.

Input example:

Select * from TBL_APP_USERS ... (Line 1)

Insert into TBL_APP_USERS(ID,NAME,DISCRIPT) Values(888,'Scott Green,'Newcomer') ... (Line 2)

Select * from TBL_APP_USERS ... (Line 3)

Output example:

SQLRES_001.csv (Execution result of line 1)

ID,NAME,DISCRIPT

111,John Green,Sample 1

222,Virgil Green,Sample 2

SQLRES_003.csv (Execution result of line 3)

ID,NAME,DISCRIPT

111,John Green,Sample 1

222,Virgil Green,Sample 2

888,'Scott Green,'Newcomer'

The ODBC-related terms used in this document are the display names used in the tool ODBC Data Source Administrator. These terms are as follows:

- ODBC Data Source Administrator

A standard tool in Windows for creating and managing data sources

- Data source

A collection of information that is necessary for connecting to a database server.

Data sources are created by using ODBC Data Source Administrator.

- Data source name (DSN)

A name that identifies a data source.

In ODBC Data Source Administrator, a data source name is also referred to as a DSN.

- ODBC driver

In ODBC Data Source Administrator, an ODBC driver is also referred to as a "driver".

This plug-in requires the following servers:

- Database control server (execution-target server)

A server that connects to a database server to execute ODBC commands

- Database server

A server on which the DBMS to be used is installed

Use situation

This plug-in can be used when a user wants to access data in a database by using SQL.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target system, and the supported OSs for the prerequisite products for the execution-target system, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target system:

(1) Database server

- Oracle 10g Standard/Enterprise

- Oracle 11g Standard/Enterprise

- Oracle 12c Standard/Enterprise

(2) Database control server

- Microsoft .Net Framework 2.0 or later

- 32-bit edition of the ODBC driver that is compatible with the DBMS of the database server

Supported OSs for the prerequisite products for the execution-target system:

(1) Database server

- A server that meets the requirements for the DBMS

(2) Database control server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Enterprise/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products for the execution-target system:

(1) Conditions related to the network configuration

- The database control server must be able to connect to the database server via ODBC.

(2) ODBC-related conditions

- An ODBC driver must be correctly installed on the database control server.

- Data sources must have been created by using ODBC Data Source Administrator on the database control server.

- All settings for the created data sources must be specified correctly, and connectivity to the database server must have been verified by using those data sources.

Cautions

(1) If multiple SQL statements are specified on one line in the text file specified by the Query File Path (Remote) property (database.queryFilePath), this plug-in terminates abnormally. Note: This file is hereafter referred to as the "query file".

(2) The encoding type specified by the Encoding Type property (common.encodeType), the encoding type of the query file, and the encoding type set in the database must be the same. For details about the database encoding type, see the ODBC driver and DBMS specifications.

(3) If files already exist in the folder specified by the Output Destination Folder Path (Remote) property (database.outputFolderPath), the existing files are overwritten. For this reason, make sure the specified folder path is correct. Note: This folder is hereafter referred to as the "output-destination folder".

(4) If any SQL statement specified in the query file fails, processing stops and rolls back. None of the SQL statements following the first statement that failed will be executed. Rollback also occurs if no more files can be written to the output-destination folder because of insufficient free space. In such a case, none of the SQL statements following the first statement that failed will be executed.

(5) If a rollback occurs, the results of the SQL statements that were successfully executed are output to the output-destination folder. In such a case, incomplete CSV files might be output.

(6) If the CREATE, ALTER, or DROP statement is executed before rollback occurs, the execution results of these statements might not be restored after rollback, depending on the specifications of the DBMS being used.

(7) If this plug-in attempts to perform rollback via the ODBC driver when settings specific to the ODBC driver have been specified, the DBMS might not restore data. For details, see the specifications for the ODBC driver and the DBMS.

(8) For any service that uses this plug-in, treat the property mapped to the Database User Password property (database.dbUserPassword) as a password.

(9) For security reasons, properly manage the query file. In particular, take care that the file is not tampered with or replaced by another file. In addition, for the database account to be used, grant the minimum permissions necessary.

(10) Usually, to create data sources, you must start the ODBC Data Source Administrator administrative tool in the Control Panel. However, this plug-in is used to handle 32-bit applications. For this reason, to start the ODBC Data Source Administrator administrative tool, specify the absolute path (%SystemRoot%\SysWOW64\odbcad32.exe) of the tool in the command line.

(11) Data sources are categorized into system data sources and user data sources. This plug-in supports only system data sources.

(12) This plug-in calls the 32-bit edition of PowerShell.exe by referencing the environment variable SystemRoot. For this reason, if the value of this environment variable was changed from the value set during installation of the OS on the database control server, this plug-in might terminate abnormally.

(13) If an SQL statement specified on a line of the query file is too long, this plug-in might terminate abnormally. The maximum amount of data that the plug-in can read is 4 GB of data per line, as long as the memory of the database control server is not full. However, even if the SQL statement is less than 4 GB, the statement might exceed the limit of the ODBC driver. For details, see the specifications of the ODBC driver and the DBMS.

(14) If a line in the CSV file generated during the execution of an SQL statement is too long, this plug-in might terminate abnormally. The maximum amount of data that the plug-in can write to a CSV file is 4 GB of data per line, as long as the memory of the database control server is not full. However, even if the line to be written is less than 4 GB, the line might exceed the limit of the ODBC driver. For details, see the specifications of the ODBC driver and the DBMS.

(15) Character strings specified for the database.dbUserId and database.dbUserPassword properties are case-sensitive.

Version

02.00.00

Plug-in tags

Control Database,Windows,Oracle Database

Plug-in name displayed in the task log

dbIssueSqlQueries

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
database.queryFilePath	Query File Path (Remote)	Specify the full path of the text file containing SQL statements. You can specify a maximum of 1,024 chars. In the file, do not specify multiple statements on one line or a single statement on some lines.The number of lines in file must not exceeded 999.	--	Input	R
common.encodeType	Encoding type	Specify the name of the encoding type of the text file indicated by the query file path. You can specify EUC-JP, SJIS, UTF-8, or UTF-16.	UTF-8	Input	R
odbc.dataSourceName	ODBC Data Source Name	Specify the name of the data source that was created on the database control server by using the ODBC Data Source Administrator.	--	Input	R
database.dbUserId	Database User ID	Specify the account ID to be used to log in to the database server.	--	Input	R
database.dbUserPassword	Database User Password	Specify the password of the account to be used to log in to the database server.	--	Input	R
database.outputFolderPath	Output Destination Folder Path (Remote)	Specify the full path of the folder where SQL execution results are output.For the output files, the default character-encoding of the database control server is used.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16.10 Configure Windows firewall

Function

Registers a specified program or port as a Windows firewall exception.

This plugin assumes the following server:

• Execution target server

This is the server for which the Windows firewall exception is registered.

Execute the plugin with one of the following property groups specified, depending on the target that you want to register:

To register a program, specify the OS.programPathName and OS.programName properties.

To register a port, specify the OS.protocol, OS.portNumber, and OS.portName properties.

If the specified program or port has already been registered, the plugin outputs an information message to the task log and then skips the registration processing.

Use situation

After you have installed an application, you use this plugin to set a firewall setting so that the application will run normally.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Usage conditions for required products on the execution target server]

(1) The Windows Firewall/Internet Connection Sharing (ICS) service has started.

Version

02.00.00

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osSetFirewallDef

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
OS.programPathName	Program path	Specify the full path names of the program files to be added to the Windows Firewall exceptions list (this is required to add programs to the exceptions list).	--	Input	O
OS.programName	Program name	Specify the names of the programs to be added to the Windows Firewall exceptions list (this is required to add programs to the exceptions list).	--	Input	O
OS.protocol	Protocol	Specify TCP, UDP, or ALL as the protocol used for the ports to be added to the Windows Firewall exceptions list (this is required to add ports to the exceptions list).	--	Input	O
OS.portNumber	Port number	Specify the port numbers to be added to the Windows Firewall exceptions list (this is required to add ports to the exceptions list).	--	Input	O
OS.portName	Port name	Specify the port names to be added to the Windows Firewall exceptions list (this is required to add ports to the exceptions list).	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.16.11 Get event list from Event log

Function

This plug-in outputs the list of the specified event log events to a file in CSV format on the Windows execution target server.

The encoding format of the output file is the default encoding used by the system of the execution target server.

This plug-in requires the following server:

- An execution target server

This plug-in will be executed on this server.

The script in this plug-in executes the following processing:

- The following cmdlet is executed:

Get-EventLog

-LogName event-log-name(value for the Windows.eventLogName property)

-After start-date-and-time-the-event-is-collected(value for Windows.eventStartDateTime property)

For details about the Get-EventLog cmdlet, see the description in the Microsoft library.

The items below are output to a CSV file.

Items output are separated by a comma (,).

(a) Event ID (header name: EventID)

(b) Machine name (header name: MachineName)

(c) Index (header name: Index)

(d) Category (header name: Category)

(e) Category number (header name: CategoryNumber)

(f) Event type (header name: EntryType)

(g) Message (header name: Message)

(h) Source (header name: Source)

(i) Time the event was generated (header name: TimeGenerated)

(j) Time the event was output (header name: TimeWritten)

(k) User name (header name: UserName)

Use situation

Used to obtain the list of Windows event log events.

Prerequisites

For the latest support information about [Prerequisite product in the system]/[Prerequisite OS running on the execution target server], see the release notes.

[Prerequisite product in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Cautions

(1) For a plug-in property, do not specify a character string that contains a double quotation mark (") or single quotation mark (').

Execution privilege

(1) The user who connects to the execution server must have the necessary permissions to view event log events.

Version

02.01.00

Plug-in tags

Gather OS information,Windows

Plug-in name displayed in the task log

osEventLogGetEvent

Return code

0: Normal

21: Error (invalid environment): No command was found. (An error was detected in the plug-in script.)

27: Error (Check the error details from a task log.)

41: Error (error detected in plug-in): Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.eventLogName	Event log name	Specify the name of an event log.	--	Input	R
common.outputFilePath	Output file path	Specifies the file to be output as a full path.	--	Input	R
Windows.eventStartDateTime	Event acquisition start date and time	Obtain events that have occurred after the specified date and time.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16.12 Create event for Event log

Function

This plug-in creates an event log event on the Windows execution target server.

This plug-in requires the following server:

- An execution target server

This plug-in will be executed on this server.

The script in this plug-in executes the following processing:

- The following command is executed:

eventcreate

/l event-log-name(value for the Windows.eventLogName property)

/so event-source(value for the Windows.eventSource property)

/t event-type(value for the Windows.eventType property)

/id event-ID(value for the Windows.eventID property)

/d description-of-the-event(value for the Windows.eventDescription property)

For details about the eventcreate command, see the description in the Microsoft library.

Use situation

Used to create a Windows event log event that reports the execution result in another plug-in, for example.

Prerequisites

For the latest support information about [Prerequisite product in the system]/[Prerequisite OS running on the execution target server], see the release notes.

[Prerequisite product in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite OS running on the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

Cautions

(1) For a plug-in property, do not specify a character string that contains a double quotation mark (") or a single quotation mark (').

Execution privilege

(1) The user who connects to the execution server must have the necessary permissions to create an event log event.

Version

02.01.00

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osEventLogCreateEvent

Return code

0: Normal

21: Error (invalid environment): No command was found. (An error was detected in the plug-in script.)

27: Error (Check the error details from a task log.)

41: Error (error detected in plug-in): Missing property (error detected in plug-in script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.eventLogName	Event log name	Specify the name of an event log.	--	Input	R
Windows.eventSource	Event source	Specify an event source.	--	Input	R
Windows.eventType	Event type	Specify an event type. The valid values are SUCCESS, ERROR, WARNING, and INFORMATION.	--	Input	R
Windows.eventID	Event ID	Specify an event ID between 1 and 1,000.	--	Input	R
Windows.eventDescription	Event description	Specify a description for the event.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

4.16.13 Printing a file (in Windows)

Function

This plug-in copies the specified file on the execution-target server, and then registers a print job for that file in the print queue.

If the local execution function of JP1/AO is enabled, the execution-target server and the JP1/AO server must not be on the same computer.

When a print job is registered in the queue, the OS user's default printer for printing on the execution-target server (specified in the Windows.osPrintUserName property) is used. Before using this plug-in, make sure the default printer settings for the specified user are correct.

The path of the target file to be registered in the print queue is specified by the common.targetFilePath property. This plug-in first copies the specified file to the print-file copy destination folder (specified in the Windows.printCopyFolderPath property). The plug-in then registers a print job for the copied file in the print queue. The

original file is not used for printing. If a file with the same name as the target file already exists in the copy destination folder, the plug-in terminates abnormally without overwriting the existing file.

You can specify any file whose file name extension is .txt, .xlsx, .xls, or .doc.

The value of the common.targetFilePath property cannot include wildcard characters. Each file name extension must be associated with an application for printing by the OS user specified in the Windows.osPrintUserName property.

This plug-in also monitors to confirm the end of the process that registers the file in the print queue. This check is performed at intervals (in seconds) specified by the Windows.checkProcessStateIntervalStartProcess property, for the number of times specified by the Windows.checkProcessStateCountStartProcess property. If the process does not end before the last time the check is performed, the plug-in terminates abnormally.

The "print" command is used for printing.

The specification of this command determines how files are printed.

Use situation

This plug-in can be used to print files.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products on the execution-target server, and the supported OSs on the execution-target server, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products on the execution-target server]

None.

[Supported OSs on the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the execution-target server]

- A printer must be registered.

- Associations between file name extensions and applications must be set by the user account to be used for printing (specified by the Windows.osPrintUserName property).

Cautions

(1) For the properties of this plug-in, do not specify any strings that include double quotation marks (") or single quotation marks (').

(2) If the print file copy destination folder specified in the Windows.printCopyFolderPath property does not exist, the folder is automatically created.

(3) If the extension of the file specified on the execution-target server is not associated with an application, registration to the print queue fails. In such cases, make sure the extension of the file specified on the execution-target server is associated with an application.

(4) When a file registered in the print queue is opened by using the associated application on the execution-target server, the application sometimes displays a user confirmation dialog box. If such a dialog box appears, the plug-in remains in the running status. To prevent this, make sure no dialog box appears when the application opens a file.

(5) If this plug-in remains in the running status, forcibly terminate the tasks that use this plug-in from the JP1/AO server. Then, on the execution-target server, start the Task Manager, and check whether a process whose process ID was output to the task log is running. If such a process is running, terminate it.

(6) After the print job is registered in the print queue, the copied file that was used for printing is deleted. Note that the plug-in terminates normally even if file deletion fails. For this reason, periodically check whether files remain in the print file copy destination folder.

(7) Do not specify the Guest user for the OS print user (Windows.osPrintUserName property).

(8) If this plug-in returns the value 28, possible causes are as follows:

(a) After this plug-in terminated abnormally, the process of the application associated with the file name extension continued to run.

(b) The Guest user account or another account that does not have a profile was specified for the OS print user.

(9) When registering multiple jobs for Excel files in the print queue, serialize the execution order of the jobs, because jobs for Excel files cannot be executed at the same time on the same execution-target server.

Version
02.00.00

Plug-in tags
Control OS,Windows

Plug-in name displayed in the task log
osPrintFile

Return code
0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check with the task log about the error detail) Unidentified error

28: Error (No information collected) Execution of start-process failed.

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list
The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetFilePath	Target file path	Enter the full path of the target file.	--	Input	R
Windows.printCopyFolderPat h	Copy destination folder for the file to be printed	Specify the copy destination folder for the file to be set to the print queue.	--	Input	R
Windows.osPrintUserName	OS user name to be used for printing	Specify the OS user name to be used for printing.	--	Input	R
Windows.osPrintUserPasswor d	Password of the OS user name to be used for printing	Specify the password for the OS user name to be used for printing.	--	Input	R
Windows.checkProcessStateC ountStartProcess	Number of times to check whether processing finished	Specify the number of confirmations to check whether the print process requested in Windows finished. Using this with an interval for process monitoring will result in the maximum wait time.	30	Input	R
Windows.checkProcessStateI ntervalStartProcess	Interval to check whether processing finished	Specify the confirmation interval in seconds to check whether the print process requested in Windows finished.	10	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

4.16.14 Change file or folder access permissions

Function

You can change the access permission of a specified user for a specified file on the Windows execution-target server by using this plug-in.

You can specify a folder as a target of access permission change. Specify a folder name for the file name of the access permission setting target (the common.targetFileName property).

You can specify a group as a target of access permission change. Specify a group name for the OS user name (the Windows.osUserName property).

You can change whether to allow or deny accesses by using the Set-ACL commandlet.

You can delete access permissions that have been set for the specified user by specifying "yes" (delete) for the deletion of allowed access permissions (the Windows.allowAccessPermissionDelete property) and the deletion of denied access permissions (the Windows.denyAccessPermissionDelete property).

The following is an explanation about the file name of the access permission setting target (the common.targetFileName property):

- Specify a string of 256 or fewer characters.

- To specify a file as a target, specify the file name by using a full path.

- To specify a folder as a target, specify the folder name by using a full path.

OS user name (the Windows.osUserName property)

- Specify 256 or fewer half-width alphanumeric characters, hyphens (-), exclamation marks (!), hash marks (#), tildes (~), underscores (_), periods (.) and yen signs (¥).

- To set access permissions for a user, specify the user name.

- To specify a domain user, use the format <NetBIOS-domain-name>\<domain-user-name>.

Specify 15 or fewer characters for <NetBIOS-domain-name> and 20 or fewer characters for <domain-user-name>.

- To set access permissions for a group, specify the group name.

- To specify a domain group, use the format <NetBIOS-domain-name>\<domain-group-name>.

Specify 15 or fewer characters for <NetBIOS-domain-name> and 64 or fewer characters for <domain-group-name>.

The following is an explanation of the access permissions to be allowed (the Windows.allowAccessPermission property):

- Specify the access permissions to be allowed. To specify multiple access permissions, use commas to delimit them.

- Access permissions that can be specified are:

FullControl

Modify

ReadAndExecute

Read

Write

The following is an explanation of the deletion of allowed access permissions (the Windows.allowAccessPermissionDelete property):

- Specify "yes" (delete) or "no" (do not delete).

- If this property is specified together with the access permissions to be allowed (the Windows.allowAccessPermission property), the access permissions that have been set will be deleted, and then the access permissions to be allowed will be set.

The following is an explanation of the access permission to be denied (the Windows.denyAccessPermission property):

- Specify the access permissions to be denied. To specify multiple access permissions, use commas to delimit them.

- Access permissions that can be specified are:

FullControl

Modify

ReadAndExecute

Read

Write

- If the same access permissions as the access permissions to be allowed are specified for the access permissions to be denied, the access permissions to be denied are given higher priority.

The following is an explanation of the deletion of denied access permissions (the Windows.denyAccessPermissionDelete property):

- Specify "yes" (delete) or "no" (do not delete).

- If this property is specified together with the access permission to be denied (the Windows.denyAccessPermission property), the access permissions that have been set will be deleted, and then the access permissions to be denied will be set.

Use situation

You can use this plug-in to change access permissions for files or folders.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the release notes.

[Prerequisite products for the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

None.

[Supported OSs for the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the execution-target server]

(1) Files and folders for which access permissions will be set must exist.

(2) Users and groups for which access permissions will be set must exist.

Cautions

(1) Do not use the following characters for the file name of the access permission setting target (the common.targetFileName property): left angle brackets (<), right angle brackets (>), vertical bars (|), semicolons (;), ampersands (&), asterisks (*), question marks (?), double quotation marks ("), percent signs (%), single quotation marks ('), left square brackets ([), right square brackets (]), grave accent marks (`), or backslashes (/).

(2) This plug-in is intended for normal files and folders. Therefore, it does not handle drives and registries as files or folders.

(3) You cannot change access permissions for multiple files or folders.

(4) You cannot change access permissions inherited from parent objects.

In addition, you cannot delete such permissions by specifying "yes (delete)" for the deletion of allowed access permissions (the Windows.allowAccessPermissionDelete property) and the deletion of denied access permissions (the Windows.denyAccessPermissionDelete property).

(5) If the following users do not have permissions to set access permissions for the file or folder that is specified for the file name of the access permission setting target (the common.targetFileName property), this plug-in might end abnormally. Check the access permissions that are specified for the file or folder.

- Built-in administrators

- Users who belong to the Administrators group

- Built-in administrators of Active Directory

- Users who belong to the Domain Admins group of Active Directory

Version

02.00.00

Plug-in tags

Control OS,Windows

Plug-in name displayed in the task log

osSetPermissionWin

Return code

0: Normal

12: Error (mistake by the user): A property is invalid.

27: Error (Check the details on the error in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.targetFileName	File to which access permissions are set	Specify the full path to the file or folder for which you want to change access permissions.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
Windows.osUserName	OS user name	Specify the user name or group name of the OS user to whom access permissions are change.	--	Input	R
Windows.allowAccessPermis sion	Allowed access permissions	Specify the access permissions given to the user. To specify multiple access permissions, separate the permissions with commas.	--	Input	O
Windows.allowAccessPermis sionDelete	Delete allowed access permissions	To delete the access permissions that are already given to the specified OS user, specify yes. If you do not want to delete the permissions, specify no.	no	Input	R
Windows.denyAccessPermiss ion	Denied access permissions	Specify the access permissions not given to the user. To specify multiple access permissions, separate the permissions with commas.	--	Input	O
Windows.denyAccessPermiss ionDelete	Delete denied access permissions	To delete the access permissions that are not given to the specified OS user, specify yes. If you do not want to delete the permissions, specify no.	no	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

4.16.15 Time determination

Function

This plug-in judges whether the specified judgment-target time meets the specified condition.

The following is an explanation of the judgment-target time (the common.criterionTime property):

- Specify the judgment-target time (the common.criterionTime property) by using the format, "hh:mm".

- If specification of the judgment-target time is omitted, the current time of the execution target server is set.

The current time is based on the time zone that is specified for the user that is connected to the execution target server by using agentless connection.

The following is an explanation of the judgment conditions (the common.condition property):

- Specify the judgment condition by using the format, "hh:mm-hh:mm".

Specify the start time of the condition for the first "hh:mm", and the end time of the condition for the second "hh:mm".

- If the judgment-target time matches the specified condition, the output character string (the common.conditionOutput property) corresponding to the matched condition (the common.matchConditionOutput property) is stored.

(start time of the condition) ≤ (judgment-target time) < (end time of the condition)

- You can specify a maximum of 10 conditions.

If the specified time matches multiple conditions, a condition that has a smaller condition number takes priority, and the output character string (the common.conditionOutput property) corresponding to the matched condition (the common.matchConditionOutput property) is stored.

The following is an explanation of the output character string (the common.conditionOutput property):

- Specify a string of 512 or fewer characters.

- If this specification is omitted, the condition number is specified.

The following is an explanation of the output character string when the condition is not met (the common.otherConditionOutput property):

- Specify a string of 512 or fewer characters.

Use situation

By using this plug-in together with a judge value plug-in, you can branch flows according to time.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the release notes.

[Prerequisite products for the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

None.

[Supported OSs for the execution-target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

[Conditions for using the execution-target server]

None.

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for the properties of this plug-in.

(2) Do not specify the same time for the start and end times of the judgment condition (the common.condition property). If the same time is specified, this plug-in will end abnormally.

Version

02.00.00

Plug-in tags

Gather OS information,Windows

Plug-in name displayed in the task log

osJudgmentTime

Return code

0: Normal

12: Error (mistake by the user): A property is invalid.

27: Error (Check the error details in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.criterionTime	Determination target time (hh:mm)	Specify the time of the determination target. By default, this value is set to the current time of the execution target server.	--	Input	O
common.condition1	Condition 1 (hh:mm-hh:mm)	Specify condition 1.	--	Input	R
common.condition1Output	Output string 1	Specify the string that is output if condition 1 is matched. By default, the string is set to "1".	--	Input	O
common.condition2	Condition 2 (hh:mm-hh:mm)	Specify condition 2.	--	Input	O
common.condition2Output	Output string 2	Specify the string that is output if condition 2 is matched. By default, the string is set to "2".	--	Input	O
common.condition3	Condition 3 (hh:mm-hh:mm)	Specify condition 3.	--	Input	O
common.condition3Output	Output string 3	Specify the string that is output if condition 3 is matched. By default, the string is set to "3".	--	Input	O
common.condition4	Condition 4 (hh:mm-hh:mm)	Specify condition 4.	--	Input	O
common.condition4Output	Output string 4	Specify the string that is output if condition 4 is matched. By default, the string is set to "4".	--	Input	O
common.condition5	Condition 5 (hh:mm-hh:mm)	Specify condition 5.	--	Input	O
common.condition5Output	Output string 5	Specify the string that is output if condition 5 is matched. By default, the string is set to "5".	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.condition6	Condition 6 (hh:mm-hh:mm)	Specify condition 6.	--	Input	O
common.condition6Output	Output string 6	--	--	Input	O
common.condition7	Condition 7 (hh:mm-hh:mm)	--	--	Input	O
common.condition7Output	Output string 7	Specify the string that is output if condition 7 is matched. By default, the string is set to "7".	--	Input	O
common.condition8	Condition 8 (hh:mm-hh:mm)	Specify condition 8.	--	Input	O
common.condition8Output	Output string 8	Specify the string that is output if condition 8 is matched. By default, the string is set to "8".	--	Input	O
common.condition9	Condition 9 (hh:mm-hh:mm)	Specify condition 9.	--	Input	O
common.condition9Output	Output string 9	Specify the string that is output if condition 9 is matched. By default, the string is set to "9".	--	Input	O
common.condition10	Condition 10 (hh:mm-hh:mm)	Specify condition 10.	--	Input	O
common.condition10Output	Output string 10	Specify the string that is output if condition 10 is matched. By default, the string is set to "10".	--	Input	O
common.otherConditionOutput	Output string if no conditions are matched	Specify the string that is output if no conditions are matched.	99	Input	R
common.matchConditionOutput	Matched conditions	The string that is output if any of the conditions are matched or no conditions are matched is stored here.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5

JP1/AO Content Pack Plug-ins

This chapter describes the plug-ins in the JP1/AO Content Pack.

5.1 List of JP1/AO Content Pack plug-ins

5.1.1 List of the AWS-related Plug-ins

No.	Plug-in name	Function
1	AMI creation	Creates an AMI from an instance in the Amazon EC2 environment
2	Stack creation	Creates a stack from a template file in the AWS CloudFormation environment
3	Stack deletion	Delete a stack in the AWS CloudFormation environment
4	Stack information list	Outputs a list of stacks managed in the AWS CloudFormation environment to a file in CSV format
5	Creating a snapshot	A snapshot is created as a backup for the volume managed in the Amazon EBS environment.
6	Deleting a snapshot	A snapshot managed in the Amazon EBS environment is deleted.
7	Acquiring a list of information about snapshots	A list of snapshots managed in the Amazon EBS environment is output to a file in CSV format.
8	Uploading a file	A file in the Amazon S3 environment is uploaded.
9	Downloading a file	A file in the Amazon S3 environment is downloaded.
10	Deleting a file	A file managed in the Amazon S3 environment is deleted.
11	Virtual server resources configuration	Changes the instance type of an instance in the Amazon EC2 environment
12	Shut down a virtual server	Shuts down a virtual server an the Amazon EC2 environment. (In Amazon EC2, this is referred to as "stopping instances".)
13	Start a virtual server	Starts an instance in an Amazon EC2 environment.
14	Create a virtual server	Creates a virtual server in an Amazon EC2 environment. (In Amazon EC2, this is referred to as "starting instances".)
15	Delete a virtual server	Deletes an instance from an Amazon EC2 environment.
16	Virtual server information list	Outputs a list of instance information managed in the Amazon EC2 environment to a file in CSV format
17	Obtain status of virtual server	Obtains the status of an instance in an Amazon EC2 environment.

5.1.2 List of the HCS-related Plug-ins

No.	Plug-in name	Function
1	Create DP volume	Creates the specified DP volume in the storage system managed by the Device Manager.
2	Delete DP volume	Deletes the specified DP volume in the storage system managed by the Device Manager.
3	Check HDvM connectivity	Determines whether or not a connection to the HDvM server can be established.
4	Check LU creation	Determines whether or not the DP volume (LU) can be created.
5	Get storage information list	Outputs a list of storage information to a temporary file in the HDvM CLI server.
6	Delete LU from host group	Deletes the specified LU from the host group in the storage system managed by the Device Manager.

No.	Plug-in name	Function
7	Register LU in host group	Registers the specified LU in the host group in the storage system managed by the Device Manager.

5.1.3 List of the Hyper-V 2008-related Plug-ins

No.	Plug-in name	Function
1	Create a response file	Creates a response file to initialize the OS and set the IP address for the virtual server (Windows) in the Hyper-V environment.
2	Obtain the IP address of a virtual server	Obtains the IP address (IPv4) of the virtual server in the Hyper-V environment
3	Shut down a virtual server	Performs a forced shutdown of the virtual server OS in the Hyper-V environment.
4	Virtual server virtual switch settings	Specifies a virtual switch in the virtual server in the Hyper-V environment.
5	Start a virtual server	Starts a virtual server in the Hyper-V environment.
6	Create a virtual server	Creates a virtual server from an exported virtual server in the Hyper-V environment.
7	Delete a virtual server	Deletes a virtual server in the Hyper-V environment.
8	Obtain a virtual server information list	Outputs the virtual server information list to a temporary file of Hyper-V server.
9	Obtain the virtual server status	Obtains the virtual server status in the Hyper-V environment.
10	Add a disk to the virtual server	Adds a disk to the virtual server in the Hyper-V environment.
11	Unmount a virtual disk	Unmounts a virtual disk from the Hyper-V server.
12	Mount a virtual disk	Mounts a virtual disk on the Hyper-V server.

5.1.4 List of the Hyper-V 2012-related Plug-ins

No.	Plug-in name	Function
1	Create a response file	Creates a response file to initialize the OS and set the IP address for the virtual server (Windows) in the Hyper-V 2012 environment.
2	Change CPU Settings of Virtual Server	Change the CPU settings of a virtual server in a Hyper-V 2012 environment.
3	Obtain IP Address of Virtual Server	Obtain the IP address (IPv4) of a virtual server in a Hyper-V 2012 environment.
4	Shut down a virtual server	Performs a forced shutdown of the virtual server OS in the Hyper-V 2012 environment.
5	Change Memory Settings of Virtual Server	Change the memory settings of a virtual server in a Hyper-V 2012 environment.
6	Virtual server virtual switch settings	Specifies a virtual switch in the virtual server in the Hyper-V 2012 environment.
7	Start a virtual server	Starts a virtual server in the Hyper-V 2012 environment.
8	Create a virtual server	Creates a virtual server from an exported virtual server in the Hyper-V 2012 environment.
9	Delete Virtual Servers	Deletes the virtual servers in a Hyper-V 2012 environment.

No.	Plug-in name	Function
10	Obtain the virtual server information list	Exports virtual server information to a temporary file on the Hyper-V server in a Hyper-V 2012 environment.
11	Obtain Status of Virtual Server	Obtain the status of a virtual server in a Hyper-V 2012 environment.
12	Unmount a virtual disk	Unmounts a virtual disk from the Hyper-V 2012 server.
13	Mount a virtual disk	Mounts a virtual disk on the Hyper-V 2012 server.
14	Create Virtual Disk	Creates a virtual disk in a Hyper-V 2012 environment.
15	Connect Virtual Disk	Connects a virtual disk to a virtual server in a Hyper-V 2012 environment.

5.1.5 List of the Hyper-V 2016-related Plug-ins

No.	Plug-in name	Function
1	Create a response file	Creates a response file to initialize the OS and set the IP address for the virtual server (Windows) in the Hyper-V 2016 environment.
2	Change CPU Settings of Virtual Server	Change the CPU settings of a virtual server in a Hyper-V 2016 environment.
3	Obtain IP Address of Virtual Server	Obtain the IP address (IPv4) of a virtual server in a Hyper-V 2016 environment.
4	Shut down a virtual server	Performs a forced shutdown of the virtual server OS in the Hyper-V 2016 environment.
5	Change Memory Settings of Virtual Server	Change the memory settings of a virtual server in a Hyper-V 2016 environment.
6	Virtual server virtual switch settings	Specifies a virtual switch in the virtual server in the Hyper-V 2016 environment.
7	Start a virtual server	Starts a virtual server in the Hyper-V 2016 environment.
8	Create a virtual server	Creates a virtual server from an exported virtual server in the Hyper-V 2016 environment.
9	Delete Virtual Servers	Deletes the virtual servers in a Hyper-V 2016 environment.
10	Obtain the virtual server information list	Exports virtual server information to a temporary file on the Hyper-V server in a Hyper-V 2016 environment.
11	Obtain Status of Virtual Server	Obtain the status of a virtual server in a Hyper-V 2016 environment.
12	Unmount a virtual disk	Unmounts a virtual disk from the Hyper-V 2016 server.
13	Mount a virtual disk	Mounts a virtual disk on the Hyper-V 2016 server.
14	Create Virtual Disk	Creates a virtual disk in a Hyper-V 2016 environment.
15	Connect Virtual Disk	Connects a virtual disk to a virtual server in a Hyper-V 2016 environment.

5.1.6 List of the Linux-related Plug-ins

No.	Plug-in name	Function
1	Initial OS settings (Linux)	Configures the initial OS settings (host name, time zone, DNS suffix).

5.1.7 List of the OpenStack-related Plug-ins

No.	Plug-in name	Function
1	Backup Volume	Obtain the backup of a volume being managed by OpenStack.
2	Create Volume	Create a volume in a KVM environment being managed by OpenStack.
3	Delete Volume	Delete a volume being managed by OpenStack.
4	Disconnect volume	Disconnect the volume connected to the instance in the KVM environment managed by OpenStack.
5	Connect Volume	Connect a volume to an instance in a KVM environment being managed by OpenStack.
6	Create Temporary Volume	Create a temporary volume based on a volume being managed by OpenStack.
7	Obtain IP Address of Virtual Server	Obtain the IP address (IPv4) configured to all NICs of an instance in a KVM environment being managed by OpenStack.
8	Activate Virtual Server	Activate an instance in a KVM environment being managed by OpenStack.
9	Create a virtual server	Creates a virtual server from an image (called "Run an instance" on OpenStack).
10	Delete virtual server	Delete the instance in the KVM environment managed by OpenStack. If a floating IP address is set to the instance, that floating IP address is unassigned.
11	Get list of virtual server information	Output a list of instance information contained in the specified project to a file on the OpenStack control server (execution target server) in the KVM environment managed by OpenStack.
12	Obtain Status of Virtual Server	Obtain the status of an instance in a KVM environment being managed by OpenStack.

5.1.8 List of the Oracle-related Plug-ins

No.	Plug-in name	Function
1	Start an Oracle DB instance	On the execution target server in a Windows or UNIX environment, start SQL*Plus and execute the STARTUP command to start the instance.
2	Stop an Oracle DB instance	On the execution target server in a Windows or UNIX environment, start SQL*Plus and execute the SHUTDOWN command to stop the instance.
3	Delete an Oracle DB user	On the execution target server in a Windows or UNIX environment, start SQL*Plus and execute the DROP USER statement to delete the database user.
4	Add an Oracle DB user (UNIX)	On the execution target server in a UNIX environment, start SQL*Plus and execute the CREATE USER statement to add a database user.
5	Add an Oracle DB user (Windows)	On the execution target server in a Windows environment, start SQL*Plus and execute the CREATE USER statement to add a database user.

5.1.9 List of the OS-related Plug-ins

No.	Plug-in name	Function
1	Set static route	Sets a static route in a Windows or Linux target server.

5.1.10 List of the vSphere-related Plug-ins

No.	Plug-in name	Function
1	DRS automation level setting for the DRS clusters	In the VMware vSphere environment, specifies the DRS automation level setting for the virtual server belonging to the vSphere DRS cluster.
2	Add a DRS rule (from virtual server to host)	Adds a DRS rule for the vSphere DRS cluster (from the virtual server to the host) in the VMware vSphere environment.
3	Set maintenance mode for the ESX server	Enables or disables maintenance mode for the ESX server in the VMware vSphere environment.
4	Move the ESX server	Moves the ESX server in the VMware vSphere environment.
5	Obtain list of virtual network information for the ESX server	The virtual network information is output in the VMware vSphere environment.
6	Set FC path priority	Sets the FC path to "preferred" for the specified data store in VMware vSphere ESXi (or VMware ESX Server)
7	Set virtual server options for the HA cluster	Sets the options that define the behavior of the virtual server for the vSphere HA cluster in the VMware vSphere environment.
8	Monitoring settings for the virtual server in the HA cluster	In the VMware vSphere environment, specifies the monitoring settings for the virtual server belonging to the vSphere HA cluster.
9	Recognize LUN	Recognizes an added or deleted LUN in VMware vSphere ESXi (or VMware ESX Server).
10	Get canonical name of SCSI LUN	Acquires the canonical name of the SCSI LUN recognized by VMware vSphere ESXi (or VMware ESX Server)
11	Script execution through the vCenter server	In the VMware vSphere environment, executes a non-interactive script that is placed in the guest OS on the virtual server.
12	File deletion through the vCenter server	In the VMware vSphere environment, deletes the specified file in the guest OS on the virtual server.
13	File transmission through the vCenter server	In the VMware vSphere environment, transmits the specified file from the execution target server to the guest OS on the virtual server.
14	Folder deletion through the vCenter server	In the VMware vSphere environment, deletes the specified folder in the guest OS on the virtual server.
15	Folder transmission through the vCenter server	In the VMware vSphere environment, transmits the specified folder from the execution target server to the guest OS on the virtual server.
16	Check VMware vCenter Server connectivity	Determines whether or not a connection to the vCenter server can be established.
17	Create data store	Adds a data store in VMware vSphere ESXi (or VMware ESX Server).
18	Check data store creation	Determines whether or not a data store can be added.
19	Delete data store	Deletes a data store from VMware vSphere ESXi (or VMware ESX Server)
20	Create a template	Creates a template from the virtual server in the VMware vSphere environment.
21	Delete a template	Deletes a virtual server template in the VMware vSphere environment.
22	Change the network adapter settings	Changes the settings of the network adapter allocated to the virtual server in the VMware vSphere environment.
23	Add a network adapter	Adds a network adapter to the virtual server in the VMware vSphere environment.
24	Set traffic shaping policy for the port group	Sets the traffic shaping policy for the port group of the standard virtual switch in the VMware vSphere environment.

No.	Plug-in name	Function
25	Set host DRS group	Adds or deletes an ESX server for the host DRS group set for the vSphere DRS cluster in the VMware vSphere environment.
26	Retrieving log bundles	Retrieve a log bundle from vCenter server or ESX server in VMware vSphere environment.
27	Set the virtual server DRS group	Adds or deletes a virtual server for the virtual server DRS group set for the vSphere DRS cluster in the VMware vSphere environment.
28	Get virtual server IP address	Acquires the IP address of the virtual server in a VMware vSphere environment.
29	Set OS init. settings and IP addr. of virtual servers (Linux)	For a virtual server (Linux) in the VMware vSphere environment, perform the initial OS settings and the IP address settings.
30	Set OS init. settings and IP addr. of virtual servers (Windows)	For a virtual server (Windows) in the VMware vSphere environment, perform the initial OS settings and the IP address settings.
31	Creating a virtual server clone	Creates a clone of a virtual server in the VMware vSphere environment.
32	Deletion of a virtual server clone	Deletes a virtual server clone in the VMware vSphere environment.
33	Shut down virtual server	Performs a shutdown of the virtual server and sets its power status to OFF in a VMware vSphere environment.
34	Moving a virtual server snapshot	Moves a snapshot used by a virtual server to a specified snapshot on a different virtual server in the VMware vSphere environment.
35	Creating a virtual server snapshot	Creates a snapshot of a virtual server in the VMware vSphere environment.
36	Deletion of a virtual server snapshot	Deletes a snapshot of a virtual server in the VMware vSphere environment.
37	Migrate virtual server	Migrates the virtual server to the specified migration destination in a VMware vSphere environment.
38	Resource configuration setting of the virtual server	Changes the CPU, memory, or disk I/O resource configurations for the virtual server that is managed by VMware vCenter Server.
39	Pre-eval. of resource configuration changes in virtual server	Performs a pre-evaluation before changing CPU, memory, or disk I/O resource configurations for the virtual server that is managed by VMware vCenter Server.
40	Set virtual server resources	Changes the allocation of resources (number of CPUs, memory size) of the virtual server in a VMware vSphere environment.
41	Pre-evaluation of resource changes in virtual server	Performs a pre-evaluation before changing CPU or memory resources for the virtual server that is managed by VMware vCenter Server.
42	Start virtual server	Starts the virtual server in a VMware vSphere environment.
43	Create virtual server	Creates a virtual server from a template in a VMware vSphere environment.
44	Delete virtual server	Deletes the specified virtual server in a VMware vSphere environment.
45	Get power status of virtual server	Acquires the power status of the virtual server in a VMware vSphere environment.
46	Add virtual disk to virtual server	Adds a virtual disk to a virtual server in a VMware vSphere environment.
47	Check virtual server creation	Determines whether or not a virtual server can be created from the specified template.
48	Get list of virtual server information	Outputs a list of virtual server information to a temporary file on the VMware vCenter control server.
49	Extend a virtual disk	Extends the capacity of the virtual disk set for the virtual server in the VMware vSphere environment.
50	Delete virtual disk	Deletes a virtual disk from the virtual server in a VMware vSphere environment.
51	Change virtual machine port group	Changes the port group connected to a virtual server in a VMware vSphere environment.

No.	Plug-in name	Function
52	Add a port group to the standard virtual switch	Adds a port group to the standard virtual switch in the VMware vSphere environment.
53	Get the physical adapter information list	Outputs information about the physical adapter connected to the ESX server in the VMware vSphere environment.
54	Set the physical adapter	Sets the status of the physical adapter connected to the standard virtual switch in the VMware vSphere environment.

5.1.11 List of the Windows-related Plug-ins

No.	Plug-in name	Function
1	Obtain the MAC address of an NIC	Obtains the MAC address of the NIC.
2	Windows network settings	Sets the IP address for the NIC.
3	Install the Windows updates	On the Windows environment, automatically installs the updates through the Windows Update.
4	Install the Windows updates(SYSTEM)	On the Windows environment, automatically installs the updates through the Windows Update.

5.2 AWS-related Plug-ins

5.2.1 AMI creation

Function

This plugin creates an AMI from an instance in an Amazon EC2 environment.

This plugin assumes the following server:

- AWS control server (execution target server)

A server on which AWS Tools for Windows PowerShell (abbreviated hereafter to "AWS Tools") is installed. AWS Tools transfers the plugin to, and executes it on, this server.

- Instance

A standard virtual server, with a virtual host in an Amazon EC2 environment

The script within this plugin executes the following AWS Tools commandlets:

- New-EC2Image -InstanceId "Instance ID (AWS.instanceId property value)"

- Name "AMI name (AWS.amiName property value)"

- Description "AMI description (AWS.amiDescription property value)"

- NoReboot "Instance reboot suppression (AWS.instanceNoReboot property value)"

- Force

After executing these commandlets, verify that the state of the created AMI is "available".

For details about AWS Tools commandlets, see the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Use situation

This plugin can be used to create an AMI from an instance that has been customized in an Amazon EC2 environment.

Prerequisites

For the latest support information about [Required product for the system], [Required products for the service template execution server], [Prerequisite OS for the required products for the service template execution server], and [Required products for the service template execution system], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required products for the service template execution server]

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

[Prerequisite OS for the required products for the service template execution server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note that this does not apply to environments in which Server Core is installed.

[Required products for the service template execution system]

(1) Required OS for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Operating conditions for required products for the service template execution system]

(1) Instance conditions

The state of the instance to be used must be "running" or "stopped".

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') in the properties of this plugin.

(2) Do not specify an existing AMI name in the AWS.amiName property. Specifying an existing AMI name terminates the task abnormally.

(3) For other notes, see the notes in the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Execution privilege

(1) Policies must be set up so that IAM users logging in to AWS can perform the following action:

- Creating images

Version

02.01.00

Plug-in tags

Add VM Template,AWS

Plug-in name displayed in the task log

awsCreateImage

Return code

0: Normal

12: Error (User error) Invalid property

23: Error (Invalid environment) Required environment is invalid

27: Error (Check task logs for the nature of error)

41: Error (Error detected in plugin) Missing property (Error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.instanceId	Instance ID	Specify the ID of the instance.	--	Input	R
AWS.amiName	AMI name	Specify a name for the AMI to be created.	--	Input	R
AWS.amiDescription	AMI description	Specify a description for the AMI to be created.	--	Input	O
AWS.instanceNoReboot	Suppress instance restart	If true is specified, the instance will be stopped before creating the AMI. If a value other than true is specified, the instance will be stopped and then restarted after creating the AMI.	--	Input	O
AWS.checkAmiCreationCount	Frequency of AMI creation completion check	Specify the number of times to check whether AMI creation is complete. This parameter, along with the interval for AMI creation completion check, indicates the maximum waiting time.	--	Input	R
AWS.checkAmiCreationInterval	Interval for AMI creation completion check	Specify the interval in seconds to check whether AMI creation is complete.	--	Input	R
AWS.amiIdOutput	AMI ID	Contains the ID of a created AMI	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.2 Stack creation

Function

This plugin creates a stack from a template file stored in an Amazon S3 bucket in an AWS CloudFormation environment. Creating a stack causes the AWS resource specified in the template file to be created by AWS CloudFormation.

The resource ID of the AWS resource that has been created is stored in the AWS.resourceId property. If multiple resources are created, each resource ID is output, separated by a comma.

However, if the total length of resource IDs exceeds 1,024 characters, the resource IDs after the 1,024th character will be truncated.

This plugin assumes the following server:

- AWS control server (execution target server)

A server on which AWS Tools for Windows PowerShell (abbreviated hereafter to "AWS Tools") is installed. This product transfers the plugin to and executes it on this server.

The script within this plugin executes the following AWS Tools commandlet:

- New-CFNStack -StackName "Stack name (AWS.stackName property value)"

- OnFailure "Behavior at stack creation failure (AWS.actionStackCreationFail property value)"

- TemplateURL "URL of the template file stored in Amazon S3 bucket" (#1)

[-Parameter "Values specified for parameters in the template file"] (#2)

-Capability "CAPABILITY_IAM"

-Force

#1: A value combining a bucket name (AWS.bucketName property) and a key name (AWS.keyName property)

#2: A value combining a template parameter key (AWS.templateParameterKey property) and a template parameter value (AWS.templateParameterValue property). A maximum of 20 pairs can be specified.

After executing these commandlets, verify that the state of the created stack is "CREATE_COMPLETE".

For details about AWS Tools commandlets, see the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Use situation

This plugin can be used to create an AWS resource from a template file in an AWS CloudFormation environment.

Prerequisites

For the latest support information about [Required product for the system], [Required products for the service template execution server], and [Prerequisite OS for the required products for the service template execution server], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required products for the service template execution server]

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

[Prerequisite OS for the required products for the service template execution server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note that this does not apply to environments in which Server Core is installed.

[Operating conditions for execution target system]

(1) Stack conditions

- The template file used for creating a stack must be stored in an Amazon S3 bucket.

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') in the properties of this plugin.

(2) Do not specify an existing stack name in the AWS.stackName property. Specifying an existing stack name terminates the task abnormally.

(3) For other notes, see the notes in the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Execution privilege

(1) Policies must be set up so that IAM users logging in to AWS can perform the following actions:

- Creating stacks and obtaining information

- Manipulating files to be uploaded to an Amazon S3 bucket

- Creating AWS resources

Version

02.01.00

Plug-in tags

Add VM,AWS

Plug-in name displayed in the task log

awsCreateStack

Return code

0: Normal

12: Error (User error) Invalid property

23: Error (Invalid environment) Required environment is invalid

27: Error (Check task logs for the nature of error)

41: Error (Error detected in plugin) Missing property (Error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requi red
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.bucketName	Bucket name	Specifies the name of the bucket used to upload the template file	--	Input	R
AWS.keyName	Key name	Specifies the key name set in the uploaded template file	--	Input	R
AWS.stackName	Stack name	Specify the name of a stack.	--	Input	R
AWS.actionStackCreationFail	Behavior in case of failed stack creation	Specify the behavior to be performed if stack creation fails. The valid values are DO_NOTHING, ROLLBACK, or DELETE.	--	Input	R
AWS.checkStackCreationCou nt	Frequency of stack creation completion check	Specify the number of times to check whether stack creation is complete. This parameter, along with the interval for stack creation completion check, indicates the maximum waiting time.	--	Input	R
AWS.checkStackCreationInte rval	Interval for stack creation completion check	Specify the interval in seconds to check whether stack creation is complete.	--	Input	R
AWS.templateParameterKey1	Template parameter key 1	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e1	Template parameter value 1	Specify a value for template parameter key 1.	--	Input	O
AWS.templateParameterKey2	Template parameter key 2	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e2	Template parameter value 2	Specify a value for template parameter key 2.	--	Input	O
AWS.templateParameterKey3	Template parameter key 3	Specify the key name of the parameter defined in the template file.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
AWS.templateParameterValu e3	Template parameter value 3	Specify a value for template parameter key 3.	--	Input	O
AWS.templateParameterKey4	Template parameter key 4	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e4	Template parameter value 4	Specify a value for template parameter key 4.	--	Input	O
AWS.templateParameterKey5	Template parameter key 5	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e5	Template parameter value 5	Specify a value for template parameter key 5.	--	Input	O
AWS.templateParameterKey6	Template parameter key 6	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e6	Template parameter value 6	Specify a value for template parameter key 6.	--	Input	O
AWS.templateParameterKey7	Template parameter key 7	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e7	Template parameter value 7	Specify a value for template parameter key 7.	--	Input	O
AWS.templateParameterKey8	Template parameter key 8	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e8	Template parameter value 8	Specify a value for template parameter key 8.	--	Input	O
AWS.templateParameterKey9	Template parameter key 9	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e9	Template parameter value 9	Specify a value for template parameter key 9.	--	Input	O
AWS.templateParameterKey1 0	Template parameter key 10	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e10	Template parameter value 10	Specify a value for template parameter key 10.	--	Input	O
AWS.templateParameterKey1 1	Template parameter key 11	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e11	Template parameter value 11	Specify a value for template parameter key 11.	--	Input	O
AWS.templateParameterKey1 2	Template parameter key 12	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e12	Template parameter value 12	Specify a value for template parameter key 12.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
AWS.templateParameterKey1 3	Template parameter key 13	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e13	Template parameter value 13	Specify a value for template parameter key 13.	--	Input	O
AWS.templateParameterKey1 4	Template parameter key 14	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e14	Template parameter value 14	Specify a value for template parameter key 14.	--	Input	O
AWS.templateParameterKey1 5	Template parameter key 15	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e15	Template parameter value 15	Specify a value for template parameter key 15.	--	Input	O
AWS.templateParameterKey1 6	Template parameter key 16	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e16	Template parameter value 16	Specify a value for template parameter key 16.	--	Input	O
AWS.templateParameterKey1 7	Template parameter key 17	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e17	Template parameter value 17	Specify a value for template parameter key 17.	--	Input	O
AWS.templateParameterKey1 8	Template parameter key 18	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e18	Template parameter value 18	Specify a value for template parameter key 18.	--	Input	O
AWS.templateParameterKey1 9	Template parameter key 19	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e19	Template parameter value 19	Specify a value for template parameter key 19.	--	Input	O
AWS.templateParameterKey2 0	Template parameter key 20	Specify the key name of the parameter defined in the template file.	--	Input	O
AWS.templateParameterValu e20	Template parameter value 20	Specify a value for template parameter key 20.	--	Input	O
AWS.resourceId	Resource ID	Contains the IDs of one or more created resources; if multiple resources are created, their IDs are separated with a comma.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.2.3 Stack deletion

Function

This plugin deletes stacks in an AWS CloudFormation environment. Deleting stacks causes all the AWS resources related to these stacks to be deleted by AWS CloudFormation.

This plugin assumes the following server:

- AWS control server (execution target server)

A server on which AWS Tools for Windows PowerShell (abbreviated hereafter to "AWS Tools") is installed. AWS Tools transfers the plugin to, and executes it on, this server.

The script within this plugin executes the following AWS Tools commandlet:

- Remove-CFNStack -StackName "Stack name (AWS.stackName property value)"

- Force

After executing these commandlets, verify that the deleted stacks no longer exist.

For details about AWS Tools commandlets, see the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Use situation

This plugin can be used to delete AWS resources created from a template file. It can also be used to delete any unnecessary stacks, such as stacks failing to create AWS resources.

Prerequisites

For the latest support information about [Required product for the system], [Required products for the service template execution server], and [Prerequisite OS for the required products for the service template execution server], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required products for the service template execution server]

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

[Prerequisite OS for the required products for the service template execution server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note that this does not apply to environments in which Server Core is installed.

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') in the properties of this plugin.

(2) The plugin checks whether the deletion target exists. If it does not exist, the plugin will terminate abnormally with return value 12.

(3) The plugin checks whether the deletion target exists. If it exists and the status is "DELETE_IN_PROGRESS", the plugin will terminate abnormally with return value 12.

(4) If AWS resources cannot be deleted, the corresponding stacks will remain undeleted.

(5) For other notes, see the notes in the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Execution privilege

(1) Policies must be set up so that IAM users logging in to AWS can perform the following actions:

- Deleting stacks and obtaining information

- Deleting AWS resources

Version

02.01.00

Plug-in tags

Delete VM,AWS

Plug-in name displayed in the task log

awsDeleteStack

Return code

0: Normal

12: Error (User error) Invalid property

23: Error (Invalid environment) Required environment is invalid

27: Error (Check task logs for the nature of error)

41: Error (Error detected in plugin) Missing property (Error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
AWS.stackName	Stack name	Specify the name of a stack.	--	Input	R
AWS.checkStackDeletionCount	Frequency of stack deletion completion check	Specify the number of times to check whether stack deletion is complete. This parameter, along with the interval for stack deletion completion check, indicates the maximum waiting time.	--	Input	R
AWS.checkStackDeletionInterval	Interval for stack deletion completion check	Specify the interval in seconds to check whether stack deletion is complete.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.4 Stack information list

Function

This plugin outputs an information list of stacks managed in an AWS CloudFormation environment to a CSV file on an AWS control server (execution target server).

The character encoding of the output file is the default encoding of the system on the AWS control server (execution target server).

This plugin assumes the following server:

- AWS control server (execution target server)

A server on which AWS Tools for Windows PowerShell (abbreviated hereafter to "AWS Tools") is installed. AWS Tools transfers the plugin to, and executes it on, this server.

The script within this plugin executes the following AWS Tools commandlet:

- Get-CFNStack

For details about AWS Tools commandlets, see the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

The items in a CSV file that is output are shown below.

Each item is output, separated by a comma.

(a) Stack name (Header name: StackName)

(b) Stack creation time (Header name: CreatedTime)

(c) Stack status (Header name: Status)

(d) Stack description (Header name: Description)

Use situation

This plugin can be used to obtain information about stacks managed in an AWS CloudFormation environment.

Prerequisites

For the latest support information about [Required product for the system], [Required products for the service template execution server], and [Prerequisite OS for the required products for the service template execution server], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required products for the service template execution server]

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

[Prerequisite OS for the required products for the service template execution server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note that this does not apply to environments in which Server Core is installed.

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') in the properties of this plugin.

(2) If the file specified in the AWS.stackInfoListOutputFileName property (the output file name of a stack information list) already exists, the existing file will be overwritten. Therefore, make sure that the specified file name is correct.

(3) Create any missing folders that are included in the path to the file to be created.

(4) For other notes, see the notes in the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Execution privilege

(1) Policies must be set up so that IAM users logging in to AWS can perform the following action:

- Obtaining stack information

Version

02.01.00

Plug-in tags

Gather VM information,AWS

Plug-in name displayed in the task log

awsOutputStackSpec

Return code

0: Normal

12: Error (User error) Invalid property

23: Error (Invalid environment) Required environment is invalid

27: Error (Check task logs for the nature of error)

41: Error (Error detected in plugin) Missing property (Error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.stackInfoListOutputFile Name	Stack information listing file name	Specify a file, as a full path name, where stack information is to be listed.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.2.5 Creating a snapshot

Function

This plug-in creates a snapshot as a backup for the volume managed in the Amazon EBS environment.

The prerequisite server for this plug-in is as follows:

- AWS operating server (execution target server)

AWS Tools for Windows PowerShell (AWS Tools below) is installed on this server. This product transfers plug-ins to this server for execution.

Scripts in this plug-in execute the following AWS Tools commandlet.

- New-EC2Snapshot -VolumeId "value-of-volume-ID(AWS.volumeId-property)"

[-Description "value-of-snapshot-explanation(AWS.snapshotDescription-property)"]

After executing the above commandlet, check that the status of the created snapshot changes to "completed".

For details of the AWS Tools commandlets, see the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Use situation

This plug-in can be used to create a snapshot as a backup for volumes managed in the Amazon EBS environment.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite products within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Running OS for prerequisite products on the execution target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

However, a Server Core installation environment is excluded.

Cautions

(1) Do not use a character string containing a double quotation mark (") or single quotation mark (') in a plug-in property.

(2) For other cautions, see the descriptions about cautions in the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Execution privilege

(1) A policy setting is required so that an IAM user who logs in to AWS can perform the following action:

- Creating a snapshot

Version

02.00.01

Plug-in tags

Snapshot VM,AWS

Plug-in name displayed in the task log

awsCreateSnapshot

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requi red
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.volumeId	Volume ID	Specify the volume ID.	--	Input	R
AWS.snapshotDescription	Explanation of the snapshot	Specify an explanation to be set for the snapshot you want to create.	--	Input	O
AWS.checkSnapshotCreation Count	Number of times to check whether snapshot creation is completed	Specify the number of times to check whether snapshot creation is completed. The maximum wait time is comprised of this value and the interval to check whether snapshot creation is completed.	--	Input	R
AWS.checkSnapshotCreation Interval	Interval to check whether snapshot creation is completed	Specify the interval (units: seconds) to check whether snapshot creation is completed.	--	Input	R
AWS.outSnapshotId	Snapshot ID	The ID of the created snapshot is stored here.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.6 Deleting a snapshot

Function

This plug-in deletes a snapshot managed in the Amazon EBS environment.

The prerequisite server for this plug-in is as follows:

- AWS operating server (execution target server)

AWS Tools for Windows PowerShell (AWS Tools below) is installed on this server. This product transfers plug-ins to this server for execution.

Scripts in this plug-in execute the following AWS Tools commandlet:

- Remove-EC2Snapshot -SnapshotId "value-of-snapshot-ID(AWS.snapshotId-property)"

-Force

After executing the above commandlet, check that the deleted snapshot is not included in the snapshot list.

For details of the AWS Tools commandlets, see the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Use situation

This plug-in can be used to delete a snapshot managed in the Amazon EBS environment.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite products within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Running OS for prerequisite products on the execution target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

However, a Server Core installation environment is excluded.

Cautions

(1) Do not use a character string containing a double quotation mark (") or single quotation mark (') in a plug-in property.

(2) For other cautions, see the descriptions about cautions in the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Execution privilege

(1) A policy setting is required so that an IAM user who logs in to AWS can perform the following action:

- Deleting a snapshot

Version

02.00.01

Plug-in tags

Delete VM Snapshot,AWS

Plug-in name displayed in the task log

awsDeleteSnapshot

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.snapshotId	Snapshot ID	Specify the ID of the snapshot to delete.	--	Input	R
AWS.checkSnapshotDeletion Count	Number of times to check whether snapshot deletion is completed	Specify the number of times to check whether snapshot deletion is completed. The maximum wait time is comprised of this value and the interval to check whether snapshot deletion is completed.	--	Input	R
AWS.checkSnapshotDeletion Interval	Interval to check whether deletion of the snapshot is completed	Specify the interval (units: seconds) to check whether deletion of the snapshot is completed.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.7 Acquiring a list of information about snapshots

Function

This plug-in outputs a list of snapshots managed in the Amazon EBS environment to the AWS operating server (execution target server) in CSV format.

The encoding format for output files is the default encoding for the AWS operating server (execution target server) system.

The prerequisite server for this plug-in is as follows:

- AWS operating server (execution target server)

AWS Tools for Windows PowerShell (AWS Tools below) is installed on this server. This product transfers plug-ins to this server for execution.

Scripts in this plug-in execute the following AWS Tools commandlet.

- Get-EC2Snapshot

For details of the AWS Tools commandlets, see the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

The following CSV file items are output. Items are delimited with a comma.

(a) Volume ID (header name: VolumeId)

(b) Snapshot start time (header name: StartTime)

(c) Snapshot ID (header name: SnapshotId)

(d) Snapshot state (header name: State)

(e) Snapshot description (header name: Description)

Use situation

This plug-in can be used to acquire information about a snapshot managed in the Amazon EBS environment.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite products within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Running OS for prerequisite products on the execution target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

However, a Server Core installation environment is excluded.

Cautions

(1) Do not use a character string containing a double quotation mark (") or single quotation mark (') in a plug-in property.

(2) For other cautions, see the descriptions about cautions in the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

(3) If a file is already specified for the file name (common.fileName-property), that file is overwritten. Therefore, make sure that the specified file name is correct.

(4) If no folder exists in the path of the file to be created, that folder is created.

Execution privilege

(1) A policy setting is required so that an IAM user who logs in to AWS can perform the following action:

- Referencing a snapshot

Version

02.00.00

Plug-in tags

Gather VM information,AWS

Plug-in name displayed in the task log

awsOutputSnapshotSpec

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
common.fileName	File name	Specify the file name of the file that outputs the snapshot list, by using a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.2.8 Uploading a file

Function

This plug-in uploads a file in the Amazon S3 environment.

The prerequisite server for this plug-in is as follows:

- AWS operating server (execution target server)

AWS Tools for Windows PowerShell (AWS Tools below) is installed on this server. This product transfers plug-ins to this server for execution.

Scripts in this plug-in execute the following AWS Tools commandlet:

Write-S3Object -BucketName "value-of-bucket-name(AWS.buketName-property)"

-Key "value-of-key-name(AWS.keyName-property)"

-File "value-of-upload-file-name(AWS.uploadFileName-property"

-ServerSideEncryption "None|AES256"

For details of the AWS Tools commandlets, see the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Use situation

This plug-in can be used to upload a file in the Amazon S3 environment.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite products within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Running OS for prerequisite products on the execution target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

However, a Server Core installation environment is excluded.

Cautions

(1) Do not use a character string containing a double quotation mark (") or single quotation mark (') in a plug-in property.

(2) For other cautions, see the descriptions about cautions in the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Execution privilege

(1) A policy setting is required so that an IAM user who logs in to AWS can perform the following action:

- Uploading a file

Version

02.00.00

Plug-in tags

File Operations,AWS

Plug-in name displayed in the task log

awsUploadFile

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.bucketName	Bucket name	Specify a bucket name.	--	Input	R
AWS.keyName	Key name	Specify a key name to be set for the file after the file is uploaded.	--	Input	R
AWS.uploadFileName	Upload file name	Specify a file name for the file to be uploaded by using a full path.	--	Input	R
AWS.useReducedRedundanc yStorage	Use of reduced redundancy storage	To use reduced redundancy storage for the file upload destination, specify "true".	--	Input	O
AWS.useServerSideEncryptio n	Use of server-side encryption	To use server-side encryption when uploading files, specify "true".	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.2.9 Downloading a file

Function

This plug-in downloads a file managed in the Amazon S3 environment to the AWS operating server (execution target server).

The prerequisite server for this plug-in is as follows:

- AWS operating server (execution target server)

AWS Tools for Windows PowerShell (AWS Tools below) is installed on this server. This product transfers plug-ins to this server for execution.

Scripts in this plug-in execute the following AWS Tools commandlet:

Read-S3Object -BucketName "value-of-bucket-name(AWS.buketName-property)"

-Key "value-of-key-name(AWS.keyName-property)"

-File "value-of-download-file-name(AWS.downloadFileName-property)"

For details of the AWS Tools commandlets, see the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Use situation

This plug-in can be used to download a file managed in the Amazon S3 environment.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite products within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Running OS for prerequisite products on the execution target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

However, a Server Core installation environment is excluded.

Cautions

(1) Do not use a character string containing a double quotation mark (") or single quotation mark (') in a plug-in property.

(2) For other cautions, see the descriptions about cautions in the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Execution privilege

(1) A policy setting is required so that an IAM user who logs in to AWS can perform the following action:

- Downloading a file

Version

02.00.00

Plug-in tags

File Operations,AWS

Plug-in name displayed in the task log

awsDownloadFile

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.bucketName	Bucket name	Specify a bucket name.	--	Input	R
AWS.keyName	Key name	Specify a key name for the file to download.	--	Input	R
AWS.downloadFileName	Download file name	Specify a file name of the file	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.10 Deleting a file

Function

This plug-in deletes a file managed in the Amazon S3 environment.

The prerequisite server for this plug-in is as follows:

- AWS operating server (execution target server)

AWS Tools for Windows PowerShell (AWS Tools below) is installed on this server. This product transfers plug-ins to this server for execution.

Scripts in this plug-in execute the following AWS Tools commandlet:

Remove-S3Object -BucketName "value-of-bucket-name(AWS.buketName-property)"

-Key "value-of-key-name(AWS.keyName-property)"

-Force

For details of the AWS Tools commandlets, see the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Use situation

This plug-in can be used to delete a file managed in the Amazon S3 environment.

Prerequisites

For the latest support status of the following items, see the Release notes: Prerequisite products within the system, prerequisite products on the execution target server, and running OS for prerequisite products on the execution target server.

Prerequisite product within the system:

- JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Running OS for prerequisite products on the execution target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

However, a Server Core installation environment is excluded.

Cautions

(1) Do not use a character string containing a double quotation mark (") or single quotation mark (') in a plug-in property.

(2) For other cautions, see the descriptions about cautions in the AWS document AWS Tools for Windows PowerShell Cmdlet Reference.

Execution privilege

(1) A policy setting is required so that an IAM user who logs in to AWS can perform the following action:

- Deleting a snapshot

Version

02.00.00

Plug-in tags

File Operations,AWS

Plug-in name displayed in the task log

awsDeleteFile

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.bucketName	Bucket name	Specify a bucket name.	--	Input	R
AWS.keyName	Key name	Specify a key name for the file to delete.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.11 Virtual server resources configuration

Function

Change the instance type because this plugin changes the resources (the number of CPUs, memory capacity, and storage) allocated to an instance in an Amazon EC2 environment.

This plugin assumes the following server:

- AWS control server (execution target server)

A server on which AWS Tools for Windows PowerShell (abbreviated hereafter to "AWS Tools") is installed. AWS Tools transfers the plugin to, and executes it on, this server.

- Instance

A standard virtual server, with a virtual host in an Amazon EC2 environment

The script within this plugin executes the following AWS Tools commandlets:

- Edit-EC2InstanceAttribute -InstanceId "Instance ID (AWS.instanceId property value)"

- InstanceType "Instance type (AWS.instanceType property value)"

- Force

After executing these commandlets, verify that the instance type has been changed.

For details about AWS Tools commandlets, see the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Use situation

This plugin can be used to change instance resources in an Amazon EC2 environment to an instance type that meets the needs of these resources.

Prerequisites

For the latest support information about [Required product for the system], [Required products for the service template execution server], [Prerequisite OS for the required products for the service template execution server], and [Required products for the service template execution system], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required products for the service template execution server]

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

[Prerequisite OS for the required products for the service template execution server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note that this does not apply to environments in which Server Core is installed.

[Required products for the service template execution system]

(1) Required OS for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

[Operating conditions for required products for the service template execution system]

(1) Instance conditions

The state of the instance to be changed must be "stopped".

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') in the properties of this plugin.

(2) For other notes, see the notes in the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Execution privilege

(1) Policies must be set up so that IAM users logging in to AWS can perform the following action:

- Changing instance attributes

Version

02.01.00

Plug-in tags

Modify VM,AWS

Plug-in name displayed in the task log

awsChangeVmResource

Return code

0: Normal

23: Error (Invalid environment) Required environment is invalid

27: Error (Check task logs for the nature of error)

41: Error (Error detected in plugin) Missing property (Error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.instanceId	Instance ID	Specify the ID of the instance.	--	Input	R
AWS.instanceType	Instance type	Specifies the instance type after a change	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.12 Shut down a virtual server

Function

This plugin can stop instances in an Amazon EC2 environment.

The required server is shown as follows:

- AWS control server (execution-target server)

This is a server on which AWS Tools for Windows PowerShell (hereinafter referred to as "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

The scripts in this plugin execute the following AWS Tools commandlets:

- Stop-EC2Instance -Instance instance-ID (the value of the AWS.instanceId property)

After executing the above commandlets, make sure that the status of the stopped instance is "stopped".

For details about the AWS Tools commandlets, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Use situation

Use this plugin to stop instances in an Amazon EC2 environment.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, supported OSs for the prerequisite products on the execution-target server, and prerequisite products on the execution-target system, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of this plugin.

(2) If you execute this plugin, data being edited by the instance is not saved.

(3) An instance will be stopped even if a user logs in to the instance.

(4) For additional remarks, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following actions:

- Stopping instances and obtaining instance statuses

Version

02.00.00

Plug-in tags

Control VM,AWS

Plug-in name displayed in the task log

awsShutdownVM

Return code

0: Normal

12: Error (mistake by user) Invalid property

23: Error (invalid environment) The environment requirements have not been met.

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.instanceId	Instance ID	Specify the ID of the instance.	--	Input	R
AWS.checkInstanceDisabled Count	Instance status (stopped) check count	Specify the number of times to check whether the instance has stopped. The maximum waiting time is determined by combining this count and the instance status (stopped) check interval.	--	Input	R
AWS.checkInstanceDisabledI nterval	Instance status (stopped) check interval	Specify the interval (in seconds) to check whether the instance has stopped.	--	Input	R
AWS.instanceState	Instance status	Stores the instance status.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.2.13 Start a virtual server

Function

This plugin can start instances in an Amazon EC2 environment.

The required server is shown as follows:

- AWS control server (execution-target server)

This is a server on which AWS Tools for Windows PowerShell (hereinafter referred to as "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

The scripts in this plugin execute the following AWS Tools commandlets:

- Start-EC2Instance -InstanceId instance-ID (the value of the AWS.instanceId property)

After executing the above commandlets, make sure that the status of the started instance is "running".

For details about the AWS Tools commandlets, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Use situation

Use this plugin to start instances in an Amazon EC2 environment.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, supported OSs for the prerequisite products on the execution-target server, and prerequisite products on the execution-target system, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of this plugin.

(2) For additional remarks, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following actions:

- Starting instances and obtaining instance statuses

Version

02.00.00

Plug-in tags

Control VM,AWS

Plug-in name displayed in the task log

awsPowerOnVM

Return code

0: Normal

12: Error (mistake by user) Invalid property

23: Error (invalid environment) The environment requirements have not been met.

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.instanceId	Instance ID	Specify the ID of the instance.	--	Input	R
AWS.checkInstanceEnabledC ount	Instance status (started) check count	Specify the number of times to check whether the instance has started. The maximum waiting time is determined by combining this count and the instance status (started) check interval.	--	Input	R
AWS.checkInstanceEnabledI nterval	Instance status (started) check interval	Specify the interval (in seconds) to check whether the instance has started.	--	Input	R
AWS.instanceState	Instance status	Stores the instance status.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.14 Create a virtual server

Function

This plugin can start instances from an AMI in an Amazon EC2 environment.

The required server is shown as follows:

- AWS control server (execution-target server)

This is a server where AWS Tools for Windows PowerShell (hereinafter referred to as "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

The scripts in this plugin execute the following AWS Tools commandlets:

(1) Starting an instance

- New-EC2Instance -ImageId AMI-ID (the value of the AWS.amiId property)

-InstanceType instance-type (the value of the AWS.instanceType property)

-AssociatePublicIp $false

-MinCount 1

-MaxCount 1

[-KeyName key-pair-name] (the value of the AWS.keyPairName property)

[-SecurityGroupId security-group-ID] (the value of the AWS.securityGroupId property)

[-SubnetId first-subnet-ID] (the value of the AWS.subnetId1 property)

[-PrivateIpAddress first-private-IP-address] (the value of the AWS.privateIpAddress1 property)

After executing the above commandlets, make sure that the status of the started instance is "running".

(2) Adding network interfaces to the started instance

This processing is performed only if a value is specified for the subnet ID for the second one (the AWS.subnetId2 property).

- New-EC2NetworkInterface -SubnetId second-subnet-ID] (the value of the AWS.subnetId2 property)

[-PrivateIpAddress second-private-IP-address] (the value of the AWS.privateIpAddress2 property)

[-Group security-group-ID] (the value of the AWS.securityGroupId property)

- Add-EC2NetworkInterface -InstanceId instance-ID-of-instance-started-by-New-EC2Instance-commandlet

- NetworkInterfaceId network-interface-ID-of-network-interface-created-by-New-EC2NetworkInterface-commandlet

- DeviceIndex 1

After executing the above commandlets, make sure that the status of the added network interface is "in-use".

For details about the AWS Tools commandlets, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Use situation

Use this plugin to start instances in an Amazon EC2 environment.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, supported OSs for the prerequisite products on the execution-target server, and prerequisite products on the execution-target system, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Conditions for using the prerequisite products in the execution-target system:

(1) Conditions for setting an Amazon EC2 environment

- The AMI used for starting instances must have been created.

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of this plugin.

(2) IP addresses in use or out of range cannot be used for the IP addresses below. If you make use of these, the task will abnormally end.

- Private IP address for the first one (the AWS.privateIpAddress1 property)

- Private IP address for the second one (the AWS.privateIpAddress2 property)

(3) For the security group ID (the AWS.securityGroupId property), specify only single-byte alphanumeric characters, hyphens (-), and commas (,). If you specify any other characters, the task will abnormally end.

(4) If this plugin abnormally ends with the return value of 1, the started instance will remain. If the plugin abnormally ends with the return value of 2, the created network interface will remain in addition to the started instance.

(5) For additional remarks, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following actions:

- Starting instances and obtaining instance statuses

- Creating and connecting network interfaces, along with obtaining interface statuses

Version

02.00.00

Plug-in tags

Add VM,AWS

Plug-in name displayed in the task log

awsCreateVM

Return code

0: Normal

1: Error (error detected after starting the instance) Network interface creation error

2: Error (error detected after starting the instance) Network interface connection error

12: Error (mistake by user) Invalid property

23: Error (invalid environment) The environment requirements have not been met.

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.amiId	AMI ID	Specify an AMI ID used for instance start.	--	Input	R
AWS.instanceType	Instance type	Specify an instance type used for instance start.	--	Input	R
AWS.keyPairName	Key pair name	Specify a key pair name used for the instance. If this property is omitted, no key pair name is set for the instance.	--	Input	O
AWS.securityGroupId	Security group ID	Specify the ID of the security group to which the instance is assigned. If this value is omitted, the instance is used for a default security group. To specify multiple security groups, separate their IDs by using a comma.	--	Input	O
AWS.subnetId1	Subnet ID 1	Specify the ID of the subnet that indicates the range of the first private IP address assigned to the instance. If this property is omitted, a default subnet is assigned.	--	Input	O
AWS.privateIpAddress1	Private IP address 1	Specify the first private IP address assigned to the instance. IPv6 address is not supported. If this property is omitted, an IP address within the range determined by the subnet corresponding to the specified subnet ID 1 is automatically assigned.	--	Input	O
AWS.subnetId2	Subnet ID 2	Specify the ID of the subnet that indicates the range of the second private IP address assigned to the instance. This property is required when the second IP address is set. If this property is omitted, the second IP address is not set.	--	Input	O
AWS.privateIpAddress2	Private IP address 2	Specify the second private IP address assigned to the instance (IPv4 only). This property takes effect when subnet ID 2 is specified. By default, an IP address within the range determined by the specified subnet ID 2 is assigned to the instance.	--	Input	O
AWS.checkInstanceEnabledCount	Instance status (started) check count	Specify the number of times to check whether the instance has started. The maximum waiting time is determined by this count and the instance status (started) check interval. This property is also used to check whether network interfaces have been added.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
AWS.checkInstanceEnabledInterval	Instance status (started) check interval	Specifies an interval in seconds for checking the completion of starting an instance. This property is also used to check the completion of adding network interfaces.	--	Input	R
AWS.instanceIdInheritance	Instance ID (for passing on to subsequent steps)	Stores the ID of the instance. This ID is used for passing on to subsequent steps.	--	Output	O
AWS.instanceIdOutput	Instance ID (for task output)	Stores the ID of the instance. This ID is used for outputting a task.	--	Output	O
AWS.instanceIPaddress	Instance IP address	Stores the instance IP address. If multiple IP addresses are set for the instance, the IP addresses are output in comma-separated format.	--	Output	O
AWS.networkInterfaceId	Network interface ID	If subnet ID 2 is specified, the ID of the network interface added to the instance is stored.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.2.15 Delete a virtual server

Function

This plugin can delete instances from an Amazon EC2 environment. The plugin can also delete all network interfaces connected to the instance.

The required server is shown as follows:

- AWS control server (execution-target server)

This is a server on which AWS Tools for Windows PowerShell (hereinafter referred to "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

The scripts in this plugin execute the following AWS Tools commandlets:

(1) Deleting an instance

- Stop-EC2Instance -Instance instance-ID (the value of the AWS.instanceId property)

-Terminate

-Force

After executing the above commandlets, make sure that the status of the deleted instance is "terminated".

(2) Deleting all network interfaces connected to the instance.

- Remove-EC2NetworkInterface -NetworkInterfaceId network-interface-ID-obtained-by-Get-EC2Instance-commandlet

-Force

After executing the above commandlets, make sure that the deleted network interfaces do not exist.

For details about the AWS Tools commandlets, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Use situation

Use this plugin to delete instances from an Amazon EC2 environment.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, supported OSs for the prerequisite products on the execution-target server, and prerequisite products on the execution-target system, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of this plugin.

(2) An instance will be deleted even if a user logs in to the instance.

(3) The deleted instance will be displayed on the console for a certain duration, and its status can be obtained. However, the instance can no longer be started.

(4) If this plugin abnormally ends with the return value of 1, the network interface that was added to the instance will remain.

(5) For additional remarks, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following actions:

- Deleting instances and obtaining instance statuses

- Deleting network interfaces

Version

02.00.01

Plug-in tags

Delete VM,AWS

Plug-in name displayed in the task log

awsDeleteVM

Return code

0: Normal

1: Error (error detected after deleting the instance) Network interface connection error

12: Error (mistake by user) Invalid property

23: Error (invalid environment) The environment requirements have not been met.

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
AWS.instanceId	Instance ID	Specify the ID of the instance.	--	Input	R
AWS.checkInstanceDeletion Count	Instance status (deleted) check count	Specify the number of times to check whether the instance has been deleted. The maximum waiting time is determined by this count and the instance status (deleted) check interval. This property is used to check whether network interfaces have been deleted.	--	Input	R
AWS.checkInstanceDeletionI nterval	Instance status (deleted) check interval	Specifies an interval in seconds for checking the completion of deleting an instance. This property is also used to check the completion of deleting network interfaces.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.2.16 Virtual server information list

Function

This plugin outputs an information list of instances managed in an Amazon EC2 environment to a CSV file on an AWS control server (execution target server).

The character encoding of the output file is the default encoding of the system on the AWS control server (execution target server).

This plugin assumes the following server:

- AWS control server (execution target server)

A server on which AWS Tools for Windows PowerShell (abbreviated hereafter to "AWS Tools") is installed. AWS Tools transfers the plugin to, and executes it on, this server.

- Instance

A standard virtual server, with a virtual host in an Amazon EC2 environment

The script within this plugin executes the following AWS Tools commandlet:

- Get-EC2Instance

For details about AWS Tools commandlets, see the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

The items in a CSV file that is output are shown below.

Each item is output, separated by a comma.

(a) VPC ID (Header name: VPCID)

(b) Instance ID (Header name: InstanceID)

(c) AMI ID (Header name: AMIID)

(d) Instance state (Header name: State)

(e) Instance type (Header name: InstanceType)

Use situation

This plugin can be used to obtain information about instances managed in an Amazon EC2 environment.

Prerequisites

For the latest support information about [Required product for the system], [Required products for the service template execution server], and [Prerequisite OS for the required products for the service template execution server], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-00 or later

[Required products for the service template execution server]

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

[Prerequisite OS for the required products for the service template execution server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note that this does not apply to environments in which Server Core is installed.

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') in the properties of this plugin.

(2) If the file specified in the AWS.vmInfoListOutputFileName property (the output file name of an instance information list) already exists, the existing file will be overwritten. Therefore, make sure that the specified file name is correct.

(3) Create any missing folders that are included in the path to the file to be created.

(4) For other notes, see the notes in the AWS document "AWS Tools for Windows PowerShell Cmdlet Reference".

Execution privilege

(1) Policies must be set up so that IAM users logging in to AWS can perform the following action:

- Obtaining instance information

Version

02.01.00

Plug-in tags

Gather VM information,AWS

Plug-in name displayed in the task log

awsOutputVmSpec

Return code

0: Normal

12: Error (User error) Invalid property

23: Error (Invalid environment) Required environment is invalid

27: Error (Check task logs for the nature of error)

41: Error (Error detected in plugin) Missing property (Error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.vmInfoListOutputFileN ame	Instance information listing file name	Specify a file, as a full path name, where instance information is to be listed.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.2.17 Obtain status of virtual server

Function

This plugin can obtain instance statuses in an Amazon EC2 environment.

The required server is shown as follows:

- AWS control server (execution-target server)

This is a server on which AWS Tools for Windows PowerShell (hereinafter referred to as "AWS Tools") is installed. This product can forward plugins to the server to be executed.

- Instance

This is a regular virtual server in an Amazon EC2 environment.

The scripts in this plugin execute the following AWS Tools commandlets:

- Get-EC2Instance -Instance instance-ID (the value of the AWS.instanceId property)

Based on the execution results of the above commandlets, obtain the value of the Instances.State.Name.Value property, and then save the value to the instance status (the AWS.instanceState property).

The values to be stored in this property are listed as follows:

Value Meaning

pending Being processed to start

running Running

shutting-down Being processed to shut down

stopped Stopped

stopping Being processed to stop

terminated Terminated

For details about the AWS Tools commandlets, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Use situation

Use this plugin to obtain instance statuses in an Amazon EC2 environment.

Prerequisites

For the most recent information about the prerequisite product in the system, prerequisite products on the execution-target server, supported OSs for the prerequisite products on the execution-target server, and prerequisite products on the execution-target system, see the Release Notes.

Prerequisite product in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

- AWS Tools for Windows PowerShell

- Microsoft .Net Framework 3.5 or later

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: A Server Core installation environment is out of scope.

Prerequisite products in the execution-target system:

(1) Prerequisite OSs for an instance

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

Cautions

(1) Do not specify character strings that include a double quotation mark (") or a single quotation mark (') for the properties of this plugin.

(2) For additional remarks, refer to "AWS Tools for Windows PowerShell Cmdlet Reference" in the AWS document.

Execution privilege

(1) The policy must be set to allow an IAM user to log in to AWS to perform the following action:

- Obtaining instance statuses

Version

02.00.00

Plug-in tags

Gather VM information,AWS

Plug-in name displayed in the task log

awsGetVMState

Return code

0: Normal

23: Error (invalid environment) The environment requirements have not been met.

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
AWS.accessKeyId	Access key ID	Specify the access key ID for connecting to AWS.	--	Input	R
AWS.secretAccessKey	Secret access key	Specify the secret access key for connecting to AWS.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
AWS.region	Region	Specify an AWS region that is a connection destination.	--	Input	R
AWS.instanceId	Instance ID	Specify the ID of the instance.	--	Input	R
AWS.instanceState	Instance status	Stores the instance status.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.3 HCS-related Plug-ins

5.3.1 Create DP volume

Function

Creates a specified virtual volume (DP volume) by using Hitachi Device Manager Software (hereafter called Device Manager).

This plugin assumes the following servers:

• HDvM server

Server on which Device Manager is installed.

• HDvM CLI server (Execution target server)

Server on which Device Manager CLI is installed. The plugin is sent to this server by JP1/AO and then is executed.

The property to be used for specifying the family name of storage system varies depending on the type of storage system to be operated. For the following storage systems, specify the family name of the storage system for the family name of the storage system (custom option) (the property HDvM.familyText):

- For Hitachi Virtual Storage Platform G1500, specify VSP G1500.

- For Hitachi Virtual Storage Platform F1500, specify VSP F1500.

- For Hitachi Virtual Storage Platform G200/G400/G600/G800, specify VSP Gx00.

- For Hitachi Virtual Storage Platform F400/F600/F800, specify VSP Fx00.

For storage systems other than the above, specify the family name of the storage system for the family name of the storage system (the property HDvM.family).

Use situation

When you add a virtual server and virtual disk, you use this plugin to create a DP volume at the data storage destination.

You can achieve this processing by combining this plugin with the following plugins:

• storageAddHostgroupLU

• vsphereRecognizeLU

• vsphereGetCanonicalName

• vsphereCreateDatastore

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target system]

(1) The following product has been set up on the HDvM server.

• Hitachi Device Manager Software 07-00 or later

(2) As the storage system within the system, either of the following has been set up.

• Hitachi Adaptable Modular Storage 2100/2300/2500/2010

• Hitachi Unified Storage 110/130/150

• Hitachi Unified Storage VM

• Hitachi Universal Storage Platform V/VM

• Hitachi Virtual Storage Platform

• Hitachi Virtual Storage Platform G1000/G1500/F1500

• Hitachi Virtual Storage Platform G200/G400/G600/G800

• Hitachi Virtual Storage Platform F400/F600/F800

[Usage conditions for required products in the execution target system]

(1) The storage system is managed by Hitachi Device Manager Software.

(2) A DP pool has already been created in the storage system.

[Required products on the execution target server]

• Hitachi Device Manager Software CLI 07-00 or later

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Cautions

(1) Do not specify an unsupported storage system for the HDvM.familyText property.

(2) If the user ID set in the authentication information of Connection Destination definitions setting is not the built-in Administrator, one of the following conditions must be satisfied.

- The UAC feature in Windows is completely disabled.

- An RDP session has been established for the user ID set in the authentication information of the Connection Destination definitions setting on the target of connection destinations.

Execution privilege

(1) Administrators permissions

(2) The user who will be connecting to Device Manager must have the following permissions:

User with All Resources assigned as the resource group, and Modify permission granted

Version

02.00.00

Plug-in tags

Add New Storage,Device Manager

Plug-in name displayed in the task log

storageCreateLU2

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

42: Error (error detected in plugin) Internal error (error detected in the plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
HDvM.cliInstallPath	HDvM CLI installation path	Specify the HDvM CLI installation path.	--	Input	R
HDvM.httpType	Protocol for communication with HDvM	Specify either HTTP or HTTPS as the protocol to be used for communication with HDvM.	http	Input	R
HDvM.hostName	Host name of the HDvM server	Specify the host name or IP address of the HDvM server. IPv6 addresses are not supported.	--	Input	R
HDvM.portNumber	Port number for connecting to HDvM	Specify the port number for connecting to HDvM.	2001	Input	R
HDvM.userName	User name for connecting to HDvM	Specify the user name for connecting to HDvM.	System	Input	R
HDvM.password	Password for connecting to HDvM	Specify the password for connecting to HDvM.	manager	Input	R
HDvM.serialNumber	Serial number of the storage system	Specify the serial number of the target storage system.	--	Input	R
HDvM.family	Storage system's family name	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM or VSP G1000.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
HDvM.creationOption	Forcible option (for AMS and HUS)	Specify "force" if you want a DP volume to be created even when the DP pool usage exceeds the warning-level threshold.	--	Input	O
HDvM.groupOption	Parity group option (for USP only)	Specify "exist" if you add a DP volume to an existing parity group. Note that if you specify this property, you must also specify the HDvM.arrayGroupName property.	--	Input	O
HDvM.arrayGroupName	Virtual parity group name (for USP only)	Specify the virtual parity group name in Xn-1 format (n: number).	--	Input	O
HDvM.capacity	Size of a DP volume to be created	Specify (in GB) the capacity of the DP volume to be created.	--	Input	R
HDvM.numOfLUs	Number of LUs	Specify the number of LUs to be created.	1	Input	O
HDvM.devNumber	Device number for the DP volume	Specify a decimal number as the device number of the DP volume.	--	Input	O
HDvM.clprNumber	CLPR number of the LDEV (for USP, AMS and HUS)	Specify the CLPR number of the LDEV. The default is 0, but if a value has been set for the HDvM.poolId property, the CLPR number of the DP pool is used as the default.	--	Input	O
HDvM.poolId	DP pool ID	Specify the pool ID of the DP pool to be associated with the DP volume to be created. This specification is required for VSP, AMS, HUS, HUS VM or VSP G1000.	--	Input	O
HDvM.threshold	DP volume usage threshold (for USP only)	Specify a multiple of 5 (in the range from 5 to 300) as the DP volume usage warning threshold (%).	--	Input	O
HDvM.familyText	Storage system family name (custom option)	Specifies the family name of the storage system that is not on the selection list of the HDvM.family property. If you specify this property, the value specified in the HDvM.family property is ignored.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.3.2 Delete DP volume

Function

Deletes a specified virtual volume (DP volume) by using Hitachi Device Manager Software (hereafter called Device Manager).

This plugin assumes the following servers:

• HDvM server

Server on which Device Manager is installed.

• HDvM CLI server (Execution target server)

Server on which Device Manager CLI is installed. The plugin is sent to this server by JP1/AO and then is executed.

Only in the case of a RAID storage system, the volume is formatted (normal formatting) before it is deleted.

The property to be used for specifying the family name of storage system varies depending on the type of storage system to be operated. For the following storage systems, specify the family name of the storage system for the family name of the storage system (custom option) (the property HDvM.familyText):

- For Hitachi Virtual Storage Platform G1500, specify VSP G1500.

- For Hitachi Virtual Storage Platform F1500, specify VSP F1500.

- For Hitachi Virtual Storage Platform G200/G400/G600/G800, specify VSP Gx00.

- For Hitachi Virtual Storage Platform F400/F600/F800, specify VSP Fx00.

For storage systems other than the above, specify the family name of the storage system for the family name of the storage system (the property HDvM.family).

Use situation

When you have deleted a virtual server, you use this plugin to delete the LU that stores the virtual server data. The related plugins are as follows:

• storageDeleteHostgroupLU

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target system]

(1) The following product has been set up on the HDvM server.

• Hitachi Device Manager Software 07-00 or later

(2) As the storage system within the system, either of the following has been set up.

- Hitachi Adaptable Modular Storage 2100/2300/2500/2010

- Hitachi Unified Storage 110/130/150

- Hitachi Unified Storage VM

- Hitachi Universal Storage Platform V/VM

- Hitachi Virtual Storage Platform

- Hitachi Virtual Storage Platform G1000/G1500/F1500

- Hitachi Virtual Storage Platform G200/G400/G600/G800

- Hitachi Virtual Storage Platform F400/F600/F800

[Usage conditions for required products in the execution target system]

(1) The storage system is managed by Hitachi Device Manager Software.

(2) Operation target LUs and host groups have been created in the storage system.

[Required products on the execution target server]

- Hitachi Device Manager Software CLI 07-00 or later

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Cautions

(1) Do not specify an unsupported storage system for the HDvM.familyText property.

Execution privilege

(1) The user who will be connecting to Device Manager must have the following permissions:

User with All Resources assigned as the resource group, and Modify permission granted

Version

02.00.00

Plug-in tags

Delete Storage,Device Manager

Plug-in name displayed in the task log

storageDeleteLU2

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
HDvM.cliInstallPath	HDvM CLI installation path	Specify the HDvM CLI installation path.	--	Input	R
HDvM.httpType	Protocol for communication with HDvM	Specify either HTTP or HTTPS as the protocol to be used for communication with HDvM.	http	Input	R
HDvM.hostName	Host name of the HDvM server	Specify the host name or IP address of the HDvM server. IPv6 addresses are not supported.	--	Input	R
HDvM.portNumber	Port number for connecting to HDvM	Specify the port number for connecting to HDvM.	2001	Input	R
HDvM.userName	User name for connecting to HDvM	Specify the user name for connecting to HDvM.	System	Input	R
HDvM.password	Password for connecting to HDvM	Specify the password for connecting to HDvM.	manager	Input	R
HDvM.serialNumber	Serial number of the storage system	Specify the serial number of the target storage system.	--	Input	R
HDvM.family	Storage system's family name	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM or VSP G1000.	--	Input	R
HDvM.deletionOption	DP volume deletion method	Specify "force" to delete the DP volume even if it is still linked to the DP pool.	--	Input	O
HDvM.arrayGroupName	Virtual parity group name (for USP only)	Specify the virtual parity group name in Xn-1 format (n: number).	--	Input	O
HDvM.devNumber	Device number for the DP volume	Specify a decimal number as the device number of the DP volume.	--	Input	O
HDvM.familyText	Storage system family name (custom option)	Specifies the family name of the storage system that is not on the selection list of the HDvM.family property. If you specify this property, the value specified in the HDvM.family property is ignored.	--	Input	O
HDvM.luFormatOption	LU format requirement (custom option)	Specifies whether to format the LU before deleting it. Select "yes" to format it or "no" to not format it. This property is enabled only if a family name that cannot be specified by the HDvM.family property in the HDvM.familyText property is specified.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.3.3 Check HDvM connectivity

Function

Verifies that a connection can be established from an execution target server to Hitachi Device Manager Software (hereafter called Device Manager).

This module assumes the following servers:

• HDvM server

This is the server on which Device Manager is installed.

• HDvM CLI server (Execution target server)

This is the server on which Device Manager CLI is installed. The module is transferred from JP1/AO to this server and then is executed.

Use situation

When operations are to be performed on Device Manager, you first use this module to check the connection status between Device Manager and the execution target server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target system]

(1) The following product has been set up on the HDvM server.

• Hitachi Device Manager Software 07-00 or later

(2) As the storage system within the system, either of the following has been set up.

• Hitachi Adaptable Modular Storage 2100/2300/2500/2010

• Hitachi Unified Storage 110/130/150

• Hitachi Unified Storage VM

• Hitachi Universal Storage Platform V/VM

• Hitachi Virtual Storage Platform

• Hitachi Virtual Storage Platform G1000/G1500/F1500

• Hitachi Virtual Storage Platform G200/G400/G600/G800

• Hitachi Virtual Storage Platform F400/F600/F800

[Usage conditions for required products on the execution target server]

(1) The storage system is managed by Hitachi Device Manager Software.

(2) A DP pool has already been created in the storage system.

[Required products on the execution target server]

• Hitachi Device Manager Software CLI 07-00 or later

[Prerequisite product OS running on the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to Device Manager must belong to a user group with the following permissions:

User group to which All Resources is assigned as the resource group and that has Admin or Modify permissions

Version

02.00.00

Plug-in tags

Gather Device Manager information,Device Manager

Plug-in name displayed in the task log

hdvmConnectChallenge

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the module script)

27: Error (check task logs for the nature of error)

41: Error (error detected in module) Missing property (error detected in module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
HDvM.cliInstallPath	HDvM CLI installation path	Specify the HDvM CLI installation path.	--	Input	R
HDvM.httpType	Protocol for communication with HDvM	Specify which protocol, http or https, to use to connect to the HDvM server.	http	Input	R
HDvM.hostName	Host name of the HDvM server	Specify the host name or IP address of the HDvM server. An IPv6 address cannot be specified.	--	Input	R
HDvM.portNumber	Port number for connecting to HDvM	Specify the port number for connecting to the HDvM server.	2001	Input	R
HDvM.userName	ID of the user who is connecting to HDvM	Specify the ID of the user who is connecting to the HDvM server.	System	Input	R
HDvM.password	Password for connecting to HDvM	Specify the password for connecting to the HDvM server.	manager	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.connectHDvMResult	HDvM connectivity check result	Stores the result of determining whether a connection to the HDvM server can be established.	--	Output	O

5.3.4 Check LU creation

Function

Verifies that a specified LU can be created by using Hitachi Device Manager Software (hereafter called Device Manager).

This module assumes the following servers:

• HDvM server

This is the server on which Device Manager is installed.

• HDvM CLI server (Execution target server)

This is the server on which Device Manager CLI is installed. The module is transferred from JP1/AO to this server and then is executed.

Checks the following:

• Whether a storage system with a specified serial number and family name has been registered in HDvM

If the storage system is not registered in HDvM, the result is false.

• Whether the device number of a specified DP volume is in use in the storage system

If the device number is already in use in the storage system, the result is false.

• Whether a DP pool with the ID of a specified DP pool and the ID of a specified host group has already been registered in the storage system

The module checks if a specified LU number is already in use in the storage system.

If either the DP pool ID or the host group ID does not exist or the LU number is already in use, the result is false.

• Whether a DP pool in a specified storage system has enough free space to create the DP volume

If the size of the DP volume is greater than the free space available in the DP pool, the result is false.

The property to be used for specifying the family name of storage system varies depending on the type of storage system to be operated. For the following storage systems, specify the family name of the storage system for the family name of the storage system (custom option) (the property HDvM.familyText):

- For Hitachi Virtual Storage Platform G1500, specify VSP G1500.

- For Hitachi Virtual Storage Platform F1500, specify VSP F1500.

- For Hitachi Virtual Storage Platform G200/G400/G600/G800, specify VSP Gx00.

- For Hitachi Virtual Storage Platform F400/F600/F800, specify VSP Fx00.

For storage systems other than the above, specify the family name of the storage system for the family name of the storage system (the property HDvM.family).

Use situation

When you intend to add an LU, you first use this module to check whether the LU can be created in the data storage DP pool.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target system]

(1) The following product has been set up on the HDvM server.

• Hitachi Device Manager Software 07-00 or later

(2) As the storage system within the system, either of the following has been set up.

• Hitachi Adaptable Modular Storage 2100/2300/2500/2010

• Hitachi Unified Storage 110/130/150

• Hitachi Unified Storage VM

• Hitachi Universal Storage Platform V/VM

• Hitachi Virtual Storage Platform

• Hitachi Virtual Storage Platform G1000/G1500/F1500

• Hitachi Virtual Storage Platform G200/G400/G600/G800

• Hitachi Virtual Storage Platform F400/F600/F800

[Usage conditions for required products on the execution target server]

(1) The storage system is managed by Hitachi Device Manager Software.

(2) A DP pool has already been created in the storage system.

[Required products on the execution target server]

• Hitachi Device Manager Software CLI 07-00 or later

[Prerequisite product OS running on the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Cautions

(1) Do not specify an unsupported storage system for the the Storage system family name (custom option) (the property HDvM.familyText).

(2) If the user ID set in the authentication information of Connection Destination definitions setting is not the built-in Administrator, one of the following conditions must be satisfied.

- The UAC feature in Windows is completely disabled.

- An RDP session has been established for the user ID set in the authentication information of the Connection Destination definitions setting on the target of connection destinations.

Execution privilege

(1) Administrators permissions

(2) The user who will be connecting to Device Manager must belong to a user group with the following permissions:

User group to which All Resources is assigned as the resource group and that has Admin or Modify permissions

Version

02.00.00

Plug-in tags

Gather Storage information,Device Manager

Plug-in name displayed in the task log

hdvmCheckStorageSpec

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the module script)

27: Error (check task logs for the nature of error)

41: Error (error detected in module) Missing property (error detected in module script)

42: Error (error detected in module) Internal error (error detected in the module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
HDvM.cliInstallPath	HDvM CLI installation path	Specify the HDvM CLI installation path.	--	Input	R
HDvM.httpType	Protocol for communication with HDvM	Specify which protocol, http or https, to use to connect to the HDvM server.	http	Input	R
HDvM.hostName	Host name of the HDvM server	Specify the host name or IP address of the HDvM server. An IPv6 address cannot be specified.	--	Input	R
HDvM.portNumber	Port number for connecting to HDvM	Specify the port number for connecting to the HDvM server.	2001	Input	R
HDvM.userName	ID of the user who is connecting to HDvM	Specify the ID of the user who is connecting to the HDvM server.	System	Input	R
HDvM.password	Password for connecting to HDvM	Specify the password for connecting to the HDvM server.	manager	Input	R
HDvM.serialNumber	Serial number of the storage system	Specify the serial number of the storage system to be checked.	--	Input	R
HDvM.family	Storage system's family name	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM or VSP G1000.	--	Input	R
HDvM.devNumber	Device number of the DP volume (LU)	Specify the device number in decimal of the DP volume before determining whether it can be used.	--	Input	R
HDvM.pathPortName	Port name of the path	Specify the port name of the path to the DP volume (LU).	--	Input	R
HDvM.lun	LU Number (LUN)	Specify the LU Number (LUN).	--	Input	R
HDvM.poolId	DP pool ID	Specify the pool ID of the DP pool before determining whether the DP volume (LU) can be created there.	--	Input	R
HDvM.capacity	Space on the DP volume (LU) (GB)	Specify the space in gigabytes of the DP volume (LU) before determining whether it can be created.	1	Input	R
HDvM.numOfLUs	Number of LUs	Specify the number of LUs to be created.	1	Input	O

Property key	Property name	Description	Default value	I/O type	Required
HDvM.domainId	Host group ID	Specify the ID of the host group in decimal or hexadecimal before determining whether the DP volume (LU) can be added there. In the case of hexadecimal, the prefix "0x" must be used.	--	Input	R
HDvM.familyText	Storage system family name (custom option)	Specifies the family name of the storage system that is not on the selection list of the HDvM.family property. If you specify this property, the value specified in the HDvM.family property is ignored.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.checkStorageSpecResult	LU creation check result	Stores the result of determining whether the DP volume (LU) can be created.	--	Output	O

5.3.5 Get storage information list

Function

Outputs to a CSV file a listing of the DP pool information managed by Hitachi Device Manager Software (hereafter called Device Manager).

You can specify a serial number in order to target only the storage managed by Device Manager that has the matching serial number.

This module assumes the following servers:

• HDvM server

This is the server on which Device Manager is installed.

• HDvM CLI server (Execution target server)

This is the server on which Device Manager CLI is installed. The module is transferred from JP1/AO to this server and then is executed.

Use situation

This module enables you to output to a CSV file information about the data storage DP pool that is specified when you add an LU.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target system]

(1) The following product has been set up on the HDvM server.

• Hitachi Device Manager Software 07-00 or later

(2) As the storage system within the system, either of the following has been set up.

• Hitachi Adaptable Modular Storage 2100/2300/2500/2010

• Hitachi Unified Storage 110/130/150

• Hitachi Unified Storage VM

• Hitachi Universal Storage Platform V/VM

• Hitachi Virtual Storage Platform

• Hitachi Virtual Storage Platform G1000/G1500/F1500

• Hitachi Virtual Storage Platform G200/G400/G600/G800

• Hitachi Virtual Storage Platform F400/F600/F800

[Usage conditions for required products on the execution target server]

(1) The storage system is managed by Hitachi Device Manager Software.

(2) A DP pool has already been created in the storage system.

[Required products on the execution target server]

• Hitachi Device Manager Software CLI 07-00 or later

[Prerequisite product OS running on the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to Device Manager must belong to a user group with the following permissions:

User group to which All Resources is assigned as the resource group and that has Admin or Modify permissions

Version

02.00.00

Plug-in tags

Gather Storage information,Device Manager

Plug-in name displayed in the task log

hdvmOutStorageSpec

Return code

0: Normal

12: Error (user error) Invalid property

21: Error (invalid environment) Command cannot be found (error detected in the module script)

27: Error (check task logs for the nature of error)

28: Error (no information collected) There is no DP pool

41: Error (error detected in module) Missing property (error detected in module script)

42: Error (error detected in module) Internal error (error detected in the module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
HDvM.cliInstallPath	HDvM CLI installation path	Specify the HDvM CLI installation path.	--	Input	R
HDvM.httpType	Protocol for communication with HDvM	Specify which protocol, http or https, to use to connect to the HDvM server.	http	Input	R
HDvM.hostName	Host name of the HDvM server	Specify the host name or IP address of the HDvM server. An IPv6 address cannot be specified.	--	Input	R
HDvM.portNumber	Port number for connecting to HDvM	Specify the port number for connecting to the HDvM server.	2001	Input	R
HDvM.userName	ID of the user who is connecting to HDvM	Specify the ID of the user who is connecting to the HDvM server.	System	Input	R
HDvM.password	Password for connecting to HDvM	Specify the password for connecting to the HDvM server.	manager	Input	R
HDvM.serialNumber	Serial number of the storage system	Specify the serial number of the storage system to be retrieved from.	--	Input	O
common.fileName	File name	Specify the file name.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.3.6 Delete LU from host group

Function

Deletes a specified LU from a specified host group by using Hitachi Device Manager Software (hereafter called Device Manager).

This plugin assumes the following servers:

• HDvM server

Server on which Device Manager is installed.

• HDvM CLI server (Execution target server)

Server on which Device Manager CLI is installed. The plugin is sent to this server by JP1/AO and then is executed.

The property to be used for specifying the family name of storage system varies depending on the type of storage system to be operated. For the following storage systems, specify the family name of the storage system for the family name of the storage system (custom option) (the property HDvM.familyText):

- For Hitachi Virtual Storage Platform G1500, specify VSP G1500.

- For Hitachi Virtual Storage Platform F1500, specify VSP F1500.

- For Hitachi Virtual Storage Platform G200/G400/G600/G800, specify VSP Gx00.

- For Hitachi Virtual Storage Platform F400/F600/F800, specify VSP Fx00.

For storage systems other than the above, specify the family name of the storage system for the family name of the storage system (the property HDvM.family).

Use situation

When you have deleted a virtual server, you use this plugin to delete the LU that stores the virtual server data from its host group.

The related plugins are as follows:

• storageDeleteLU2

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target system]

(1) The following product has been set up on the HDvM server.

• Hitachi Device Manager Software 07-00 or later

(2) As the storage system within the system, either of the following has been set up.

- Hitachi Adaptable Modular Storage 2100/2300/2500/2010

- Hitachi Unified Storage 110/130/150

- Hitachi Unified Storage VM

- Hitachi Universal Storage Platform V/VM

- Hitachi Virtual Storage Platform

- Hitachi Virtual Storage Platform G1000/G1500/F1500

- Hitachi Virtual Storage Platform G200/G400/G600/G800

- Hitachi Virtual Storage Platform F400/F600/F800

[Usage conditions for required products in the execution target system]

(1) The storage system is managed by Hitachi Device Manager Software.

(2) Operation target LUs and host groups have been created in the storage system.

[Required products on the execution target server]

- Hitachi Device Manager Software CLI 07-00 or later

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Cautions

(1) Do not specify an unsupported storage system for the HDvM.familyText property.

Execution privilege

(1) The user who will be connecting to Device Manager must have the following permissions:

User with the Modify or Admin role assigned

Version

02.00.00

Plug-in tags

Delete Storage,Device Manager

Plug-in name displayed in the task log

storageDeleteHostgroupLU

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
HDvM.cliInstallPath	HDvM CLI installation path	Specify the HDvM CLI installation path.	--	Input	R
HDvM.httpType	Protocol for communication with HDvM	Specify either HTTP or HTTPS as the protocol to be used for communication with HDvM.	http	Input	R
HDvM.hostName	Host name of the HDvM server	Specify the host name or IP address of the HDvM server. IPv6 addresses are not supported.	--	Input	R
HDvM.portNumber	Port number for connecting to HDvM	Specify the port number for connecting to HDvM.	2001	Input	R
HDvM.userName	User name for connecting to HDvM	Specify the user name for connecting to HDvM.	System	Input	R
HDvM.password	Password for connecting to HDvM	Specify the password for connecting to HDvM.	manager	Input	R
HDvM.serialNumber	Serial number of the storage system	Specify the serial number of the target storage system.	--	Input	R
HDvM.family	Storage system's family name	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM or VSP G1000.	--	Input	R
HDvM.pathPortNumber	Number of the port for connecting to the DP volume	Specify the number of the port for connecting to the DP volume. Note that if you specify this parameter, you must specify either the HDvM.pathPortNumber or HDvM.pathPortName parameter.	--	Input	O
HDvM.pathPortName	Name of the port for connecting to the DP volume	Specify the name of the port for connecting to the DP volume. Note that if you specify this parameter, you must specify either the HDvM.pathPortNumber or HDvM.pathPortName parameter.	--	Input	O
HDvM.domainId	ID of the host group where the DP volume is registered	Specify the ID of the host group of the DP volume to be deleted in decimal or hexadecimal. In the case of hexadecimal, the prefix "0x" must be used. Cannot be specified at the same time as HDvM.domainNickname.	--	Input	O
HDvM.domainNickname	Nickname of the domain to which the DP volume is registered	Specify the nickname of the host group from which to remove the DP volume. Cannot be specified at the same time as HDvM.domainId.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
HDvM.devNumber	Device number for the DP volume	Specify a decimal number as the device number of the DP volume.	--	Input	R
HDvM.deletionOption	DP volume deletion method	Specify "lusekeep" only when you do not want to delete LUSE volumes.	--	Input	O
HDvM.familyText	Storage system family name (custom option)	Specifies the family name of the storage system that is not on the selection list of the HDvM.family property. If you specify this property, the value specified in the HDvM.family property is ignored.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.3.7 Register LU in host group

Function

Registers a specified LU into a specified host group by using Hitachi Device Manager Software (hereafter called Device Manager).

This plugin assumes the following servers:

• HDvM server

Server on which Device Manager is installed.

• HDvM CLI server (Execution target server)

Server on which Device Manager CLI is installed. The plugin is sent to this server by JP1/AO and then is executed.

The property to be used for specifying the family name of storage system varies depending on the type of storage system to be operated. For the following storage systems, specify the family name of the storage system for the family name of the storage system (custom option) (the property HDvM.familyText):

- For Hitachi Virtual Storage Platform G1500, specify VSP G1500.

- For Hitachi Virtual Storage Platform F1500, specify VSP F1500.

- For Hitachi Virtual Storage Platform G200/G400/G600/G800, specify VSP Gx00.

- For Hitachi Virtual Storage Platform F400/F600/F800, specify VSP Fx00.

For storage systems other than the above, specify the family name of the storage system for the family name of the storage system (the property HDvM.family).

Use situation

When you add a virtual server, you use this plugin to register into a host group an LU created for storing the virtual server data.

The related plugins are as follows:

• storageCreateLU2

• vsphereRecognizeLU

• vsphereGetCanonicalName

• vsphereCreateDatastore

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target system]

(1) The following product has been set up on the HDvM server.

• Hitachi Device Manager Software 07-00 or later

(2) As the storage system within the system, either of the following has been set up.

• Hitachi Adaptable Modular Storage 2100/2300/2500/2010

• Hitachi Unified Storage 110/130/150

• Hitachi Unified Storage VM

• Hitachi Universal Storage Platform V/VM

• Hitachi Virtual Storage Platform

• Hitachi Virtual Storage Platform G1000/G1500/F1500

• Hitachi Virtual Storage Platform G200/G400/G600/G800

• Hitachi Virtual Storage Platform F400/F600/F800

[Usage conditions for required products in the execution target system]

(1) The storage system is managed by Hitachi Device Manager Software.

(2) Operation target LUs and host groups have been created in the storage system.

[Required products on the execution target server]

• Hitachi Device Manager Software CLI 07-00 or later

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Cautions

(1) Do not specify an unsupported storage system for the HDvM.familyText property.

Execution privilege

(1) The user who will be connecting to Device Manager must have the following permissions:

User with the Modify or Admin role assigned

Version

02.00.00

Plug-in tags

Add New Storage,Device Manager

Plug-in name displayed in the task log

storageAddHostgroupLU

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
HDvM.cliInstallPath	HDvM CLI installation path	Specify the HDvM CLI installation path.	--	Input	R
HDvM.httpType	Protocol for communication with HDvM	Specify either HTTP or HTTPS as the protocol to be used for communication with HDvM.	http	Input	R
HDvM.hostName	Host name of the HDvM server	Specify the host name or IP address of the HDvM server. IPv6 addresses are not supported.	--	Input	R
HDvM.portNumber	Port number for connecting to HDvM	Specify the port number for connecting to HDvM.	2001	Input	R
HDvM.userName	User name for connecting to HDvM	Specify the user name for connecting to HDvM.	System	Input	R

Property key	Property name	Description	Default value	I/O type	Required
HDvM.password	Password for connecting to HDvM	Specify the password for connecting to HDvM.	manager	Input	R
HDvM.serialNumber	Serial number of the storage system	Specify the serial number of the target storage system.	--	Input	R
HDvM.family	Storage system's family name	Specify the family name of the storage system. You can specify AMS, USP_V, USP_VM, VSP, HUS, HUS VM or VSP G1000.	--	Input	R
HDvM.pathName	Path name of the DP volume	Specify the path name of the DP volume.	--	Input	O
HDvM.pathPortNumber	Number of the port for connecting to the DP volume	Specify the number of the port for connecting to the DP volume. Note that if you specify this parameter, you must specify either the HDvM.pathPortNumber or HDvM.pathPortName parameter.	--	Input	O
HDvM.pathPortName	Name of the port for connecting to the DP volume	Specify the name of the port for connecting to the DP volume. Note that if you specify this parameter, you must specify either the HDvM.pathPortNumber or HDvM.pathPortName parameter.	--	Input	O
HDvM.domainId	ID of the host group to add DP volumes to	Specify a decimal or hexadecimal number as the ID of the host group to which you want to add a DP volume. If you specify a hexadecimal number, prefix "0x" to the number. Note that you cannot specify both this parameter and the HDvM.domainNickname.	--	Input	O
HDvM.domainNickname	Nickname of the domain to add DP volumes to	Specify the nickname of the host group to which you want to add a DP volume. Note that you cannot specify both this parameter and the HDvM.domainId parameter.	--	Input	O
HDvM.scsiId	SCSI ID	Specify 15 for a fibre channel.	--	Input	O
HDvM.lun	LU number (LUN)	Specify the LU number (LUN).	--	Input	R
HDvM.devNumber	Device number for the DP volume	Specify the device number of the DP volume in decimal. Either HDvM.devNumber or HDvM.luseDevNums must be specified.	--	Input	O
HDvM.luseDevNums	List of LUSE device numbers	Specify a list of LDEV numbers in decimal to create LUSE volumes at those paths. If there is more than one, separate them with commas. Either HDvM.devNumber or HDvM.luseDevNums must be specified.	--	Input	O
HDvM.familyText	Storage system family name (custom option)	Specifies the family name of the storage system that is not on the selection list of the HDvM.family	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
HDvM.familyText	Storage system family name (custom option)	property. If you specify this property, the value specified in the HDvM.family property is ignored.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.4 Hyper-V 2008-related Plug-ins

5.4.1 Create a response file

Function

This component creates a response file to initialize the OS and set the IP address for the virtual server (Windows) in the Hyper-V environment.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the Windows server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

Only one IP address can be set, and if the virtual server has two or more NICs, set the IP for the first NIC. The second and subsequent NICs all become disabled.

Set the IP addresses that were specified first in the order of IP address (for management)>IP address (for the second NIC)>IP address (for the third NIC)>IP address (for the fourth NIC). Note that the other IP addresses are discarded.

Specifiable time zones are shown below.

Tokyo Standard Time

China Standard Time

GMT Standard Time

Pacific Standard Time

Eastern Standard Time

US Eastern Standard Time

Central Standard Time

Central America Standard Time

US Mountain Standard Time

Mountain Standard Time

Alaskan Standard Time

Hawaiian Standard Time

Singapore Standard Time

India Standard Time

If this is not specified, the time zone that was set for the exported virtual server is inherited.

Specifiable locales are shown below.

ja-JP

en-US

zh-CN

Specifiable OS names are shown below.

Windows Server 2008 R2

Use situation

This component can be used to create a response file to initialize the OS and set up IP address for the virtual server (Windows) in the Hyper-V environment.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

Cautions

(1) If the virtual server that is created uses Windows, the organization name and owner name are required. If the organization name is not specified, "Organization" is set. If the owner name is not specified, "Owner" is set.

(2) If the virtual server that is created uses Windows, entry and re-entry of the OS user password are required. If both are not entered, "Password123" is set as the password. Also, if the two values do not match, "Password123" is set as the password.

(3) If the virtual server that is created uses Windows, the WORKGROUP or DOMAIN must be specified in the OS.selectWorkgroupDomain selection list. If neither is specified, "WORKGROUP" is set as the workgroup. Also, if nothing is entered for the workgroup name or domain name, "WORKGROUP" is set as the workgroup.

(4) If the virtual server that is created uses Windows, when WORKGROUP is selected in the OS.selectWorkgroupDomain selection list, the workgroup name can be specified using a maximum of 15 characters. If the workgroup name exceeds 15 characters, "WORKGROUP" is set.

(5) If the virtual server that is created uses Windows, when DOMAIN is selected in the OS.selectWorkgroupDomain selection list, the domain name, domain user name, and domain password are required. If one of these is not specified, or if the entered value is invalid, "WORKGROUP" is set as the workgroup.

(6) Specify the IP address, subnet mask, and default gateway. If one of these items is not specified, none of these items are set.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervCreateAnsFile

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.ansFileStoreFolderPath	Folder path for storing response file	Specifies the full path of the folder where the response file is stored.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
common.computerName	Computer/Host name	Specifies the OS computer name (host name).	--	Input	R
Windows.orgName	Organization name (company name)	Specifies the organization name that is set for the OS of the virtual server.	--	Input	R
Windows.ownerName	Name (owner name)	Specifies the name (owner name) that is set for the OS of the virtual server.	--	Input	R
OS.ipAddressMan	The 1st IP address	Specify the 1st IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMaskMan	The 1st Subnet mask	Specify the 1st subnet mask for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGWMan	The 1st Default gateway	Specify the 1st default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dnsMan	The 1st DNS server IP address	Specify the 1st IP address of the DNS server for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.ipAddress2	IP address (for second NIC)	Specifies the IP address set for the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask2	Subnet mask (for second NIC)	Specifies the subnet mask that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW2	Default gateway (for second NIC)	Specifies the default gateway that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns2	DNS server IP address (for second NIC)	Specifies the IP address of the DNS server that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress3	IP address (for third NIC)	Specifies the IP address set for the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask3	Subnet mask (for third NIC)	Specifies the subnet mask that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW3	Default gateway (for third NIC)	Specifies the default gateway that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns3	DNS server IP address (for third NIC)	Specifies the IP address of the DNS server that is set to the third NIC	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
OS.dns3	DNS server IP address (for third NIC)	recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress4	IP address (for fourth NIC)	Specifies the IP address set for the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask4	Subnet mask (for fourth NIC)	Specifies the subnet mask that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW4	Default gateway (for fourth NIC)	Specifies the default gateway that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns4	DNS server IP address (for fourth NIC)	Specifies the IP address of the DNS server that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.workgroupNameDomainName	Workgroup/domain name	Specifies the workgroup name or domain name where the virtual server belongs. Specify the workgroup name using a maximum of 15 characters. Specify the domain name using a maximum of 63 characters.	--	Input	R
OS.domainUserName	Domain user name	Specifies the user name of the domain where the virtual server belongs. You must enter this if "DOMAIN" was selected in the Workgroup/domain selection.	--	Input	O
OS.domainUserPassword	Domain password	Specifies the password of the domain where the virtual server belongs. You must enter this if "DOMAIN" was selected in the Workgroup/domain selection.	--	Input	O
OS.selectWorkgroupDomain	Select workgroup or domain	Specifies whether the virtual server belongs to a workgroup or domain.	--	Input	R
common.osUserPassword	Administrator password	Specifies the administrator password that is set for the OS. If nothing is entered, "Password123" is set.	--	Input	O
common.osUserPasswordReEnter	Re-enter administrator password	Re-enter the administrator password that is set for the OS. If nothing is entered, "Password123" is set.	--	Input	O
OS.productKey	Windows product key	Specifies the Windows product key. Enter this in the format "XXXXX-XXXXX-XXXXX-XXXXX-XXXXX".	--	Input	O
OS.operatingSystem	Operating system	Specifies the operating system (OS) of the virtual server.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
OS.timeZone	Time zone	Specifies the time zone that is set to the OS of the virtual server.	--	Input	O
OS.systemLocale	System locale	Specifies the system locale that is set for the OS of the virtual server.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.flag2IPsSetup	Whether two IP addresses are set to virtual server	Property that indicates whether two IP addresses have been set to a virtual server (TRUE), or otherwise (FALSE).	--	Output	O
common.flagJoinDomain	Domain join process required	The value stored for this property is TRUE when joining the domain, and FALSE when not joining the domain.	--	Output	O
OS.mngIpaddr	IP address (for management)	Stores the IP address (for management).	--	Output	O

5.4.2 Obtain the IP address of a virtual server

Function

This component obtains the IP address (IPv4) set in all the NICs in the virtual server in the Hyper-V environment.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

The obtained IP addresses are stored in the hyperv.vmIPaddress property. When multiple IP addresses are set for the virtual server, they are separated by commas in the output file.

Note that if the total length of the IP addresses exceeds 1,024 characters, the IP addresses containing the 1,025th or subsequent characters are discarded. If 65 or more IPv4 IP addresses are set for all the NICs, the total length might exceed 1,024 characters.

Use situation

This can be used to check the IP address (IPv4) set in the virtual server or to issue an ICMP echo request to the virtual server.

The process for issuing an ICMP echo request is as follows: the IP address of the virtual server is obtained with this component, and then the obtained IP address is used as the input for the osSendIcmp component.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled in the target virtual server:

- Data Exchange

(3) The virtual server has been started.

Version

02.00.00

Plug-in tags

Gather VM information,Hyper-V 2008

Plug-in name displayed in the task log

hypervGetVMIPaddress

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

30: Error (The virtual server became unavailable.) The virtual server became unavailable during processing.

31: Error (Failed to obtain information on the virtual server by data exchange (KVP)) The system failed to obtain information on the virtual server by data exchange (KVP).

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.waitTime	Wait processing time before starting to obtain IP address	Specifies the wait processing time, in seconds, before starting to obtain the IP address.	0	Input	R
hyperv.vmIPaddress	Virtual server IP address	Stores the virtual server IP address. When multiple IP addresses are set for the virtual server, they are separated by commas in the output file.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.4.3 Shut down a virtual server

Function

This component forcibly shuts down the OS of the virtual server in the Hyper-V environment.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

When the OS of the virtual server is shut down, a wait is performed for the number of seconds specified in the hyperv.checkVmStateDisabledInterval property, and the operation for checking the virtual server status is repeated for the count specified in the hyperv.checkVmStateDisabledCount property. Adjust the values of each property based on your usage environment.

When the component terminates normally, "3" is stored in the hyperv.vmState property.

For details on the relationship between the value to be stored and the virtual server status, see "List of statuses of virtual servers managed by Hyper-V" in the JP1/AO manual.

Use situation

This can be used to shut down the OS of the virtual server.

The flow of the shut-down processing is as follows: the virtual server status is obtained with the hypervGetVMState component and is determined, and then this component is executed.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled in the target virtual server:

- Operating system shutdown

(3) The virtual server has been started.

Cautions

(1) This component performs a forced shutdown of the specified virtual server OS. When this component is used, file data that was being edited in the virtual server is not saved.

Version

02.00.00

Plug-in tags

Control VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervShutdownVM

Return code

0: Normal

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

28: Error (Invalid status change of the virtual server) A change to the virtual service status was invalid.

29: Error (The check of the virtual server status timed out.) The check of the virtual server status timed out.

30: Error (The virtual server became unavailable.) The virtual server became unavailable during processing.

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.checkVmStateDisable dCount	Virtual server status (stopping complete) check count	Specifies the number of times to check whether virtual server stopping is complete. This value combined with the check interval for the virtual server status (stopping complete) determines the maximum wait time.	1440	Input	R
hyperv.checkVmStateDisable dInterval	Virtual server status (stopping complete) check interval	Specifies the interval in seconds between checks for whether virtual server stopping is complete.	5	Input	R
hyperv.checkJobShutdownCo unt	Job monitoring count (InitiateShutdown method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	1200	Input	R
hyperv.checkJobShutdownInt erval	Monitor interval (InitiateShutdown method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (InitiateShutdown method). You do not need to change the value of this property.	3	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.4.4 Virtual server virtual switch settings

Function

This component sets a virtual switch in a virtual server in the Hyper-V environment.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the Windows server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

For the NIC of the specified MAC address among the NICs set in the virtual server, set a virtual switch.

The virtual switch already set for the NIC is overwritten with the specified virtual switch.

If no virtual switch is specified, the virtual switch connection is disconnected.

If an invalid or no value is specified for the MAC address, set the virtual switches according to the order of NICs that Hyper-V recognizes.

Up to 4 virtual switches can be set. If the number of specified virtual switches exceeds the number of NICs held by the virtual server, the settings for virtual switches not assigned to NICs are invalid.

Use situation

This component can be used to set a virtual switch in a virtual server in the Hyper-V environment.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The virtual switch name must be unique within the Hyper-V server.

(3) No legacy network adapter is set in the virtual server.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervSetVirtualSwitch

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.virtualSwitch1	Virtual switch name (for first NIC)	Specifies the virtual switch name (for first NIC) set for the first NIC that is set for the virtual server.	--	Input	O
OS.nic1MacAddress	NIC MAC address (for first NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for first NIC).	--	Input	O
hyperv.virtualSwitch2	Virtual switch name (for second NIC)	Specifies the virtual switch name (for second NIC) set for the second NIC that is set for the virtual server.	--	Input	O
OS.nic2MacAddress	NIC MAC address (for second NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for second NIC).	--	Input	O
hyperv.virtualSwitch3	Virtual switch name (for third NIC)	Specifies the virtual switch name (for third NIC) set for the third NIC that is set for the virtual server.	--	Input	O
OS.nic3MacAddress	NIC MAC address (for third NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for third NIC).	--	Input	O
hyperv.virtualSwitch4	Virtual switch name (for fourth NIC)	Specifies the virtual switch name (for fourth NIC) set for the fourth NIC that is set for the virtual server.	--	Input	O
OS.nic4MacAddress	NIC MAC address (for fourth NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for fourth NIC).	--	Input	O
hyperv.checkJobStateCountN ewSw	Job monitoring count (ModifyVirtualSystemResour ces method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (ModifyVirtualSystemResources method). You do not need to change the value of this property.	1200	Input	R
hyperv.checkJobStateInterval NewSw	Monitor interval (ModifyVirtualSystemResour ces method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (ModifyVirtualSystemResources method). You do not need to change the value of this property.	3	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.4.5 Start a virtual server

Function

This component starts a virtual server in the Hyper-V environment.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

When the virtual server is started, a wait is performed for the number of seconds specified in the hyperv.checkVmStateEnabledInterval property, and the operation for checking the virtual server startup state is repeated for the count specified in the hyperv.checkVmStateEnabledCount property. Adjust the values of each property based on your usage environment.

When the component terminates normally, "2" is stored in the hyperv.vmState property.

For details on the relationship between the value to be stored and the virtual server status, see "List of statuses of virtual servers managed by Hyper-V" in the JP1/AO manual.

Use situation

This can be used to start the virtual server.

The flow of the start processing is as follows: the virtual server status is obtained with the hypervGetVMState component and is determined, and then this component is executed.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled in the target virtual server:

- Data exchange

(3) The virtual server has been stopped.

Version

02.00.00

Plug-in tags

Control VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervPowerOnVM

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

29: Error (The check of the virtual server status timed out.) The check of the virtual server status timed out.

30: Error (The virtual server became unavailable.) The virtual server became unavailable during processing.

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.checkVmStateEnabled Count	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	1440	Input	R
hyperv.checkVmStateEnabled Interval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	5	Input	R
hyperv.checkJobPowerOnCou nt	Job monitoring count (RequestStateChange method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (RequestStateChange method).	1440	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.checkJobPowerOnCou nt	Job monitoring count (RequestStateChange method)	You do not need to change the value of this property.	1440	Input	R
hyperv.checkJobPowerOnInte rval	Monitor interval (RequestStateChange method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (RequestStateChange method). You do not need to change the value of this property.	5	Input	R
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.4.6 Create a virtual server

Function

This component creates a virtual server in the Hyper-V environment by duplicating an exported virtual server.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the Windows server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

- Exported virtual server

This is a virtual server exported from Hyper-V and the set of configuration files for the virtual server.

- Storage server

This is the server that stores the exported virtual server that is used as the copy source.

The exported virtual server is copied to the import target.

The import function is used to create a virtual server in the Hyper-V server.

A new unique ID is created for the new virtual server that is created.

If a folder already exists at the path specified for the import target, that folder is used.

Use situation

This component can be used to create a new virtual server in the Hyper-V environment. By executing this component together with the following component, you can initialize the OS and set up IP addresses for the virtual server.

• hypervCreateAnsFile

- hypervMountVhd

- hypervUnmountVhd

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following settings must be made in the virtual server before exporting from the Hyper-V server.

1. The administrator password must be left blank.

2. The network settings must have been deleted.

If the network adapter information of the virtual host is set, the settings below must be made blank before setting to [Obtain an IP address automatically] or [Obtain DNS server address automatically].

- IP address

- Subnet mask

- Default gateway

- Preferred DNS server

- Alternate DNS server

3. Sysprep must be used to initialize the OS information.

During the initialization process, select the following options.

From the System Cleanup Action drop down, select [Enter System Out of Box Experience (OOBE)].

Select the [Generalize] check box.

(3) If the storage server is separate from the Hyper-V server, shared settings were made from the Hyper-V server to the folder where the exported virtual server is stored.

(4) No snapshot or differential-data disk is created in the exported virtual server.

Cautions

(1) If a folder with the path specified at the import target does not exist, the folder is created.

(2) If a virtual disk file still remains in the folder of the path specified at the import target, the task is abnormally terminated. Check the folder of the path specified at the import target, and either delete the virtual disk or specify another path.

(3) This component does not register the deployed virtual server in the services and in the applications of the failover cluster manager. Manually register this information based on user operations.

Version

02.00.00

Plug-in tags

Add VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervCreateVM

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
hyperv.vmName	Virtual server name	Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.importFolderPath	Import target	Specifies the path of the folder where the virtual server is stored.	--	Input	R
hyperv.userName	User name for connecting to storage server	Specifies the user name for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	--	Input	O
hyperv.password	Password for connecting to storage server	Specifies the password for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	--	Input	O
hyperv.exportedVmName	Path of exported virtual server folder	Specifies the folder name, as a full path, of the exported virtual server that is used as the copy source of the virtual server. If the storage server is a server other than the Hyper-V server, specify the path in UNC syntax.	--	Input	R
hyperv.checkJobStateCountGetVm	Job monitoring count (GetVirtualSystemImportSettingData method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (GetVirtualSystemImportSettingData method). You do not need to change the value of this property.	1200	Input	R
hyperv.checkJobStateIntervalGetVm	Monitor interval (GetVirtualSystemImportSettingData method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (GetVirtualSystemImportSettingData method). You do not need to change the value of this property.	3	Input	R
hyperv.checkJobStateCountNewVm	Job monitoring count (ImportVirtualSystemEx method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (ImportVirtualSystemEx method). You do not need to change the value of this property.	1440	Input	R
hyperv.checkJobStateIntervalNewVm	Monitor interval (ImportVirtualSystemEx method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (ImportVirtualSystemEx method). You do not need to change the value of this property.	5	Input	R
hyperv.returnVhdPath	Virtual disk file path (for first NIC)	Stores, as a full path, the file path of the virtual disk (first NIC) created by this component.	--	Output	O
hyperv.returnVhdPath2	Virtual disk file path (for second NIC)	Stores, as a full path, the file path of the virtual disk (second NIC) created by this component.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.returnVhdPath3	Virtual disk file path (for third NIC)	Stores, as a full path, the file path of the virtual disk (third NIC) created by this component.	--	Output	O
hyperv.returnVhdPath4	Virtual disk file path (for fourth NIC)	Stores, as a full path, the file path of the virtual disk (fourth NIC) created by this component.	--	Output	O
hyperv.returnNumOfNic	Number of NICs	Stores the number of NICs connected to the virtual server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.4.7 Delete a virtual server

Function

This component deletes a virtual server in the Hyper-V environment.

When deleting a virtual server from the Hyper-V server, the component also deletes the snapshot.

If "yes" was selected in the hyperv.vHardDiskDeletePermanently property, all virtual disk files (adjustable size, fixed size, and differential) assigned to the selected virtual server will be deleted. Disks and files assigned to the pass-through (physical) disks, floppy disks, CDs, DVDs and other sources are not deleted. If a virtual disk (differential) is assigned, the virtual disk used as the parent (base) of the virtual disk (differential) is not deleted.

If the hyperv.vhdListOutputFileName property was specified, a list of paths of the virtual disk files assigned to the virtual server that will be deleted from the Hyper-V server is output in CSV format. If a virtual disk (differential) is assigned, the virtual disk used as the parent of the virtual disk (differential) is not included.

The items in the output CSV file are shown below.

The items are separated by commas in the output file.

(a) Existence of virtual disk files (Header name: Existence)

This outputs whether the assigned virtual disk files exist when deleting a virtual server. The values of the items are shown below.

Found: Existence of file was confirmed.

NotFound: A file was set, but could not be found.

(b) File deletion result (Header name: DeleteResult)

If "yes" was selected in the hyperv.vHardDiskDeletePermanently property, the deletion execution result for the virtual disk files is output. If "no" was selected, "Skipped" is output. The values of the items are shown below.

Completed: File deletion was successful.

Failed: File deletion failed.

Skipped: File deletion was not performed.

(c) File path (Header name: FilePath)

Regardless of the content of (a) and (b), the path is output for the virtual disk files that were set in the Hyper-V server.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

Use situation

This component can be used to delete a virtual server: for example when eliminating virtual servers.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The virtual server must be in a completely stopped state.

Cautions

(1) If an operation (such as a snapshot operation) was performed where the path of the virtual disk file cannot be referenced from the virtual server setting information, the virtual disk files are not deleted. In this case, delete them manually.

(2) If the file whose name is set in the hyperv.vhdListOutputFileName property already exists, the existing file is overwritten.

(3) If a folder with the path specified at the hyperv.vhdListOutputFileName property does not exist, the folder is created. The created folder remains and is not deleted. Delete unused folders on a regular basis.

(4) If hyperv.vhdListOutputFileName property is specified, the list of the virtual disk files is output even if an error occurs when the virtual server or the virtual disk file is deleted.

(5) This component does not delete the registration information of the virtual server from the service and application of the failover cluster manager. Manually delete this information based on user operations.

Version

02.00.00

Plug-in tags

Delete VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervDeleteVM

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vHardDiskDeletePerm anently	Deletion of virtual disk file required	Specifies whether to delete virtual disk file used for the virtual server.	no	Input	R
hyperv.vhdListOutputFileNa me	Output file name for virtual disk file list	Specifies, as a full path, the file name for the output of the virtual disk file list.	--	Input	O
hyperv.checkJobDelVMCoun t	Job monitoring count (DestroyVirtualSystem method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing	28800	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.checkJobDelVMCoun t	Job monitoring count (DestroyVirtualSystem method)	(DestroyVirtualSystem method). You do not need to change the value of this property.	28800	Input	R
hyperv.checkJobDelVMInterv al	Monitor interval (DestroyVirtualSystem method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (DestroyVirtualSystem method). You do not need to change the value of this property.	3	Input	R
hyperv.checkJobDelSnapshot Count	Job monitoring count (RemoveVirtualSystemSnaps hotTree method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (RemoveVirtualSystemSnapshotTree method). You do not need to change the value of this property.	28800	Input	R
hyperv.checkJobDelSnapshotI nterval	Monitor interval (RemoveVirtualSystemSnaps hotTree method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (RemoveVirtualSystemSnapshotTree method). You do not need to change the value of this property.	3	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.4.8 Obtain a virtual server information list

Function

This component outputs the list of the information on the virtual server under control of the Hyper-V server to a file in CSV format.

The encoding of the output file is the default encoding of the Hyper-V server system.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

The items in the output CSV file are shown below.

The items are separated by commas in the output file.

(a) Hyper-V server name (Header name: HostName)

(b) Virtual server name (Header name: VmName)

(c) Virtual server status#1 (Header name: VmState)

(d) Number of virtual server CPUs#2 (Header name: NumCpu)

(e) Virtual server memory size (MB)#3 (Header name: MemoryMB)

#1: For details on the virtual server status, see "List of statuses of virtual servers managed by Hyper-V" in the JP1/AO manual.

#2: The value for the number of CPUs is the number of virtual processors assigned to the virtual server.

#3: If dynamic memory is set for the virtual server, this is the value of the startup RAM.

Use situation

This can be used to obtain the information on the virtual server under control of the Hyper-V server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

Version

02.00.00

Plug-in tags

Gather VM information,Hyper-V 2008

Plug-in name displayed in the task log

hypervOutputVmSpec

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

28: Error (No information obtained) No virtual server exists.

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.fileName	File name	Specifies the file name as a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.4.9 Obtain the virtual server status

Function

This component obtains the virtual server status in the Hyper-V environment.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

Stores the value for the obtained virtual server status in the hyperv.vmState property.

For details on the relationship between the value to be stored and the virtual server status, see "List of statuses of virtual servers managed by Hyper-V" in the JP1/AO manual.

Use situation

This component can be used to check the virtual server status and to take action according to the status, such as starting, stopping, or deleting the virtual server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

Version

02.00.00

Plug-in tags

Gather VM information,Hyper-V 2008

Plug-in name displayed in the task log

hypervGetVMState

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.4.10 Add a disk to the virtual server

Function

This component adds a disk to the virtual server in the Hyper-V environment.

Although a virtual disk (adjustable size or fixed size) can be added to the virtual server, a virtual disk (differential) and pass-through (physical) disk cannot be added.

A virtual disk file is newly created.

The virtual disk can be added to the SCSI controller, but it cannot be added to the IDE controller.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

Use situation

This component can be used to add a data disk to a virtual server: for example, when building a new virtual server or expanding a disk.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

(2) The virtual server must be in a completely stopped state.

(3) A SCSI controller must be in the virtual server.

Cautions

(1) The virtual disk added to the virtual server is not initialized. If necessary, log into the OS of the virtual server and perform initialization of the disk.

(2) Virtual disk files that were already created in the Hyper-V server cannot be added.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervAddVDisk

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vHardDiskType	Virtual disk type	Specifies the virtual disk type. Specify one of the following: dynamic (an adjustable-size virtual disk is created) or fixed (a fixed-size virtual disk is created).	--	Input	R
hyperv.scsiControllerNumber	SCSI controller number	Specifies the SCSI controller number of the virtual server that adds the virtual disk. Specify the SCSI controller number as an integer from 0 in the order that the SCSI controllers were added to the virtual server (displayed in the Hyper-V Manager).	--	Input	R
hyperv.scsiLocationNumber	SCSI controller location number	Specifies the location number of the SCSI controller of the virtual server that adds the virtual disk. Specify the SCSI controller location number as an integer for the unused locations of SCSI controllers that were added to the virtual server.	--	Input	R
hyperv.vhdPath	Virtual disk file path	Specifies, as a full path, the path of the virtual disk file to be created. Specify vhd as the extension of the virtual disk file. Virtual disk files that have already been created cannot be specified.	--	Input	R
hyperv.vHardDiskCapacity	Virtual disk size	Specifies the size of the virtual disk to be created, in gigabytes (GB).	--	Input	R
hyperv.checkJobNewVhdCount	Monitor count (CreateDynamic/ FixedVirtualHardDisk)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (CreateDynamicVirtualHardDisk/ CreateFixedVirtualHardDisk method). You do not need to change the value of this property.	57600	Input	R
hyperv.checkJobNewVhdInterval	Monitor interval (CreateDynamic/ FixedVirtualHardDisk)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (CreateDynamicVirtualHardDisk/ CreateFixedVirtualHardDisk method). You do not need to change the value of this property.	3	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.checkJobAssignSCSI Count	Monitor count (AddVirtualSystemResources method, Add hard drive)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (AddVirtualSystemResources method, Add hard drive). You do not need to change the value of this property.	1200	Input	R
hyperv.checkJobAssignSCSII nterval	Monitor interval (AddVirtualSystemResources, Add hard drive)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (AddVirtualSystemResources method, Add hard drive). You do not need to change the value of this property.	3	Input	R
hyperv.checkJobJoinCount	Monitor count (AddVirtualSystemResources, Connect to disk)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (AddVirtualSystemResources method, Connect to disk). You do not need to change the value of this property.	1200	Input	R
hyperv.checkJobJoinInterval	Monitor interval (AddVirtualSystemResources, Connect to disk)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (AddVirtualSystemResources method, Connect to disk). You do not need to change the value of this property.	3	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.4.11 Unmount a virtual disk

Function

This component unmounts a virtual disk from the Hyper-V server.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the Windows server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

Use situation

This component can be used to unmount a virtual disk from the Hyper-V server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervUnmountVhd

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vhdPath	Virtual disk file path (for first NIC)	Specifies the path of the virtual disk file (first NIC) as a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.4.12 Mount a virtual disk

Function

This component mounts a virtual disk on a Hyper-V server.

The following servers are required for this component:

- Hyper-V server (Execution target server)

This is the Windows server where Hyper-V is installed.

- Virtual server

This is a virtual server managed by Hyper-V.

Use situation

This component can be used to mount a virtual disk on the Hyper-V server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

(1)Prerequisite product of Hyper-V Server

- Windows Server 2008 R2 Hyper-V

(2)Prerequisite OS running in the virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

(1) The virtual server name must be unique within the Hyper-V server.

Cautions

(1) When a virtual disk of the virtual server is mounted on the Hyper-V server, an available drive letter on the Hyper-V server is temporarily assigned. If no drive letter is available on the Hyper-V server, this component terminates with an error. Before executing this component, make sure that drive letters are available on the Hyper-V server for the number of drives used by the virtual disk that is to be mounted.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2008

Plug-in name displayed in the task log

hypervMountVhd

Return code

0: Normal

12: Error (Mistake by user) A property is invalid.

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vhdPath	Virtual disk file path (for first NIC)	Specifies the path of the virtual disk file (first NIC) as a full path.	--	Input	R
hyperv.vhdPath2	Virtual disk file path (for second NIC)	Specifies the path of the virtual disk file (second NIC) as a full path.	--	Input	O
hyperv.vhdPath3	Virtual disk file path (for third NIC)	Specifies the path of the virtual disk file (third NIC) as a full path.	--	Input	O
hyperv.vhdPath4	Virtual disk file path (for fourth NIC)	Specifies the path of the virtual disk file (fourth NIC) as a full path.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
hyperv.checkJobStateCountGetDriveList	Job monitoring count (Win32_LogicalDisk method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	1440	Input	R
hyperv.checkJobStateIntervalGetDriveList	Job monitoring interval (Win32_LogicalDisk method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	5	Input	R
hyperv.returnDriveLetter	Drive letter	Stores the drive letter assigned to the virtual disk that was mounted by this component.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
hyperv.returnVhdPath	Virtual disk file path	Stores the path of the virtual disk file as a full path.	--	Output	O

5.5 Hyper-V 2012-related Plug-ins

5.5.1 Create a response file

Function

This plug-in creates a response file for specifying the initial OS settings and setting an IP address for a virtual server (Windows) in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Only one IP address can be set. If the virtual server has two or more NICs, the IP address is set for the first NIC. The other NICs are unavailable.

The IP address to be set for the (first) NIC is determined based on the following priority: management-use IP address > second IP address > third IP address > fourth IP address. Among the specified IP addresses, only the one with the highest priority is set and the others are discarded.

Specifiable time zones are as follows:

Tokyo Standard Time

China Standard Time

GMT Standard Time

Pacific Standard Time

Eastern Standard Time

US Eastern Standard Time

Central Standard Time

Central America Standard Time

US Mountain Standard Time

Mountain Standard Time

Alaskan Standard Time

Hawaiian Standard Time

Singapore Standard Time

India Standard Time

If no time zone is specified, the time zone set in the exported virtual server is used.

Specifiable locales are as follows:

ja-JP

en-US

zh-CN

Specifiable OS names are as follows:

Windows Server 2008 R2

Windows Server 2012

Windows Server 2012 R2

Use situation

This plug-in can be used to create a response file that sets up the OS and sets an IP address for a virtual server (Windows) in a Hyper-V environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Prerequisite products for the Hyper-V server

-Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for virtual servers

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

-Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using prerequisite products on the execution target server:

(1) The virtual server name must be unique within the Hyper-V server.

Cautions

(1) If the OS of the virtual server being created is Windows, the organization name and owner name are required. If the organization name is omitted, the string "Organization" is set as the organization name. If the owner name is omitted, the string "Owner" is set as the owner name.

(2) If the OS of the virtual server being created is Windows, the OS user password must be entered twice (the second entry being for confirmation). If the OS user password is not entered twice, "Password123" is set as the password. This password is also set if the first and second entered passwords do not match.

(3) If the OS of the virtual server being created is Windows, either WORKGROUP or DOMAIN must be selected from the selection list for the OS.selectWorkgroupDomain property. If neither WORKGROUP nor DOMAIN is selected, "WORKGROUP" is set as the workgroup name. Similarly, if workgroup-name/domain-name is not entered, "WORKGROUP" is set as the workgroup name.

(4) If the OS of the virtual server being created is Windows and WORKGROUP is selected from the selection list for the OS.selectWorkgroupDomain property, the maximum length of the specifiable workgroup name is 15 characters. If you specify a workgroup name longer than 15 characters, the string "WORKGROUP" is set, instead of the specified name.

(5) If the OS of the virtual server being created is Windows and DOMAIN is selected from the selection list for the OS.selectWorkgroupDomain property, the domain name, domain user name, and domain password are required. If any values for these items are missing or invalid, "WORKGROUP" is set as the workgroup name.

(6) Be sure to specify both the IP address and subnet mask. If you do not specify both of these items, the IP address, subnet mask and default gateway are not set.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012CreateAnsFile

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.ansFileStoreFolderPath	Folder path for storing response file	Specifies the full path of the folder where the response file is stored.	--	Input	R
common.computerName	Computer/Host name	Specifies the OS computer name (host name).	--	Input	R
Windows.orgName	Organization name (company name)	Specifies the organization name that is set for the OS of the virtual server.	--	Input	R
Windows.ownerName	Name (owner name)	Specifies the name (owner name) that is set for the OS of the virtual server.	--	Input	R
OS.ipAddressMan	The 1st IP address	Specify the 1st IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMaskMan	The 1st Subnet mask	Specify the 1st subnet mask for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGWMan	The 1st Default gateway	Specify the 1st default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dnsMan	The 1st DNS server IP address	Specify the 1st IP address of the DNS server for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.ipAddress2	IP address (for second NIC)	Specifies the IP address set for the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask2	Subnet mask (for second NIC)	Specifies the subnet mask that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW2	Default gateway (for second NIC)	Specifies the default gateway that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns2	DNS server IP address (for second NIC)	Specifies the IP address of the DNS server that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress3	IP address (for third NIC)	Specifies the IP address set for the third NIC recognized by the	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
OS.ipAddress3	IP address (for third NIC)	virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask3	Subnet mask (for third NIC)	Specifies the subnet mask that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW3	Default gateway (for third NIC)	Specifies the default gateway that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns3	DNS server IP address (for third NIC)	Specifies the IP address of the DNS server that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress4	IP address (for fourth NIC)	Specifies the IP address set for the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask4	Subnet mask (for fourth NIC)	Specifies the subnet mask that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW4	Default gateway (for fourth NIC)	Specifies the default gateway that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns4	DNS server IP address (for fourth NIC)	Specifies the IP address of the DNS server that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.workgroupNameDomainName	Workgroup/domain name	Specifies the workgroup name or domain name where the virtual server belongs. Specify the workgroup name using a maximum of 15 characters. Specify the domain name using a maximum of 63 characters.	--	Input	R
OS.domainUserName	Domain user name	Specifies the user name of the domain where the virtual server belongs. You must enter this if "DOMAIN" was selected in the Workgroup/domain selection.	--	Input	O
OS.domainUserPassword	Domain password	Specifies the password of the domain where the virtual server belongs. You must enter this if "DOMAIN" was selected in the Workgroup/domain selection.	--	Input	O
OS.selectWorkgroupDomain	Select workgroup or domain	Specifies whether the virtual server belongs to a workgroup or domain.	--	Input	R
common.osUserPassword	Administrator password	Specifies the administrator password that is set for the OS. If	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
common.osUserPassword	Administrator password	nothing is entered, "Password123" is set.	--	Input	O
common.osUserPasswordReEnter	Re-enter administrator password	Re-enter the administrator password that is set for the OS. If nothing is entered, "Password123" is set.	--	Input	O
OS.productKey	Windows product key	Specifies the Windows product key. Enter this in the format "XXXXX-XXXXX-XXXXX-XXXXX-XXXXX".	--	Input	O
OS.operatingSystem	Operating system	Specifies the operating system (OS) of the virtual server.	--	Input	R
OS.timeZone	Time zone	Specifies the time zone that is set to the OS of the virtual server.	--	Input	O
OS.systemLocale	System locale	Specifies the system locale that is set for the OS of the virtual server.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.flag2IPsSetup	Whether two IP addresses are set to virtual server	Property that indicates whether two IP addresses have been set to a virtual server (TRUE), or otherwise (FALSE).	--	Output	O
common.flagJoinDomain	Domain join process required	The value stored for this property is TRUE when joining the domain, and FALSE when not joining the domain.	--	Output	O
OS.mngIpaddr	IP address (for management)	Stores the IP address (for management).	--	Output	O

5.5.2 Change CPU Settings of Virtual Server

Function

This plug-in is used to change the CPU settings of virtual servers in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

This plug-in can be used to change the following CPU settings:

- Number of virtual processors

- Number of reserved virtual processor resources

- Maximum number of virtual processor resources

- Relative Weight setting for virtual processor resources

- Processor compatibility

- Maximum number of processors that can be used on a NUMA node

- Maximum number of NUMA nodes that can be used by a socket

Use situation

This plug-in can be used to change the CPU settings of a virtual server.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

OSs for the prerequisite products on the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Condition for using the prerequisite products on the execution-target server:

(1) Each virtual server name must be unique within a single Hyper-V server.

Cautions

(1) The CPU settings that can be changed differ depending on the status of the virtual server.

(2) If all CPU settings are blank, an error occurs.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012ChangeVMCPU

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.cpuCount	Number of Virtual Processors	Specify the number of virtual processors used to configure the virtual server.	--	Input	O
hyperv.cpuReserve	Reservation of Virtual Processor Resources	Specify the allocation of the virtual processor resources between virtual servers reserved by the virtual server.	--	Input	O
hyperv.cpuMaximum	Maximum for Virtual Processor Resources	Specify the maximum value for the allocation of the virtual processor resources between virtual servers to be used by the virtual servers.	--	Input	O
hyperv.cpuRelativeWeight	Relative Weight of Virtual Processor Resources	Specify the relative weight of the virtual processor resources between virtual servers.	--	Input	O
hyperv.cpuCompatibilityFor MigrationEnabled	Compatibility of Processors	Specify "true" to enable or "false" to disable compatibility of processors. When a value is not entered, settings for the compatibility of processors will not be changed.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.cpuMaximumCountPe rNumaNode	Maximum Number of Processors used with NUMA Node	Specify the maximum number of processors that can be used with 1 virtual NUMA (Non-Uniform Memory Architecture) node.	--	Input	O
hyperv.nodeMaximumCountP erNumaSocket	Maximum Number of NUMA Nodes used in Socket	Specify the maximum number of virtual NUMA (Non-Uniform Memory Architecture) nodes that can be used in 1 socket.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.5.3 Obtain IP Address of Virtual Server

Function

This plug-in is used to obtain IP (IPv4) addresses from all NICs on a virtual server in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The obtained IP addresses are stored in the property hyperv.vmIPaddress in comma-separated format.

Note that, if the total length of these IP addresses exceeds 1,024 characters, all characters after the 1024th character are discarded. If the number of IPv4 addresses set on all NICs exceeds 64 addresses, the total length of these addresses might exceed 1,024 characters.

Use situation

This plug-in can be used to check the IP address (IPv4) set for a virtual server or to issue an ICMP echo request to a virtual server.

When an ICMP echo request is issued, the virtual server IP address obtained by this plug-in is used as input for the plug-in osSendIcmp.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

OSs for the prerequisite products on the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

(1) Each virtual server name must be unique within a single Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled on the target virtual server:

- Data Exchange

(3) The virtual server must be running.

Version
02.00.00

Plug-in tags
Gather VM information,Hyper-V 2012

Plug-in name displayed in the task log
hyperv2012GetVMIPaddress

Return code
0: Normal

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list
The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vmIPaddress	Virtual server IP address	Stores the virtual server IP address. When multiple IP addresses are set for the virtual server, they are separated by commas in the output file.	--	Output	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

5.5.4 Shut down a virtual server

Function

This plug-in forcibly shuts down the OS of the virtual server in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Use situation

This plug-in can be used to shut down the OS of a virtual server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

-Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using prerequisite products on the execution target server:

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following service of Hyper-V Integration Service on the target virtual server must be active:

- Operating system shutdown

(3) The virtual server has been started.

Cautions

(1) This plug-in forcibly shuts down the OS of the specified virtual server. If this plug-in is used, the data in the files being edited on the virtual server is not saved.

Version

02.00.00

Plug-in tags

Control VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012ShutdownVM

Return code

0: Normal

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

28: Error (Invalid status change of the virtual server) A change to the virtual service status was invalid

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.5.5 Change Memory Settings of Virtual Server

Function

This plug-in can be used to change the memory settings of virtual servers in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

This plug-in can be used to change the following memory settings:

- Startup RAM (MB)

- Whether to enable dynamic memory

- Minimum RAM for dynamic memory (MB)

- Maximum RAM for dynamic memory (MB)

- Buffer for dynamic memory

- Memory weight

- Maximum size of the memory available on a NUMA node (MB)

Use situation

This plug-in can be used to change the memory settings of a virtual server.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

OSs for the prerequisite products on the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Condition for using the prerequisite products on the execution-target server:

(1) Each virtual server name must be unique within a single Hyper-V server.

Cautions

(1) The memory settings that can be changed differ depending on the status of the virtual server.

(2) If all memory settings are blank, an error occurs.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012ChangeVMMemory

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.memoryStartupMegaBytes	Startup RAM (MB)	Specify the amount of memory to use, in units of MB, when starting the virtual server.	--	Input	O
hyperv.dynamicMemoryEnabled	Enable Dynamic Memory	Specify "true" to enable or "false" to disable dynamic memory of the virtual server. When a value is not entered, settings for enabling dynamic memory will not be changed.	--	Input	O
hyperv.dynamicMemoryMinimumMegaBytes	Minimum RAM (MB) of Dynamic Memory	Specify the minimum amount of memory, in units of MB, for the dynamic memory. Only specify this when dynamic memory is enabled.	--	Input	O
hyperv.dynamicMemoryMaximumMegaBytes	Maximum RAM (MB) of Dynamic Memory	Specify the maximum amount of memory, in units of MB, for the dynamic memory. Only specify this when dynamic memory is enabled.	--	Input	O
hyperv.dynamicMemoryBuffer	Memory Buffer of Dynamic Memory	Specify the ratio of the memory to be reserved as the buffer with Hyper-V. Only specify this when dynamic memory is enabled.	--	Input	O
hyperv.memoryPriority	Priority of Memory	Specify the priority when assigning usable memory between virtual machines.	--	Input	O
hyperv.memoryMaximumAmountMegaBytesPerNumaNode	Maximum Amount (MB) of Memory used with NUMA Node	Specify the maximum amount of memory that can be used with 1 virtual NUMA (Non-Uniform Memory Architecture) node in units of MB.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

5.5.6 Virtual server virtual switch settings

Function

This plug-in sets virtual switches on a virtual server in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Virtual switches are set for the NICs that are set on the virtual server and have the specified MAC addresses.

The virtual switches that have already been set for the NICs are overwritten with the new ones.

If the virtual switch specification is missing, connections to the virtual switches are not established.

If an invalid value or no value is specified for MAC addresses, the NICs for which virtual switches are to be set are determined in the order of NICs Hyper-V recognizes.

A maximum of four virtual switches can be set. Note that if you specify more virtual switches than the number of NICs on the virtual server, the settings of the virtual switches that cannot be allocated to NICs do not take effect.

Use situation

This plug-in can be used to set virtual switches on a virtual server in a Hyper-V environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

-Windows Server 2012 Hyper-V,Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using prerequisite products on the execution target server:

(1) The virtual server name must be unique within the Hyper-V server.

(2) The virtual switch name must be unique within the Hyper-V server.

(3) No legacy network adapter is set in the virtual server.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012SetVirtualSwitch

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.virtualSwitch1	Virtual switch name (for first NIC)	Specifies the virtual switch name (for first NIC) set for the first NIC that is set for the virtual server.	--	Input	O
OS.nic1MacAddress	NIC MAC address (for first NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for first NIC).	--	Input	O
hyperv.virtualSwitch2	Virtual switch name (for second NIC)	Specifies the virtual switch name (for second NIC) set for the second NIC that is set for the virtual server.	--	Input	O
OS.nic2MacAddress	NIC MAC address (for second NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for second NIC).	--	Input	O
hyperv.virtualSwitch3	Virtual switch name (for third NIC)	Specifies the virtual switch name (for third NIC) set for the third NIC that is set for the virtual server.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
OS.nic3MacAddress	NIC MAC address (for third NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for third NIC).	--	Input	O
hyperv.virtualSwitch4	Virtual switch name (for fourth NIC)	Specifies the virtual switch name (for fourth NIC) set for the fourth NIC that is set for the virtual server.	--	Input	O
OS.nic4MacAddress	NIC MAC address (for fourth NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for fourth NIC).	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.5.7 Start a virtual server

Function

This plug-in starts the virtual server in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Use situation

This plug-in can be used to start a virtual server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

-Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using prerequisite products on the execution target server:

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following service of Hyper-V Integration Service on the target virtual server must be active:

- Data Exchange

(3) The virtual server has been stopped.

Version

02.00.00

Plug-in tags

Control VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012PowerOnVM

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

29: Error (The check of the virtual server status timed out.) The check of the virtual server status timed out.

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.vmName	Virtual server name	Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.checkVmStateEnabled Count	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	1440	Input	R
hyperv.checkVmStateEnabled Interval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	5	Input	R
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.5.8 Create a virtual server

Function

This plug-in creates a virtual server by replicating an exported virtual server in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

- Exported virtual server

A virtual server exported from Hyper-V and a set of files that make up the virtual server.

- Container server

The server that contains the exported virtual server that is to be replicated.

The exported virtual server is replicated at the import destination.

The virtual server is created on the Hyper-V server by using the import function.

When a virtual server is created, a new unique ID is assigned.

If folders in the path specified as the import destination already exist, they are used as is.

Use situation

This plug-in can be used to create a new virtual server in a Hyper-V environment. By using this plug-in with the following plug-ins, you can specify the initial OS settings and set the IP address of the virtual server:

- hyperv2012CreateAnsFile

- hyperv2012MountVhd

- hyperv2012UnmountVhd

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

-Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using the execution-target server:

(1) The virtual server name must be unique within the Hyper-V server.

(2) If the container server and the Hyper-V server are different, the folder containing the virtual server exported from the Hyper-V server must be a shared folder.

(3) Snapshots and differential disks must not be created on the exported virtual server.

(4) The NIC of the exported virtual server must be disconnected from a virtual switch.

Cautions

(1) If one or more folders in the specified import destination path do not exist, non-existent folders are created.

(2) If virtual disk files remain in folders in the specified import destination path, the task terminates abnormally. Check the folders in the specified path, and then delete them or specify another path.

(3) This plug-in does not register virtual servers deployed for any services and applications of the failover cluster manager. Register those servers manually according to the user operating requirements.

Version

02.00.00

Plug-in tags

Add VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012CreateVM

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.importFolderPath	Import target	Specifies the path of the folder where the virtual server is stored.	--	Input	R
hyperv.userName	User name for connecting to storage server	Specifies the user name for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	--	Input	O
hyperv.password	Password for connecting to storage server	Specifies the password for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	--	Input	O
hyperv.exportedVmName	Path of exported virtual server folder	Specifies the folder name, as a full path, of the exported virtual server that is used as the copy source of	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.exportedVmName	Path of exported virtual server folder	the virtual server. If the storage server is a server other than the Hyper-V server, specify the path in UNC syntax.	--	Input	R
hyperv.scsiDiskLocation	SCSI controller location	Specifies the location of the SCSI controller to which the system disk is set. This property is enabled only if the generation of the exported virtual server is the second generation.	0	Input	R
hyperv.returnVhdPath	Virtual disk file path (for first NIC)	Stores, as a full path, the file path of the virtual disk (first NIC) created by this component.	--	Output	O
hyperv.returnVhdPath2	Virtual disk file path (for second NIC)	Stores, as a full path, the file path of the virtual disk (second NIC) created by this component.	--	Output	O
hyperv.returnVhdPath3	Virtual disk file path (for third NIC)	Stores, as a full path, the file path of the virtual disk (third NIC) created by this component.	--	Output	O
hyperv.returnVhdPath4	Virtual disk file path (for fourth NIC)	Stores, as a full path, the file path of the virtual disk (fourth NIC) created by this component.	--	Output	O
hyperv.returnNumOfNic	Number of NICs	Stores the number of NICs connected to the virtual server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.5.9 Delete Virtual Servers

Function

This plug-in deletes virtual servers in a Hyper-V environment. When a virtual server is deleted from the Hyper-V server, all snapshots for that virtual server are also deleted.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

If you specify "yes" for the property hyperv.vHardDiskDeletePermanently, this plug-in deletes all virtual disk files (dynamic, fixed, and differential) that are allocated to the virtual server to be deleted. This plug-in does not delete the disks or files that are allocated to pass-through (physical) disks, floppy disks, CDs, or DVDs. If differential virtual disks are allocated to the virtual server, this plug-in does not delete the virtual disks that are used as the parents of those differential virtual disks.

If the property hyperv.vhdListOutputFileName is specified, this plug-in outputs a CSV file that lists the paths of the virtual disk files allocated to the virtual server to be deleted from the Hyper-V server. If differential virtual disks are allocated to the server, the virtual disks that are used as the parents of those differential virtual disks are not included in the CSV file.

The following items are output to the file in CSV (comma-separated value) format:

(a) Whether virtual disk files exist (header name: Existence)

Depending on whether virtual disk files are allocated to the virtual server when the server is deleted, one of the following values is output:

Found: Existence of virtual disk files was confirmed.

NotFound: Virtual disk files were set up, but their existence could not be confirmed.

(b) File deletion result (header name: DeleteResult)

If you specify "yes" for the property hyperv.vHardDiskDeletePermanently, this plug-in outputs the result of deleting the virtual disk files. If you specify "no", "Skipped" is output. For the deletion result, one of the following values is output:

Completed: File deletion finished successfully.

Failed: File deletion failed.

Skipped: File deletion was not performed.

(c) File path (header name: FilePath)

The paths of the virtual disk files set for the Hyper-V server are output, regardless of the values in (a) and (b).

Use situation

You can use this plug-in to delete virtual servers.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) The virtual servers must not be running.

Cautions

(1) If you previously performed an operation (such as a snapshot-related operation) to make the path of a virtual disk file invisible in the virtual server settings, this service will not delete that virtual disk file. In such a case, manually delete the virtual disk file.

(2) If you specify the name of an existing file for the property hyperv.vhdListOutputFileName, the existing file will be overwritten.

(3) If you specify a path that includes non-existent folders for the property hyperv.vhdListOutputFileName, this service automatically creates those folders. However, these folders are not automatically deleted when the file is deleted. Periodically delete these folders if they are unnecessary.

(4) If you specify the property hyperv.vhdListOutputFileName, a list of virtual disk files is output even if an error occurs during the deletion of the virtual server or virtual disk files.

(5) This plug-in does not delete the registration information of virtual servers from any services or applications of the failover cluster manager. Manually delete the registration information based on the user operational requirements.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012DeleteVM

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vHardDiskDeletePerm anently	Deletion of virtual disk file required	To delete the virtual disk files used on the virtual server, specify "yes". If you do not want to delete these files, specify "no".	no	Input	R
hyperv.vhdListOutputFileNa me	Output file name for virtual disk file list	Specifies, as a full path, the file name for the output of the virtual disk file list.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.5.10 Obtain the virtual server information list

Function

This plug-in outputs a CSV file containing a list of information about the virtual servers managed by the Hyper-V server.

The file is encoded in the default encoding of the system of the Hyper-V server.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following items are output to the file in CSV (comma-separated value) format:

(a) Name of the Hyper-V server (header name: ComputerName)

(b) Name of the virtual server (header name: VMName)

(c) State of the virtual server (header name: State)

(d) CPU usage (%) of the virtual server (header name: CPUUsage)

(e) Size of the memory (in MB) allocated to the virtual server# (header name: MemoryAssigned)

(f) Running time of the virtual server (header name: Uptime)

(g) Status of the virtual server (header name: Status)

(h) Number of virtual processors on the virtual server (header name: ProcessorCount)

(i) Startup RAM (in MB) of the virtual server (header name: MemoryStartup)

(j) Whether dynamic memory is enabled on the virtual server (header name: DynamicMemoryEnabled)

#: Size of the memory (in MB) that is actually used by the virtual server

Use situation

This plug-in obtains information about the virtual servers managed by the Hyper-V server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

None.

Cautions

(1) If you specify the name of an existing file, the existing file will be overwritten. For this reason, make sure the specified file name is correct.

(2) If you specify a path that includes non-existent folders, those folders are automatically created. However, these folders are not automatically deleted when the file is deleted. Periodically delete these folders if they are unnecessary.

(3) If two or more virtual servers have the same name, you will not be able to distinguish these virtual servers in the output CSV file.

Version

02.00.00

Plug-in tags

Gather VM information,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012OutputVmSpec

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requi red
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmInfoListOutputFile Name	Virtual Server Information Output File	Specify the full path of the file to which the list of virtual server information is to be output.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.5.11 Obtain Status of Virtual Server

Function

This plug-in is used to obtain the statuses of virtual servers in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The status of the virtual server is obtained and then stored as a numeric value in the property hyperv.vmState. To check the meaning of the stored value, see the line that begins with "vmState:" in the task log. To check this, you must set the logging level of the task log to 30 or 40, so that the default output items are logged.

Use situation

This plug-in can be used to check the statuses of virtual servers, so that the appropriate operation (such as starting, stopping, or deleting a virtual server) can be performed.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

OSs for the prerequisite products on the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Condition for using the prerequisite products on the execution-target server:

(1) The virtual server name must be unique within a single Hyper-V server.

Version

02.00.00

Plug-in tags

Gather VM information,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012GetVMState

Return code

0: Normal

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Outpu t	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.5.12 Unmount a virtual disk

Function

This plug-in unmounts virtual disks from the Hyper-V server.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Use situation

This plug-in can be used to unmount virtual disks from the Hyper-V server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

-Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using the execution-target server:

(1) The virtual server name must be unique within the Hyper-V server.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012UnmountVhd

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vhdPath	Virtual disk file path (for first NIC)	Specifies the path of the virtual disk file (first NIC) as a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.5.13 Mount a virtual disk

Function

This plug-in mounts a virtual disk to a Hyper-V server.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Use situation

This plug-in can be used to mount a virtual disk to the Hyper-V server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

-Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Exceptions are environments in which Server Core is installed.

Conditions for using the execution-target server:

(1) The virtual server name must be unique within the Hyper-V server.

Cautions

(1) When virtual disks on a virtual server are mounted to the Hyper-V server, available drive letters on the Hyper-V server are temporarily locked. If there are no available drive letters, an error occurs and this plug-in terminates. Before you execute this plug-in, make sure that there are as many available drive letters on the Hyper-V server as the number of drives used by the virtual disks to be mounted.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012MountVhd

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vhdPath	Virtual disk file path (for first NIC)	Specifies the path of the virtual disk file (first NIC) as a full path.	--	Input	R
hyperv.vhdPath2	Virtual disk file path (for second NIC)	Specifies the path of the virtual disk file (second NIC) as a full path.	--	Input	O
hyperv.vhdPath3	Virtual disk file path (for third NIC)	Specifies the path of the virtual disk file (third NIC) as a full path.	--	Input	O
hyperv.vhdPath4	Virtual disk file path (for fourth NIC)	Specifies the path of the virtual disk file (fourth NIC) as a full path.	--	Input	O
hyperv.checkJobStateCountG etDriveList	Job monitoring count (Win32_LogicalDisk method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	1440	Input	R
hyperv.checkJobStateInterval GetDriveList	Job monitoring interval (Win32_LogicalDisk method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing	5	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.checkJobStateInterval GetDriveList	Job monitoring interval (Win32_LogicalDisk method)	(Win32_LogicalDisk method). You do not need to change the value of this property.	5	Input	R
hyperv.returnDriveLetter	Drive letter	Stores the drive letter assigned to the virtual disk that was mounted by this component.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O
hyperv.returnVhdPath	Virtual disk file path	Stores the path of the virtual disk file as a full path.	--	Outpu t	O

5.5.14 Create Virtual Disk

Function

This plug-in creates a new virtual disk file in a Hyper-V environment.

This plug-in requires the following server:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

This plug-in can create dynamic (variable-size) or fixed (fixed-size) virtual disks. It cannot create differential virtual disks or pass-through (physical) disks.

If you specify the property hyperv.vHardDiskFolderPath, a new virtual disk file is created in the folder path specified by the property. If you do not specify this property, a new virtual disk is saved in the default virtual-disk storage folder set on the Hyper-V server.

If you specify a path that includes non-existent folders, those folders are automatically created.

Use situation

You can use this plug-in when adding data disks to a virtual server (for example, when setting up a new virtual server or increasing the capacity of a disk).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

None.

Cautions

(1) The created virtual disk is not initialized. Manually initialize it as necessary.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012CreateVDisk

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vHardDiskName	Virtual Disk File Name	Specify the name of the virtual disk file to be created. The file extension must be "vhd" or "vhdx".	--	Input	R
hyperv.vHardDiskFolderPath	Virtual Disk Folder Path	Specify the full path of the folder in which to store the virtual disk to be created. If you omit this setting, the default folder for storing virtual disks specified on the Hyper-V server will be used.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
hyperv.vHardDiskType	Virtual disk type	Specifies the virtual disk type. Specify one of the following: dynamic (an adjustable-size virtual disk is created) or fixed (a fixed-size virtual disk is created).	--	Input	R
hyperv.vHardDiskCapacityGB	Virtual disk capacity (GB)	Specify (in GB) the capacity of the virtual disk to be created. Specify the capacity of the virtual disk as an integer.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--
hyperv.returnVhdPath	Virtual disk file path	Stores, as a full path, the file path of the virtual disk created by this component.	--	Output	--

5.5.15 Connect Virtual Disk

Function

This plug-in connects a virtual disk to a virtual server in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

You can add virtual disks to a SCSI controller but not to an IDE controller.

The method for connecting a virtual disk to a SCSI controller varies depending on whether the SCSI controller ID number (the property hyperv.scsiControllerNumber) and SCSI controller location number (the property hyperv.scsiLocationNumber) are specified.

- If neither the SCSI controller ID number nor the SCSI controller location number is specified:

The Hyper-V server automatically connects the virtual disk to an available SCSI controller.

- If only the SCSI controller ID number is specified:

The Hyper-V server automatically connects the virtual disk to any location (0 to 63) of the specified SCSI controller.

- If only the SCSI controller location number is specified

The Hyper-V server automatically connects the virtual disk to the specified SCSI controller location of an available SCSI controller (0 to 3).

- If both the SCSI controller ID number and SCSI controller location number are specified

The virtual disk is connected to the specified location of the specified SCSI controller.

Use situation

You can use this plug-in when adding data disks to a virtual server (for example, when setting up a new virtual server or increasing the capacity of a disk).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2012 Hyper-V, Windows Server 2012 R2 Hyper-V

(2) OS of the virtual server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) There must be an available SCSI controller on the virtual server.

Cautions

(1) If another virtual disk is already connected to the specified SCSI controller location of the specified SCSI controller, this task terminates abnormally.

(2) For second-generation virtual servers, you can connect only virtual disks that are in VHDX file format. If you attempt to connect a created VHD file to a second-generation virtual server, this task terminates abnormally.

Version

02.00.00

Plug-in tags

Modify VM,Hyper-V 2012

Plug-in name displayed in the task log

hyperv2012AttachVDisk

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.attachVHardDiskFileP ath	Path of Virtual Disk File to Be Connected	Specify the full path of the virtual disk file to be connected to the specified virtual server.	--	Input	R
hyperv.scsiControllerNumber	SCSI controller number	Specifies the SCSI controller number of the virtual server that adds the virtual disk. Specify the SCSI controller number as an integer from 0 in the order that the SCSI controllers were added to the virtual server (displayed in the Hyper-V Manager).	--	Input	O
hyperv.scsiLocationNumber	SCSI controller location number	Specifies the location number of the SCSI controller of the virtual server that adds the virtual disk. Specify the SCSI controller location number as an integer for the unused locations of SCSI controllers that were added to the virtual server.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--
hyperv.attachScsiControllerN umber	Number of Connected SCSI Controller	Stores the number of the SCSI controller to which the virtual disk file is connected.	--	Output	--

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.attachScsiLocationNu mber	Location Number of Connected SCSI Controller	Stores the location number of the SCSI controller to which the virtual disk file is connected.	--	Outpu t	--

5.6 Hyper-V 2016-related Plug-ins

5.6.1 Create a response file

Function

This plug-in creates a response file for specifying the initial OS settings and setting an IP address for a virtual server (Windows) in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Only one IP address can be set. If the virtual server has two or more NICs, the IP address is set for the first NIC. The other NICs are unavailable.

The IP address to be set for the (first) NIC is determined based on the following priority: management-use IP address > second IP address > third IP address > fourth IP address. Among the specified IP addresses, only the one with the highest priority is set and the others are discarded.

Specifiable time zones are as follows:

Tokyo Standard Time

China Standard Time

GMT Standard Time

Pacific Standard Time

Eastern Standard Time

US Eastern Standard Time

Central Standard Time

Central America Standard Time

US Mountain Standard Time

Mountain Standard Time

Alaskan Standard Time

Hawaiian Standard Time

Singapore Standard Time

India Standard Time

If no time zone is specified, the time zone set in the exported virtual server is used.

Specifiable locales are as follows:

ja-JP

en-US

zh-CN

Specifiable OS names are as follows:

Windows Server 2012

Windows Server 2012 R2

Windows Server 2016

Use situation

This plug-in can be used to create a response file that sets up the OS and sets an IP address for a virtual server (Windows) in a Hyper-V environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution target server:

(1) Prerequisite products for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for virtual servers

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using prerequisite products on the execution target server:

(1) The virtual server name must be unique within the Hyper-V server.

Cautions

(1) If the OS of the virtual server being created is Windows, the organization name and owner name are required. If the organization name is omitted, the string "Organization" is set as the organization name. If the owner name is omitted, the string "Owner" is set as the owner name.

(2) If the OS of the virtual server being created is Windows, the OS user password must be entered twice (the second entry being for confirmation). If the OS user password is not entered twice, "Password123" is set as the password. This password is also set if the first and second entered passwords do not match.

(3) If the OS of the virtual server being created is Windows, either WORKGROUP or DOMAIN must be selected from the selection list for the OS.selectWorkgroupDomain property. If neither WORKGROUP nor DOMAIN is selected, "WORKGROUP" is set as the workgroup name. Similarly, if workgroup-name/domain-name is not entered, "WORKGROUP" is set as the workgroup name.

(4) If the OS of the virtual server being created is Windows and WORKGROUP is selected from the selection list for the OS.selectWorkgroupDomain property, the maximum length of the specifiable workgroup name is 15 characters. If you specify a workgroup name longer than 15 characters, the string "WORKGROUP" is set, instead of the specified name.

(5) If the OS of the virtual server being created is Windows and DOMAIN is selected from the selection list for the OS.selectWorkgroupDomain property, the domain name, domain user name, and domain password are required. If any values for these items are missing or invalid, "WORKGROUP" is set as the workgroup name.

(6) Be sure to specify both the IP address and subnet mask. If you do not specify both of these items, the IP address, subnet mask and default gateway are not set.

Version

02.12.00

Plug-in tags

Modify VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016CreateAnsFile

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.ansFileStoreFolderPath	Folder path for storing response file	Specifies the full path of the folder where the response file is stored.	--	Input	R
common.computerName	Computer/Host name	Specifies the OS computer name (host name).	--	Input	R
Windows.orgName	Organization name (company name)	Specifies the organization name that is set for the OS of the virtual server.	--	Input	R
Windows.ownerName	Name (owner name)	Specifies the name (owner name) that is set for the OS of the virtual server.	--	Input	R
OS.ipAddressMan	The 1st IP address	Specify the 1st IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMaskMan	The 1st Subnet mask	Specify the 1st subnet mask for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGWMan	The 1st Default gateway	Specify the 1st default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dnsMan	The 1st DNS server IP address	Specify the 1st IP address of the DNS server for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.ipAddress2	IP address (for second NIC)	Specifies the IP address set for the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask2	Subnet mask (for second NIC)	Specifies the subnet mask that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW2	Default gateway (for second NIC)	Specifies the default gateway that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns2	DNS server IP address (for second NIC)	Specifies the IP address of the DNS server that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress3	IP address (for third NIC)	Specifies the IP address set for the third NIC recognized by the	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
OS.ipAddress3	IP address (for third NIC)	virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask3	Subnet mask (for third NIC)	Specifies the subnet mask that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW3	Default gateway (for third NIC)	Specifies the default gateway that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns3	DNS server IP address (for third NIC)	Specifies the IP address of the DNS server that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress4	IP address (for fourth NIC)	Specifies the IP address set for the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask4	Subnet mask (for fourth NIC)	Specifies the subnet mask that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW4	Default gateway (for fourth NIC)	Specifies the default gateway that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns4	DNS server IP address (for fourth NIC)	Specifies the IP address of the DNS server that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.workgroupNameDomainName	Workgroup/domain name	Specifies the workgroup name or domain name where the virtual server belongs. Specify the workgroup name using a maximum of 15 characters. Specify the domain name using a maximum of 63 characters.	--	Input	R
OS.domainUserName	Domain user name	Specifies the user name of the domain where the virtual server belongs. You must enter this if "DOMAIN" was selected in the Workgroup/domain selection.	--	Input	O
OS.domainUserPassword	Domain password	Specifies the password of the domain where the virtual server belongs. You must enter this if "DOMAIN" was selected in the Workgroup/domain selection.	--	Input	O
OS.selectWorkgroupDomain	Select workgroup or domain	Specifies whether the virtual server belongs to a workgroup or domain.	--	Input	R
common.osUserPassword	Administrator password	Specifies the administrator password that is set for the OS. If	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.osUserPassword	Administrator password	nothing is entered, "Password123" is set.	--	Input	O
common.osUserPasswordReE nter	Re-enter administrator password	Re-enter the administrator password that is set for the OS. If nothing is entered, "Password123" is set.	--	Input	O
OS.productKey	Windows product key	Specifies the Windows product key. Enter this in the format "XXXXX-XXXXX-XXXXX-XXXXX-XXXXX".	--	Input	O
OS.operatingSystem	Operating system	Specifies the operating system (OS) of the virtual server.	--	Input	R
OS.timeZone	Time zone	Specifies the time zone that is set to the OS of the virtual server.	--	Input	O
OS.systemLocale	System locale	Specifies the system locale that is set for the OS of the virtual server.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--
common.flag2IPsSetup	Whether two IP addresses are set to virtual server	Property that indicates whether two IP addresses have been set to a virtual server (TRUE), or otherwise (FALSE).	--	Output	--
common.flagJoinDomain	Domain join process required	The value stored for this property is TRUE when joining the domain, and FALSE when not joining the domain.	--	Output	--
OS.mngIpaddr	IP address (for management)	Stores the IP address (for management).	--	Output	--

5.6.2 Change CPU Settings of Virtual Server

Function

This plug-in is used to change the CPU settings of virtual servers in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

This plug-in can be used to change the following CPU settings:

- Number of virtual processors

- Number of reserved virtual processor resources

- Maximum number of virtual processor resources

- Relative Weight setting for virtual processor resources

- Processor compatibility

- Maximum number of processors that can be used on a NUMA node

- Maximum number of NUMA nodes that can be used by a socket

Use situation

This plug-in can be used to change the CPU settings of a virtual server.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Environments where Server Core/Nano Server is installed are excluded.

OSs for the prerequisite products on the execution-target server:

- Windows Server 2016 Standard/Datacenter

Environments where Server Core/Nano Server is installed are excluded.

Condition for using the prerequisite products on the execution-target server:

(1) Each virtual server name must be unique within a single Hyper-V server.

Cautions

(1) The CPU settings that can be changed differ depending on the status of the virtual server.

(2) If all CPU settings are blank, an error occurs.

Version

02.12.00

5. JP1/AO Content Pack Plug-ins

Plug-in tags

Modify VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016ChangeVMCPU

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.cpuCount	Number of Virtual Processors	Specify the number of virtual processors used to configure the virtual server.	--	Input	O
hyperv.cpuReserve	Reservation of Virtual Processor Resources	Specify the allocation of the virtual processor resources between virtual servers reserved by the virtual server.	--	Input	O
hyperv.cpuMaximum	Maximum for Virtual Processor Resources	Specify the maximum value for the allocation of the virtual processor resources between virtual servers to be used by the virtual servers.	--	Input	O
hyperv.cpuRelativeWeight	Relative Weight of Virtual Processor Resources	Specify the relative weight of the virtual processor resources between virtual servers.	--	Input	O
hyperv.cpuCompatibilityFor MigrationEnabled	Compatibility of Processors	Specify "true" to enable or "false" to disable compatibility of processors. When a value is not entered, settings for the compatibility of processors will not be changed.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.cpuMaximumCountPe rNumaNode	Maximum Number of Processors used with NUMA Node	Specify the maximum number of processors that can be used with 1 virtual NUMA (Non-Uniform Memory Architecture) node.	--	Input	O
hyperv.nodeMaximumCountP erNumaSocket	Maximum Number of NUMA Nodes used in Socket	Specify the maximum number of virtual NUMA (Non-Uniform Memory Architecture) nodes that can be used in 1 socket.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.6.3 Obtain IP Address of Virtual Server

Function

This plug-in is used to obtain IP (IPv4) addresses from all NICs on a virtual server in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The obtained IP addresses are stored in the property hyperv.vmIPaddress in comma-separated format.

Note that, if the total length of these IP addresses exceeds 1,024 characters, all characters after the 1024th character are discarded. If the number of IPv4 addresses set on all NICs exceeds 64 addresses, the total length of these addresses might exceed 1,024 characters.

Use situation

This plug-in can be used to check the IP address (IPv4) set for a virtual server or to issue an ICMP echo request to a virtual server.

When an ICMP echo request is issued, the virtual server IP address obtained by this plug-in is used as input for the plug-in osSendIcmp.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Environments where Server Core/Nano Server is installed are excluded.

OSs for the prerequisite products on the execution-target server:

- Windows Server 2016 Standard/Datacenter

Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

(1) Each virtual server name must be unique within a single Hyper-V server.

(2) The following Hyper-V Integration Service must be enabled on the target virtual server:

- Data Exchange

(3) The virtual server must be running.

Version

02.12.00

Plug-in tags

Gather VM information,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016GetVMIPaddress

Return code

0: Normal

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vmIPaddress	Virtual server IP address	Stores the virtual server IP address. When multiple IP addresses are set for the virtual server, they are separated by commas in the output file.	--	Output	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

5.6.4 Shut down a virtual server

Function

This plug-in forcibly shuts down the OS of the virtual server in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Use situation

This plug-in can be used to shut down the OS of a virtual server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using prerequisite products on the execution target server:

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following service of Hyper-V Integration Service on the target virtual server must be active:

- Operating system shutdown

(3) The virtual server has been started.

Cautions

(1) This plug-in forcibly shuts down the OS of the specified virtual server. If this plug-in is used, the data in the files being edited on the virtual server is not saved.

Version

02.12.00

Plug-in tags

Control VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016ShutdownVM

Return code

0: Normal

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

28: Error (Invalid status change of the virtual server) A change to the virtual service status was invalid

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Outpu t	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.6.5 Change Memory Settings of Virtual Server

Function

This plug-in can be used to change the memory settings of virtual servers in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

This plug-in can be used to change the following memory settings:

- Startup RAM (MB)

- Whether to enable dynamic memory

- Minimum RAM for dynamic memory (MB)

- Maximum RAM for dynamic memory (MB)

- Buffer for dynamic memory

- Memory weight

- Maximum size of the memory available on a NUMA node (MB)

Use situation

This plug-in can be used to change the memory settings of a virtual server.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Environments where Server Core/Nano Server is installed are excluded.

OSs for the prerequisite products on the execution-target server:

- Windows Server 2016 Standard/Datacenter

Environments where Server Core/Nano Server is installed are excluded.

Condition for using the prerequisite products on the execution-target server:

(1) Each virtual server name must be unique within a single Hyper-V server.

Cautions

(1) The memory settings that can be changed differ depending on the status of the virtual server.

(2) If all memory settings are blank, an error occurs.

Version

02.12.00

Plug-in tags

Modify VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016ChangeVMMemory

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.memoryStartupMegaBytes	Startup RAM (MB)	Specify the amount of memory to use, in units of MB, when starting the virtual server.	--	Input	O
hyperv.dynamicMemoryEnabled	Enable Dynamic Memory	Specify "true" to enable or "false" to disable dynamic memory of the virtual server. When a value is not entered, settings for enabling dynamic memory will not be changed.	--	Input	O
hyperv.dynamicMemoryMinimumMegaBytes	Minimum RAM (MB) of Dynamic Memory	Specify the minimum amount of memory, in units of MB, for the dynamic memory. Only specify this when dynamic memory is enabled.	--	Input	O
hyperv.dynamicMemoryMaximumMegaBytes	Maximum RAM (MB) of Dynamic Memory	Specify the maximum amount of memory, in units of MB, for the dynamic memory. Only specify this when dynamic memory is enabled.	--	Input	O
hyperv.dynamicMemoryBuffer	Memory Buffer of Dynamic Memory	Specify the ratio of the memory to be reserved as the buffer with Hyper-V. Only specify this when dynamic memory is enabled.	--	Input	O
hyperv.memoryPriority	Priority of Memory	Specify the priority when assigning usable memory between virtual machines.	--	Input	O
hyperv.memoryMaximumAmountMegaBytesPerNumaNode	Maximum Amount (MB) of Memory used with NUMA Node	Specify the maximum amount of memory that can be used with 1 virtual NUMA (Non-Uniform Memory Architecture) node in units of MB.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

5.6.6 Virtual server virtual switch settings

Function

This plug-in sets virtual switches on a virtual server in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Virtual switches are set for the NICs that are set on the virtual server and have the specified MAC addresses.

The virtual switches that have already been set for the NICs are overwritten with the new ones.

If the virtual switch specification is missing, connections to the virtual switches are not established.

If an invalid value or no value is specified for MAC addresses, the NICs for which virtual switches are to be set are determined in the order of NICs Hyper-V recognizes.

A maximum of four virtual switches can be set. Note that if you specify more virtual switches than the number of NICs on the virtual server, the settings of the virtual switches that cannot be allocated to NICs do not take effect.

Use situation

This plug-in can be used to set virtual switches on a virtual server in a Hyper-V environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using prerequisite products on the execution target server:

(1) The virtual server name must be unique within the Hyper-V server.

(2) The virtual switch name must be unique within the Hyper-V server.

(3) No legacy network adapter is set in the virtual server.

Version

02.12.00

Plug-in tags

Modify VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016SetVirtualSwitch

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.virtualSwitch1	Virtual switch name (for first NIC)	Specifies the virtual switch name (for first NIC) set for the first NIC that is set for the virtual server.	--	Input	O
OS.nic1MacAddress	NIC MAC address (for first NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for first NIC).	--	Input	O
hyperv.virtualSwitch2	Virtual switch name (for second NIC)	Specifies the virtual switch name (for second NIC) set for the second NIC that is set for the virtual server.	--	Input	O
OS.nic2MacAddress	NIC MAC address (for second NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for second NIC).	--	Input	O
hyperv.virtualSwitch3	Virtual switch name (for third NIC)	Specifies the virtual switch name (for third NIC) set for the third NIC that is set for the virtual server.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
OS.nic3MacAddress	NIC MAC address (for third NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for third NIC).	--	Input	O
hyperv.virtualSwitch4	Virtual switch name (for fourth NIC)	Specifies the virtual switch name (for fourth NIC) set for the fourth NIC that is set for the virtual server.	--	Input	O
OS.nic4MacAddress	NIC MAC address (for fourth NIC)	Specifies the MAC address of the NIC that sets the virtual switch name (for fourth NIC).	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.6.7 Start a virtual server

Function

This plug-in starts the virtual server in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Use situation

This plug-in can be used to start a virtual server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using prerequisite products on the execution target server:

(1) The virtual server name must be unique within the Hyper-V server.

(2) The following service of Hyper-V Integration Service on the target virtual server must be active:

- Data Exchange

(3) The virtual server has been stopped.

Version

02.12.00

Plug-in tags

Control VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016PowerOnVM

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

29: Error (The check of the virtual server status timed out.) The check of the virtual server status timed out.

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.vmName	Virtual server name	Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.checkVmStateEnabled Count	Virtual server status (startup complete) check count	Specifies the number of times to check whether virtual server startup is complete. This value combined with the check interval for the virtual server status (startup complete) determines the maximum wait time.	1440	Input	R
hyperv.checkVmStateEnabled Interval	Virtual server status (startup complete) check interval	Specifies the interval in seconds between checks for whether virtual server startup is complete.	5	Input	R
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Output	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

5.6.8 Create a virtual server

Function

This plug-in creates a virtual server by replicating an exported virtual server in a Hyper-V environment.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

- Exported virtual server

A virtual server exported from Hyper-V and a set of files that make up the virtual server.

- Container server

The server that contains the exported virtual server that is to be replicated.

The exported virtual server is replicated at the import destination.

The virtual server is created on the Hyper-V server by using the import function.

When a virtual server is created, a new unique ID is assigned.

If folders in the path specified as the import destination already exist, they are used as is.

Use situation

This plug-in can be used to create a new virtual server in a Hyper-V environment. By using this plug-in with the following plug-ins, you can specify the initial OS settings and set the IP address of the virtual server:

- hyperv2016CreateAnsFile

- hyperv2016MountVhd

- hyperv2016UnmountVhd

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using the execution-target server:

(1) The virtual server name must be unique within the Hyper-V server.

(2) If the container server and the Hyper-V server are different, the folder containing the virtual server exported from the Hyper-V server must be a shared folder.

(3) Snapshots and differential disks must not be created on the exported virtual server.

(4) The NIC of the exported virtual server must be disconnected from a virtual switch.

Cautions

(1) If one or more folders in the specified import destination path do not exist, non-existent folders are created.

(2) If virtual disk files remain in folders in the specified import destination path, the task terminates abnormally. Check the folders in the specified path, and then delete them or specify another path.

(3) This plug-in does not register virtual servers deployed for any services and applications of the failover cluster manager. Register those servers manually according to the user operating requirements.

(4) In this service template, drive letter of drive connected to the deployed virtual server may be changed, in order to initialize the system information of the OS by sysprep. So that the drive letter may not match between the deployed virtual server and template of the virtual server. Also if the application has been installed on the drive where the drive letter has been changed, there is a possibility that the application may not work correctly.

Version

02.12.00

Plug-in tags

Add VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016CreateVM

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.importFolderPath	Import target	Specifies the path of the folder where the virtual server is stored.	--	Input	R
hyperv.userName	User name for connecting to storage server	Specifies the user name for connecting to the storage server. Specify this property if the storage server is a server other than the Hyper-V server.	--	Input	O
hyperv.password	Password for connecting to storage server	Specifies the password for connecting to the storage server.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.password	Password for connecting to storage server	Specify this property if the storage server is a server other than the Hyper-V server.	--	Input	O
hyperv.exportedVmName	Path of exported virtual server folder	Specifies the folder name, as a full path, of the exported virtual server that is used as the copy source of the virtual server. If the storage server is a server other than the Hyper-V server, specify the path in UNC syntax.	--	Input	R
hyperv.scsiDiskLocation	SCSI controller location	Specifies the location of the SCSI controller to which the system disk is set. This property is enabled only if the generation of the exported virtual server is the second generation.	0	Input	R
hyperv.returnVhdPath	Virtual disk file path (for first NIC)	Stores, as a full path, the file path of the virtual disk (first NIC) created by this component.	--	Output	--
hyperv.returnVhdPath2	Virtual disk file path (for second NIC)	Stores, as a full path, the file path of the virtual disk (second NIC) created by this component.	--	Output	--
hyperv.returnVhdPath3	Virtual disk file path (for third NIC)	Stores, as a full path, the file path of the virtual disk (third NIC) created by this component.	--	Output	--
hyperv.returnVhdPath4	Virtual disk file path (for fourth NIC)	Stores, as a full path, the file path of the virtual disk (fourth NIC) created by this component.	--	Output	--
hyperv.returnNumOfNic	Number of NICs	Stores the number of NICs connected to the virtual server.	--	Output	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

5.6.9 Delete Virtual Servers

Function

This plug-in deletes virtual servers in a Hyper-V environment. When a virtual server is deleted from the Hyper-V server, all snapshots for that virtual server are also deleted.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

If you specify "yes" for the property hyperv.vHardDiskDeletePermanently, this plug-in deletes all virtual disk files (dynamic, fixed, and differential) that are allocated to the virtual server to be deleted. This plug-in does not delete the disks or files that are allocated to pass-through (physical) disks, floppy disks, CDs, or DVDs. If differential virtual disks are allocated to the virtual server, this plug-in does not delete the virtual disks that are used as the parents of those differential virtual disks.

If the property hyperv.vhdListOutputFileName is specified, this plug-in outputs a CSV file that lists the paths of the virtual disk files allocated to the virtual server to be deleted from the Hyper-V server. If differential virtual disks are allocated to the server, the virtual disks that are used as the parents of those differential virtual disks are not included in the CSV file.

The following items are output to the file in CSV (comma-separated value) format:

(a) Whether virtual disk files exist (header name: Existence)

Depending on whether virtual disk files are allocated to the virtual server when the server is deleted, one of the following values is output:

Found: Existence of virtual disk files was confirmed.

NotFound: Virtual disk files were set up, but their existence could not be confirmed.

(b) File deletion result (header name: DeleteResult)

If you specify "yes" for the property hyperv.vHardDiskDeletePermanently, this plug-in outputs the result of deleting the virtual disk files. If you specify "no", "Skipped" is output. For the deletion result, one of the following values is output:

Completed: File deletion finished successfully.

Failed: File deletion failed.

Skipped: File deletion was not performed.

(c) File path (header name: FilePath)

The paths of the virtual disk files set for the Hyper-V server are output, regardless of the values in (a) and (b).

Use situation

You can use this plug-in to delete virtual servers.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) OS of the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) The virtual servers must not be running.

Cautions

(1) If you previously performed an operation (such as a snapshot-related operation) to make the path of a virtual disk file invisible in the virtual server settings, this service will not delete that virtual disk file. In such a case, manually delete the virtual disk file.

(2) If you specify the name of an existing file for the property hyperv.vhdListOutputFileName, the existing file will be overwritten.

(3) If you specify a path that includes non-existent folders for the property hyperv.vhdListOutputFileName, this service automatically creates those folders. However, these folders are not automatically deleted when the file is deleted. Periodically delete these folders if they are unnecessary.

(4) If you specify the property hyperv.vhdListOutputFileName, a list of virtual disk files is output even if an error occurs during the deletion of the virtual server or virtual disk files.

(5) This plug-in does not delete the registration information of virtual servers from any services or applications of the failover cluster manager. Manually delete the registration information based on the user operational requirements.

Version

02.12.00

Plug-in tags

Modify VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016DeleteVM

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vHardDiskDeletePerm anently	Deletion of virtual disk file required	To delete the virtual disk files used on the virtual server, specify "yes". If you do not want to delete these files, specify "no".	no	Input	R
hyperv.vhdListOutputFileNa me	Output file name for virtual disk file list	Specifies, as a full path, the file name for the output of the virtual disk file list.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.6.10 Obtain the virtual server information list

Function

This plug-in outputs a CSV file containing a list of information about the virtual servers managed by the Hyper-V server.

The file is encoded in the default encoding of the system of the Hyper-V server.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The following items are output to the file in CSV (comma-separated value) format:

(a) Name of the Hyper-V server (header name: ComputerName)

(b) Name of the virtual server (header name: VMName)

(c) State of the virtual server (header name: State)

(d) CPU usage (%) of the virtual server (header name: CPUUsage)

(e) Size of the memory (in MB) allocated to the virtual server# (header name: MemoryAssigned)

(f) Running time of the virtual server (header name: Uptime)

(g) Status of the virtual server (header name: Status)

(h) Number of virtual processors on the virtual server (header name: ProcessorCount)

(i) Startup RAM (in MB) of the virtual server (header name: MemoryStartup)

(j) Whether dynamic memory is enabled on the virtual server (header name: DynamicMemoryEnabled)

#: Size of the memory (in MB) that is actually used by the virtual server

Use situation

This plug-in obtains information about the virtual servers managed by the Hyper-V server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) OS of the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

None.

Cautions

(1) If you specify the name of an existing file, the existing file will be overwritten. For this reason, make sure the specified file name is correct.

(2) If you specify a path that includes non-existent folders, those folders are automatically created. However, these folders are not automatically deleted when the file is deleted. Periodically delete these folders if they are unnecessary.

(3) If two or more virtual servers have the same name, you will not be able to distinguish these virtual servers in the output CSV file.

Version

02.12.00

Plug-in tags

Gather VM information,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016OutputVmSpec

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmInfoListOutputFile Name	Virtual Server Information Output File	Specify the full path of the file to which the list of virtual server information is to be output.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.6.11 Obtain Status of Virtual Server

Function

This plug-in is used to obtain the statuses of virtual servers in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

The status of the virtual server is obtained and then stored as a numeric value in the property hyperv.vmState. To check the meaning of the stored value, see the line that begins with "vmState:" in the task log. To check this, you must set the logging level of the task log to 30 or 40, so that the default output items are logged.

Use situation

This plug-in can be used to check the statuses of virtual servers, so that the appropriate operation (such as starting, stopping, or deleting a virtual server) can be performed.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite products on the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Environments where Server Core/Nano Server is installed are excluded.

OSs for the prerequisite products on the execution-target server:

- Windows Server 2016 Standard/Datacenter

Environments where Server Core/Nano Server is installed are excluded.

Condition for using the prerequisite products on the execution-target server:

(1) The virtual server name must be unique within a single Hyper-V server.

Version

02.12.00

Plug-in tags

Gather VM information,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016GetVMState

Return code

0: Normal

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vmState	Virtual server status	Stores the status of the virtual server.	--	Output	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

5.6.12 Unmount a virtual disk

Function

This plug-in unmounts virtual disks from the Hyper-V server.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Use situation

This plug-in can be used to unmount virtual disks from the Hyper-V server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using the execution-target server:

(1) The virtual server name must be unique within the Hyper-V server.

Version
02.12.00

Plug-in tags
Modify VM,Hyper-V 2016

Plug-in name displayed in the task log
hyperv2016UnmountVhd

Return code
0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list
The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vhdPath	Virtual disk file path (for first NIC)	Specifies the path of the virtual disk file (first NIC) as a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--

5.6.13 Mount a virtual disk

Function

This plug-in mounts a virtual disk to a Hyper-V server.

The following describes the servers that this plug-in requires:

- Hyper-V server (execution target server)

A Windows server on which Hyper-V is installed.

- Virtual server

A virtual server managed by Hyper-V.

Use situation

This plug-in can be used to mount a virtual disk to the Hyper-V server.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) Prerequisite OS for the virtual server

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Exceptions are environments in which Server Core/Nano Server is installed.

Conditions for using the execution-target server:

(1) The virtual server name must be unique within the Hyper-V server.

Cautions

(1) When virtual disks on a virtual server are mounted to the Hyper-V server, available drive letters on the Hyper-V server are temporarily locked. If there are no available drive letters, an error occurs and this plug-in terminates. Before you execute this plug-in, make sure that there are as many available drive letters on the Hyper-V server as the number of drives used by the virtual disks to be mounted.

Version

02.12.00

Plug-in tags

Modify VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016MountVhd

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.vhdPath	Virtual disk file path (for first NIC)	Specifies the path of the virtual disk file (first NIC) as a full path.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
hyperv.vhdPath2	Virtual disk file path (for second NIC)	Specifies the path of the virtual disk file (second NIC) as a full path.	--	Input	O
hyperv.vhdPath3	Virtual disk file path (for third NIC)	Specifies the path of the virtual disk file (third NIC) as a full path.	--	Input	O
hyperv.vhdPath4	Virtual disk file path (for fourth NIC)	Specifies the path of the virtual disk file (fourth NIC) as a full path.	--	Input	O
hyperv.checkJobStateCountGetDriveList	Job monitoring count (Win32_LogicalDisk method)	This property adjusts the job monitoring count for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	1440	Input	R
hyperv.checkJobStateIntervalGetDriveList	Job monitoring interval (Win32_LogicalDisk method)	This property adjusts the job monitoring interval for monitoring requests to Hyper-V for processing (Win32_LogicalDisk method). You do not need to change the value of this property.	5	Input	R
hyperv.returnDriveLetter	Drive letter	Stores the drive letter assigned to the virtual disk that was mounted by this component.	--	Output	--
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--
hyperv.returnVhdPath	Virtual disk file path	Stores the path of the virtual disk file as a full path.	--	Output	--

5.6.14 Create Virtual Disk

Function

This plug-in creates a new virtual disk file in a Hyper-V environment.

This plug-in requires the following server:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

This plug-in can create dynamic (variable-size) or fixed (fixed-size) virtual disks. It cannot create differential virtual disks or pass-through (physical) disks.

If you specify the property hyperv.vHardDiskFolderPath, a new virtual disk file is created in the folder path specified by the property. If you do not specify this property, a new virtual disk is saved in the default virtual-disk storage folder set on the Hyper-V server.

If you specify a path that includes non-existent folders, those folders are automatically created.

Use situation

You can use this plug-in when adding data disks to a virtual server (for example, when setting up a new virtual server or increasing the capacity of a disk).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2016 Hyper-V

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

None.

Cautions

(1) The created virtual disk is not initialized. Manually initialize it as necessary.

Version

02.12.00

Plug-in tags

Modify VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016CreateVDisk

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vHardDiskName	Virtual Disk File Name	Specify the name of the virtual disk file to be created. The file extension must be "vhd" or "vhdx".	--	Input	R
hyperv.vHardDiskFolderPath	Virtual Disk Folder Path	Specify the full path of the folder in which to store the virtual disk to be created. If you omit this setting, the default folder for storing virtual disks specified on the Hyper-V server will be used.	--	Input	O
hyperv.vHardDiskType	Virtual disk type	Specifies the virtual disk type. Specify one of the following: dynamic (an adjustable-size virtual disk is created) or fixed (a fixed-size virtual disk is created).	--	Input	R
hyperv.vHardDiskCapacityGB	Virtual disk capacity (GB)	Specify (in GB) the capacity of the virtual disk to be created. Specify the capacity of the virtual disk as an integer.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--
hyperv.returnVhdPath	Virtual disk file path	Stores, as a full path, the file path of the virtual disk created by this component.	--	Output	--

5.6.15 Connect Virtual Disk

Function

This plug-in connects a virtual disk to a virtual server in a Hyper-V environment.

This plug-in requires the following servers:

- Hyper-V server (execution-target server)

A server on which Hyper-V is installed

- Virtual server

A virtual server managed by Hyper-V

You can add virtual disks to a SCSI controller but not to an IDE controller.

The method for connecting a virtual disk to a SCSI controller varies depending on whether the SCSI controller ID number (the property hyperv.scsiControllerNumber) and SCSI controller location number (the property hyperv.scsiLocationNumber) are specified.

- If neither the SCSI controller ID number nor the SCSI controller location number is specified:

The Hyper-V server automatically connects the virtual disk to an available SCSI controller.

- If only the SCSI controller ID number is specified:

The Hyper-V server automatically connects the virtual disk to any location (0 to 63) of the specified SCSI controller.

- If only the SCSI controller location number is specified

The Hyper-V server automatically connects the virtual disk to the specified SCSI controller location of an available SCSI controller (0 to 3).

- If both the SCSI controller ID number and SCSI controller location number are specified

The virtual disk is connected to the specified location of the specified SCSI controller.

Use situation

You can use this plug-in when adding data disks to a virtual server (for example, when setting up a new virtual server or increasing the capacity of a disk).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite product for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite product for the Hyper-V server

- Windows Server 2016 Hyper-V

(2) OS of the virtual server

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Supported OSs for the prerequisite products on the execution-target server:

- Windows Server 2016 Standard/Datacenter

Note: Environments where Server Core/Nano Server is installed are excluded.

Conditions for using the prerequisite products on the execution-target server:

(1) The name of each virtual server on the Hyper-V server must be unique.

(2) There must be an available SCSI controller on the virtual server.

Cautions

(1) If another virtual disk is already connected to the specified SCSI controller location of the specified SCSI controller, this task terminates abnormally.

(2) For second-generation virtual servers, you can connect only virtual disks that are in VHDX file format. If you attempt to connect a created VHD file to a second-generation virtual server, this task terminates abnormally.

Version

02.12.00

Plug-in tags

Modify VM,Hyper-V 2016

Plug-in name displayed in the task log

hyperv2016AttachVDisk

Return code

0: Normal

12: Error (Mistake by user): Invalid property

23: Error (Invalid environment): The environment requirements are not met.

27: Error (Check the task log for details of the error): Unidentified error

41: Error (An error has been detected in the component): Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
hyperv.vmName	Virtual server name	Specifies the name of the virtual server. (This is the name of the virtual server as it is displayed in Hyper-V. This is not the host name in the OS.)	--	Input	R
hyperv.attachVHardDiskFilePath	Path of Virtual Disk File to Be Connected	Specify the full path of the virtual disk file to be connected to the specified virtual server.	--	Input	R
hyperv.scsiControllerNumber	SCSI controller number	Specifies the SCSI controller number of the virtual server that adds the virtual disk. Specify the SCSI controller number as an integer from 0 in the order that the SCSI controllers were added to	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
hyperv.scsiControllerNumber	SCSI controller number	the virtual server (displayed in the Hyper-V Manager).	--	Input	O
hyperv.scsiLocationNumber	SCSI controller location number	Specifies the location number of the SCSI controller of the virtual server that adds the virtual disk. Specify the SCSI controller location number as an integer for the unused locations of SCSI controllers that were added to the virtual server.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	--
hyperv.attachScsiControllerN umber	Number of Connected SCSI Controller	Stores the number of the SCSI controller to which the virtual disk file is connected.	--	Outpu t	--
hyperv.attachScsiLocationNu mber	Location Number of Connected SCSI Controller	Stores the location number of the SCSI controller to which the virtual disk file is connected.	--	Outpu t	--

5.7 Linux-related Plug-ins

5.7.1 Initial OS settings (Linux)

Function

"For the OS (Linux) of the virtual server, set the host name, time zone, and DNS suffix.

To use this service template, the following server is required:

- Execution-target server

A virtual server on which the plug-in is executed to specify the OS initial settings.

Specifiable time zones are as follows:

America/Adak

America/Anchorage

America/Boise

America/Chicago

America/Denver

America/Detroit

America/Indiana/Indianapolis

America/Indiana/Knox

America/Indiana/Marengo

America/Indiana/Petersburg

America/Indiana/Tell_City

America/Indiana/Vevay

America/Indiana/Vincennes

America/Indiana/Winamac

America/Juneau

America/Kentucky/Monticello

America/Los_Angeles

America/LouisVille

America/Menominee

America/Monterrey

America/Montevideo

America/New_York

America/Nome

America/North_Dakota/Beulah

America/North_Dakota/Center

America/North_Dakota/New_Salem

America/Phoenix

America/Shiprock

America/Tijuana

America/Vancouver

America/Yakutat

Asia/Chongqing

Asia/Hong_Kong

Asia/Kolkata

Asia/Macau

Asia/Shanghai

Asia/Singapore

Asia/Tokyo

Etc/UTC

Europe/London

Pacific/Honolulu

If no time zone is specified, the currently set time zone is used."

Use situation

This plug-in can be used to set the host name, time zone, and DNS suffix for an OS.

Prerequisites

For the most recent information about the prerequisite products for the system and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Supported OSs for the prerequisite products for the execution-target server:

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

Conditions for using the execution-target server:

None.

Cautions

(1) If the OS of the execution-target server is Red Hat Enterprise Linux 5, you might be unable to set America, North_Dakota, or Beulah for the time zone. Before setting America, North_Dakota, or Beulah for the time zone, check whether they can be set for the OS of the execution-target server.

Version

02.00.00

Plug-in tags

Configure OS,Linux

Plug-in name displayed in the task log

osSetLinuxInfo

Return code

0: Normal

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.computerName	Host name	Specify the host name used by the operating system.	--	Input	R
OS.timeZone	Time zone	Specify the time zone for OS on virtual server.	--	Input	O
OS.dnsSuffix	DNS suffix	Specify the DNS suffix of the virtual server.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.8 OpenStack-related Plug-ins

5.8.1 Backup Volume

Function

This service template backs up volumes managed by OpenStack.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as "Project" or "Tenant"

- Volume

Displayed as "Volume" or "Block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

(1) Volumes that can be backed up are those that are managed by Cinder and that meet at least one of the following conditions:

a. The volume is specified by the property openstack.volumeNames.

b. The volume is specified by the property openstack.volumeIds.

(2) Information about backed up volumes is output to the specified remote CSV file. The charactering encoding for this file is the default character encoding used on the OpenStack control server.

- If the CSV file specified by the property openstack.backupOutputFilePath exists, backup information is added to that file.

- If the CSV file specified by the property openstack.backupOutputFilePath does not exist, that file is created.

- If the property openstack.backupOutputFilePath is omitted, backup information is not output.

- If the volume to be backed up was created from another volume and if the property openstack.flagTempVol is set to "true", information about the source volume is output as the volume information (volume ID and name).

(3) The following items are output to the file in CSV (comma-separated value) format:

a) Date and time when the backup was created (Header name: Backup time, format: yyyy/MM/dd HH:mm:ss)

b) Project name (Header name: Project name)

c) Instance name (Header name: Instance name)

d) Volume ID (Header name: Volume ID)

e) Volume name (Header name: Volume name)

f) Backup ID (Header name: Backup ID)

Use situation

After a volume is created, this plug-in can be used to back up the volume for system maintenance.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite product on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the execution-target system:

(1) Condition related to the OpenStack server

- Cinder-backup must be running.

(2) Condition related to volumes

- Each volume name must be unique within a single project.

(3) Condition related to containers

- Each container name must be unique within a single project.

Cautions

(1) Make sure to specify either the volume name or the instance ID. If you do not specify either of these, this plug-in fails.

(2) The container where backup data is to be saved must have enough free space for the volumes to be backed up. If the container does not have enough free space, this plug-in fails.

(3) Depending on the volume statuses and types, this plug-in might not be able to create backups and might fail. Before starting this plug-in, check the volume statuses and types and read the documentation for the Cinder driver you are using to see whether such a problem might occur.

(4) If you backed up multiple volumes, the statuses of some backups to become "Error", causing this plug-in to end in error with the message KNAE06389-E. If this occurs, check the settings on the OpenStack server, perform the procedure for recovery from a job error, and then re-execute this service. If the same error occurs repeatedly, use the data collection tool to collect the necessary data, and then contact the system administrator.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Control VM,OpenStack

Plug-in name displayed in the task log

openstackBackupVolume

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specify the name of the project.	--	Input	R
openstack.containerName	Storage Destination Container Name	Specify the name of the container of the backup storage destination.	--	Input	R
openstack.volumeNames	Volume Name	Specify the name of the volume. Separate entries with a comma when specifying multiple volumes.	--	Input	O
openstack.volumeIds	Volume ID	Specify the ID of the volume. Separate entries with a comma when specifying multiple volumes.	--	Input	O
openstack.backupOutputFileP ath	Backup Information Output File Path (Remote)	Specify the full path of the file path to output the backup information output file to the OpenStack operated server.	--	Input	O
openstack.flagTempVol	Whether Volume to be Backed Up is Temporary Volume	Specify "true" if the volume to be backed up is a temporary volume, and "false" if it is not a temporary volume.	false	Input	R
openstack.checkVolumeBack upStateCount	Number of Times to Check Volume Backups	Specify the number of times to check to see if a volume was backed up. This, combined with the interval to check the volume backups will be the maximum waiting time.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
openstack.checkVolumeBackupStateInterval	Interval to Check Volume Backups	Specify the number of seconds to be used as the interval for checks to see if a volume was backed up.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.8.2 Create Volume

Function

Create the volume in a KVM environment managed by OpenStack.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as "Project" or "Tenant"

- Volume

Displayed as "Volume" or "Block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

- Volume

A volume managed by Cinder

Use situation

This plug-in can be used to create a volume in an OpenStack environment when a new instance is created or disks are added.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite product on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the execution-target system:

(1) Condition related to volumes

- Each volume name must be unique within a single project.

(2) Condition related to volume type

- The volume type must be set in the OpenStack environment.

Cautions

(1) The maximum length of a character string that can be specified for an input property might be different from that of a character string that can be registered in OpenStack. If the character string specified for an input property is longer than the maximum length of character string that can be registered in OpenStack, a truncated character string is registered.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Add New Storage,OpenStack

Plug-in name displayed in the task log

openstackCreateVolume

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requi red
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specify the name of the project.	--	Input	R
openstack.volumeName	Volume name	Specify the name of the volume that connects to the instance.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
openstack.volumeDescription	Volume Description	Specify the description of the volume.	--	Input	O
openstack.volumeType	Volume Type	Specify the type of the volume. Specify a type that is configured in the OpenStack environment.	--	Input	O
openstack.volumeCapacity	Volume Capacity (GB)	Specify the capacity of the volume (units: GB).	--	Input	R
openstack.checkVolumeCreati onCount	Number of Times to Check Creation of Volumes	Specify the number of times to check to see if a volume was created. This, combined with the interval to check the creation of volumes will be the maximum waiting time.	--	Input	R
openstack.checkVolumeCreati onInterval	Interval to Check Creation of Volumes	Specify the number of seconds to be used as the interval for checks to see if a volume was created.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.8.3 Delete Volume

Function

Deletes volumes managed by OpenStack.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as "Project" or "Tenant"

- Volume

Displayed as "Volume" or "Block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

Use situation

This plug-in can be used to delete a volume that is no longer necessary.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite product on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Condition for using the prerequisite products in the execution-target system:

(1) Condition related to volumes

- Each volume name must be unique within a single project.

Cautions

(1) Make sure to specify either the volume name or volume ID. If you do not specify either of these, this plug-in fails.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Delete Storage,OpenStack

Plug-in name displayed in the task log

openstackDeleteVolume

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specify the name of the project.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
openstack.volumeNames	Volume Name	Specify the name of the volume. Separate entries with a comma when specifying multiple volumes.	--	Input	O
openstack.volumeIds	Volume ID	Specify the ID of the volume. Separate entries with a comma when specifying multiple volumes.	--	Input	O
openstack.checkVolumeDeleti onCount	Number of Times to Check Deletion of Volumes	Specify the number of times to check to see if a volume was deleted. This, combined with the interval to check the deletion of volumes will be the maximum waiting time.	--	Input	R
openstack.checkVolumeDeleti onInterval	Interval to Check Deletion of Volumes	Specify the number of seconds to be used as the interval for checks to see if a volume was deleted.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.8.4 Disconnect volume

Function

This plug-in disconnects volumes that are connected to instances in a KVM environment that is controlled by OpenStack.

The OpenStack-related terms used in this document are the names displayed in the OpenStack Dashboard. The OpenStack-related terms are:

- Identity

Displayed as "identity" or "KeyStone"

- Project

Displayed as "project" or "tenant"

- Volume

Displayed as "volume" or "block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which Kernel-based Virtual Machine is installed

- OpenStack control server (execution target server)

A server that executes the REST API on the OpenStack server

- Instance

An instance that is managed by the OpenStack server or by KVM. A general virtual server.

Use situation

You can use this plug-in to disconnect volumes that are connected to instances in an OpenStack environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the release notes.

[Required product in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

(1) Products required for the OpenStack server

- OpenStack

(2) Virtualization environment that manages instances

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server (execution target server)

- Microsoft .Net Framework 3.5 or later

(4) OSs required for instances

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

[Supported OSs for the prerequisite products for the execution-target server]

(1) OpenStack control server (execution target server)

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Note that environments where Server Core is installed are excluded.

[Conditions for using the execution-target system]

(1) Conditions related to instances

- Each instance name must be unique in a single project.

(2) Conditions related to volumes

- Each volume name must be unique in a single project.

Cautions

(1) When you disconnect volumes, make sure that they are unmounted. If volumes being mounted are disconnected, the file system might become corrupted.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Modify VM,OpenStack

Plug-in name displayed in the task log

openstackDetachVolume

Return code

0: Normal

12: Error (mistake by the user): A property is invalid.

23: Error (invalid environment): The environment requirements are not met.

27: Error (Check the details on the error in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specifies the project name that runs an instance.	--	Input	R
openstack.instanceName	Instance name	Specifies the instance display-name for OpenStack (not the host name on the OS).	--	Input	R
openstack.volumeName	Volume name	Specify the name of the volume that connects to the instance.	--	Input	R
openstack.checkVolumeDetachmentCount	Number of Times to Check Disconnection of Volumes	Specify the number of times to check to see if a volume disconnected. This, combined with the interval to check the disconnection of volumes will be the maximum waiting time.	--	Input	R
openstack.checkVolumeDetachmentInterval	Interval to Check Disconnection of Volumes	Specify the number of seconds to be used as the interval for checks to see if a volume disconnected.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.8.5 Connect Volume

Function

Connects the volume to an instance in a KVM environment managed by OpenStack.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as "Project" or "Tenant"

- Volume

Displayed as "Volume" or "Block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

- Volume

A volume managed by Cinder

Use situation

This plug-in can be used to connect a volume to an instance in an OpenStack environment.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite product on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the execution-target system:

(1) Conditions related to instances

- Each instance name must be unique within a single project.

(2) Conditions related to volumes

- Each volume name must be unique within a single project.

Cautions

(1) If the property openstack.deviceName is omitted, the volume is mapped to the default device of the guest OS of the instance.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Modify VM,OpenStack

Plug-in name displayed in the task log

openstackAttachVolume

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specify the name of the project.	--	Input	R
openstack.instanceName	Instance name	Specifies the instance display-name for OpenStack (not the host name on the OS).	--	Input	R
openstack.volumeName	Volume name	Specify the name of the volume that connects to the instance.	--	Input	R
openstack.deviceName	Device name	Specify the device that will map the volume that connects to the instance. Devices are those subordinate to the "dev" directory of the guest OS. For example if you map to "vda", specify "/dev/vda".	--	Input	O
openstack.checkVolumeAttac hmentCount	Number of Times to Check Connection of Volumes	Specify the number of times to check to see if a volume connected. This, combined with the interval to check the connection of volumes will be the maximum waiting time.	--	Input	R
openstack.checkVolumeAttac hmentInterval	Interval to Check Connection of Volumes	Specify the number of seconds to be used as the interval for checks to see if a volume connected.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O
openstack.attachedDeviceNa me	Connected Device Name	The name of the device connected to the volume is stored.	--	Outpu t	O

5.8.6 Create Temporary Volume

Function

Creates temporary volumes from volumes managed by OpenStack.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as "Project" or "Tenant"

- Volume

Displayed as "Volume" or "Block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

(1) Temporary volumes are created for volumes managed by Cinder that meet at least one of the conditions below. Temporary volumes cannot be created for instances or for server images.

a. The volume is allocated to the instance specified by the property openstack.instanceName.

b. The volume is specified by the property openstack.volumeNames.

(2) The created temporary volumes are of the same volume type as the backup-source volumes.

Use situation

After a volume is created, this plug-in can be used to create a temporary volume during volume backup for system maintenance.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite product on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the execution-target system:

(1) Condition related to instances

- Each instance name must be unique within a single project.

(2) Condition related to volumes

- Each volume name must be unique within a single project.

Cautions

(1) Make sure that you specify either the instance name or the volume name. If you do not specify either of these, this plug-in fails.

(2) This plug-in can be executed for an instance that is currently running. In such a case, if an I/O operation is performed on the guest OS, inconsistencies between the guest OS and the backup might occur. For this reason, make sure to stop all I/O operations on the guest OS, or stop the guest OS itself, before executing this plug-in.

(3) A maximum of 27 volumes can be created concurrently. If you specify 28 or more volumes, this plug-in fails.

(4) The folder where temporary volumes are to be created must have enough free space for the volumes to be backed up. If the folder does not have enough free space, this plug-in fails.

(5) Depending on the volume statuses and types, this plug-in might not be able to create temporary volumes and might fail. Before starting this plug-in, check the volume statuses and types, and read the documentation for the Cinder driver you are using to see whether such a problem might occur.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Add New Storage,OpenStack

Plug-in name displayed in the task log

openstackCreateTempVolume

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specify the name of the project.	--	Input	R
openstack.instanceName	Instance name	Specifies the instance display-name for OpenStack (not the host name on the OS).	--	Input	O
openstack.volumeNames	Volume Name	Specify the name of the volume. Separate entries with a comma when specifying multiple volumes.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
openstack.tempVolumeName	Temporary Volume Name	Specify the name of the temporary volume used when obtaining a backup.	--	Input	R
openstack.checkVolumeCreati onCount	Number of Times to Check Creation of Temporary Volumes	Specify the number of times to check to see if a temporary volume was created. This, combined with the interval to check the creation of temporary volumes will be the maximum waiting time.	--	Input	R
openstack.checkVolumeCreati onInterval	Interval to Check Creation of Temporary Volumes	Specify the number of seconds to be used as the interval for checks to see if a temporary volume was created.	--	Input	R
openstack.volumeIdWork	Temporary Volume ID	The work property where the ID of the temporary volume is stored.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.8.7 Obtain IP Address of Virtual Server

Function

This plug-in is used to obtain IP (IPv4) addresses from all NICs on a virtual server in a Hyper-V environment.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as "Project" or "Tenant"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

Use situation

This plug-in can be used to check the IP (IPv4) address set for an instance or to issue an ICMP echo request to an instance.

When an ICMP echo request is issued, the instance IP address obtained by this plug-in is used as input for the plug-in osSendIcmp.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite product on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the execution-target system:

(1) Conditions related to instances

- Each instance name must be unique within a single project.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Gather VM information,OpenStack

Plug-in name displayed in the task log

openstackGetVMIPaddress

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHostName	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specify the name of the project.	--	Input	R
openstack.instanceName	Instance name	Specifies the instance display-name for OpenStack (not the host name on the OS).	--	Input	R
openstack.instanceIPaddress	IP Address of Instance	The work property where the IP address of the instance is stored. When multiple IP addresses are	--	Output	O

Property key	Property name	Description	Default value	I/O type	Requ ired
openstack.instanceIPaddress	IP Address of Instance	set for the virtual server, they are separated by commas in the output file.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.8.8 Activate Virtual Server

Function

Starts an instance in a KVM environment managed by OpenStack.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as "Project" or "Tenant"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

Use situation

This plug-in can be used to start an instance in an OpenStack environment.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite product on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the execution-target system:

(1) Conditions related to instances

- Each instance name must be unique within a single project.

- All instances must be inactive.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Control VM,OpenStack

Plug-in name displayed in the task log

openstackSetPowerOn

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specify the name of the project.	--	Input	R
openstack.instanceName	Instance name	Specifies the instance display-name for OpenStack (not the host name on the OS).	--	Input	R
openstack.checkInstanceState EnabledCount	Number of Times to Check Instance Status (Activation Complete)	Specify the number of times to check to see if an instance started. This, combined with the interval to check the instance status will be the maximum waiting time.	--	Input	R
openstack.checkInstanceState EnabledInterval	Interval to Check Instance Status (Activation Complete)	Specify the number of seconds to be used as the interval for checks to see if an instance started.	--	Input	R
openstack.instanceState	Instance Status	The work property where the status of the instance is stored.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.8.9 Create a virtual server

Function

This service template starts an instance from a server image in a KVM environment managed by OpenStack.

The OpenStack-related terms used in this document are names displayed in the OpenStack Dashboard. These terms are as follows:

- Identity

Displayed as "Identity" or "KeyStone".

- Instance type

Displayed as an instance type or flavor.

- Project

Displayed as a project or tenant.

To use this service template, the following servers are required:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance (a normal virtual server) managed by the OpenStack server and by KVM

Use situation

This plug-in can be used to start an instance in an OpenStack environment.

You can use this plug-in with the following plug-in to perform the initial setup of the instance OS:

- osSetLinuxInfo

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

(1) Prerequisite products for the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the prerequisite products in the execution-target system:

(1) Conditions related to OpenStack server settings

- In the subnet settings of the network to which the instance is connected, DHCP must be enabled so that an IP address can be assigned dynamically.

- The server image used to start the instance must already be created.

- The instance type used to start the instance must already be created.

- The network used to start the instance must already be created.

- The image name must be unique within the tenant.

- The instance type name must be unique within the tenant.

- The network name must be unique within the tenant.

(2) Conditions related to the server image used to start the instance

- Agentless connection must be possible.

- The firewall must permit ICMP (ECHO) replies.

(3) Conditions related to instances

- The names of instances name within the same tenant must be unique.

Cautions

(1) Do not operate an instance during the instance startup. If you do so, instance startup might fail. In addition, do not directly operate an instance from the OpenStack server.

(2) To assign a floating IP address to an instance, select "yes" from the list for the property openstack.floatingIpOption, and then specify the floating IP address for the property openstack.floatingIpAddress. If you do not specify a floating address, the first floating IP address obtained from the floating IP address pool for the network specified by the property openstack.networkNameExt will be set.

(3) To use an external network for communication with the JP1/AO server, select "yes" from the list for the property openstack.floatingIpOption. If you select "no", the task terminates abnormally, because the JP1/AO server cannot access the instance.

(4) If you select "yes" from the list for the property openstack.floatingIpOption, make sure to specify a value for the property openstack.networkNameExt. If you omit the property openstack.networkNameExt, the task terminates abnormally, because the external network from which the floating IP address is to be obtained cannot be identified.

(5) If you omit the property openstack.securityGroupName, "default" is set for the security group name.

(6) If you select "https" from the list for the property openstack.protocol, make sure the certificate for the OpenStack server is a public certificate. If it is not a public certificate, the task terminates abnormally, because the authenticity of the certificate cannot be verified.

Execution privilege

(1) Any user who logs in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Add VM,OpenStack

Plug-in name displayed in the task log

openstackCreateVM

Return code

0: Normal

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHostName	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specifies the project name that runs an instance.	--	Input	R
openstack.instanceName	Instance name	Specifies the instance display-name for OpenStack (not the host name on the OS).	--	Input	R
openstack.imageName	Image name	Specifies the image name.	--	Input	R
openstack.instanceTypeName	Instance type name	Specifies the instance type name.	--	Input	R
openstack.keyPairName	Key pair name	Specifies the key pair name.	--	Input	O
openstack.securityGroupName	Security group name	Specifies the security group name.	--	Input	O
openstack.networkNameMng	Network name (management)	Specifies the management network name to be set for the instance.	--	Input	R
openstack.networkNameBiz	Network name (business)	Specifies the business network name to be set for the instance.	--	Input	O
openstack.floatingIpOption	Floating IP address setting availability	Specifies whether to assign a Floating IP address to an instance. Select "yes" to assign a Floating IP address. Select "no" to not assign a Floating IP address.	--	Input	R
openstack.networkNameExt	Network name (external connections)	Specifies the external network name that acquires a Floating IP address.	--	Input	O
openstack.floatingIpAddress	Floating IP address	Specifies the Floating IP address assigned to an instance. Does not support IPv6 addresses.	--	Input	O
openstack.checkInstanceStateCount	Number of checks on the instance status	Specifies the number of times an instance will be checked to make sure that it is running. This number combined with the wait time for checking instances is the maximum wait time.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
openstack.checkInstanceState Interval	Wait interval for checking instances	Specifies the amount of time in seconds to wait between checks when checking to make sure that the instance is running.	--	Input	R
openstack.checkOSStateWaitt ime	Wait time for checking the OS	Specifies the amount of time in seconds to wait between checks when checking to make sure that the OS is running.	--	Input	R
openstack.ipAddressMng	IP address (management)	Stores the IP address assigned to the management network of an instance.	--	Outpu t	O
openstack.ipAddressBiz	IP address (business)	Stores the IP address assigned to the business network of an instance.	--	Outpu t	O
openstack.floatingIpAddress Work	Floating IP address	Stores the Floating IP address assigned to an instance.	--	Outpu t	O
openstack.instanceHostName	Instance host name	This is the work property that stores the instance host name.	--	Outpu t	O
common.flag2IPsSetup	Whether two IP addresses are set to instance	Property that indicates whether two IP addresses have been set to a instance (TRUE), or otherwise (FALSE).	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.8.10 Delete virtual server

Function

This plug-in deletes instances in a KVM environment that is controlled by OpenStack. In addition, if floating IP addresses are set for instances, the plug-in releases the assignment of floating IP addresses.

The OpenStack-related terms used in this document are the names displayed in the OpenStack Dashboard. The OpenStack-related terms are:

- Identity

Displayed as "identity" or "KeyStone"

- Project

Displayed as "project" or "tenant"

- Volume

Displayed as "volume" or "block storage"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which Kernel-based Virtual Machine is installed

- OpenStack control server (execution target server)

A server that executes the REST API on the OpenStack server

- Instance

An instance that is managed by the OpenStack server or by KVM. A general virtual server.

Use situation

You can use this plug-in to delete instances in an OpenStack environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the release notes.

[Required product in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

(1) Products required for the OpenStack server

- OpenStack

(2) Virtualization environment that manages instances

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server (execution target server)

- Microsoft .Net Framework 3.5 or later

(4) OSs required for instances

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

[Supported OSs for the prerequisite products for the execution-target server]

(1) OpenStack control server (execution target server)

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Note that environments where Server Core is installed are excluded.

[Conditions for using the execution-target system]

(1) Conditions related to instances

- Each instance name must be unique in a single project.

Cautions

(1) If volumes are connected to instances, the connected volumes are not deleted.

(2) If volumes are connected to instances, when the instances are deleted, make sure that the connected volumes are unmounted. If the instances are deleted in a state in which the volumes have been mounted, the file system might become corrupted.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Delete VM,OpenStack

Plug-in name displayed in the task log

openstackDeleteVM

Return code

0: Normal

12: Error (mistake by the user): A property is invalid.

23: Error (invalid environment): The environment requirements are not met.

27: Error (Check the details on the error in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specifies the project name that runs an instance.	--	Input	R
openstack.instanceName	Instance name	Specifies the instance display-name for OpenStack (not the host name on the OS).	--	Input	R
openstack.checkInstanceDelet ionCount	Number of Times to Check Delete of Instance	Specify the number of times to check to see if a instance deleted. This, combined with the interval to check the delete of instance will be the maximum waiting time.	--	Input	R
openstack.checkInstanceDelet ionInterval	Interval to Check Delete of Instance	Specify the number of seconds to be used as the interval for checks to see if a instance deleted.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.8.11 Get list of virtual server information

Function

This plug-in outputs an instance information list contained in the project that is controlled by OpenStack to a file in CSV format.

The OpenStack-related terms used in this document are the names displayed in the OpenStack Dashboard. The OpenStack-related terms are:

- Identity

Displayed as "identity" or "KeyStone"

- Project

Displayed as "project" or "tenant"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which Kernel-based Virtual Machine is installed

- OpenStack control server (execution target server)

A server that executes the REST API on the OpenStack server

- Instance

An instance that is managed by the OpenStack server or by KVM. A general virtual server.

Items contained in the CSV file to be output are listed below:

This service template outputs items by separating them with commas.

(a) Hypervisor host name (header name: HostName)

(b) Instance name (header name: InstanceName)

(c) Image name (header name: ImageName)

(d) Instance status (header name: Status)

(e) The number of instance CPUs (header name: NumCpu)#

(f) Instance memory capacity (MB) (header name: MemoryMB)#

(g) Instance disk size (GB) (header name: TotalDiskOfFlavorGB)#

(h) Flavor name (header name: FlavorName)

#: The numbers of Instance CPUs, instance memory capacity (MB), and instance disk size (GB) are flavor information that was specified when the instance was started.

Use situation

You can use this plug-in to acquire instance information in an OpenStack environment.

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the release notes.

[Required product in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products for the execution-target server]

(1) Products required for the OpenStack server

- OpenStack

(2) Virtualization environment that manages instances

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server (execution target server)

- Microsoft .Net Framework 3.5 or later

(4) OSs required for instances

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

[Supported OSs for the prerequisite products for the execution-target server]

(1) OpenStack control server (execution target server)

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Note that environments where Server Core is installed are excluded.

[Conditions for using the execution-target system]

None.

Cautions

(1) If the file names to be specified already exist, the existing files are overwritten. Therefore, make sure that the specified file names are correct.

(2) If the specified folder does not exist, create the folder.

(3) If 2 or more instances have the same name, instances cannot be identified in the CSV to be output.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Gather VM information,OpenStack

Plug-in name displayed in the task log

openstackOutputVmSpec

Return code

0: Normal

12: Error (mistake by the user): A property is invalid.

23: Error (invalid environment): The environment requirements are not met.

27: Error (Check the details on the error in the task log.)

41: Error (An error was detected in the component.): A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specifies the project name that runs an instance.	--	Input	R
openstack.vmInfoListOutputF ileName	Virtual Server Information Output File	Specify the full path of the file to which the list of virtual server information is to be output.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.8.12 Obtain Status of Virtual Server

Function

Obtain the status of an instance in a KVM environment managed by OpenStack.

The terms related to OpenStack that are used in this document are names displayed in the OpenStack Dashboard. These terms are explained below.

- Identity

Displayed as "Identity" or "KeyStone"

- Project

Displayed as "Project" or "Tenant"

This service template requires the following servers:

- OpenStack server

A server on which OpenStack is installed

- KVM server

A server on which a Kernel-based Virtual Machine is installed

- OpenStack control server

A server that executes REST-API functions on the OpenStack server

- Instance

An instance of a general virtual server managed by the OpenStack server and KVM

Use situation

This plug-in can be used to obtain the status of an instance in an OpenStack environment.

Prerequisites

For the most recent support statuses for the prerequisite products in the system, the prerequisite products on the execution-target server, and the OSs for the prerequisite products on the execution-target server, see the Release Notes.

Prerequisite products in the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products on the execution-target server:

(1) Prerequisite product on the OpenStack server

- OpenStack

(2) Virtualization environment that manages the instance

- Kernel-based Virtual Machine

- VMware vCenter Server

- VMware vSphere ESXi

(3) OpenStack control server

- Microsoft .Net Framework 3.5 or later

(4) Prerequisite OS for the instance

- Red Hat Enterprise Linux Server 6 (32-bit x86) or Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

OSs for the prerequisite products on the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2012 R2 Standard/Datacenter

Environments where Server Core is installed are excluded.

Condition for using the prerequisite products in the execution-target system:

(1) Condition related to instances

- Each instance name must be unique within a single project.

Execution privilege

(1) Users who log in to the OpenStack server must have the following permission:

admin

Version

02.00.00

Plug-in tags

Gather VM information,OpenStack

Plug-in name displayed in the task log

openstackGetVMState

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
openstack.identityServerHost Name	Identity server host name	Specifies the Identity server host name or IP address. Does not support IPv6 addresses.	--	Input	R
openstack.userName	Identity server login username	Specifies the username to log into the Identity server.	--	Input	R
openstack.password	Identity server login password	Specifies the password to log into the Identity server.	--	Input	R
openstack.protocol	Identity server connection protocol	Specifies the protocol used to connect to the Identity server.	--	Input	R
openstack.portNumber	Identity server connection port number	Specifies the port number to connect to the Identity server.	--	Input	R
openstack.projectName	Project name	Specify the name of the project.	--	Input	R
openstack.instanceName	Instance name	Specifies the instance display-name for OpenStack (not the host name on the OS).	--	Input	R
openstack.instanceState	Instance Status	The work property where the status of the instance is stored.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.9 Oracle-related Plug-ins

5.9.1 Start an Oracle DB instance

Function

This plug-in starts Oracle Database instances on the Oracle Database server.

This plug-in executes the SQL*Plus command STARTUP on the Oracle Database server (hereinafter referred to as the "database server") that is specified for the host name of the execution-target server (the plugin.destinationHost property).

Execution of this command (STARTUP) ends when the Oracle Database instance starts. After executing this command, the plug-in checks the status of the Oracle Database instance.

The following Oracle-related terms are used in this document:

- Oracle Database instance

An instance of the database that is installed on the database server.

Multiple instances can exist on the same database server. Each instance has a unique ID name (see "Oracle system identifier (SID)" below) and its own installation folder on the database server.

Oracle Database instances are bundles of database table areas, database user account information, and information about user privileges.

- SQL*Plus

A utility tool that is provided with Oracle Database.

This tool provides unique commands for operating and maintaining Oracle Database from the command line interface (CLI). It also provides a database client functionality for executing SQL statements.

- Oracle system identifier (SID)

A name that identifies an Oracle Database instance.

In Oracle online manuals, this name is referred to as the Oracle system identifier or SID.

The following server is required for this plug-in:

- Oracle Database server (execution-target server)

A server on which Oracle Database is installed.

Use situation

This plug-in can be used to start Oracle Database instances that are not running.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products in the execution-target system, and the supported OSs for the prerequisite products in the execution-target system, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products in the execution-target system]

(1) Oracle Database server

- Oracle 11g Standard/Enterprise

[Supported OSs for the prerequisite products in the execution-target system]

(1) Oracle Database server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Enterprise/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

Note, however, that these OSs must meet the requirements for Oracle Database.

[Conditions for using the prerequisite products in the execution-target system]

(1) Conditions related to the Oracle Database server

- Oracle Database has been installed normally.

- SQL*Plus has been installed.

- The Oracle Database instance corresponding to the specified Oracle system identifier (SID) is not running.

Cautions

(1) When specifying values for the properties of this plug-in, do not specify any character string that contains a double quotation mark (") or a single quotation mark (').

(2) The Oracle system identifier (hereinafter referred to as the SID) that is specified for the property database.oracleSid is case sensitive. The SID cannot contain any of the prohibited characters below. In addition, Oracle might impose other limitations. For details on the limitations, see the specifications for Oracle Database.

Prohibited characters:

- Line feed characters (\n)

- Halfwidth spaces ( )

- Semicolons (;)

(3) If the Oracle Database instance corresponding to the SID (hereinafter referred to as the "target instance") is already running, this plug-in ends abnormally.

(4) If the OS of the Oracle Database server (hereinafter referred to as the "database server") that is specified for the host name of the execution-target server (the plugin.destinationHost property) is Windows, this plug-in references the registry and then obtains information about the installation folder corresponding to the specified SID. If the plug-in cannot correctly obtain information about the actual installation folder (for example, because the registry has been changed from

its state immediately after installation for some particular reason), the plug-in assumes that the target instance does not exist or that Oracle Database has not been installed, and then ends abnormally.

(5) If the OS of the database server is UNIX, this plug-in references the "oratab" file that was created by the Oracle Database installer and then obtains information about the installation folder corresponding to the specified SID. If the plug-in cannot correctly obtain information about the actual installation folder (for example, because the "oratab" file has been changed from its state immediately after installation for some particular reason such as the update, transfer, or deletion of the file), this plug-in assumes that the target instance does not exist or that Oracle Database has not been installed, and then ends abnormally.

(6) The encoding type set for the target instance must be the same as the encoding type set for the OS of the database server. If these encoding types are different, an error or incorrect operation might occur.

(7) If this plug-in ends abnormally, an error code beginning with "ORA-" and a message might be output to the task log. In such cases, search for the error code on the manual website for Oracle Database.

Execution privilege

- For Windows: Users who belong to the ora_dba group

- For UNIX: Users who belong to the OSDBA group

Version

02.00.00

Plug-in tags

Control Database,Oracle Database

Plug-in name displayed in the task log

dbStartOracleInstance

Return code

0: Normal

1: Error (Already running) The target Oracle Database instance is already running.

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
database.oracleSid	Oracle database system identifer (SID)	Specify the system ID (SID) for the target Oracle database instance.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.9.2 Stop an Oracle DB instance

Function

This plug-in stops Oracle Database instances on the Oracle Database server.

On the Oracle Database server (hereinafter referred to as the "database server") that is specified the host name of the execution-target server (the plugin.destinationHost property), this plug-in executes the SQL*Plus command SHUTDOWN with the option IMMEDIATE specified.

Execution of this command (SHUTDOWN) ends when the Oracle Database instance stops.

The following Oracle-related terms are used in this document:

- Oracle Database instance

An instance of the database that is installed on the database server.

Multiple instances can exist on the same database server. Each instance has a unique ID name (see "Oracle system identifier (SID)" below) and its own installation folder on the database server.

Oracle Database instances are bundles of database table areas, database user account information, and information about user privileges.

- SQL*Plus

A utility tool that is provided with Oracle Database.

This tool provides unique commands for operating and maintaining Oracle Database from the command line interface (CLI). It also provides a database client functionality for executing SQL statements.

- Oracle system identifier (SID)

A name that identifies an Oracle Database instance.

In Oracle online manuals, this name is referred to as the Oracle system identifier or SID.

The following server is required for this plug-in:

- Oracle Database server (execution-target server)

A server on which Oracle Database is installed.

Use situation

This plug-in can be used to stop Oracle Database instances that are running.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products in the execution-target system, and the supported OSs for the prerequisite products in the execution-target system, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products in the execution-target system]

(1) Oracle Database server

- Oracle 11g Standard/Enterprise

[Supported OSs for the prerequisite products in the execution-target system]

(1) Oracle Database server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Enterprise/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

Note, however, that these OSs must meet the requirements for Oracle Database.

[Conditions for using the prerequisite products in the execution-target system]

(1) Conditions related to the Oracle Database server

- Oracle Database has been installed normally.

- SQL*Plus has been installed.

- The Oracle Database instance corresponding to the specified Oracle system identifier (SID) is not running.

Cautions

(1) When specifying values for the properties of this plug-in, do not specify any character string that contains a double quotation mark (") or a single quotation mark (').

(2) The Oracle system identifier (hereinafter referred to as the SID) that is specified for the property database.oracleSid is case sensitive. The SID cannot contain any of the prohibited characters below. In addition, Oracle might impose other limitations. For details on the limitations, see the specifications for Oracle Database.

Prohibited characters:

- Line feed characters (\n)

- Halfwidth spaces ( )

- Semicolons (;)

(3) If the Oracle Database instance corresponding to the SID (hereinafter referred to as the "target instance") is already stopped, this plug-in ends normally with the return code 0. Even if the plug-in ends abnormally with the return code 27, depending on the status of the instance, the instance might have stopped normally.

(4) If the OS of the Oracle Database server (hereinafter referred to as the "database server") that is specified for the host name of the execution-target server (the plugin.destinationHost property) is Windows, this plug-in references the registry and then obtains information about the installation folder corresponding to the specified SID. If the plug-in cannot correctly obtain information about the actual installation folder (for example, because the registry has been changed from its state immediately after installation for some particular reason), the plug-in assumes that the target instance does not exist or that Oracle Database has not been installed, and then ends abnormally.

(5) If the OS of the database server is UNIX, this plug-in references the "oratab" file that was created by the Oracle Database installer and then obtains information about the installation folder corresponding to the specified SID. If the plug-in cannot correctly obtain information about the actual installation folder (for example, because the "oratab" file has been changed from its state immediately after installation for some particular reason such as the update, transfer, or deletion of the file), this plug-in assumes that the target instance does not exist or that Oracle Database has not been installed, and then ends abnormally.

(6) The encoding type set for the target instance must be the same as the encoding type set for the OS of the database server. If these encoding types are different, an error or incorrect operation might occur.

(7) When the database instance stops, it does not wait for calls to finish or for the user to disconnect from the database, and uncommitted data is discarded.

(8) If this plug-in ends abnormally, an error code beginning with "ORA-" and a message might be output to the task log. In such cases, search for the error code on the manual website for Oracle Database.

Execution privilege

- For Windows: Users who belong to the ora_dba group

- For UNIX: Users who belong to the OSDBA group

Version

02.00.00

Plug-in tags

Control Database,Oracle Database

Plug-in name displayed in the task log

dbStopOracleInstance

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
database.oracleSid	Oracle database system identifer (SID)	Specify the system ID (SID) for the target Oracle database instance.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.9.3 Delete an Oracle DB user

Function

This plug-in deletes existing database users from the Oracle Database server.

This plug-in starts SQL*Plus on the Oracle Database server (hereinafter referred to as the "database server") that is specified for the host name of the execution-target server (the plugin.destinationHost property), and then executes the "DROP USER" statement. Note that "CASCADE" is not specified.

The following Oracle-related terms are used in this document:

- Oracle Database instance

An instance of the database that is installed on the database server.

Multiple instances can exist on the same database server. Each instance has a unique ID name (see "Oracle system identifier (SID)" below) and its own installation folder on the database server.

Oracle Database instances are bundles as a bundle of database table areas, database user account information, and information about user privileges.

- SQL*Plus

A utility tool that is provided with Oracle Database.

This tool provides unique commands for operating and maintaining Oracle Database from the command line interface (CLI). It also provides a database client functionality for executing SQL statements.

- Oracle system identifier (SID)

A name that identifies an Oracle Database instance.

In Oracle online manuals, this name is referred to as the Oracle system identifier or SID.

The following server is required for this plug-in:

- Oracle Database server (execution-target server)

A server on which Oracle Database is installed.

Use situation

This plug-in can be used to delete database users of Oracle Database instances that are running.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products in the execution-target system, and the supported OSs for the prerequisite products in the execution-target system, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products in the execution-target system]

(1) Oracle Database server

- Oracle 11g Standard/Enterprise

[Supported OSs for the prerequisite products in the execution-target system]

(1) Oracle Database server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Enterprise/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

Note, however, that these OSs must meet the requirements for Oracle Database.

[Conditions for using the prerequisite products in the execution-target system]

(1) Conditions related to the Oracle Database server

- Oracle Database has been installed normally.

- SQL*Plus has been installed.

- The Oracle Database instance corresponding to the specified Oracle system identifier (SID) is not running.

Cautions

(1) When specifying values for the properties of this plug-in, do not specify any character string that contains a double quotation mark (") or a single quotation mark (').

(2) The Oracle system identifier (hereinafter referred to as the SID) that is specified for the property database.oracleSid is case sensitive. The SID cannot contain any of the prohibited characters below. In addition, Oracle might impose other limitations. For details on the limitations, see the specifications for Oracle Database.

Prohibited characters:

- Line feed characters (\n)

- Halfwidth spaces ( )

- Semicolons (;)

(3) The value specified for the database user ID property (database.dbUserId) must not contain any of the prohibited characters in (2) and must not exceed 30 bytes. For details on other prohibited characters, see the specifications for Oracle Database. Note that these properties are case sensitive.

(4) If the OS of the Oracle Database server (hereinafter referred to as the "database server") that is specified for the host name of the execution-target server (the plugin.destinationHost property) is Windows, this plug-in references the registry and then obtains information about the installation folder corresponding to the specified SID. If the plug-in cannot correctly obtain information about the actual installation folder (for example, because the registry has been changed from its state immediately after installation for some particular reason), the plug-in assumes that the Oracle Database instance corresponding to the SID (hereinafter referred to as the "target instance") does not exist or that Oracle Database has not been installed, and then ends abnormally.

(5) If the OS of the database server is UNIX, this plug-in references the "oratab" file that was created by the Oracle Database installer and then obtains information about the installation folder corresponding to the specified SID. If the plug-in cannot correctly obtain information about the actual installation folder (for example, because the "oratab" file has been changed from its state immediately after installation for some particular reason such as the update, transfer, or deletion of the file), this plug-in assumes that the target instance does not exist or that Oracle Database has not been installed, and then ends abnormally.

(6) The encoding type set for the target instance must be the same as the encoding type set for the OS of the database server. If these encoding types are different, an error or incorrect operation might occur.

(7) If this plug-in ends abnormally, an error code beginning with "ORA-" and a message might be output to the task log. In such cases, search for the error code on the manual website for Oracle Database.

Execution privilege

- For Windows: Users who belong to the ora_dba group

- For UNIX: Users who belong to the OSDBA group

Version

02.00.00

Plug-in tags

Control Database,Oracle Database

Plug-in name displayed in the task log

dbDeleteOracleUser

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
database.oracleSid	Oracle database system identifer (SID)	Specify the system ID (SID) for the target Oracle database instance.	--	Input	R
database.dbUserId	Database User ID	Specify the user ID for the database user to be deleted.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.9.4 Add an Oracle DB user (UNIX)

Function

This plug-in adds new database users to the Oracle Database server for UNIX.

This plug-in starts SQL*Plus on the Oracle Database server (hereinafter referred to as the "database server") that is specified for the host name of the execution-target server (the plugin.destinationHost property), and then executes the "CREATE USER" statement.

As in the case of a "GRANT" statement in SQL*Plus, you can specify system privileges, object privileges, and role names for the database privilege property (the database.dbPrivilege property) by using commas to delimit items. If you specify a value for the database privilege, the "GRANT" statement is executed after the "CREATE USER" statement. You cannot specify "WITH HIERARCY OPTION" or "WITH GRANT OPTION" for the "GRANT" statement.

If you do not specify a value for the database privilege, database users who have no privileges will be added.

For services that use this plug-in, you must create a temporary file in a directory on the database server, store the database user password in the created file, and then specify the full path to the temporary file as path of the remote password file (the common.passwordFilePass property).

The following Oracle-related terms are used in this document:

- Oracle Database instance

An instance of the database that is installed on the database server.

Multiple instances can exist on the same database server. Each instance has a unique ID name (see "Oracle system identifier (SID)" below) and its own installation folder on the database server.

Oracle Database instances are bundles of database table areas, database user account information, and information about user privileges.

- SQL*Plus

A utility tool that is provided with Oracle Database.

This tool provides unique commands for operating and maintaining Oracle Database from the command line interface (CLI). It also provides a database client functionality for executing SQL statements.

- Oracle system identifier (SID)

A name that identifies an Oracle Database instance.

In Oracle online manuals, this name is referred to as the Oracle system identifier or SID.

- System privilege

See the specifications of Oracle Database.

- Object privilege

See the specifications of Oracle Database.

- Role

See the specifications of Oracle Database.

The following server is required for this plug-in:

- Oracle Database server (execution-target server)

A server on which Oracle Database is installed.

Use situation

This plug-in can be used to add new database users to Oracle Database instances that are running.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products in the execution-target system, and the supported OSs for the prerequisite products in the execution-target system, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products in the execution-target system]

(1) Oracle Database server

- Oracle 11g Standard/Enterprise

[Supported OSs for the prerequisite products in the execution-target system]

(1) Oracle Database server

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

Note, however, that these OSs must meet the requirements for Oracle Database.

[Conditions for using the prerequisite products in the execution-target system]

(1) Conditions related to the Oracle Database server

- Oracle Database has been installed normally.

- SQL*Plus has been installed.

- The Oracle Database instance corresponding to the specified Oracle system identifier (SID) is not running.

Cautions

(1) The Oracle system identifier (hereinafter referred to as the SID) that is specified for the property database.oracleSid is case sensitive. The SID cannot contain any of the prohibited characters below. In addition, Oracle might impose other limitations. For details on the limitations, see the specifications for Oracle Database.

Prohibited characters:

- Double quotation marks (") and single quotation marks (')

- Line feed characters (\n)

- Halfwidth spaces ( )

- Semicolons (;)

(2) The value specified for the database user ID property (database.dbUserId) must not contain any of the prohibited characters in (1) and must not exceed 30 bytes. In addition, this value must not conflict with reserved keywords. For details on reserved keywords and other prohibited characters, see the specifications for Oracle Database.

(3) The file (hereinafter referred to as the "password file") specified for the remote password file path property (database.passwordFilePath) must be a text file, and the password must be specified in the first line of the file. The password must not contain any of the prohibited characters in (1) and must not exceed 30 bytes. For details on other prohibited characters, see the specifications for Oracle Database. Note that this property is case sensitive.

(4) The value specified for the database privilege property (database.dbPrivilege) must not contain any of the prohibited characters in (1) other than halfwidth spaces. In addition, this value must not conflict with reserved keywords. For details on reserved keywords and other prohibited characters, see the specifications for Oracle Database. This property is not case sensitive. If you specify the name of a privilege that does not exist, the plug-in ends abnormally and database users who have no database privileges might remain. If necessary, delete such users.

(5) This plug-in references the "oratab" file that was created by the Oracle Database installer and then obtains information about the installation folder corresponding to the specified SID. If the plug-in cannot correctly obtain information about the actual installation folder (for example, because the "oratab" file has been changed from its state immediately after installation for some particular reason such as the update, transfer, or deletion of the file), this plug-in assumes that the Oracle Database instance corresponding to the SID (hereinafter referred to as the "target instance") does not exist or that Oracle Database has not been installed, and then ends abnormally.

(6) The encoding type set for the target instance must be the same as the encoding type set for the OS of the database server. If these encoding types are different, an error or incorrect operation might occur.

(7) If the password file cannot be read from the specified folder or the content of the password file is invalid, this plug-in ends abnormally. Note, this plug-in does not delete the password file when processing finishes, even if the plug-in ends normally.

(8) If this plug-in ends abnormally, an error code beginning with "ORA-" and a message might be output to the task log. In such cases, search for the error code on the manual website for Oracle Database.

Execution privilege

- Users who belong to the OSDBA group

Version

02.00.00

Plug-in tags

Control Database,Oracle Database

Plug-in name displayed in the task log

dbAddOracleUser_Unix

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
database.oracleSid	Oracle database system identifer (SID)	Specify the system ID (SID) for the target Oracle database instance.	--	Input	R
database.dbUserId	Database User ID	Specify the user ID for a new database user.	--	Input	R
common.passwordFilePath	Password File Path (remote)	Specify the full path of the text file that includes the password.	--	Input	R
database.dbPrivilege	Database privileges	Use commas to separate the listed privilege names to be granted to the new database user.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.9.5 Add an Oracle DB user (Windows)

Function

This plug-in adds new database users to the Oracle Database server for Windows.

On the Oracle Database server (hereinafter referred to as the "database server") that is specified for the host name of the execution-target server (the plugin.destinationHost property), this plug-in starts SQL*Plus and then executes the "CREATE USER" statement.

As in the case of a "GRANT" statement in SQL*Plus, you can specify system privileges, object privileges, and role names for the database privilege property (database.dbPrivilege) by using commas to delimit items. If you specify a value for the database privilege, the "GRANT" statement is executed after the "CREATE USER" statement. You cannot specify "WITH HIERARCHY OPTION" or "WITH GRANT OPTION" for the "GRANT" statement.

If you do not specify a value for the database privilege, database users who have no privileges will be added.

The following Oracle-related terms are used in this document:

- Oracle Database instance

An instance of the database that is installed on the database server.

Multiple instances can exist on the same database server. Each instance has a unique ID name (see "Oracle system identifier (SID)" below) and its own installation folder on the database server.

Oracle Database instances are bundles of database table areas, database user account information, and information about user privileges.

- SQL*Plus

A utility tool that is provided with Oracle Database.

This tool provides unique commands for operating and maintaining Oracle Database from the command line interface (CLI). It also provides a database client functionality for executing SQL statements.

- Oracle system identifier (SID)

A name that identifies an Oracle Database instance.

In Oracle online manuals, this name is referred to as the Oracle system identifier or SID.

- System privilege

See the specifications of Oracle Database.

- Object privilege

See the specifications of Oracle Database.

- Role

See the specifications of Oracle Database.

The following server is required for this plug-in:

- Oracle Database server (execution-target server)

A server on which Oracle Database is installed.

Use situation

This plug-in can be used to add new database users to Oracle Database instances that are running.

Prerequisites

For the most recent information about the prerequisite products in the system, the prerequisite products in the execution-target system, and the supported OSs for the prerequisite products in the execution-target system, see the Release Notes.

[Prerequisite products in the system]

JP1/Automatic Operation 11-00 or later

[Prerequisite products in the execution-target system]

(1) Oracle Database server

- Oracle 11g Standard/Enterprise

[Supported OSs for the prerequisite products in the execution-target system]

(1) Oracle Database server

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Enterprise/Datacenter

Note, however, that these OSs must meet the requirements for Oracle Database.

[Conditions for using the required products in the execution-target system]

(1) Conditions related to the Oracle Database server

- Oracle Database has been installed normally.

- SQL*Plus has been installed.

- The Oracle Database instance corresponding to the specified Oracle system identifier (SID) is not running.

Cautions

(1) When specifying values for the properties of this plug-in, do not specify any character string that contains a double quotation mark (") or a single quotation mark (').

(2) The Oracle system identifier (hereinafter referred to as the SID) that is specified for the property database.oracleSid is case sensitive. The SID cannot contain any of the prohibited characters below. In addition, Oracle might impose other limitations. For details on the limitations, see the specifications for Oracle Database.

Prohibited characters:

- Line feed characters (\n)

- Halfwidth spaces ( )

- Semicolons (;)

(3) The values specified for the database user ID property (database.dbUserId) and the database user password property (database.dbUserPassword) must not contain any of the prohibited characters in (2) and must not exceed 30 bytes. For details on other prohibited characters, see the specifications for Oracle Database. Note that these properties are case sensitive.

(4) The value specified for the database privilege property (database.dbPrivilege) must not contain any of the prohibited characters in (2) other than halfwidth spaces. In addition, this value must not conflict with reserved keywords. For details on reserved keywords and other prohibited characters, see the specifications for Oracle Database. This property is not case sensitive. If you specify the name of a privilege that does not exist, the plug-in ends abnormally and database users who have no database privileges might remain. If necessary, delete such users.

(5) This plug-in references the registry and then obtains information about the installation folder corresponding to the specified SID. If the plug-in cannot correctly obtain information about the actual installation folder (for example, because the registry has been changed from its state immediately after installation for some particular reason), the plug-in assumes that the Oracle Database instance corresponding to the SID (hereinafter referred to as the "target instance") does not exist or that Oracle Database has not been installed, and then ends abnormally.

(6) The encoding type set for the target instance must be the same as the encoding type set for the OS of the database server. If these encoding types are different, an error or incorrect operation might occur.

(7) For services that use this plug-in, treat the properties that are mapped to the database user password property (database.dbUserPassword) as password-type properties.

(8) If this plug-in ends abnormally, an error code beginning with "ORA-" and a message might be output to the task log. In such cases, search for the error code on the manual website for Oracle Database.

Execution privilege

- Users who belong to the ora_dba group

Version

02.00.00

Plug-in tags

Control Database,Oracle Database

Plug-in name displayed in the task log

dbAddOracleUser_Win

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the plug-in) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
database.oracleSid	Oracle database system identifer (SID)	Specify the system ID (SID) for the target Oracle database instance.	--	Input	R
database.dbUserId	Database User ID	Specify the user ID for a new database user.	--	Input	R
database.dbUserPassword	Database User Password	Specify the password for a new database user.	--	Input	R
database.dbPrivilege	Database privileges	Use commas to separate the listed privilege names to be granted to the new database user.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.10 OS-related Plug-ins

5.10.1 Set static route

Function

Specifies a static route on a Windows or Linux target server.

Use situation

In the case of a system connected to multiple LANs, you use this plugin to set a static route for communication to a specific network.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target server]/[OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Required products on the execution target server]

None.

[OS running in the execution target server]

(1) Windows Server 2008 R2 Standard/Enterprise/Datacenter

(2) Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

(3) Windows Server 2016 Standard/Datacenter

(4) Windows Server 2019 Standard/Datacenter

(5) Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

(6) Red Hat Enterprise Linux Server 7 (64-bit x86_64)

The net-tools package must be installed.

(7) CentOS 6 (64-bit x86_64)

(8) CentOS 7 (64-bit x86_64)

The net-tools package must be installed.

[Usage conditions for the target server]

None.

Cautions

(1) You must specify a destination IP address, a subnet mask, and a default gateway. If any of these is omitted, the static route is not set.

Version

02.00.00

Plug-in tags

Configure OS,Windows,Linux

Plug-in name displayed in the task log

osSetStaticRoute

Return code

0: Normal

12: Error (user error) Invalid property

14: Error (user error) File access disabled

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
OS.destIPAddress	Destination IP of static route	Specify the IP address of the destination network for which you want to set a static route. IPv6 addresses are not supported.	--	Input	O
OS.subnetMaskStaticRoute	Subnet mask (static route)	Specify the subnet mask for the static route. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGWStaticRoute	Default gateway (static route)	Specify the default gateway for the static route. You cannot specify an IPv6 address.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11 vSphere-related Plug-ins

5.11.1 DRS automation level setting for the DRS clusters

Function

In the VMware vSphere environment, specifies the DRS automation level setting for the virtual server belonging to the vSphere DRS cluster.

The following servers are the prerequisites for this plug-in:

- vCenter server

Server where VMware vCenter Server is installed.

- vCenter control server (execution target server)

Server where VMware vSphere PowerCLI is installed. Plug-ins are transferred to this server and executed by JP1/AO.

- DRS cluster

Server that configures the vSphere DRS cluster or the vSphere DRS cluster.

- Virtual server

Virtual server that is managed by the vCenter server and VMware vSphere ESXi.

The scripts in this plug-in perform the following processes:

- Execute the following commandlet:

Set-VM -VM VirtualMachine object#1

-DrsAutomationLevel "the-value-set-for-the-DRS-automation-level-(VMware.drsAutomationLevel-property)"

-Confirm:$false

#1: Object obtained from the value of the virtual server name (VMware.vmName property)

For details about the Set-VM commandlet, see Cmdlet Reference in the vSphere PowerCLI Documentation.

You can set the DRS automation level (VMware.drsAutomationLevel property) as follows:

- Specify the DRS automation level to be set for the virtual server.

- You can specify the following values:

Setting Definition

FullyAutomated Complete automation

PartiallyAutomated Partial automation

Manual Manual

AsSpecifiedByCluster As per the cluster setting

Disabled Disabled

Use situation

This plug-in is used to set the DRS automation level for the virtual server that has been added to the already constructed DRS cluster.

Prerequisites

For the most recent information about the prerequisite products for the system, the prerequisite products for the execution-target system, the prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(2) Prerequisite products for the VMware vSphere ESX instance that manages the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESXi must be managed by VMware vCenter Server.

(2) Conditions related to the settings on VMware vCenter Server

- Virtual servers must have a unique name.

- The VMware-related name shown below is case-sensitive in VMware. However, it is not case-sensitive in a vSphere PowerCLI instance that is executed from this plug-in.

For this reason, you cannot use this plug-in in an environment where some of the VMware-related names being used are identical to each other except for case differences.

- Virtual server name

(3) The virtual server must belong to the vSphere DRS cluster.

Prerequisite products for the execution-target server:

- VMware vSphere PowerCLI 6.3 Release 1, 6.0 Release 3, 6.0 Release 1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, and 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or a single quotation mark (') in a property of this plug-in.

Execution privilege

(1) Users who access VMware vCenter Server must have permission for the system administrator role.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetDRSAutomationLevel

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.drsAutomationLevel	DRS automation level	Specify the DRS automation level to be set for a virtual server. You can specify FullyAutomated, PartiallyAutomated, Manual, AsSpecifiedByCluster, or Disabled.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.2 Add a DRS rule (from virtual server to host)

Function

This plugin adds the vSphere DRS cluster's DRS rule (from a virtual server to a host) in a VMware vSphere environment.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- DRS cluster

A vSphere DRS cluster, or a set of servers that make up a vSphere DRS cluster

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the DRS rule (VMware.drsRule property).

- The following values can be specified:

Setting Meaning

Must Must be executed on a host in the group

Should Should be executed on a host in the group

ShouldNot Cannot be executed on a host in the group

MustNot Must not be executed on a host in the group

Use situation

This plugin can be used to add the DRS rule to the host DRS group and virtual server DRS group when an ESX server or virtual server is added to a DRS cluster environment.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- vSphere DRS cluster names must be unique.

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in the vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- DRS cluster name

- DRS group names (host DRS group name and virtual server DRS group name)

(3) The vSphere DRS cluster must be created, and the host DRS group and virtual server DRS group must be set up.

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetDRSRuleVmToHost

Return code

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.drsClusterName	DRS cluster name	Specifies the name of the vSphere DRS cluster managed by VMware vCenter Server.	--	Input	R
VMware.drsRuleName	DRS rule name	Specifies the name of a DRS rule.	--	Input	R
VMware.hostDrsGroupName	Host DRS group name	Specifies the host DRS group name to be set for the DRS rule.	--	Input	R
VMware.vmDrsGroupName	Virtual server DRS group name	Specifies the virtual server DRS group name to be set for the DRS rule.	--	Input	R
VMware.drsRule	DRS rule	Specifies the DRS rule to be set.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.3 Set maintenance mode for the ESX server

Function

This plugin switches to maintenance mode or exits maintenance mode for an ESX server in a VMware vSphere environment.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes maintenance mode (VMware.esxSetMaintenanceMode property).

- Specify ON to switch to maintenance mode. Specify OFF to exit maintenance mode.

Use situation

This plugin can be used to enter or exit maintenance mode during maintenance of the ESX server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) The status of VMware vSphere ESX must be "Connected" or "Connected (maintenance mode)".

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If you specify ON for maintenance mode (VMware.esxSetMaintenanceMode property) when the ESX server is in maintenance mode, this plugin ends normally without attempting to enter maintenance mode. If you specify OFF for maintenance mode (VMware.esxSetMaintenanceMode property) when the ESX server is not in maintenance mode, this plugin ends normally without attempting to exit maintenance mode.

(3) When an ESX server (specified by the VMware.vmHostName property) belonging to a cluster switches to maintenance mode, powered-off or suspended virtual servers on that ESX server do not move to another ESX server in the same cluster. If you need to move powered-off or suspended virtual servers, move such virtual servers in advance.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetMaintenanceMode

Return code

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the host name of the ESX server.	--	Input	R
VMware.esxSetMaintenance Mode	Maintenance mode	To enter maintenance mode, specify "ON". To exit maintenance mode, specify "OFF".	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.4 Move the ESX server

Function

This plugin moves an ESX server to the specified data center, cluster, or folder in a VMware vSphere environment.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the destination for the ESX server (VMware.esxDestinationName property).

- For the destination, you can specify a data center, a cluster, or a folder.

Use situation

This plugin can be used to perform migration from cluster operation to standalone operation, or vise versa, during maintenance of the ESX server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- Data center names, cluster names, and folder names must be unique.

The same name cannot be assigned even for different types of items, such as the combination of a data center and a cluster, or a data center and a folder.

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in a vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Data center name, cluster name, and folder name

(3) If you specify a cluster as the destination, the vSphere HA cluster or vSphere DRS cluster must be created.

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or single quotation mark (') for a property of this plugin.

(2) This plugin moves an ESX server without changing the ESX server status. If you attempt to move an ESX server that makes up a cluster when the ESX server status is not maintenance mode, the attempt might fail and this plugin might end abnormally. In this case, change the ESX server status to maintenance mode, and then execute the plugin.

(3) If you specify a cluster as the destination for the ESX server (VMware.esxDestinationName property), a resource pool is not created when the ESX server is moved.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Migrate VM,VMware vSphere

Plug-in name displayed in the task log

vsphereMoveEsx

Return code

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the host name of the ESX server.	--	Input	R
VMware.esxDestinationNam e	New ESX server location	Specifies the names of the new datacenter, cluster, and folder.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.5 Obtain list of virtual network information for the ESX server

Function

This obtains the list of virtual network information for the ESX server in the VMware vSphere environment.

The component outputs the list of virtual network information for the ESX server to the file specified with the output file path (common.outputFilePath property).

The encoding style of the output file is the system default encoding of the execution target server.

The server's prerequisites for this component are described below.

- ESX server

Server where VMware vSphere ESXi is installed

- Execution target server

Server where VMware vSphere PowerCLI is installed; this product transfers the component to this server and executes it.

The script in this component executes the following VMware vSphere PowerCLI commandlets to refer to specific items.

- Get-EsxTop -CounterName "NetPort"*1

- ClientName (Interface name, such as the virtual machine name or Kernel port name)

- TeamUplink (Valid adapter name)

- Get-VirtualSwitch

- Name (Virtual switch name)

- Nic (Adapter name)

*1: NetPort, specified for the CounterName option, is a fixed value.

From the result of executing the aforementioned commandlets, obtain the value where Get-VirtualSwitch.Nic agrees with Get-EsxTop.TeamUplink.

The items in the output CSV file are described below.

The output items are separated by commas.

(a) Interface name (Header name: ClientName)

(b) Adapter name (Header name: TeamUplink)

(c) Virtual switch name (Header name: DNAME)

Example CSV file output

"ClientName","TeamUplink","DNAME"

"vmk0","vmnic0","vSwitch0"

"vm01","vmnic1","vSwitch1"

Use situation

The component can be used for referencing valid adapters in the virtual network of the ESX server.

Prerequisites

For the latest support information about [Required product for the system]/[Required product for the system executing the service template]/[Prerequisite product OS running in the system executing the service template], see the Release Notes.

[Required product for the system]

- JP1/Automatic Operation 11-10 or later

[Required product for the system executing the service template]

(1) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

[Use conditions of required product for the system]

None

[Required products for the service template execution server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the system executing the service template]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not use double or single quotation marks (" " or ' ') in a string specified for the property of this component.

(2) If the file specified for the output file path (common.outputFilePath property) already exists, the existing file is overwritten. Make sure that the specified file name is correct.

(3) If there is no folder in which to create the file specified for the output file path (common.outputFilePath property), the folder is created.

Execution privilege

(1) Users connecting to the ESX server are required to have the privileges of the system administrator role.

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereOutputVmNetworkInfo

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.ESXServerName	ESX Server Name	Specify the ESX server host name or IP address. IPv6 addresses are not supported.	--	Input	R
VMware.ESXUserName	User name for connecting to the ESX Server	Specify the user name for connecting to the ESX Server.	--	Input	R
VMware.ESXPassword	Password for connecting to the ESX Server	Specify the password for connecting to the ESX Server.	--	Input	R
VMware.ESXPortNumber	Port number for connecting to the ESX Server	Specify the number of the port for connecting to ESX Server.	443	Input	O
VMware.ESXProtocol	Protocol for connecting to the ESX Server	Specify either HTTP or HTTPS as the protocol for connecting to ESX Server.	HTTPS	Input	O
common.outputFilePath	Output file path	Specifies the file to be output as a full path.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	--

5.11.6 Set FC path priority

Function

Sets the PC path to a specified data store of VMware vSphere ESXi (or VMware ESX Server) to Preferred.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The plugin is transferred from JP1/AO to this server and then is executed.

Use situation

If SAN in VMware vSphere ESXi (or VMware ESX Server) has a multi-path configuration, you use this plugin to specify the FC path priority for a data store's LU.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) The path policy of the operation target datastore is fixed.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetFcpath

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.dataStoreName	Datastore name	Specify the name of the data store where the FC path priority is to be set.	--	Input	R
VMware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	--	Input	R
VMware.hbaName	Name of HBA whose priority is to be set	Specify the name of the HBA whose priority is to be set.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.7 Set virtual server options for the HA cluster

Function

This plugin sets the options that define the operation of virtual servers in a vSphere HA cluster in a VMware vSphere environment.

The following describes the items you can set. However, you cannot specify the HA cluster name (vmware.haClusterName property) and the virtual server name (VMware.vmName property) at the same time.

- If you specify the HA cluster name (VMware.haClusterName property):

The virtual server restart priority and the host isolation response can be specified in the default cluster settings.

- If you specify the virtual server (VMware.vmName property):

The virtual server restart priority and the host isolation response can be specified in virtual server settings.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- HA cluster

A vSphere HA cluster, or a set of servers that make up a vSphere HA cluster

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the virtual server restart priority (VMware.haRestartPriority property).

- You can specify any of the following values except for ClusterRestartPriority, which can be used only in virtual server settings:

Setting Meaning

Disabled Disabled

Low Low

Medium Medium

High High

ClusterRestartPriority The cluster settings are used.

The following describes the host isolation response (VMware.haIsolationResponse property).

- You can specify any of the following values except for AsSpecifiedByCluster, which can be used only in virtual server settings:

Setting Meaning

PowerOff Power on

DoNothing Leave powered on

Shutdown Shut down

AsSpecifiedByCluster The cluster settings are used.

Use situation

This plugin can be used to specify the options that define the operation of virtual servers during setup of a vSphere HA cluster or during configuration changes.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- vSphere HA cluster names and virtual server names must be unique.

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in a vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- HA cluster name

- Virtual server name

(3) The vSphere HA cluster must be created.

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or single quotation mark (') for a property of this plugin.

(2) You need to specify either the HA cluster name (VMware.haClusterName property) or virtual server name (VMware.vmName property). If both names are specified or omitted, this plugin ends abnormally.

(3) You need to specify either the virtual server restart priority (VMware.haRestartPriority property) or host isolation response (VMware.haIsolationResponse property), or both. If neither is specified, this plugin ends abnormally.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetHaVMOption

Return code

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.haClusterName	HA cluster name	Specifies the name of the vSphere HA cluster managed by VMware vCenter Server.	--	Input	O
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	O
VMware.haRestartPriority	Virtual server restart priority	Specifies the restart priority of the virtual server.	--	Input	O
VMware.haIsolationResponse	Behavior during host isolation	Specifies the behavior to be taken if the host is isolated.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.8 Monitoring settings for the virtual server in the HA cluster

Function

In the VMware vSphere environment, specifies the monitoring settings for the virtual server belonging to the vSphere HA cluster.

The specifiable items are: virtual server monitoring and monitoring sensitivity.

The following servers are the prerequisites for this plug-in:

- vCenter server

Server where VMware vCenter Server is installed.

- vCenter control server (execution target server)

Server where VMware vSphere PowerCLI is installed. Plug-ins are transferred to this server and executed by JP1/AO.

- HA cluster

Server that configures the vSphere HA cluster or the vSphere HA cluster.

- Virtual server

Virtual server that is managed by the vCenter server and VMware vSphere ESXi.

You can set virtual server monitoring (VMware.vmMonitoring property) as follows:

- Specify the monitoring status settings to be specified for the virtual server.

- You can specify the following values:

Setting Definition

vmMonitoringDisabled Disabled

vmMonitoringOnly Virtual server monitoring only

vmAndAppMonitoring Virtual server and application monitoring

clusterSettings As per the cluster setting

You can set the monitoring sensitivity (failure interval) (VMware.failureInterval property) as follows:

- Specify the failure interval (units: seconds) for the monitoring sensitivity to be set.

- Specify an integer value in the range from 1 to 100,000.

You can set the monitoring sensitivity (minimum uptime value) (VMware.minUpTime property) as follows:

- Specify the minimum uptime value (units: seconds) for the monitoring sensitivity to be set.

- Specify an integer value in the range from 1 to 100,000.

You can set the monitoring sensitivity (maximum number of resets per virtual server) (VMware.maxFailures property) as follows:

- Specify the maximum number of resets per virtual server for the monitoring sensitivity to be set.

- Specify an integer value in the range from 1 to 1,000.

You can set the monitoring sensitivity (maximum reset time period) (VMware.maxFailureWindow property) as follows:

- Specify the maximum reset time period (units: seconds) for the monitoring sensitivity to be set.

- Specify -1 or an integer value in the range from 1 to 1,000. If you specify -1, the maximum reset time period is set to no period.

Use situation

This plug-in can be used to set to monitor a virtual server added to the HA cluster that has already been constructed.

Prerequisites

For the most recent information about the prerequisite products for the system, the prerequisite products for the execution-target system, the prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(2) Prerequisite products for the VMware vSphere ESX instance that manages the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESXi must be managed by VMware vCenter Server.

(2) Conditions related to the settings on VMware vCenter Server

- Virtual servers must have a unique name.

- The VMware-related name shown below is case-sensitive in VMware. However, it is not case-sensitive in a vSphere PowerCLI instance that is executed from this plug-in.

For this reason, you cannot use this plug-in in an environment where some of the VMware-related names being used are identical to each other except for case differences.

- Virtual server name

(3) The virtual server must belong to the vSphere HA cluster.

Prerequisite products for the execution-target server:

- VMware vSphere PowerCLI 6.3 Release 1, 6.0 Release 3, 6.0 Release 1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, and 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or a single quotation mark (') in a property of this plug-in.

(2) The virtual server monitoring setting for the virtual server is dependent on the virtual server monitoring setting specified for the HA cluster.

If the disable setting is specified for the HA cluster, all settings for the virtual server become disabled.

If the HA cluster is set to monitor the virtual server only, the setting for the virtual server will be disabled or enabled only for monitoring the virtual server.

Execution privilege

(1) Users who access VMware vCenter Server must have permission for the system administrator role.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetVMMonitoring

Return code

0: Normal

12: Error (Mistake by user) Invalid property

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.vmMonitoring	Monitoring of a virtual server	Specify the monitoring status of a virtual server. You can specify vmMonitoringDisabled, vmMonitoringOnly, vmAndAppMonitoring, or clusterSettings.	--	Input	R
VMware.failureInterval	Monitoring sensitivity (failure interval)	Specifies the failure interval as a condition for determining the monitoring sensitivity.	--	Input	O
VMware.minUpTime	Monitoring sensitivity (minimum uptime)	Specifies the minimum uptime as a condition for determining the monitoring sensitivity.	--	Input	O
VMware.maxFailures	Monitoring sensitivity (maximum number of resets per virtual server)	Specifies the maximum number of resets per virtual server as a condition for determining the monitoring sensitivity.	--	Input	O
VMware.maxFailureWindow	Monitoring sensitivity (maximum period in which resets can occur)	Specifies the maximum time period during which resets can occur as a condition for determining the monitoring sensitivity.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.9 Recognize LUN

Function

Causes VMware vSphere ESXi (or VMware ESX Server) to recognize addition or deletion of an LU.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The plugin is transferred from JP1/AO to this server and then is executed.

Use situation

You use this plugin to cause VMware vSphere ESXi (or VMware ESX Server) to recognize creation or deletion of an LU for storing virtual server data during virtual server operation.

The related plugins are as follows:

• storageCreateLU2

• storageAddHostgroupLU

• vsphereGetCanonicalName

• vsphereCreateDatastore

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with host - configuration - storage partition configuration permissions for the target ESX server or system administrator role

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereRecognizeLU

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.10 Get canonical name of SCSI LUN

Function

Acquires a SCSI LUN canonical name that is recognized by VMware vSphere ESXi (or VMware ESX Server).

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The plugin is transferred from JP1/AO to this server and then is executed.

Use situation

When you use VMFS to create a data store in VMware vSphere ESXi (or VMware ESX Server) by using the vsphereCreateDatastore plugin, you must specify the canonical name of the LUN for which the data store is to be created.

This plugin outputs the canonical name required for data store creation to the VMware.canonicalName property.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereGetCanonicalName

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	--	Input	R
VMware.hbaName	HBA name	Specify the HBA name of the ESX server.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.controllerNumber	SCSI LUN's controller number	Specify the SCSI LUN's controller number.	--	Input	R
VMware.targetNumber	SCSI LUN's target number	Specify the SCSI LUN's target number.	--	Input	R
VMware.luNumber	SCSI LUN's LU number	Specify the SCSI LUN's LU number.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O
VMware.canonicalName	Canonical name	Specify the SCSI LUN's canonical name.	--	Outpu t	O

5.11.11 Script execution through the vCenter server

Function

In the VMware vSphere environment, executes the non-interactive script that is placed in the guest OS on the virtual server.

The executable scripts are Windows batch files (extension bat), Windows PowerShell scripts (extension ps1), and shell scripts (extension sh).

The script is executed by using the following vSphere PowerCLI commandlet on the execution target server:

Invoke-VMScript -ScriptText "execute-form-of-each-script"

-VM VirtualMachine object#1

-GuestUser "user-name-for-logging-in-to-the-guest-OS-(VMware.guestOSUserName-property)"

-GuestPassword "password-for-logging-in-to-the-guest-OS-(VMware.guestOSUserPassword-property)"

-Confirm:$false#2

#1: Object obtained from the virtual server name (VMware.vmName property) value

#2: This prevents the commandlet from becoming interactive.

For each script, specify the execute form described below in the ScriptText option.

- Windows batch file (extension bat)

"&'path-to-the-script-file-on-the-guest-OS-(VMware.scriptFileOnGuest-property)' 'script-argument-(VMware.scriptParameter-property)' ; exit $LASTEXITCODE"

- Windows PowerShell script (extension ps1)

"Set-ExecutionPolicy RemoteSigned -Scope Process ; & 'path-to-the-script-file-on-the-guest-OS-(VMware.scriptFileOnGuest-property)' 'script-argument-(VMware.scriptParameter-property)' ; exit $LASTEXITCODE"

- Shell script (extension sh)

"/bin/bash 'path-to-the-script-file-on-the-guest-OS-(VMware.scriptFileOnGuest-property)' 'script-argument-(VMware.scriptParameter-property)' "

The standard output and standard error output of each script executed on the virtual server are stored in the file on the execution target server that is specified as the script output file path (VMware.scriptOutputFilePath property).

The return value (ExitCode property) of the Invoke-VMScript commandlet is obtained and output as the return value of the script (common.scriptReturnCode property). If a value other than 0 is output as the return value of the script, the plug-in ends with an error. If the plug-in ends with an error before the script is executed, 255 is output as the return value of the script (common.scriptReturnCode property). Do not use 255 as the return value of the script.

If you are using multiple arguments (VMware.scriptParameter property) in the script, you can use a single-byte comma (,) or a single-byte hyphen (-) to delimit one argument from another. For the argument delimiter of the script (VMware.scriptParamDelimiter property), enter a symbol to be used as the delimiter. A single-byte comma (,) or a single-byte hyphen (-) can be used.

Example: Argument of the script is AAA,BBB,CCC

Argument delimiter of the script is comma (,)

-> " & XXX.bat 'AAA' 'BBB' 'CCC' ; exit $LASTEXITCODE"

The following servers are the prerequisites for this plug-in:

- vCenter server

Server where VMware vCenter Server is installed.

- ESX server

Server where VMware vSphere ESXi is installed.

- vCenter control server (execution target server)

Server where VMware vSphere PowerCLI is installed. Plug-ins are transferred to this server and executed by JP1/AO.

- Virtual server

Virtual server that is managed by the vCenter server and VMware vSphere ESXi.

For details about the Invoke-VMScript commandlet, see Cmdlet Reference in the vSphere PowerCLI Documentation.

Use situation

This plug-in is used to execute the script file for specifying the initial OS settings from the vCenter control server through the vCenter server in an environment where the JP1/AO server cannot communicate with the virtual server managed by the vCenter server.

Use this plug-in together with file transmission through the vCenter server (vsphereSendFileToGuest plug-in) and file deletion through the vCenter server (vsphereDeleteFileOnGuest plug-in) or with folder transmission

through the vCenter server (vsphereSendFolderToGuest plug-in) and folder deletion through the vCenter server (vsphereDeleteFolderOnGuest plug-in).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target server:

- VMware vSphere PowerCLI 6.3 Release 1, 6.0 Release 3, 6.0 Release 1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, and 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Prerequisite products for the execution-target system:

(1) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(2) VMware vSphere ESXi instance that manages the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(3) Prerequisite OSs for the virtual server

In a configuration that is supported by the prerequisite products for VMware vSphere ESXi and the vCenter control server that manage the prerequisite products for the vCenter server and the virtual server, the following OSs are supported:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESXi must be managed on VMware vCenter Server.

(2) Conditions related to the settings on VMware vCenter Server

- Virtual servers must have a unique name.

- The VMware-related name shown below is case-sensitive in VMware. However, it is not case-sensitive in a vSphere PowerCLI instance that is executed from this plug-in.

- Virtual server name

(3) Conditions related to the virtual server

- The virtual server must be running.

- If the virtual server OS is Windows, Windows PowerShell 2.0 or later must be installed.

- VMwareTools must be installed on the virtual server.

Cautions

(1) Do not specify a string containing a double quotation mark (") or a single quotation mark (') in a property of this plug-in.

(2) Do not specify a string containing a grave accent mark (`) or a dollar sign ($) for the path to the script file in the guest OS (VMware.scriptFileOnGuest property) or for the argument of the script (VMware.scriptParameter property).

(3) If the file designated by the output file path of the script (VMware.scriptOutputFilePath property) already exists, the existing file is overwritten. In addition, if the file path contains a folder that does not exist, the folder is created before the file is output.

(4) For other cautions, see the cautions about the Invoke-VMScript commandlet, which are provided in Cmdlet Reference in the vSphere PowerCLI Documentation.

(5) Do not execute interactive scripts that require user entry, or scripts that display a GUI and do not end automatically.

Execution privilege

(1) Users who access VMware vCenter Server must have the following permission:

System administrator role

Version

02.50.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereInvokeScript

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.guestOSUserName	User name for logging in to the guest OS	Specify the user name for logging in to the guest OS.	--	Input	R
VMware.guestOSUserPasswo rd	Password for logging in to the guest OS	Specify the password for logging in to the guest OS.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.scriptFileOnGuest	Script file on the guest OS	Specify the full path of the script file to be executed on the guest OS.	--	Input	R
VMware.scriptParameter	Script argument	Specify a script argument. To specify multiple arguments, separate the arguments by using the specified delimiter for script arguments (a single-byte comma or single-byte hyphen).	--	Input	O
VMware.scriptParamDelimite r	Delimiter for script arguments	Specify a delimiter for script arguments. You can specify a single-byte comma (,) or a single-byte hyphen (-). If this property is omitted, values specified for the script argument are handled as a single argument.	,	Input	O
VMware.scriptOutputFilePat h	Script output file path	Specify the full path of the file on the execution target server to which the standard output and standard error output of the script are output.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O
common.scriptReturnCode	Script return value	Stores the return value of the script executed on the virtual server.	--	Outpu t	O

5.11.12 File deletion through the vCenter server

Function

In the VMware vSphere environment, deletes the unnecessary file that is placed in the guest OS of the virtual server through the vCenter server.

The file is deleted by using the following vSphere PowerCLI commandlet on the execution target server:

Invoke-VMScript -ScriptText "format-specific-to-each-guest-OS-of-the-virtual-server"

-VM VirtualMachine object#1

-GuestUser "user-name-for-logging-in-to-the-guest-OS-(VMware.guestOSUserName-property)"

-GuestPassword "password-for-logging-in-to-the-guest-OS-(VMware.guestOSUserPassword-property)"

-Confirm:$false#2

#1: Object obtained from the virtual server name (VMware.vmName property) value

#2: This prevents the commandlet from becoming interactive.

For each guest OS of the virtual server, specify the ScriptText option in the following format and then execute it:

- Windows

"Remove-Item -LiteralPath 'path-to-the-file-to-be-deleted-on-the-guest-OS-(VMware.deleteFileOnGuest-property)' -Force "

- UNIX

"/bin/rm -f 'path-to-the-file-to-be-deleted-on-the-guest-OS-(VMware.deleteFileOnGuest-property)' "

The following servers are the prerequisites for this plug-in:

- vCenter server

Server where VMware vCenter Server is installed.

- ESX server

Server where VMware vSphere ESXi is installed.

- vCenter control server (execution target server)

Server where VMware vSphere PowerCLI is installed. Plug-ins are transferred to this server and executed by JP1/AO.

- Virtual server

Virtual server that is managed by the vCenter server and VMware vSphere ESXi.

For details about the Invoke-VMScript commandlet, see Cmdlet Reference in the vSphere PowerCLI Documentation.

For details about the Remove-Item commandlet, see the Remove-Item commandlet specifications in the Windows PowerShell documentation.

For details about the rm command, see the rm command specifications.

Use situation

This plug-in is used to delete any unnecessary script file on the virtual server from the vCenter control server through the vCenter server in an environment where the JP1/AO server cannot communicate with the virtual server managed by the vCenter server.

Use this plug-in together with file transmission through the vCenter server (vsphereSendFileToGuest plug-in) and script execution through the vCenter server (vsphereInvokeScript plug-in).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target server:

- VMware vSphere PowerCLI 6.3 Release 1, 6.0 Release 3, 6.0 Release 1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, and 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Prerequisite products for the execution-target system:

(1) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(2) VMware vSphere ESXi instance that manages the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(3) Prerequisite OSs for the virtual server

In a configuration that is supported by the prerequisite products for VMware vSphere ESXi and the vCenter control server that manage the prerequisite products for the vCenter server and the virtual server, the following OSs are supported:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESXi must be managed on VMware vCenter Server.

(2) Conditions related to the settings on VMware vCenter Server

- Virtual servers must have a unique name.

- The VMware-related name shown below is case-sensitive in VMware. However, it is not case-sensitive in a vSphere PowerCLI instance that is executed from this plug-in.

- Virtual server name

(3) Conditions related to the virtual server

- The virtual server must be running.

- If the virtual server OS is Windows, Windows PowerShell 2.0 or later must be installed.

- VMwareTools must be installed on the virtual server.

Cautions

(1) Do not specify a string containing a double quotation mark (") or a single quotation mark (') in a property of this plug-in.

(2) Do not specify a string containing a grave accent mark (`) or a dollar sign ($) in the path to the file to be deleted in the guest OS (VMware.deleteFileOnGuest property).

(3) For other cautions, see the cautions about the Invoke-VMScript commandlet in Cmdlet Reference in the vSphere PowerCLI Documentation, and the cautions about the Remove-Item commandlet and rm command for each OS.

Execution privilege

(1) Users who access VMware vCenter Server must have the following permission:

System administrator role

Version

02.50.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereDeleteFileOnGuest

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.guestOSUserName	User name for logging in to the guest OS	Specify the user name for logging in to the guest OS.	--	Input	R
VMware.guestOSUserPassword	Password for logging in to the guest OS	Specify the password for logging in to the guest OS.	--	Input	R
VMware.deleteFileOnGuest	Path to the file be deleted on the guest OS	Specify the full path of the file to be deleted on the guest OS.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.13 File transmission through the vCenter server

Function

In the VMware vSphere environment, this plug-in transmits the specified file from the execution target server to the guest OS on the virtual server through the vCenter server.

The file is sent in binary format.

The file is sent by using the following vSphere PowerCLI commandlet on the execution target server:

Copy-VMGuestFile -Source "path-to-the-file-on-the-execution-target-server-(VMware.fileOnHost-property)"

-Destination "path-to-the-file-on-the-guest-OS-(VMware.fileOnGuest-property)"

-LocalToGuest

-Force#1

-VM VirtualMachine object#2

-GuestUser "user-name-for-logging-in-to-the-guest-OS-(VMware.guestOSUserName-property)"

-GuestPassword "password-for-logging-in-to-the-guest-OS-(VMware.guestOSUserPassword-property)"

-Confirm:$false#3

#1: If the path to the file in the guest OS (VMware.fileOnGuest property) contains a folder that does not exist, the folder will be created.

#2: Object obtained from the value of the virtual server name (VMware.vmName property)

#3: This prevents the commandlet from becoming interactive.

The following servers are the prerequisites for this plug-in:

- vCenter server

Server where VMware vCenter Server is installed.

- ESX server

Server where VMware vSphere ESXi is installed.

- vCenter control server (execution target server)

Server where VMware vSphere PowerCLI is installed. Plug-ins are transferred to this server and executed by JP1/AO.

- Virtual server

Virtual server that is managed by the vCenter server and VMware vSphere ESXi.

For details about the Copy-VMGuestFile commandlet, see Cmdlet Reference in the vSphere PowerCLI Documentation.

Use situation

This plug-in is used to execute the script file for specifying the initial OS settings in an environment where the JP1/AO server cannot communicate with the virtual server managed by the vCenter server. By using this plug-in, you can have the vCenter control server send the script to the virtual server through the vCenter server.

Use this plug-in together with script execution through the vCenter server (vsphereInvokeScript plug-in) and file deletion through the vCenter server (vsphereDeleteFileOnGuest plug-in).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target server:

- VMware vSphere PowerCLI 6.3 Release 1, 6.0 Release 3, 6.0 Release 1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, and 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Prerequisite products for the execution-target system:

(1) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(2) VMware vSphere ESXi instance that manages the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(3) Prerequisite OSs for the virtual server

In a configuration that is supported by the prerequisite products for VMware vSphere ESXi and the vCenter control server that manage the prerequisite products for the vCenter server and the virtual server, the following OSs are supported:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESXi must be managed on VMware vCenter Server.

(2) Conditions related to the settings on VMware vCenter Server

- Virtual servers must have a unique name.

- The VMware-related name shown below is case-sensitive in VMware. However, it is not case-sensitive in a vSphere PowerCLI instance that is executed from this plug-in.

- Virtual server name

(3) Conditions related to the virtual server

- The virtual server must be running.

- VMwareTools must be installed on the virtual server.

Cautions

(1) Do not specify a string containing a double quotation mark (") or a single quotation mark (') in a property of this plug-in.

(2) For other cautions, see the cautions about the Copy-VMGuestFile commandlet, which are provided in Cmdlet Reference in the vSphere PowerCLI Documentation.

Execution privilege

(1) Users who access VMware vCenter Server must have the following permission:

System administrator role

Version

02.50.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSendFileToGuest

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.guestOSUserName	User name for logging in to the guest OS	Specify the user name for logging in to the guest OS.	--	Input	R
VMware.guestOSUserPassword	Password for logging in to the guest OS	Specify the password for logging in to the guest OS.	--	Input	R
VMware.fileOnHost	Path to the file on execution target server	Specify the full path of the file on the target server that is the transmission source.	--	Input	R
VMware.fileOnGuest	File path on the guest OS	Specify the full path of the file on the guest OS that is the transmission destination.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.14 Folder deletion through the vCenter server

Function

In the VMware vSphere environment, deletes the unnecessary folder that is placed in the guest OS of the virtual server through the vCenter server.

The folder is deleted by using the following vSphere PowerCLI commandlet on the execution target server:

Invoke-VMScript -ScriptText "format-specific-to-each-guest-OS-of-the-virtual-server"

-VM VirtualMachine object#1

-GuestUser "user-name-for-logging-in-to-the-guest-OS-(VMware.guestOSUserName-property)"

-GuestPassword "password-for-logging-in-to-the-guest-OS-(VMware.guestOSUserPassword-property)"

-Confirm:$false#2

#1: Object obtained from the virtual server name (VMware.vmName property) value

#2: This prevents the commandlet from becoming interactive.

For each guest OS of the virtual server, specify the ScriptText option in the following format and then execute it:

- Windows

"cmd.exe /c RMDIR /S /Q 'path-to-the-folder-to-be-deleted-on-the-guest-OS-(VMware.deleteFolderOnGuest-property)' "

- UNIX

"/bin/rm -f -r 'path-to-the-folder-to-be-deleted-on-the-guest-OS-(VMware.deleteFolderOnGuest-property)' "

The following servers are the prerequisites for this plug-in:

- vCenter server

Server where VMware vCenter Server is installed.

- ESX server

Server where VMware vSphere ESXi is installed.

- vCenter control server (execution target server)

Server where VMware vSphere PowerCLI is installed. Plug-ins are transferred to this server and executed by JP1/AO.

- Virtual server

Virtual server that is managed by the vCenter server and VMware vSphere ESXi.

For details about the Invoke-VMScript commandlet, see Cmdlet Reference in the vSphere PowerCLI Documentation.

For details about the RMDIR command, see the RMDIR command specifications.

For details about the rm command, see the rm command specifications.

Use situation

This plug-in is used to delete through the vCenter server the unnecessary folder storing both script and the files necessary to execute the script in an environment where the JP1/AO server cannot communicate with the virtual server managed by the vCenter server.

Use this plug-in together with folder transmission through the vCenter server (vsphereSendFolderToGuest plug-in) and script execution through the vCenter server (vsphereInvokeScript plug-in).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target server:

- VMware vSphere PowerCLI 6.3 Release 1, 6.0 Release 3, 6.0 Release 1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, and 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Prerequisite products for the execution-target system:

(1) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(2) VMware vSphere ESXi instance that manages the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(3) Prerequisite OSs for the virtual server

In a configuration that is supported by the prerequisite products for VMware vSphere ESXi and the vCenter control server that manage the prerequisite products for the vCenter server and the virtual server, the following OSs are supported:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESXi must be managed on VMware vCenter Server.

(2) Conditions related to the settings on VMware vCenter Server

- Virtual servers must have a unique name.

- The VMware-related name shown below is case-sensitive in VMware. However, it is not case-sensitive in a vSphere PowerCLI instance that is executed from this plug-in.

- Virtual server name

(3) Conditions related to the virtual server

- The virtual server must be running.

- If the virtual server OS is Windows, Windows PowerShell 2.0 or later must be installed.

- VMwareTools must be installed on the virtual server.

Cautions

(1) Do not specify a string containing a double quotation mark (") or a single quotation mark (') in a property of this plug-in.

(2) Do not specify a string containing a grave accent mark (`) or a dollar sign ($) in the path to the folder to be deleted in the guest OS (VMware.deleteFolderOnGuest property).

(3) This plug-in can only handle a standard folder as the folder. In other words, the plug-in cannot handle a drive as the folder.

(4) For other cautions, see the cautions about the Invoke-VMScript commandlet in Cmdlet Reference in the vSphere PowerCLI Documentation, and the cautions about the RMDIR command and rm command for each OS.

Execution privilege

(1) Users who access VMware vCenter Server must have the following permission:

System administrator role

Version

02.50.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereDeleteFolderOnGuest

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.guestOSUserName	User name for logging in to the guest OS	Specify the user name for logging in to the guest OS.	--	Input	R
VMware.guestOSUserPassword	Password for logging in to the guest OS	Specify the password for logging in to the guest OS.	--	Input	R
VMware.deleteFolderOnGuest	Path to the folder to be deleted on the guest OS	Specify the full path of the folder to be deleted on the guest OS.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.15 Folder transmission through the vCenter server

Function

In the VMware vSphere environment, this plug-in transmits the specified folder from the execution target server to the guest OS on the virtual server through the vCenter server.

The folder is sent in binary format.

The folder is sent by using the following vSphere PowerCLI commandlet on the execution target server:

Copy-VMGuestFile -Source "path-to-the-folder-on-the-execution-target-server-(VMware.folderOnHost-property)"

-Destination "path-to-the-folder-on-the-guest-OS-(VMware.folderOnGuest-property)"

-LocalToGuest

-Force#1

-VM VirtualMachine object#2

-GuestUser "user-name-for-logging-in-to-the-guest-OS-(VMware.guestOSUserName-property)"

-GuestPassword "password-for-logging-in-to-the-guest-OS-(VMware.guestOSUserPassword-property)"

-Confirm:$false#3

#1: If the path to the folder in the guest OS (VMware.folderOnGuest property) contains a folder that does not exist, the folder will be created.

#2: Object obtained from the value of the virtual server name (VMware.vmName property)

#3: This prevents the commandlet from becoming interactive.

The following servers are the prerequisites for this plug-in:

- vCenter server

Server where VMware vCenter Server is installed.

- ESX server

Server where VMware vSphere ESXi is installed.

- vCenter control server (execution target server)

Server where VMware vSphere PowerCLI is installed. Plug-ins are transferred to this server and executed by JP1/AO.

- Virtual server

Virtual server that is managed by the vCenter server and VMware vSphere ESXi.

For details about the Copy-VMGuestFile commandlet, see Cmdlet Reference in the vSphere PowerCLI Documentation.

Use situation

This plug-in is used to execute the script file for specifying the initial OS settings in an environment where the JP1/AO server cannot communicate with the virtual server managed by the vCenter server. By using this plug-in, you can send

the folder storing both the script and the files necessary to execute the script from the vCenter control server to the virtual server through the vCenter server.

Use this plug-in together with script execution through the vCenter server (vsphereInvokeScript plug-in) and folder deletion through the vCenter server (vsphereDeleteFolderOnGuest plug-in).

Prerequisites

For the most recent information about the prerequisite products for the system, prerequisite products for the execution-target server, and the supported OSs for the prerequisite products for the execution-target server, see the Release Notes.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target server:

- VMware vSphere PowerCLI 6.3 Release 1, 6.0 Release 3, 6.0 Release 1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, and 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Prerequisite products for the execution-target system:

(1) Prerequisite products for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(2) VMware vSphere ESXi instance that manages the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, and 5.0

(3) Prerequisite OSs for the virtual server

In a configuration that is supported by the prerequisite products for VMware vSphere ESXi and the vCenter control server that manage the prerequisite products for the vCenter server and the virtual server, the following OSs are supported:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESXi must be managed on VMware vCenter Server.

(2) Conditions related to the settings on VMware vCenter Server

- Virtual servers must have a unique name.

- The VMware-related name shown below is case-sensitive in VMware. However, it is not case-sensitive in a vSphere PowerCLI instance that is executed from this plug-in.

- Virtual server name

(3) Conditions related to the virtual server

- The virtual server must be running.

- VMwareTools must be installed on the virtual server.

Cautions

(1) Do not specify a string containing a double quotation mark (") or a single quotation mark (') in a property of this plug-in.

(2) This plug-in can only handle a standard folder as the folder. In other words, the plug-in cannot handle a drive as the folder.

(3) For other cautions, see the cautions about the Copy-VMGuestFile commandlet, which are provided in Cmdlet Reference in the vSphere PowerCLI Documentation.

Execution privilege

(1) Users who access VMware vCenter Server must have the following permission:

System administrator role

Version

02.50.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSendFolderToGuest

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check the error details by using the task log.) Unidentified error

41: Error (An error has been detected in the component.) Property not entered (An error has been detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.guestOSUserName	User name for logging in to the guest OS	Specify the user name for logging in to the guest OS.	--	Input	R
VMware.guestOSUserPassword	Password for logging in to the guest OS	Specify the password for logging in to the guest OS.	--	Input	R
VMware.folderOnHost	Path to the folder on execution target server	Specify the full path of the folder on the target server that is the transmission source.	--	Input	R
VMware.folderOnGuest	Folder path on the guest OS	Specify the full path of the folder on the guest OS that is the transmission destination.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.16 Check VMware vCenter Server connectivity

Function

Verifies that VMware vSphere PowerCLI can be used to connect to a VMware vSphere environment.

This module assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The module is transferred from JP1/AO to this server and then is executed.

Use situation

In a VMware vSphere environment, this module enables you to check in advance the connection status between VMware vSphere ESXi (or VMware ESX Server) and the execution target server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

[Usage conditions for required products in the execution target system]

(1)VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running on the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereConnectChallenge

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in module) Missing property (error detected in module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.connectvCenterResult	vCenter connectivity check result	Stores the result of determining whether a connection to VMware vCenter can be established.	--	Output	O

5.11.17 Create data store

Function

Adds a data store to VMware vSphere ESXi (or VMware ESX Server).

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The plugin is transferred from JP1/AO to this server and then is executed.

Use situation

When you add a new virtual server, you use this plugin to add a data store to the ESX server.

When you use VMFS to create a data store, you must specify the SCSI LUN canonical name in VMware.lunPath.

In this case, you can use the value of the VMware.canonicalName output property (which is obtained by executing vsphereGetCanonicalName).

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) The following characters cannot be specified in a data store name (VMware.dataStoreName): forward slash (/), backslash (\), percent sign (%).

(2) If the version of VMware vSphere ESXi (or VMware ESX Server) is 5 or later, a VMFS of version 5 will be created.

(3) If the version of VMware vSphere ESXi (or VMware ESX Server) is less than 5, a VMFS of version 3 will be created.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with data store - data store configuration permissions for the target ESX server or system administrator role

Version

02.11.00

Plug-in tags

Add New Storage,VMware vSphere

Plug-in name displayed in the task log

vsphereCreateDataStore

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
VMware.vmHostName	ESX server name	Clusters inventory view managed by VMware vCenter server.	--	Input	R
VMware.dataStoreName	Datastore name	Specify the name of the data store to be created.	--	Input	R
VMware.dataStoreType	Datastore type	Specify the datastore type. If the datastore is in an FC-SAN or SCSI configuration, specify VMFS. If the datastore is in a NAS configuration, specify NFS.	VMFS	Input	R
VMware.dataStoreReadOnlyMode	Datastore read-only mode	To create a read-only datastore, specify ReadOnly. In other cases, specify ReadWrite.	ReadWrite	Input	O
VMware.lunPath	LUN path	If the datastore type is VMFS, specify the canonical name of the LU on which the datastore will be created. If the datastore type is NFS, specify the mount point.	--	Input	R
VMware.blockSizeMB	Block size	[Only if the datastore is VMFS] Specify the block size. According to the specified block size, the upper limit of the size of each file that will be created in the VMFS is determined as follows:1 MB: 256 GB, 2 MB: 512 GB, 4 MB: 1,024 GB, 8 MB: 2,048 GB	--	Input	O
VMware.vmfsFileSystemVersion	File system version (VMFS)	VMFS version of the datastore to be created.	--	Input	O
VMware.nfsHostNameOrIpAddress	NFS host name	[Only if the datastore type is NFS] Specify the host name or IP address of the NFS server on which the datastore will be created. IPv6 addresses are not supported.	--	Input	O
VMware.storageIOControlEnabled	Whether storage I/O control is enabled	To enable storage I/O control for datastores, specify "true". In other cases, specify "false".	false	Input	O
VMware.congestionThresholdMillisecond	Datastore congestion threshold	Specify (in ms) the threshold for determining whether the storage I/O control assumes that the datastore is congested.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.18 Check data store creation

Function

Verifies that a specified data store can be added to VMware vSphere ESXi (or VMware ESX Server).

This module assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The module is transferred from JP1/AO to this server and then is executed.

This module checks the following:

• Whether the specified ESX server has been registered into the vCenter server

If the ESX server is not registered in the vCenter server, the result is false.

• Whether the specified data store name is already in use in the data center to which the target ESX server to which the data store is to be added belongs

If the data store name is already in use at the data center, the result is false.

• Whether the correspondence between the specified block size and the data store capacity is valid

If the correspondence between the specified block size and the data store capacity is not valid, the result is false.

For details about the correspondence between block size and data store capacity, see the description of the block size (MB) property.

• Whether the specified HBA has been registered into the ESX server

If the HBA is not registered in the ESX server, the result is false.

Use situation

When you intend to add a data store to an ESX server, this module enables you to first check whether the data store can be added to the ESX server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

[Usage conditions for required products in the execution target system]

(1)VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running on the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) The following characters cannot be specified in a data store name (VMware.dataStoreName):

• Forward slash (/)

• Backslash (\)

• Percent sign (%)

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with data store - data store configuration permissions for the target ESX server or system administrator role

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereCheckDataStore

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in module) Missing property (error detected in module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	--	Input	R
VMware.dataStoreName	Datastore name	Specify the name of the data store.	--	Input	R
VMware.dataStoreType	Datastore type	Specify the datastore type. If the datastore is in an FC-SAN or SCSI configuration, specify VMFS. If the datastore is in a NAS configuration, specify NFS.	VMFS	Input	O
HDvM.capacity	Space on the DP volume (LU) (GB)	Specify the space in gigabytes of the DP volume (LU) to be created.	--	Input	R
VMware.blockSizeMB	Block size (MB)	Specify the block size of the data store. The upper limit of a file created on the VMFS is determined by its block size as follows: 1MB - 256GB, 2MB - 512GB, 4MB - 1024GB, 8MB - 2048GB. When not specified, it checks the default for VMware vCenter Server.	1	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vmfsFileSystemVers ion	File system version (VMFS)	VMFS version of the datastore to be created.	--	Input	O
VMware.hbaName	HBA name	Specify the name of the HBA in the format in which it appears in the Runtime Name of the storage adapter in VMware vCenter Server (for example: vmhba0), before determining whether the HBA exists.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.CheckDataStoreRes ult	Data store creation check result	Stores the result of determining whether a data store can be added.	--	Output	O

5.11.19 Delete data store

Function

Deletes a data store from VMware vSphere ESXi (or VMware ESX Server) in a VMware vSphere environment.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The plugin is transferred from JP1/AO to this server and then is executed.

Use situation

When a virtual server has been deleted and its data store is no longer needed, you use this plugin to delete the data store.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) Make sure that no virtual server that is being used is stored in the data store that is to be deleted.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with data store - data store configuration permissions for the target ESX server or system administrator role

Version

02.11.00

Plug-in tags

Delete Storage,VMware vSphere

Plug-in name displayed in the task log

vsphereDeleteDatastore

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	--	Input	R
VMware.dataStoreName	Datastore name	Specify the name of the data store to be deleted.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.20 Create a template

Function

This plugin creates a template from a virtual server in a VMware vSphere environment. After the template is created, the source virtual server is left undeleted.

If you want to change the data store that stores the template, specify the data store name.

If no data store name is specified, the template is stored in the same data store as the source virtual server.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the template location (VMware.destTemplateLocation property).

- Specify the location (data center, folder, or ESX server) in which the template is to be created.

- If you specify a data center or folder, the template host will be the same ESX server as the source virtual server. The template cannot be created on a different ESX server.

- If you specify an ESX server, the specified ESX server is used as the host, and the template is created in the data center that manages the ESX server.

The following describes the data store name (VMware.destTemplateDataStore property).

- Specify the name of the data store that stores the template.

- If the specification is omitted, the template is stored in the same data store as the virtual server from which the template is created.

Use situation

This plugin can be used to create a template from an existing virtual server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- The name of the template location (data center, ESX server, or folder) must be unique.

- Virtual server names must be unique.

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in the vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Virtual server name

- Template name

- Data center name

- Folder name

- Data store name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If the data store that stores the template cannot be viewed from the template location, this plugin ends abnormally. In this case, specify a data store that can be viewed from the template location for the data store name (VMware.destTemplateDataStore property).

(3) If the data store name (VMware.destTemplateDataStore property) is specified when the version of VMware vSphere PowerCLI is 5.0, this plugin ends abnormally.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Add VM Template,VMware vSphere

Plug-in name displayed in the task log

vsphereCreateTemplate

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O

Property key	Property name	Description	Default value	I/O type	Required
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.srcVmName	Creation-source virtual server name	Specifies the name of the virtual server on which the template is created. Note that the name you specify is the display name for the virtual server in VMware vCenter Server, rather than the host name in the OS.	--	Input	R
VMware.createTemplateName	Template name	Specifies the name of the template that you want to create.	--	Input	R
VMware.destTemplateLocation	Template creation location	Specifies the location (datacenter, folder, or ESX server) where the template will be created.	--	Input	R
VMware.destTemplateDataStore	Datastore name	Specifies the name of the datastore in which to store the template. If the specification is omitted, the template is created in the same datastore on the virtual server where the template is created.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.21 Delete a template

Function

This plugin deletes templates from a virtual server in a VMware vSphere environment.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

Use situation

This plugin can be used to delete templates from a virtual server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- Template names must be unique.

- The VMware-related name shown below is case sensitive in VMware, but the specified name is not case sensitive in the vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Template name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Delete VM Template,VMware vSphere

Plug-in name displayed in the task log

vsphereDeleteTemplate

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.deleteTemplateNam e	Template name	Specifies the name of the template that you want to delete.	--	Input	R
VMware.deletePermanently	Whether to delete the template from the datastore	To delete the template from the datastore, specify "true". To not delete the template from the datastore, specify "false". If you specify "false", the template is deleted from the inventory, but not from the datastore.	true	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.22 Change the network adapter settings

Function

This plugin changes the network adapter settings allocated to virtual servers in a VMware vSphere environment.

Use one of the following methods to specify the connection destination network:

(1) Specify the port group name of the standard virtual switch (VMware.connectionPortGroupName property).

(2) Specify the distributed port group name (VMware.connectionVDPortGroupName property).

(3) Specify the distributed virtual switch name (VMware.distributedSwitchName property) and port ID (VMware.portID property).

If you do not specify the connection destination network, the connection destination network will not be changed.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the network adapter type (VMware.vNetworkAdapterType property).

- Specify the type of the network adapter. The values you can specify for this property are e1000, e1000e, Flexible, EnhancedVmxnet, and Vmxnet3. However, some types of network adapters cannot be specified depending on the version of a prerequisite product. Confirm the types of network adapters that can be specified for the prerequisite products, and then specify the appropriate value.

- To specify VMXNET2 (Enhanced) as the network adapter type, specify EnhancedVmxnet.

Use situation

This plugin can be used to change the network adapter settings allocated to a virtual server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- Virtual server names must be unique.

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in the vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Virtual server name

- Port group name

- Distributed port group name

- Distributed virtual switch name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If you use multiple methods to specify the connection destination network, this plugin ends abnormally.

(3) If the plugin for which the connection destination network is specified ends abnormally with return value 27, a configuration change might have failed after the network adapter was connected to the specified network. In this case, remove the cause of the error according to the error message in the task log, and then execute the plugin again.

(4) Do not execute multiple instances of this plugin simultaneously for the same network adapter. If you do so, this plugin ends normally, but invalid values might be set for the network adapter.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetNetworkAdapter

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.targetNetworkAdapter	Network adapter name	Specifies the name of the network adapter whose settings you want to change.	--	Input	R
VMware.connectionPortGroupName	Port group name of the standard virtual switch	Specifies the port group name of the standard virtual switch that connects to the network adapter.	--	Input	O
VMware.connectionDVPortGroupName	Distributed port group name	Specifies the name of the distributed port group that connects to the network adapter.	--	Input	O
VMware.dVSwitchName	Distributed virtual switch name	Specifies the name of the distributed virtual switch to be connected to the network adapter. If you specify this property, you must also specify the port ID.	--	Input	O
VMware.portID	Port ID	Specifies the port ID of the distributed virtual switch to be connected to the network adapter.	--	Input	O
VMware.startConnetedSwitch	Whether to connect a network adapter at virtual server startup	To connect a network adapter when the virtual server starts, specify "true". To not connect a network adapter when the virtual server starts, specify "false".	--	Input	O
VMware.vNetworkAdapterType	Network adapter type	Specifies the network adapter type. You can specify e1000, e1000e, Flexible, EnhancedVmxnet, or Vmxnet3.	--	Input	O
VMware.wakeOnLanSwitch	Setting Wake-on-LAN	To enable the Wake-on-LAN function of the network adapter, specify "true". To disable the function, specify "false".	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.23 Add a network adapter

Function

This plugin adds a network adapter to a virtual server, and then configures the connection destination network in a VMware vSphere environment.

Use one of the following methods to specify the connection destination network:

(1) Specify the port group name of the standard virtual switch (VMware.connectionPortGroupName property).

(2) Specify the distributed port group name (VMware.connectionDVPortGroupName property).

(3) Specify the distributed virtual switch name (VMware.dVSwitchName property) and the port ID (VMware.portID property).

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the network adapter type (VMware.vNetworkAdapterType property).

- Specify the type of the network adapter. The values you can specify for this property are e1000, e1000e, Flexible, EnhancedVmxnet, and Vmxnet3. However, some types of network adapters cannot be specified depending on the version of a prerequisite product. Confirm the types of network adapters that can be specified for the prerequisite products, and then specify the appropriate value.

- If you omit this property, VMware vCenter Server automatically sets the network adapter type appropriate for the guest OS.

- To specify VMXNET2 (Enhanced) as the network adapter type, specify EnhancedVmxnet.

Use situation

This plugin can be used to add a network adapter to a virtual server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- Virtual server names must be unique.

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in a vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Virtual server name

- Port group name

- Distributed port group name

- Distributed virtual switch name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If you do not specify a connection destination network or if you use multiple methods to specify the connection destination network, this plugin ends abnormally.

(3) To specify a MAC address, make sure the MAC address is not being used.

(4) Do not execute multiple instances of this plugin simultaneously on the same virtual server. If you do so, the plugin ends normally, but an invalid value might be stored for the network adapter name (VMware.createdNetworkAdapterName property) or MAC address (VMware.assignedMacAddress property).

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereAddNetworkAdapter

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.connectionPortGrou pName	Port group name of the standard virtual switch	Specifies the port group name of the standard virtual switch that connects to the network adapter.	--	Input	O
VMware.connectionDVPortG roupName	Distributed port group name	Specifies the name of the distributed port group that connects to the network adapter.	--	Input	O
VMware.dVSwitchName	Distributed virtual switch name	Specifies the name of the distributed virtual switch to be connected to the network adapter. If you specify this property, you must also specify the port ID.	--	Input	O
VMware.portID	Port ID	Specifies the port ID of the distributed virtual switch to be connected to the network adapter.	--	Input	O
VMware.startConnetedSwitc h	Whether to connect a network adapter at virtual server startup	To connect a network adapter when the virtual server starts, specify "true". To not connect a network adapter when the virtual server starts, specify "false".	true	Input	R
VMware.vNetworkAdapterTy pe	Network adapter type	Specifies the type of the network adapter. You can specify e1000, e1000e, Flexible, EnhancedVmxnet, or Vmxnet3. If the specification is omitted, VMware vCenter Server automatically sets this item according to the guest OS.	--	Input	O
VMware.networkAdapterMac Address	MAC address	Specifies the MAC address of the network adapter in "XX:XX:XX:XX:XX:XX" format. If the specification is omitted, a MAC address is automatically assigned.	--	Input	O
VMware.wakeOnLanSwitch	Setting Wake-on-LAN	To enable the Wake-on-LAN function of the network adapter,	true	Input	R

Property key	Property name	Description	Default value	I/O type	Required
VMware.wakeOnLanSwitch	Setting Wake-on-LAN	specify "true". To disable the function, specify "false".	true	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
VMware.createdNetworkAdapterName	Network adapter name	Stores the name of the new network adapter that was added.	--	Output	O
VMware.assignedMacAddress	MAC address	Stores the MAC address assigned to the newly added network adapter.	--	Output	O

5.11.24 Set traffic shaping policy for the port group

Function

This plugin sets the traffic shaping policy for a port group of the standard virtual switch (vNetwork standard switch or vSphere standard switch) in a VMware vSphere environment.

You can specify one of the following policies:

- Inheritance

The traffic shaping policy set for the standard virtual switch is applied to the port group. If the policy of the standard virtual switch is changed, the change is also applied to the port group.

- Override

A traffic shaping policy unique to the port group is set. In this case, you need to specify all the following properties:

- Average bandwidth (kbit/s) (VMware.sendAverageBandwidth property)

- Burst size (KB) (VMware.sendBurstSize property)

- Peak bandwidth (kbit/s) (VMware.sendPeakBandwidth property)

- Disable

Traffic shaping on the port group is disabled. In this case, the traffic that goes through the port group is not limited.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

The following describes the average bandwidth (kbit/s) (VMware.sendAverageBandwidth property).

- Specify the average bandwidth (kbit/s) for the traffic that goes through the port group.

- You need to specify this property if you specify "override" for the traffic shaping policy (VMware.trafficShapingPolicy property). If "inheritance" or "disable" is specified, the specification of this property is ignored.

- You can specify an integer value in the range from 1 to 9007199254740991.

The following describes the burst size (KB) (VMware.sendBurstSize property).

- Specify the burst size (KB) for the traffic that goes through the port group.

- You need to specify this property if you specify "override" for the traffic shaping policy (VMware.trafficShapingPolicy property). If "inheritance" or "disable" is specified, the specification of this property is ignored.

- You can specify an integer value in the range from 1 to 9007199254740991.

The following describes the peak bandwidth (kbit/s) (VMware.sendPeakBandwidth property).

- Specify the peak bandwidth (kbit/s) for the traffic that goes through the port group.

- You need to specify this property if you specify "override" for the traffic shaping policy (VMware.trafficShapingPolicy property). If "inheritance" or "disable" is specified, the specification of this property is ignored.

- You can specify an integer value in the range from 1 to 9007199254740991.

- You cannot specify a value smaller than the average bandwidth (kbit/s) (VMware.sendAverageBandwidth property).

Use situation

This plugin can be used to set the traffic shaping policy for a port group of the standard virtual switch.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- A port group must be set up. To set up the port group on the virtual server, specify a port group on the network that uses the standard virtual switch (vNetwork standard switch or vSphere standard switch).

- The VMware-related name shown below is case sensitive in VMware, but the specified name is not case sensitive in the vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Port group name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) For the peak bandwidth (kbit/s) (VMware.sendPeakBandwidth property), you cannot specify a value smaller than the average bandwidth (kbit/s) (VMware.sendAverageBandwidth property). If you specify a smaller value, this plugin ends abnormally.

(3) If you specify "override" for the traffic shaping policy (VMware.trafficShapingPolicy property), you need to specify the average bandwidth (kbit/s) (VMware.sendAverageBandwidth property), burst size (KB) (VMware.sendBurstSize property), and peak bandwidth (kbit/s) (VMware.sendPeakBandwidth property). If one of these items is not specified, this plugin ends abnormally.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetPGTrafficShapingPolicy

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the host name of the ESX server.	--	Input	R
VMware.targetPortGroup	Port group name	Specifies the port group name of the standard virtual switch for which you want to set the traffic shaping policy.	--	Input	R
VMware.trafficShapingPolicy	Traffic shaping policy	For the traffic shaping policy of the standard virtual switch's port group, specify "inheritance" to inherit the existing policy, "override" to perform traffic shaping specific to the port group, or "disable" to disable traffic shaping.	override	Input	R
VMware.sendAverageBandwi dthKb	Average bandwidth (kbit/s)	Specifies the average bandwidth (kbit/s) for the traffic that passes through the port group.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.sendBurstSizeKB	Burst size (KB)	Specifies the burst size (in KB) for the traffic that passes through the port group.	--	Input	O
VMware.sendPeakBandwidth Kb	Peak bandwidth (kbit/s)	Specifies the peak bandwidth (kbit/s) for the traffic that passes through the port group.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.25 Set host DRS group

Function

This plugin adds to or deletes an ESX server from a host DRS group that is set up in a vSphere DRS cluster in a VMware vSphere environment.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- DRS cluster

A vSphere DRS cluster, or a set of servers that make up a vSphere DRS cluster

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the host DRS group setup mode (VMware.setHostDrsGroupMode property).

- Specify "Add" to add an ESX server to the host DRS group.

- Specify "Delete" to delete an ESX server from the host DRS group.

Use situation

This plugin can be used to add to or delete an ESX server from the host DRS group when the ESX server is added or deleted in a vSphere DRS cluster environment.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- vSphere DRS cluster names must be unique.

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in a vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- DRS cluster name

- DRS group names (host DRS group name and virtual server DRS group name)

(3) The vSphere DRS cluster must be created, and the host DRS group must be set up.

(4) VMware vSphere ESX must belong to the vSphere DRS cluster specified by the DRS cluster name (VMware.drsClusterName property).

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If you specify a registered ESX server name (for the VMware.vmHostName property) when adding an ESX server to the host DRS group, this plugin ends abnormally. Similarly, if you specify an unregistered ESX server name (for the VMware.vmHostName property) when deleting an ESX server from the host DRS group, this plugin ends abnormally.

(3) This plugin does not delete the host DRS group. Therefore, if the number of ESX servers registered in the host DRS group reaches zero as a result of deleting the ESX server from the host DRS group, this plugin ends abnormally.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetDrsHostGroup

Return code

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.drsClusterName	DRS cluster name	Specifies the name of the vSphere DRS cluster managed by VMware vCenter Server.	--	Input	R
VMware.hostDrsGroupName	Host DRS group name	Specifies the name of the host DRS group to which you want to add or delete an ESX server.	--	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the host name of the ESX server.	--	Input	R
VMware.setHostDrsGroupM ode	Host DRS group setting mode	To add an ESX server to the host DRS group, specify "Add". To delete an ESX server from the host DRS group, specify "Delete".	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.26 Retrieving log bundles

Function

This plug-in obtains a log bundle from the vCenter server or ESX server in a VMware vSphere environment, and then transfers and saves the log bundle to the vCenter control server. Optionally, the log bundles of both servers can also be obtained by running this plug-in only once.

To run this plug-in, the following servers are required:

- vCenter server

The server on which VMware vCenter Server is installed.

- ESX server

The server on which VMware vSphere ESXi is installed.

- vCenter control server (execution target server)

The server on which VMware vSphere PowerCLI is installed. This plug-in is transferred by this product to this server, and then run on this server.

In the script of this plug-in, a VMware vSphere PowerCLI commandlet (shown later) is run to obtain a log bundle of the target server. The following describes the commandlet to be run:

(1) Commandlet to obtain a log bundle from the ESX server (the ESX server name (VMware.vmHostName property) is specified)

Get-Log -Bundle

-VMHost "ESX-server-object"#

-DestinationPath "file-destination-folder-path (value of the common.outputFolderPath property)"

#: Object obtained from the ESX server name (value of the VMware.vmHostName property)

(2) Commandlet to obtain a log bundle from the vCenter server (the ESX server name (VMware.vmHostName property) is not specified or the VMware.logBundleTargetOption is set to true)

Get-Log -Bundle

-DestinationPath "file-destination-folder-path (value of the common.outputFolderPath property)"

For details about the Get-Log commandlet, see "Cmdlets Reference" in the vSphere PowerCLI documentation.

The commandlet saves the obtained log bundle in the folder specified for the common.outputFolderPath property.

If the specified folder does not exist, it is created.

The name of the obtained log bundle is as follows:

- Log bundle of the vCenter server

vcsupport-<UUID>.<extension>

- Log bundle of the ESX server

vmsupport-<UUID>.<extension>

Examples:

vcsupport-52030251-97e6-e5f2-042e-eee52079822b.tgz

vmsupport-5219d2ae-c328-c617-2525-09ed4a3111f0.tgz

esx-ed801a-2017-03-24--13.36-1080701.tgz

The <UUID> value changes each time the plug-in is run even if the plug-in is run on the same server.

The full path of the obtained log bundle is stored in the following property:

- Log bundle of the vCenter server

Log bundle path of the vCenter server (VMware.vCenterLogBundlePath property)

- Log bundle of the ESX server

Log bundle path of the ESX server (VMware.esxLogBundlePath property)

Use situation

This plug-in can be used to obtain a log bundle of VMware vCenter Server or VMware vSphere ESXi as troubleshooting information when a failure occurs in a VMware vSphere environment.

Prerequisites

For the most recent information about the prerequisite products for the system, the prerequisite products for the execution-target system, the prerequisite products for the execution-target server, and the supported OSs for the execution-target server, see the release notes.

[Prerequisite products for the system]

JP1/Automatic Operation 11-10 or later

[Prerequisite products for the execution-target system]

(1) Prerequisite product of vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product of ESX server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

[Conditions for using the execution-target server]

(1) A log bundle of VMware vSphere ESXi can be obtained when both of the following conditions are met:

- VMware vSphere ESXi is managed by VMware vCenter Server.

- VMware vSphere ESXi is connected to VMware vCenter Server.

[Prerequisite products for the execution-target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Supported OSs for the execution-target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify character strings containing double quotation marks (") or single quotation marks (') for properties of this plug-in.

(2) If you simultaneously run multiple instances of this plug-in by specifying the same, non-existent, file destination folder for the common.outputFolderPath property, some instances might attempt to create the same folder simultaneously, causing the plug-in to terminate abnormally. In such a case, try again.

(3) If you simultaneously run multiple instances of this plug-in on the same vCenter server or ESX server, some instances might attempt to obtain a log bundle from the same server simultaneously, causing the plug-in to terminate abnormally. In such a case, try again.

Execution privilege

(1) Users connecting to the VMware vCenter Server are required to have the privileges of the system administrator role.

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereGetLogBundle

Return code

0: Normal

12: Error (mistake by user) Invalid property

23: Error (invalid environment) The environment requirements have not been met.

27: Error (Check with the task log regarding the error details.) Unidentified error

41: Error (error detected in the component) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the host name of the ESX server. If the specification is omitted, the log bundle is retrieved from vCenter server.	--	Input	O
VMware.logBundleTargetOpt ion	Log bundle acquisition target option	When you obtain a log bundle from the ESX server, if you want to also obtain a log bundle from the vCenter server, specify "true". Unless you specify "true", the plug-in obtains a log bundle from only the ESX server.	True	Input	O
common.outputFolderPath	Destination folder path for file output	Specify the full path of the folder on the execution target server to which to output the log bundle retrieved from server.	--	Input	R
VMware.esxLogBundlePath	Path to the log bundle of the ESX server	Stores the full path of the log bundle retrieved from an ESX server.	--	Output	O
VMware.vCenterLogBundleP ath	Path to the log bundle of the vCenter server	Stores the full path of the log bundle retrieved from vCenter server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.27 Set the virtual server DRS group

Function

This plugin adds to or deletes a virtual server from the virtual server DRS group set up in a vSphere DRS cluster in a VMware vSphere environment.

If the virtual server DRS group specified for adding a virtual server does not exist, a new virtual server DRS group will be created.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- DRS cluster

A vSphere DRS cluster, or a set of servers that make up a vSphere DRS cluster

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the virtual server DRS group setup mode (VMware.setVmDrsGroupMode property).

- Specify "Add" to add a virtual server to the virtual server DRS group.

- Specify "Delete" to delete a virtual server from the virtual server DRS group.

Use situation

This plugin can be used to add to or delete a virtual server from the virtual server DRS group when the virtual server is added or deleted in a DRS cluster environment.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- vSphere DRS cluster names and virtual server names must be unique.

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in the vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- DRS cluster name

- Virtual server name

- DRS group names (host DRS group name and virtual server DRS group name)

(3) The vSphere DRS cluster must be created.

(4) The virtual server must belong to the vSphere DRS cluster specified by the DRS cluster name (VMware.drsClusterName property).

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If you specify a registered virtual server name (for the VMware.vmName property) when adding a virtual server to the DRS group (specified by the VMware.vmDrsGroupName property), this plugin ends abnormally. Similarly, if you specify an unregistered virtual server name (for the VMware.vmName property) when deleting a virtual server from the virtual server DRS group (specified by the VMware.vmDrsGroupName property), this plugin ends abnormally.

(3) This plugin does not delete the virtual server DRS group. Therefore, if the number of virtual servers registered in the virtual server DRS group reaches zero as a result of deleting the virtual servers from the virtual server DRS group, this plugin ends abnormally.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetDrsVmGroup

Return code

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requi red
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.drsClusterName	DRS cluster name	Specifies the name of the vSphere DRS cluster managed by VMware vCenter Server.	--	Input	R
VMware.vmDrsGroupName	Virtual server DRS group name	Specifies the name of the virtual server DRS group to which you want to add or delete a virtual server.	--	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.setVmDrsGroupMo de	Virtual server DRS group setting mode	To add a virtual server to the virtual server DRS group, specify "Add". To delete a virtual server from the virtual server DRS group, specify "Delete".	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.28 Get virtual server IP address

Function

Acquires the IP address of a specified virtual server in a VMware vSphere environment.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed.The plugin is sent to this server by JP1/AO and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

The plugin sets the acquired IP address in the VMware.vmIPaddress output property. If multiple IP addresses are specified for the virtual server, the plugin outputs all the IP addresses delimited by the comma. Note that, if the total length of these IP addresses exceeds 1,024 characters, all characters after the 1024th character are discarded. The types of IP addresses below are obtained. The maximum length (1,024 characters) will be exceeded if, for example, 65 IPv4 addresses are obtained.

- IPv4 address (maximum length: 16 characters)

- IPv6 address (maximum length: 36 characters)

- IPv4 and IPv6 addresses set by the DHCP

Use situation

You use this plugin to determine the IP address of a virtual server so that you can issue an ICMP echo request to that virtual server.

The process of issuing an ICMP echo request involves using this plugin to acquire the virtual server's IP address and then using the obtained IP address as an input to the osSendIcmp plugin.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) The virtual server is running.

(3) The virtual server name is unique among the vCenter servers.

(4) VMwareTools has been installed on the target virtual server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with read-only permission for the target virtual server or system administrator role

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereGetVMIPaddress

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

30: Error (IP address acquisition error) IP address was not acquired

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to	--	Input	R

Property key	Property name	Description	Default value	I/O type	Required
VMware.vmName	Virtual server name	represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
VMware.vmIPaddress	Virtual server's IP address	This property stores the IP address or IP addresses of the virtual server. If multiple IP addresses have been set for the virtual server, they are stored as a comma-separated list.	--	Output	O

5.11.29 Set OS init. settings and IP addr. of virtual servers (Linux)

Function

For a virtual server (Linux) in the VMware vSphere environment, perform the initial OS settings (the computer name, and time zone) and the IP address settings.

Start the newly created virtual server, and initialize the OS and perform customization.

This component requires the following servers:

- vCenter server

This is the server on which VMware vCenter Server is installed.

- ESX server

This is the server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

- vCenter control server (Execution target server)

This is the server on which VMware vSphere PowerCLI is installed. JP1/AO transfers the component to this server and executes it.

- Virtual server

This is the virtual server that is managed by the vCenter server and VMware vSphere ESX (or VMware ESX Server).

Up to 4 IP addresses can be set for the virtual server. For the first IP address (for management), set the IP address for managing the virtual server that was deployed. For the second to fourth IP addresses for the second, third, and fourth NICs, set IP addresses for management and applications based on the operations being performed by the users. Depending on how many NICs the virtual server has, the setting order of the IP addresses is as follows.

- When the virtual server has one NIC

Set the IP addresses that were specified first in the following order: the IP address for management, the IP address for the second NIC, the IP address for the third NIC, the IP address for the fourth NIC. Note that the other IP addresses are discarded.

- When virtual server has two or more NICs

Set the IP addresses in the following order: the IP address for management, the IP address for the second NIC, the IP address for the third NIC, and the IP address for the fourth NIC. If a specified IP address is blank, set the IP addresses without leaving empty spaces. For example, if the specified IP addresses are the IP address for management, the IP address for the second NIC, and the IP address for the fourth NIC (without any IP address for the third NIC), set the IP address for the fourth NIC to the third NIC of the virtual machine. Note that, if the number of entered IP addresses exceeds the number of NICs held by the virtual server, the excess IP addresses are discarded.

The IP address of the DNS server is set for the virtual server, not for each NIC. Set the DNS server IP addresses to the virtual server that were specified first in the following order: the DNS server IP address for management, the DNS server IP address for the second NIC, the DNS server IP address for the third NIC, and the DNS server IP address for the fourth NIC.

The time zones that can be specified are shown below.

America/Adak

America/Anchorage

America/Boise

America/Chicago

America/Denver

America/Detroit

America/Indiana/Indianapolis

America/Indiana/Knox

America/Indiana/Marengo

America/Indiana/Petersburg

America/Indiana/Tell_City

America/Indiana/Vevay

America/Indiana/Vincennes

America/Indiana/Winamac

America/Juneau

America/Kentucky/Monticello

America/Los_Angeles

America/LouisVille

America/Menominee

America/Monterrey

America/Montevideo

America/New_York

America/Nome

America/North_Dakota/Beulah

America/North_Dakota/Center

America/North_Dakota/New_Salem

America/Phoenix

America/Shiprock

America/Tijuana

America/Vancouver

America/Yakutat

Asia/Chongqing

Asia/Hong_Kong

Asia/Kolkata

Asia/Macau

Asia/Shanghai

Asia/Singapore

Asia/Tokyo

Etc/UTC

Europe/London

Pacific/Honolulu

If nothing is specified, the time zone in the template is used. For this reason, if the value that you want to set in the time zone property list is not found, set the time zone in the template beforehand.

Use situation

This can be used for creating a virtual server for Linux. Calling this after executing the vsphereCreateVM component enables you to perform the OS initial settings.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)(For vCenter4.1 or later; not supported by vCenter4.0)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) must be managed by VMware vCenter Server.

(2) Setting Requirements of VMware vSphere ESXi (or VMware ESX Server)

- The data store has been registered.

- The port group has been set. For the port group to be set in the virtual server, specify the port group on the network using the standard virtual switch (vNetwork standard switch/vSphere standard switch).

(3) Virtual server requirements

- VMware Tools has been installed.

- The remote commands have been set to be executable (SSH is enabled in the virtual server).

- The NICs must be already set (up to a maximum of four).

(4) Virtual server requirements

- Duplicate virtual server names must not be managed under the same vCenter.

[Required products on the execution target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) If the virtual server that is created uses Linux, the domain name and DNS suffix are required. If these are not specified, "localdomain" is set.

(2) Specify the IP address, subnet mask, and default gateway at the same time. If one of these items is not specified, none of these items are set.

(3) If the repeat count for obtaining OS information is not specified, "72" is set.

(4) If the repeat execution interval for obtaining OS information is not specified, "5" is set.

(5) Do not enter values that cannot be set as IP addresses for the IP address that is set to the OS of the virtual server. For example, network addresses, broadcast addresses, and special addresses such as "0.0.0.0" and "255.255.255.255" cannot be specified. If one of these addresses is entered, an error will occur in the deployment of the virtual server. Also, for the IP address for management, enter an IP address capable of communication with the JP1/AO server. Even if the address is correct, the virtual server might fail to deploy.

(6) The IP address is set as described in "Functions", but depending on the order that the NICs were set in the OS of the virtual server, the IP addresses might not be set properly. Make sure that the IP addresses were set after the virtual server is created. If the IP addresses were not set properly, change them manually.

(7) If deploying Linux, set the root password of the template OS using the characters that can be specified in the Linux.adminPassword properties.

(8) The IP address that is set to the virtual server must not duplicate the IP address of any other server. If another server has the same IP address, the NIC of the virtual server is invalid, and the task is abnormally terminated.

(9) If the operating system of the virtual server is Red Hat Enterprise Linux Server 7 (64-bit x86_64), you must use open-vm-tools 9.10 or later for VMware Tools. If you use any version older than open-vm-tools 9.10, the host name is not modified and the component is not finished for the duration resulting from the number of attempts to acquire OS information multiplied by the interval for acquiring OS information.

Execution privilege

(1) The following privilege is required for users connected to VMware vCenter Server:

System administrator role

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetOsinfoLin

Return code

0: Normal

23: Error (Environmental error) Invalid pre-conditioned environment

27: Error (Check the task log for the error details)

28: Error (Network start error) The network did not start after the power turned on

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
common.computerName	Computer/Host name	Specify the computer name (host name) used by the operating system. The computer name of a maximum of 15 characters is specified, in the case of Windows. The computer name of a maximum of 63 characters is specified, in the case of Linux.	--	Input	R
OS.ipAddressMan	IP address (management LAN)	Specify the IP address for the management LAN of the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMaskMan	Subnet mask (management LAN)	Specify the subnet mask for the management LAN of the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGWMan	Default gateway (management LAN)	Specify the default gateway for the management LAN of the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dnsMan	DNS server IP address (management LAN)	Specifies the IP address of the DNS server that is set for the	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
OS.dnsMan	DNS server IP address (management LAN)	virtual server. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress2	The 2nd IP address	Specify the 2nd IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMask2	The 2nd Subnet mask	Specify the 2nd subnet mask for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGW2	The 2nd Default gateway	Specify the 2nd default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dns2	The 2nd DNS server IP address	Specifies the IP address of the DNS server that is set for the virtual server. IPv6 addresses are not supported.	--	Input	O
OS.dnsSuffix	DNS suffix :Linux only	Specify the DNS suffix of the virtual server (Linux only). When there is no input, "localdomain" is set as the DNS suffix.	--	Input	O
OS.workgroupNameDomain Name	Domain name	Specifies the domain name to which the virtual server belongs.	--	Input	O
Linux.adminPassword	Password of OS user with administrator privileges: Linux-specific	Specifies the password of the OS user with administrator privileges in order to check OS settings. Specified only if the OS to be created is Linux.	--	Input	R
VMware.checkOSInitCount	Number of attempts to acquire OS information	Specify the number of times the service attempts to acquire OS information to confirm that the OS has been initialized. The maximum wait time is determined by this property and the property that defines the checkOSInitCountInterval.	72	Input	O
VMware.checkOSInitInterval	Interval for acquiring OS information (minutes)	Specify the interval at which the service attempts to acquire OS information to confirm that the OS has been initialized.	5	Input	O
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware	443	Input	O

Property key	Property name	Description	Default value	I/O type	Required
VMware.portNumber	Port number for VMware vCenter Server connection	vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
OS.timeZone	Time Zone	Specifies the time zone that is set to the OS of the virtual server. If nothing is entered, the time zone in the template is used.	--	Input	O
OS.ipAddress3	The 3rd IP address	Specify the 3rd IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMask3	The 3rd Subnet mask	Specify the 3rd subnet mask for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGW3	The 3rd Default gateway	Specify the 3rd default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dns3	The 3rd DNS server IP address	Specifies the IP address of the DNS server that is set for the virtual server. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress4	The 4th IP address	Specify the 4th IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMask4	The 4th Subnet mask	Specify the 4th subnet mask for virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGW4	The 4th Default gateway	Specify the 4th default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dns4	The 4th DNS server IP address	Specifies the IP address of the DNS server that is set for the virtual server. IPv6 addresses are not supported.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.flag2IPsSetup	Multiple IP setting for virtual server	A work property that indicates whether the virtual server has multiple IP addresses (true), or not (false).	--	Output	O

5.11.30 Set OS init. settings and IP addr. of virtual servers (Windows)

Function

For a (Windows) virtual server in the VMware vSphere environment, perform the initial OS settings (the computer name, company name, organization name, and time zone) and the IP address settings.

Start the newly created virtual server and use the sysprep utility to initialize the OS and perform customization.

This component requires the following servers:

- vCenter server

This is the server on which VMware vCenter Server is installed.

- ESX server

This is the server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

- vCenter control server (Execution target server)

This is the server on which VMware vSphere PowerCLI is installed. JP1/AO transfers the component to this server and executes it.

- Virtual server

This is the virtual server that is managed by the vCenter server and VMware vSphere ESX (or VMware ESX Server).

Up to 4 IP addresses can be set for the virtual server. For the first IP address (for management), set the IP address for managing the virtual server that was deployed. For the second to fourth IP addresses for the second, third, and fourth NICs, set IP addresses for management and applications based on the operations being performed by the users. Depending on how many NICs the virtual server has, the setting order of the IP addresses is as follows.

- If the virtual server has one NIC

Set the IP addresses that were specified first in the following order: the IP address for management, the IP address for the second NIC, the IP address for the third NIC, the IP address for the fourth NIC. Note that the other IP addresses are discarded.

- If the virtual server has two or more NICs

Set the IP addresses in the following order: the IP address for management, the IP address for the second NIC, the IP address for the third NIC, the IP address for the fourth NIC. If a specified IP address is blank, set the IP addresses without leaving empty spaces. For example, if the specified IP addresses are the IP address for management, the IP address for the second NIC, and the IP address for the fourth NIC (without any IP address for the third NIC), set the IP address for the fourth NIC to the third NIC of the virtual machine. Note that, if the number of entered IP addresses exceeds the number of NICs held by the virtual server, the excess IP addresses are discarded.

The time zones that can be specified are shown below.

Alaskan

Central (U.S. and Canada)

Central America+B28

China

Eastern (U.S. and Canada)

GMT (Greenwich Mean Time)

Hawaii

India

Mountain (U.S. and Canada)

Pacific

Singapore

Tokyo

U.S. Eastern: Indiana (East)

U.S. Mountain: Arizona

If nothing is specified, the time zone "International Date Line: Western side" is set.

Use situation

This can be used for creating the virtual server for Windows. Calling this after executing the component, vsphereCreateVM, enables you to perform the OS initial settings.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) must be managed by VMware vCenter Server.

(2) Requirements for the VMware vSphere ESXi (or VMware ESX Server) settings

- The data store has been registered.

- The port group has been set. For the port group to be set in the virtual server, specify the port group on the network using the standard virtual switch (vNetwork standard switch/vSphere standard switch).

(3) Virtual server requirements

- VMware Tools has been installed.

- The remote commands have been set to be executable (Administrative share is enabled).

- The NICs must be already set (up to a maximum of four).

- The administrator password must be left blank.

- The number of times that Windows initialization was executed must not have reached the limit (three times).

(4) Virtual server requirements

- Duplicate virtual server names must not be managed under the same vCenter.

[Required products on the execution target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) If the virtual server that is created uses Windows, the organization name and owner name are required. If the organization name is not specified, "Organization" is set. If the owner name is not specified, "Owner" is set.

(2) If the virtual server that is created uses Windows, entry and re-entry of the OS user password are required. If both are not entered, "Password123" is set as the password. Also, if the two values do not match, "Password123" is set as the password.

(3) If the virtual server that is created uses Windows, the WORKGROUP or DOMAIN must be specified in the OS.selectWorkgroupDomain selection list. If neither is specified, "WORKGROUP" is set as the workgroup. Also, if nothing is entered for the workgroup name or domain name, "WORKGROUP" is set as the workgroup.

(4) If the virtual server that is created uses Windows, when WORKGROUP is selected in the OS.selectWorkgroupDomain selection list, the workgroup name can be specified using a maximum of 15 bytes. If 15 bytes are exceeded, "WORKGROUP" is set.

(5) If the virtual server that is created uses Windows, when DOMAIN is selected in the OS.selectWorkgroupDomain selection list, the domain name, domain user name, and domain password are required. If one of these is not specified, or if the entered value is invalid, "WORKGROUP" is set as the workgroup.

(6) Specify the IP address, subnet mask, default gateway, and DNS server at the same time. If one of these items is not specified, none of these items are set.

(7) In the OS initial setting process (2), confirm whether the initial settings were completed based on whether the information set to the OS can be obtained. The time required for confirming the completion of the initial settings is determined by the time specified for the repeat time for obtaining OS information (VMware.checkOSInitCountInterval property) and the count specified for the repeat count for obtaining OS information (VMware.checkOSInitCount). Set the value according to your computer environment so that the processing is not terminated.

(8) If the repeat count for obtaining OS information is not specified, "72" is set.

(9) If the repeat execution interval for obtaining OS information is not specified, "5" is set.

(10) Do not enter values that cannot be set as IP addresses for the IP address that is set to the OS of the virtual server. For example, network addresses, broadcast addresses, and special addresses such as "0.0.0.0" and "255.255.255.255" cannot be specified. If one of these addresses is entered, an error will occur in the deployment of the virtual server. Also, for the IP address for management, enter an IP address capable of communication with the JP1/AO server. Even if the address is correct, the virtual server might fail to deploy.

(11) The IP address is set as described in "Functions", but depending on the order that the NICs were set in the OS of the virtual server, the IP addresses might not be set properly. Make sure that the IP addresses were set after the virtual server is created. If the IP addresses were not set properly, change them manually.

(12) The IP address that is set to the virtual server must not duplicate the IP address of any other server. If another server has the same IP address, the NIC of the virtual server is invalid, and the task is abnormally terminated.

Execution privilege

(1) The following privilege is required for users connected to VMware vCenter Server:

System administrator role

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetOsinfoWin

Return code

0: Normal

23: Error (Environmental error) Invalid pre-conditioned environment

27: Error (Check with the task log about the error detail)

28: Error (Network start error) The network did not start after the power turned on

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
common.computerName	Computer/Host name	Specify the computer name (host name) used by the operating system. The computer name of a maximum of 15 characters is specified, in the case of Windows. The computer name of a maximum of 63 characters is specified, in the case of Linux.	--	Input	R
Windows.orgName	Organization (company name) :Windows only	Specify the organization name for the virtual server OS (Windows only). When there is no input, "Organization" is set up.	--	Input	O
Windows.ownerName	Owner name :Windows only	Specify the owner name for the OS on the virtual server (Windows only). When there is no input, "Owner" is set as the Owner name.	--	Input	O
OS.ipAddressMan	IP address (management LAN)	Specify the IP address for the management LAN of the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMaskMan	Subnet mask (management LAN)	Specify the subnet mask for the management LAN of the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGWMan	Default gateway (management LAN)	Specify the default gateway for the management LAN of the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dnsMan	DNS server IP address (management LAN)	Specify the IP address of the DNS server for the management LAN of the virtual server. You cannot specify an IPv6 address.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
OS.ipAddress2	The 2nd IP address	Specify the 2nd IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMask2	The 2nd Subnet mask	Specify the 2nd subnet mask for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGW2	The 2nd Default gateway	Specify the 2nd default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dns2	The 2nd DNS server IP address	Specify the 2nd IP address of the DNS server for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.workgroupNameDomainName	Workgroup/domain name	Specify the name of the workgroup or domain of virtual server. A workgroup is specified a maximum of 15 characters. A domain of a maximum of 63 characters is specified in Windows. In Linux, a domain of a maximum of 256 characters is specified.	--	Input	O
OS.domainUserName	Domain user name :Windows only	Specify the domain user name for the virtual server (Windows only). When "DOMAIN" is chosen by selection of a workgroup/domain, it is necessary to input.	--	Input	O
OS.domainUserPassword	Domain password :Windows only	Specify the domain password for the virtual server (Windows only). When "DOMAIN" is chosen by selection of a workgroup/domain, it is necessary to input.	--	Input	O
OS.selectWorkgroupDomain	Select workgroup or domain :Windows only	Specify whether the virtual server belongs to a workgroup or domain (Windows only).	--	Input	O
common.osUserPassword	Administrator password: Windows setting	Specifies the administrator password that is set for the OS (for Windows only). If nothing is entered, "Password123" is set.	--	Input	O
common.osUserPasswordReEnter	Re-enter administrator password: Windows setting	Re-enter the administrator password that is set for the OS (for Windows only). If nothing is entered, "Password123" is set.	--	Input	O
OS.productKey	Windows product key: Windows-specific	Specifies the Windows product key. Input format is XXXXX-XXXXX-XXXXX-XXXXX-XXXXX (Windows only).	--	Input	O
VMware.checkOSInitCount	Number of attempts to acquire OS information	Specify the number of times the service attempts to acquire OS information to confirm that the OS has been initialized. The maximum wait time is determined by this property and the property that defines the checkOSInitCountInterval.	72	Input	O

Property key	Property name	Description	Default value	I/O type	Required
VMware.checkOSInitInterval	Interval for acquiring OS information (minutes)	Specify the interval at which the service attempts to acquire OS information to confirm that the OS has been initialized.	5	Input	O
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
OS.timeZone	Time Zone	Specifies the time zone that is set for the OS of the virtual server. If nothing is entered, the time zone "International Date Line: Western side" is set.	--	Input	O
OS.ipAddress3	The 3rd IP address	Specify the 3rd IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMask3	The 3rd Subnet mask	Specify the 3rd subnet mask for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGW3	The 3rd Default gateway	Specify the 3rd default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dns3	The 3rd DNS server IP address	Specify the 3rd IP address of the DNS server for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.ipAddress4	The 4th IP address	Specify the 4th IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMask4	The 4th Subnet mask	Specify the 4th subnet mask for virtual server. You cannot specify an IPv6 address.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
OS.defaultGW4	The 4th Default gateway	Specify the 4th default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dns4	The 4th DNS server IP address	Specify the 4th IP address of the DNS server for the virtual server. You cannot specify an IPv6 address.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.flag2IPsSetup	Multiple IP setting for virtual server	A work property that indicates whether the virtual server has multiple IP addresses (true), or not (false).	--	Output	O

5.11.31 Creating a virtual server clone

Function

Creates a clone of a virtual server in the VMware vSphere environment.

This component assumes the following servers as prerequisites:

- vCenter server

Server where VMware vCenter Server is installed

- vCenter control server

Server where VMware vSphere PowerCLI is installed

- Virtual server to be cloned

Virtual server managed by vCenter server or VMware vSphere ESXi (or VMware ESX Server)

- Clone

Clone of the virtual server to be cloned. The clone name is the name of the virtual server clone.

Use situation

Creates a clone as a backup of the virtual server after creating the server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) managing the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS for the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) The power status of the virtual server to be cloned is OFF.

(2) To put the virtual server into a resource pool, the resource pool name and cluster name are unique.

A duplicate name is not allowed, even if the type, such as the combination of the cluster and resource pool, is different.

(3) There is no duplicate clone name in the same vCenter instance. There is no clone name that is the same as an existing virtual server name.

(4) There is no duplicate data store name under the same vCenter.

(5) VMware Tools is installed in the target virtual server.

(6) The version of VMware vSphere ESXi (or VMware ESX Server) managing the virtual server to be clone matches that of VMware vSphere ESXi (or VMware ESX Server) managing the cloning destination.

[Required products on the execution target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) During the creation of a virtual server clone, do no operate the source virtual server or the clone of the destination. Also, do not operate them directly from the vCenter server. Cloning might fail.

(2) If the virtual server to be cloned has a raw or RAM disk, the disk will be converted to a virtual disk.

(3) vApp cannot be specified as the destination of cloning.

(4) Do not start the created clone. To start a created clone, it is necessary to delete or restore the cloned virtual server.

(5) If the virtual server to be cloned has snapshots, they are all deleted. (If there is a snapshot in use, the snapshot is committed.)

Execution privilege

(1) The user connecting to VMware vCenter Server must have system administrator role permissions.

Version

02.11.00

Plug-in tags

Clone VM,VMware vSphere

Plug-in name displayed in the task log

vsphereCreateClone

Return code

0: Normal

23: Abnormal (Environment error) Invalid prerequisite environment

27: Abnormal (See the task log for error contents.)

41: Abnormal (Error detected inside the component) - A property is not specified. (The component script has detected an error.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.cloneName	Clone name	Specifies the name of a clone (This is the display name of a clone under VMware vCenter Server. It is not a host name under the OS.)	--	Input	R
VMware.vmName	Virtual server name	Specifies the name of a virtual server as the cloning source (This is the display name of a virtual server under VMware vCenter Server. It is not a host name under the OS.)	--	Input	R
VMware.vmHostName	Host name of the ESX server	Specifies the ESX server name displayed in [Hosts and Clusters] managed by the VMware vCenter Server, which serves as the cloning destination.	--	Input	R
VMware.dataStoreName	Datastore name	Specifies the name of a data store as the cloning destination.	--	Input	R
VMware.resourcePoolName	Resource pool name	Specifies a resource pool or cluster as the cloning destination.	--	Input	O
VMware.diskFormat	Virtual disk format	Specifies format of the virtual disk of the clone to be created. Specify "Default" when the format is the same as the virtual disk of the virtual server of the clone source, "Thin" when committing it on demand, or "Thick" when committing it in full size.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.32 Deletion of a virtual server clone

Function

Deletes a virtual server clone in the VMware vSphere environment.

This component assumes the following servers as prerequisites:

- vCenter server

Server where VMware vCenter Server is installed

- vCenter control server

Server where VMware vSphere PowerCLI is installed

- Virtual server to be cloned

Virtual server managed by vCenter server or VMware vSphere ESXi (or VMware ESX Server)

- Clone

Clone of the virtual server to be cloned. The clone name is the name of the virtual server clone.

Use situation

Used to delete a clone.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) managing the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS for the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) The VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) There is no duplicate clone name under the same vCenter. There is no clone name that is the same as an existing virtual server name.

(3) The power status of the clone is OFF.

(4) VMware Tools is installed in the target virtual server.

[Required products on the execution target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) During clone deletion, do not operate the clone from any other services. Deletion of the clone might fail. Also, do not operate clones directly from the vCenter server.

(2) If the specified clone name is the same as that of the virtual server specified as the cloning source, the clone is not deleted.

(3) The clone name or the name of the virtual server as the cloning source is not case-sensitive.

(4) If virtual server of clone source has already been deleted or name is unknown, use virtual server deletion service to delete clone.

Execution privilege

(1) The user connecting to VMware vCenter Server must have system administrator role permissions.

Version

02.11.00

Plug-in tags

Delete Cloned VM,VMware vSphere

Plug-in name displayed in the task log

vsphereDeleteClone

Return code

0: Normal

12: Abnormal (User error) - Invalid property

23: Abnormal (Environment error) Invalid prerequisite environment

27: Abnormal (See the task log for error contents.)

41: Abnormal (Error detected inside the component) - A property is not specified. (The component script has detected an error.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.cloneName	Clone name	Specifies the name of the clone to be deleted. (This is the display name of a clone under VMware vCenter Server. It is not a host name under the OS.)	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vmName	Name of a virtual server as the cloning source	Specifies name of virtual server of clone source (display name of virtual server in VMware vCenter Server, not host name in OS). Specify this name for confirmation to prevent clone source from being mistakenly deleted. This virtual server is not deleted.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.33 Shut down virtual server

Function

Shuts down the OS of a virtual server in a VMware vSphere environment.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed.The plugin is sent to this server by JP1/AO and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

When the virtual server is stopped, the process of waiting the number of seconds specified in the VMware.checkPowerStateInterval property and then verifying that the power state is OFF is repeated the number of times specified in the VMware.checkPowerStateCount property. If the default values do not work properly, adjust the values to suit your environment.

If the plugin terminates normally, it sets "PoweredOff" in the VMware.powerState output property.

Use situation

You use this plugin to shut down a virtual server.

The shutdown processing involves execution of the vsphereGetPower plugin, followed by execution of this plugin if the power status is "PoweredOn".

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) The virtual server is running.

(3) The virtual server name is unique among the vCenter servers.

(4) VMwareTools has been installed on the target virtual server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with power-off permission for the target virtual server or system administrator role

Version

02.11.00

Plug-in tags

Control VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetPowerOff

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

29: Error (shutdown termination verification error) Termination of shutdown process cannot be verified

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.checkPowerStateCo unt	Power status check count	Specify the number of times to check the power status when confirming that the virtual server is stopped. In combination with the power status checking interval, this determines the maximum wait time.	60	Input	R
VMware.checkPowerStateInt erval	Power status check interval	Specify the interval in seconds for checking the power status when confirming that the virtual server is stopped.	10	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O
VMware.powerState	Power state of the virtual server	This property is used to store the power state of the specified virtual server.	--	Outpu t	O

5.11.34 Moving a virtual server snapshot

Function

Moves a snapshot used by a virtual server to a specified snapshot on a different virtual server in the VMware vSphere environment

If the specified destination is a snapshot currently in use, the system moves to the state of the time of snapshot creation.

This component assumes the following servers as prerequisites:

- vCenter server

Server where VMware vCenter Server is installed

- vCenter control server (Execution target server)

Server where VMware vSphere PowerCLI is installed. JP1/AO transfers the component to the server for execution.

- Virtual server

Virtual server managed by vCenter server or VMware vSphere ESXi (or VMware ESX Server)

Use situation

This component can be used to move a snapshot used by a virtual server to a specified snapshot.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product for the vCenter

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) managing the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS for the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) The VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Conditions for the virtual server

- There is no duplicate virtual server name under the same vCenter.

- VMware Tools is installed in the virtual server.

[Required products on the execution target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not target any virtual servers where a raw disk, an RDM physical mode disk, or an independent disk is set.

Execution privilege

(1) The user connecting to VMware vCenter Server must have the following permissions:

System administrator role permissions

Version

02.11.00

Plug-in tags

Move VM Snapshot,VMware vSphere

Plug-in name displayed in the task log

vsphereMoveSnapshot

Return code

0: Normal

5. JP1/AO Content Pack Plug-ins

23: Abnormal (Environment error) Invalid prerequisite environment

27: Abnormal (See the task log for error contents.)

41: Abnormal (Error detected inside the component) - A property is not specified. (The component script has detected an error.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.snapshotId	Snapshot ID	Specify the ID of the snapshot.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.35 Creating a virtual server snapshot

Function

Creates a snapshot of a virtual server in the VMware vSphere environment.

This component assumes the following servers as prerequisites:

- vCenter server

Server where VMware vCenter Server is installed

- vCenter control server (Execution target server)

Server where VMware vSphere PowerCLI is installed. JP1/AO transfers the component to the server for execution.

- Virtual server

Virtual server managed by vCenter server or VMware vSphere ESXi (or VMware ESX Server)

Use situation

Before changing the status or data of a virtual server, this component can be used to create a snapshot of the pre-change virtual server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) managing the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS for the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) The VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Conditions for the virtual server:

- There is no duplicate virtual server name in the same vCenter instance.

- VMware Tools is installed in the virtual server.

-There is no duplicate snapshot name in the same virtual server.

- The target virtual server is powered OFF.

[Required products on the execution target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not use this component for the purpose to back up a virtual server.

(2) Do not target any virtual servers where a raw disk, an RDM physical mode disk, or an independent disk is set.

Execution privilege

(1) The user connecting to VMware vCenter Server must have the following permissions:

System administrator role permissions

Version

02.11.00

Plug-in tags

Snapshot VM,VMware vSphere

Plug-in name displayed in the task log

vsphereCreateSnapshot

Return code

0: Normal

23: Abnormal (Environment error) Invalid prerequisite environment

27: Abnormal (See the task log for error contents.)

41: Abnormal (Error detected inside the component) - A property is not specified. (The component script has detected an error.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.snapshotName	Snapshot name	Specify the name of the snapshot.	temp_snapshot _01	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.returnSnapshotId	Snapshot ID	Stores the snapshot ID of the snapshot used by this component.	--	Outpu t	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.36 Deletion of a virtual server snapshot

Function

Deletes a specified snapshot of a virtual server in the VMware vSphere environment.

If the snapshot specified to be deleted is currently in use, the change is applied to the virtual disk containing the source snapshot.

You can specify the ID or name of a snapshot to be deleted.

To specify the snapshot ID, use the VMware.snapshotId property.

To specify the snapshot name, user the VMware.snapshotName property.

If both or neither are specified, the plugin ends abnormally.

This component assumes the following servers as prerequisites:

- vCenter server

Server where VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi (or VMware ESX Server) is installed

- vCenter control server (Execution target server)

Server where VMware vSphere PowerCLI is installed. JP1/AO transfers the component to the server for execution.

- Virtual server

Virtual server managed by vCenter server or VMware vSphere ESXi (or VMware ESX Server)

Use situation

This component can be used to delete a snapshot.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) managing the virtual server

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS for the virtual server

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) The VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Conditions for the virtual server:

- There is no duplicate virtual server name under the same vCenter.

- Snapshot names on the same virtual server must be unique.

- VMware Tools is installed in the virtual server.

[Required products on the execution target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) Do not target any virtual servers where a raw disk, an RDM physical mode disk, or an independent disk is set.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Delete VM Snapshot,VMware vSphere

Plug-in name displayed in the task log

vsphereRemoveSnapshot

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Abnormal (Environment error) Invalid prerequisite environment

27: Abnormal (See the task log for error contents.)

41: Abnormal (Error detected inside the component) - A property is not specified. (The component script has detected an error.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R

Property key	Property name	Description	Default value	I/O type	Required
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.snapshotId	Snapshot ID	Specify the ID of the snapshot.	--	Input	O
VMware.snapshotName	Snapshot name	Specify the name of the snapshot.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.37 Migrate virtual server

Function

This plugin migrates the specified virtual server in a VMware vSphere environment.

In the window showing virtual servers and templates for vSphere Client, this plugin changes the display position of a virtual server to the specified folder.

To move a virtual server, specify the destination for the virtual server (VMware.destinationName property).

For the destination, you can specify VMware vSphere ESXi (or VMware ESX Server), a resource pool, or a cluster.

To move the virtual server in the window showing virtual machines and templates for vSphere Client, specify the folder name as the destination.

To move the data store that contains a virtual server, specify the destination data store for the virtual server (VMware.destinationDataStoreName property).

You need to specify the data store name as the destination.

This plugin requires the following servers:

- vCenter server

The server on which VMware vCenter Server is installed

- ESX server

The server on which VMware vSphere ESXi (or VMware ESX Server) is installed

- vCenter control server (execution target server)

The server on which VMware vSphere PowerCLI v server is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by vCenter server and VMware vSphere ESXi (or VMware ESX Server)

The following describes the notes on setting properties.

- When the ESX server version is 5.0 or earlier

If you specify the name of a running virtual server in the VMware.vmName property, you cannot specify the virtual server destination (VMware.destinationName property) and the virtual-server destination data store (VMware.destinationDataStoreName property) at the same time.

Use situation

- You can use this plugin to migrate a virtual server during maintenance (such as when increasing physical machine memory or replacing CPUs). You can also use the plugin if the performance of a specific VMware vSphere ESXi (or VMware ESX Server) becomes insufficient due to a heavy load.

- If you need to relocate virtual servers after adding a virtual server or after changing the data store capacity, you can use this plugin to migrate the data store containing the virtual servers to another data store.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

- Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

- Red Hat Enterprise Linux Server 7 (64-bit x86_64)

- Red Hat Enterprise Linux Server 8 (64-bit x86_64)

- CentOS 6 (64-bit x86_64)

- CentOS 7 (64-bit x86_64)

- CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Conditions relating to virtual servers

- The virtual servers being managed by a vCenter instance must have unique names.

- VMwareTools must be installed on a virtual server.

- The data stores being managed by a vCenter instance must have unique names.

(3) Conditions relating to VMware vSphere ESX settings

- When the VMware vSphere ESX version is 5.0 or earlier

To migrate a virtual server, the environment for the target virtual server must satisfy the prerequisites for vMotion.

To move a data store that contains a virtual server, the environment for the target virtual server must satisfy the prerequisites for Storage vMotion.

- When the VMware vSphere ESX version is 5.1 or later

To migrate a virtual server, the environment for the target virtual server must satisfy the prerequisites for vMotion or Cross-Host Storage vMotion.

To move a data store that contains a virtual server, the environment for the target virtual server must satisfy the prerequisites for Storage vMotion or Cross-Host Storage vMotion.

[Required products on the execution target server]

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) The same virtualization software product must be used at the source and the target.

(3) The virtualization software that runs the virtual servers must be running.

(4) Virtual server names, cluster names, vApp names, resource pool names, and data store names must be unique in vCenter Server.

The same name cannot be assigned even for different types of items, such as the combination of a cluster and a vApp, or a cluster and a resource pool.

(5) If a cluster is specified as the virtual server's migration target, the virtual server to be migrated must exist in the resource pool under the specified target cluster.

(6) To specify a folder as the migration destination for the virtual server, the destination folder must exist in the window showing virtual servers and templates for vSphere Client.

(7) In an environment that uses a VMware vCenter Server version earlier than 4.1 U2, if an inactive virtual machine is migrated to an ESX in a different data center, an error might occur, in which case plugin execution will fail. For details about how to handle this, see "Migrating a powered off virtual machine across hosts in different datacenters fails with the error: A specified parameter was not correct. host" in VMware Knowledge Base.

(8) Specify either or both the virtual server destination (VMware.destinationName property) or virtual-server destination data store (VMware.destinationDataStoreName property). If neither is specified, this plugin ends abnormally.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with vMotion query and migration and relocation permissions for the target virtual server or system administrator role

Version

02.11.00

Plug-in tags

Migrate VM,VMware vSphere

Plug-in name displayed in the task log

vsphereMigration

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.destinationName	Virtual server destination	Specify the name of the destination VMware vSphere ESXi (or VMware ESX Server), resource pool, cluster, or folder.	--	Input	O
VMware.destinationDataStor eName	Name of the virtual server's new location (datastore)	Specifies the name of the datastore to which the virtual server is to be moved.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.38 Resource configuration setting of the virtual server

Function

Changes the CPU, memory, or disk I/O resource configurations for the virtual server that is managed by VMware vCenter Server.

The following servers are assumed to be used for this component:

- vCenter server

This is the server on which VMware vCenter Server is installed.

- vCenter control server (Execution target server)

This is the server on which VMware vSphere PowerCLI is installed. JP1/AO transfers the component to this server and executes it.

- Virtual server

This is the virtual server that is managed by the vCenter server and VMware vSphere ESXi (or VMware ESX Server).

Use situation

For resource allocation to the virtual server, you can use the following configurations:

- The CPU resource that is used by the virtual server can be limited or the limitation can be removed.

- The CPU resource that is used by the virtual server can be reserved (the amount used is reserved) or the reservation can be removed.

- For the CPU resources of the virtual servers that have the same parent, relative priority can be set between the servers.

- The memory resource that is used by the virtual server can be limited or the limitation can be removed.

- The memory resource that is used by the virtual server can be reserved (maintain the amount of use) or the reservation can be removed.

- For the memory resources of the virtual servers that have the same parent, relative priority can be set between the servers.

- For the disk I/O bands of the virtual servers that have the same parent, relative priority can be set between the servers.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) must be managed by VMware vCenter Server.

(2) Virtual server requirements

- Duplicate virtual server names must not be managed under the same vCenter.

- The virtual server must be stopped.

- VMware Tools must be installed to the virtual server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) Consider the following when setting each property:

- For the reserved memory, set a value that is within the memory capacity allotted to the virtual server.

- For the CPU and the memory, less than 100 MHz and less than 100 MB, respectively, cannot be specified as the limit.

- Reservations cannot be made for the CPU or memory for an amount exceeding the limit.

- If VMware.vHardDiskName property is omitted, all virtual disks that are connected to virtual server are set to the specified shares level.

(2) When multiple virtual disks are specified for the VMware.vHardDiskName property, if the processing that changes the disk share level fails for one or more virtual disks, the task terminates abnormally.

Execution privilege

(1) The following privilege is required for users connected to VMware vCenter Server.

System administrator role

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetResourceConfig

Return code

0: Normal

23: Error (Environmental error) Invalid pre-conditioned environment

27: Error (Check with the task log about the error detail)

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.cpuSharesLevel	CPU share level	Specifies the relative priority of CPU resources between virtual servers that have the same parent.	--	Input	O
VMware.cpuReservationMHz	CPU reservation (MHz)	Specifies in MHz the CPU resources that are reserved by the virtual server.	--	Input	O
VMware.cpuLimitMHz	CPU limit (MHz)	Specifies in MHz the upper limit value of CPU resources that are used by the virtual server. If a value less than 100 MHz is specified, execution of the task is abnormally terminated. However, specifying -1 removes this limit.	--	Input	O
VMware.memSharesLevel	Memory share level	Specifies the relative priority of memory resources between virtual servers that have the same parent.	--	Input	O
VMware.memReservationM B	Memory reservation (MB)	Specifies in MB the memory resources that are reserved by the virtual server.	--	Input	O
VMware.memLimitMB	Memory limit (MB)	Specifies in MB the upper limit value of memory resources that are used by the virtual server. If a value less than 100 MB is specified, execution of the task is abnormally terminated. However, specifying -1 removes this limit.	--	Input	O
VMware.diskSharesLevel	Disk share level	Specifies the relative priority of virtual servers for storage I/O resources.	--	Input	O
VMware.vHardDiskName	Virtual hard disk name	Specifies virtual disk where shares level is changed. Virtual disk is display name in VMware vCenter Server. To specify multiple virtual disks, specify by separating with a comma.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.39 Pre-eval. of resource configuration changes in virtual server

Function

Pre-checks the change of the CPU, memory, or disk I/O resource configurations for the virtual server that is managed by VMware vCenter Server.

This component requires the following servers:

- vCenter server

This is the server on which VMware vCenter Server is installed.

- vCenter control server (Execution target server)

This is the server on which VMware vSphere PowerCLI is installed. JP1/AO transfers the component to this server and executes it.

- Virtual server

This is the virtual server that is managed by the vCenter server and VMware vSphere ESXi (or VMware ESX Server).

Use situation

Decide the following based on the property specified in the service template:

- Whether to change the CPU, memory, or disk configuration

- The validity of the value specified in the property

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) must be managed by VMware vCenter Server.

(2) Virtual server requirements

- Duplicate virtual server names must not be managed under the same vCenter.

- The virtual server must be stopped.

- VMware Tools must be installed to the virtual server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) When multiple virtual disks are specified for the VMware.vHardDiskName property, if the processing that changes the disk share level fails for one or more virtual disks, the task terminates abnormally.

Execution privilege

(1) The following privilege is required for users connected to VMware vCenter Server.

System administrator role

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereCheckResourceConfig

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Environmental error) Invalid pre-conditioned environment

27: Error (Check with the task log about the error detail)

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.cpuSharesLevel	CPU share level	Specifies the relative priority of CPU resources between virtual servers that have the same parent.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.cpuReservationMHz	CPU reservation (MHz)	Specifies in MHz the CPU resources that are reserved by the virtual server.	--	Input	O
VMware.cpuLimitMHz	CPU limit (MHz)	Specifies in MHz the upper limit value of CPU resources that are used by the virtual server. If a value less than 100 MHz is specified, execution of the task is abnormally terminated. However, specifying -1 removes this limit.	--	Input	O
VMware.memSharesLevel	Memory share level	Specifies the relative priority of memory resources between virtual servers that have the same parent.	--	Input	O
VMware.memReservationM B	Memory reservation (MB)	Specifies in MB the memory resources that are reserved by the virtual server.	--	Input	O
VMware.memLimitMB	Memory limit (MB)	Specifies in MB the upper limit value of memory resources that are used by the virtual server. If a value less than 100 MB is specified, execution of the task is abnormally terminated. However, specifying -1 removes this limit.	--	Input	O
VMware.diskSharesLevel	Disk share level	Specifies the relative priority of virtual servers for storage I/O resources.	--	Input	O
VMware.vHardDiskName	Virtual hard disk name	Specifies virtual disk where shares level is changed. Virtual disk is display name in VMware vCenter Server. To specify multiple virtual disks, specify by separating with a comma.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
VMware.checkResourceConf igResult	Pre-evaluation results for resource configuration changes for the virtual server	Determine whether it is necessary to change the resource configuration for the virtual server. Store TRUE if it will be changed, or store FALSE if it will not be changed.	--	Output	O

5.11.40 Set virtual server resources

Function

Changes a virtual server's resource allocation (number of CPUs and memory capacity) in a VMware vSphere environment.

In VMware vCenter Server 4.1 or earlier, the number of CPUs means the number of virtual processors; in VMware vCenter Server 5.0 or later, the number of CPUs means the product of the number of virtual sockets and the number of cores per socket. In version 11-11 and earlier, the number of cores per socket is always 1, so the number of CPUs is equal to the number of virtual sockets. However, starting from version 11-12, the number of cores per socket can be changed. To change the number of cores per socket, specify "true" for the option for setting the number of cores (the VMware.setCoresOption property).

Note that, as a result of the above, the display name of the VMware.cpuNum property has been changed. In version 11-11 and earlier, the display name was "Number of CPUs". In version 11-12 and later, the display name is "Number of CPU sockets".

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed.The plugin is sent to this server by JP1/AO and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESXi (or VMware ESX Server).

Use situation

You use this plugin to change the allocation of resources for a virtual server when there is a shortage of virtual server resources.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi that manages the virtual servers (or VMware ESX Server)

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Conditions for virtual servers

• There is no duplication of the names of virtual servers under the management of the same vCenter.

• The virtual servers have been stopped.

• VMwareTools has been installed in the virtual servers.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) When a value other than "true" is specified for the option for setting the number of cores (the VMware.setCoresOption property), set to 1 the number of cores per socket on the target virtual server. If the number of CPU sockets is changed for a virtual server on which the number of cores per socket has been set to a value other than 1, the following problems might occur:

- The virtual server does not start, because the number of CPUs is not a multiple of the number of cores.

- The virtual server starts, but the resources do not have the expected values.

(2) Number of CPUs and memory capacity values that can be specified differ according to the versions of the prerequisite products. Check the limits for these prerequisite products before specifying number of CPUs and memory capacity values.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

03.00.01

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereChangeResource

Return code

0: Normal

12: Error (user error) Invalid property

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If	443	Input	O

Property key	Property name	Description	Default value	I/O type	Required
VMware.portNumber	Port number for VMware vCenter Server connection	you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
VMware.cpuNum	Number of CPU sockets	Specify the number of CPU virtual sockets to assign to the virtual server. You must specify either CPU sockets or memory size property. The product of the number of CPU sockets and the number of cores per socket is the number of CPUs on a virtual server.	--	Input	O
VMware.setCoresOption	Option for setting the number of cores	When you set the number of cores per CPU sockets in a virtual server, specify "true". Unless you specify "true", the number of cores is not set. For details, see the notes in the detailed information of the service for modifying the virtual machine configuration (CPUs and memory).	false	Input	O
VMware.numCoresPerSocket	Number of cores per socket	Specify the number of cores per CPU sockets to assign to the virtual server, if you specify "true" for the Option for setting the number of cores property. If you specify this property, you must also specify the number of CPU sockets. The product of the number of CPU sockets and the number of cores per socket is the number of CPUs on a virtual server.	--	Input	O
VMware.memoryMB	Memory size (MB)	Specify the amount of memory (in MB) to assign to the virtual server. You must specify either CPU sockets or memory size property.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.41 Pre-evaluation of resource changes in virtual server

Function

Pre-checks the resource (number of CPUs and memory capacity) settings for the virtual server that is managed by VMware vCenter Server.

In VMware vCenter Server 4.1 and earlier versions, the number of CPUs refers to the number of virtual processors. In VMware vCenter Server 5.0 and later versions, the number of CPUs refers to the product of the number of virtual sockets and the number of cores per socket. In version 11-11 and earlier, the number of cores per socket is always 1, so the number of CPUs is equal to the number of virtual sockets. However, starting from version 11-12, the number of cores per socket can be changed.

Note that, as a result of the above, the display name of the VMware.cpuNum property has been changed. In version 11-11 and earlier, the display name was "Number of CPUs". In version 11-12 and later, the display name is "Number of CPU sockets".

This component requires the following servers:

- vCenter server

This is the server on which VMware vCenter Server is installed.

- vCenter control server (Execution target server)

This is the server on which VMware vSphere PowerCLI is installed. JP1/AO transfers the component to this server and executes it.

- Virtual server

This is the virtual server that is managed by the vCenter server and VMware vSphere ESXi (or VMware ESX Server).

Use situation

Decide the following based on the property specified in the service template:

- Whether to change the CPU, memory, or disk configuration

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes

[Required product in the System]

JP1/Automatic Operation 12-00 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) must be managed by VMware vCenter Server.

(2) Virtual server requirements

- Duplicate virtual server names must not be managed under the same vCenter.

- The virtual server is stopped.

- VMware Tools must be installed to the virtual server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) Specify the same version for this plug-in and for the plug-in for setting virtual server resources.

Execution privilege

(1) The following privilege is required for users connected to VMware vCenter Server.

System administrator role

Version

03.00.01

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereCheckResource

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Environmental error) Required environment is invalid

27: Error (Check with the task log about the error detail)

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R

Property key	Property name	Description	Default value	I/O type	Requi red
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.cpuNum	Number of CPU sockets	Specify the number of CPU virtual sockets to assign to the virtual server. You must specify either CPU sockets or memory size property. The product of the number of CPU sockets and the number of cores per socket is the number of CPUs on a virtual server.	--	Input	O
VMware.setCoresOption	Option for setting the number of cores	When you set the number of cores per CPU sockets in a virtual server, specify "true". Unless you specify "true", the number of cores is not set. For details, see the notes in the detailed information of the service for modifying the virtual machine configuration (CPUs and memory).	false	Input	O
VMware.numCoresPerSocket	Number of cores per socket	Specify the number of cores per CPU sockets to assign to the virtual server, if you specify "true" for the Option for setting the number of cores property. If you specify this property, you must also specify the number of CPU sockets. The product of the number of CPU sockets and the number of cores per socket is the number of CPUs on a virtual server.	--	Input	O
VMware.memoryMB	Memory size	Specify the amount of memory (in MB) to assign to the virtual server. You must specify either CPU sockets or memory size property.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
VMware.checkResourceResult	Pre-evaluation results for resource changes for the virtual server	Determine whether it is necessary to change the resources for the virtual server. Store TRUE if they will be changed, or store FALSE if they will not be changed.	--	Output	O

5.11.42 Start virtual server

Function

In a VMware vSphere environment, turns on a virtual server's power (sets its power status to ON).

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

When the virtual server is started, the plugin waits for the amount of time (in seconds) specified in the VMware.checkPowerStateInterval property, then it checks the virtual server's start status, which it does up to the number of times specified in the VMware.checkPowerStateCount property. If the default values are not appropriate, specify values that are suitable for your environment. If the plugin terminates normally, it sets "PoweredOn" in the VMware.powerState output property.

Use situation

You use this plugin to start a virtual server.

The start processing involves execution of the vsphereGetPower plugin, followed by execution of this plugin if the power status is "PoweredOff".

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) The virtual server is running.

(3) The virtual server name is unique among the vCenter servers.

(4) VMwareTools has been installed on the target virtual server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) The VMware vSphere ESXi (or VMware ESX Server) that is to be started cannot be specified. Start the plugin on a VMware vSphere ESXi (or VMware ESX Server) that contains virtual servers.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with power-on permission for the target virtual server or system administrator role

Version

02.11.00

Plug-in tags

Control VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetPowerOn

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

28: Error (network start error) Network startup after power-on could not be verified

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.checkPowerStateCount	Power status check count	Specify the number of times the service attempts to check the	60	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.checkPowerStateCo unt	Power status check count	power status to confirm that the virtual server has started. The maximum wait time is determined by this property and the property that defines the power status check interval.	60	Input	R
VMware.checkPowerStateInt erval	Power status check interval	Specify the interval by a second unit. The service attempts to acquire the power status to confirm that the virtual server has started at the interval.	10	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
VMware.powerState	Power state of the virtual server	This property is used to store the power state of the specified virtual server.	--	Output	O

5.11.43 Create virtual server

Function

Clones a virtual server's template in a VMware vSphere environment.

You can specify a data store used to store a virtual disk by specifying the virtual disk/data store mapping file path (VMware.diskMapFilePath property).

If this property is omitted, the configuration file of the virtual server and all virtual disks will be stored in the data store specified in the data store name (VMware.dataStoreName property).

Write the mapping file in a tab separated format as follows:

File format:

virtual-disk-name[tab-character]data-store-name-of-storage-location

...

...

If the data store name of the storage location of the virtual disk is omitted, the virtual disk will be stored in the data store that is the same as the one used for storing the configuration file of the virtual server.

For the virtual disk name, specify a value displayed in the Virtual Machine Property window of vSphere Client. (For example: Hard disk 1)

For the character encoding of the mapping file, use Shift_JIS or UTF-8 (BOM).

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The plugin is transferred from JP1/AO to this server and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

You can set the data store name (VMware.diskMapFilePath property) as follows:

- Specify the name of the data store used to store the configuration file of the virtual server.

- If the virtual disk/data store mapping file path (VMware.diskMapFilePath property) is omitted, the virtual disk will be stored in the data store specified by this property.

You can set the virtual disk/data store mapping file path (VMware.diskMapFilePath property) as follows:

- Specify a full path of a mapping file on a vCenter control server (execution target server) that defines the relationship of the virtual disk and data store.

- If this property is omitted, the configuration file of a virtual server and all virtual disks will be stored in the data store specified in the data store name (VMware.dataStoreName property).

Use situation

You use this plugin to create a new virtual server in a VMware vSphere environment. When you combine this plugin with the following plugins, you can complete the procedure through initialization of the virtual server's OS.

• vSphereSetOsInfoWin

• vSphereSetOsInfoLin

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi is managed by VMware vCenter Server.

(2) Conditions for the settings on VMware vSphere ESXi

• A data store has been registered.

• A port group has been set up. In the case of a port group that is to be set up for a virtual server, specify a port group on the network using a standard virtual switch (vNetwork or vSphere standard switch).

• The template used for deployment has already been created.

• The template name must be unique.

• If the virtual server is stored in a resource pool, the resource pool, cluster, and vApp names must be unique.

The same name cannot be assigned to more than one resource pool, cluster, and vApp although their types are different, such as a cluster name that duplicates a vApp name or a cluster name that duplicates a resource group name.

• The VMware-related names listed below are case sensitive in VMware, but they are not case sensitive in vSphere Power CLI that is executed by this service.

For this reason, this service cannot be used in an environment where names can be used that are the same except for case differences.

• Template name

• Data store name

• Resource pool name

• Cluster name

• vApp name

(3) Conditions for the template used for deployment

• VMware Tools has already been installed.

• Remote commands are set to be executable. Administrative share is enabled in Windows, and SSH is enabled in Linux.

• NIC has been set up (a maximum of four).

• In Windows, the Administrator's password is empty.

• If a virtual server is to be defined as a template, this must be done while the virtual server is stopped.

• Acceptance of and reply to pings must be permitted.

• In Windows, sysprep is executed. Therefore, the number of times Windows has been initialized cannot have reached its maximum count (3).

(4) Conditions for virtual servers

• There is no duplication of the names of virtual servers under the management of the same vCenter.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not use any other service to manipulate a virtual server while it is being deployed. If you do, deployment of the virtual server might fail. Do not manipulate the virtual server directly from a vCenter server.

(2) Do not specify in advance in a virtual server's template the information that is to be specified when the virtual server is created. If a computer name or host name and IP address are already set in the template, virtual server creation might fail. If virtual server creation fails (for example, static route processing results in an error), delete the virtual server, re-create a template in which no computer name, host name, or IP address is set, and then re-execute this plugin.

(3) A maximum of 60 characters can be specified in the virtual server name property (vmware.vmName).

(4) If you specify a data store not existing in the virtual disk/data store mapping file or if you specify a data store that cannot be read from the ESX server that is used to store the configuration file of virtual server, this plug-in will end with an error.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

02.50.00

Plug-in tags

Add VM,VMware vSphere

Plug-in name displayed in the task log

vsphereCreateVM

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vmHostName	ESX server name	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	--	Input	R
VMware.dataStoreName	Datastore name	Specify the name of the data store.	--	Input	R
VMware.templateName	Template name	Specify the name of the template on which the virtual server is to be based.	--	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
VMware.resourcePoolName	Resource pool name	Specify the resource pool, vApp, or cluster where the virtual server will be provisioned.	--	Input	O
VMware.diskMapFilePath	Mapping file path for a virtual disk and datastore	Specify the full path of the mapping file between the virtual disk and datastore on the target server. If this property is omitted, the virtual server configuration file and all virtual disks are stored in the datastore specified by the datastore name.	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
common.osType	OS type	Work property that stores the OS type (Windows or Linux) of the template.	--	Output	O

5.11.44 Delete virtual server

Function

Deletes a virtual server in a VMware vSphere environment.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed.The plugin is sent to this server by JP1/AO and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

Use situation

You use this plugin to delete a virtual server when you are removing the virtual server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Conditions for virtual servers

• There is no duplication of the names of virtual servers under the management of the same vCenter.

• The virtual servers are powered off.

• VMwareTools has been installed on the virtual servers.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

02.11.00

Plug-in tags

Delete VM,VMware vSphere

Plug-in name displayed in the task log

vsphereDeleteVM

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.45 Get power status of virtual server

Function

Obtains a virtual server's power status in a VMware vSphere environment:

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed.The plugin is sent to this server by JP1/AO and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

One of the following values is set in the VMware.powerState output property as the power status:

PoweredOn

PoweredOff

Use situation

This plugin enables you to check the power status of a virtual server and take appropriate action depending on the status, such as starting or terminating the virtual server or changing the virtual server configuration.

For example, use this plugin together with the following plugins:

• vsphereSetPowerOff

• vsphereSetPowerOn

• vsphereChangeResource

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) The virtual server name is unique among the vCenter servers.

(3) VMwareTools has been installed on the target virtual server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with read-only permission for the target virtual server or system administrator role

Version

02.50.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereGetPower

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

31: Error (power status acquisition error) Power status was not acquired

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.powerState	Power state of the virtual server	This property is used to store the power state of the specified virtual server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.46 Add virtual disk to virtual server

Function

This plugin adds a virtual disk to a virtual server in the VMware vSphere environment.

Use either of the following methods to connect the added virtual disk to an SCSI controller:

- Connect the virtual disk to an existing SCSI controller

Specify "false" for the VMware.createScsiController property (whether to add SCSI controllers) to connect the virtual disk to an existing SCSI controller.

To specify the SCSI controller to which the virtual disk will be connected, specify the SCSI controller name (VMware.attachedScsiControllerName property).

If you do not specify the SCSI controller name, the virtual disk will be connected to a random SCSI controller.

- Connect the virtual disk to a new SCSI controller

Specify "true" for the VMware.createScsiController property (whether to add SCSI controllers) to add a new SCSI controller, and then connect the virtual disk to the added SCSI controller.

In this case, specify both of the following properties:

- VMware.scsiBusSharingMode property (SCSI bus sharing)

- VMware.scsiControllerType property (SCSI controller type)

This plugin requires the following servers:

- vCenter server

The server on which VMware vCenter Server is installed

- vCenter control server (execution target server)

The server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by vCenter server and VMware vSphere ESX

- The following describes the data store name (VMware.dataStoreName property).

Specify the name of the data store in which a virtual disk will be created.

If you create an RDM disk, specify the data store that stores mapping files.

- The following describes the virtual disk capacity (VMware.vHardDiskCapacity property).

Specify the capacity (GB) of the virtual disk to be created. You need to specify this property if the virtual disk type is Flat.

If you create an RDM disk, you do not need to specify this property.

- The following describes the virtual disk type (VMware.vHardDiskType property).

Specify RawVirtual, RawPhysical, or Flat as the type of virtual disk to be created. If you do not specify this property, the virtual disk type is set to Flat.

Specify RawVirtual to connect an RDM disk in virtual mode. Specify RawPhysical to connect an RDM disk in physical mode. Specify Flat to connect a virtual disk.

Use situation

You use this plugin to add a data disk to a virtual server, such as when you configure a new virtual server and add a disk.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter,Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) The power to the virtual server on which the virtual disk is to be added is off.

(2) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(3) The virtual server name is unique among the vCenter servers.

(4) VMwareTools has been installed on the target virtual server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

(2) Virtual disks added to virtual servers are not initialized. If necessary, log in to the OS of the virtual server and then initialize the disk.

(3) If the version of VMware vSphere PowerCLI is earlier than 5.1 Release 2, you cannot specify "EagerZeroedThick" for the format type of the virtual disk (VMware.vDiskStorageFormat property). If this option is specified, the plugin ends abnormally.

(4) If you specify "true" for the VMware.createScsiController property (whether to add SCSI controllers), you need to specify both the SCSI bus sharing (VMware.scsiBusSharingMode property) and the SCSI controller type (VMware.scsiControllerType property). If one of these properties is not specified, this plugin ends abnormally.

(5) If a plugin for which "true" is specified for the VMware.createScsiController property (whether to add SCSI controllers) ends abnormally with return value 27, a virtual disk might have been created and connected to a SCSI controller. In this case, remove the cause of the error according to the error message in the task log, delete the virtual disk, and then execute the plugin again. Note that if the virtual disk needs to be deleted, the KNAE06478-E message is output to the task log.

(6) Do not simultaneously execute more than one instance of this plugin for the same virtual server. If they are executed simultaneously, this plugin ends abnormally or an invalid value might be stored for the virtual disk name (VMware.createdVHardDiskName property) or SCSI controller name (VMware.connectedScsiConName property).

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with new or existing disk addition permissions for the target virtual server or system administrator role

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereAddVDisk

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.dataStoreName	Datastore name	Specify the name of the datastore in which a virtual hard disk will be created.	--	Input	R
VMware.vHardDiskCapacity	Virtual disk capacity	Specify (in GB) the capacity of the virtual disk to be created.	--	Input	O
VMware.vHardDiskType	Virtual hard disk type	Specify RawVirtual, RawPhysical, or Flat as the type of the virtual disk to be created.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
VMware.deviceName	LUN device name	Specifies the LUN device name where the virtual disk is to be created. Specified only if RawVirtual or RawPhysical is selected as the type of the virtual disk (example: /vmfs/devices/disks/naa.XXX).	--	Input	O
VMware.vDiskStorageFormat	Virtual disk formatting type	For the type of formatting of the virtual disk, specify Thin (Thin Provisioning), Thick (Thick Provisioning (Lazy Zeroed)), or EagerZeroedThick (Thick Provisioning (Eager Zeroed)). Specify this property only if the virtual disk is Flat type.	--	Input	O
VMware.attachedScsiControllerName	SCSI controller name	Specifies the name of the virtual disk connection-destination SCSI controller (e.g., "SCSI controller X"). If this specification is omitted, the controller is selected at random. If "Whether to add a SCSI controller" is "true", this property is ignored.	--	Input	O
VMware.createScsiController	Whether to add a SCSI controller	To assign a new SCSI controller to the virtual disk being created, specify "true". To not do so, specify "false". If you specify this property, you must also specify the SCSI bus sharing and SCSI controller type settings.	false	Input	R
VMware.scsiBusSharingMode	SCSI bus sharing	To not share a SCSI-connected virtual disk with virtual servers, specify "NoSharing". To share it with virtual servers on the same ESX server, specify "Virtual". To share it with virtual servers on all ESX servers, specify "Physical".	--	Input	O
VMware.scsiControllerType	SCSI controller type	SCSI controller type (Device, ParaVirtual, VirtualBusLogic, VirtualLsiLogic, or VirtualLsiLogicSAS)	--	Input	O
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O
VMware.createdVHardDiskName	Virtual disk name	Stores the name of the new virtual disk that was added.	--	Output	O
VMware.connectedScsiConName	SCSI controller name	Stores the name of the SCSI controller connected to the newly added virtual disk.	--	Output	O

5.11.47 Check virtual server creation

Function

This component makes sure that a new virtual server can be created in a VMware vSphere environment based on a specified template.

This module assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• ESX server

This is a server on which VMware vSphere ESXi (or VMware ESX Server) is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The module is transferred from JP1/AO to this server and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESXi.

This module checks the following:

• Makes sure that the specified ESX server is registered on the vCenter server.

If the ESX server is not registered on the vCenter server, the component returns an abnormal result.

• Makes sure that the specified data store is registered on the ESX server.

If the data store is not registered on the ESX server, the component returns an abnormal result.

• Makes sure that the data store on the specified ESX server has enough capacity to expand the template.

If the capacity of the template exceeds the capacity of the data store, the component returns an abnormal result.

The capacity of the template used for comparisons is the capacity of the Provisioned Storage of the virtual disk that is set in the template.

• Makes sure the specified resource pool (resource pool, cluster, vApp) is registered on the vCenter server.

If the resource pool is not registered on the vCenter server, the component returns an abnormal result.

• Makes sure that the specified virtual server name is not being used on the vCenter server.

If the virtual server name is already used in the vCenter server, the component returns an abnormal result.

Use situation

When you intend to create a new virtual server on an ESX server, this module enables you to first check whether a new virtual server can be created on the ESX server.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) Prerequisite product of ESX Server

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)(For vCenter4.1 or later; not supported by vCenter4.0)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products on the execution target server]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2) Conditions for the settings on VMware vSphere ESXi (or VMware ESX Server)

• A data store has been registered.

• A port group has been set up. For a port group that is to be set up for a virtual server, specify a port group on the network using a standard virtual switch (vNetwork or vSphere standard switch).

• The template used for deployment has already been created.

• If the virtual server is stored in a resource pool, the resource pool, cluster, and vApp names must be unique.

The same name cannot be assigned to more than one resource pool, cluster, and vApp although their types are different, such as a cluster name that duplicates a vApp name or a cluster name that duplicates a resource pool name.

(3) Conditions for the template used for deployment

• VMware Tools has already been installed.

• Remote commands are set to be executable. Administrative share is enabled in Windows; SSH is enabled in Linux.

• NIC has been set up (a maximum of two).

• In Windows, the Administrator's password is empty.

• If a virtual server is to be defined as a template, this must be done while the virtual server is stopped.

(4) Conditions for virtual servers

• There is no duplication of the names of virtual servers under the management of the same vCenter.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running on the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereCheckTemplateSpec

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in module) Missing property (error detected in module script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	--	Input	R
VMware.dataStoreName	Datastore name	Specify the name of the data store.	--	Input	R
VMware.templateName	Virtual server's template name	Specify the name of the template on which the virtual server is to be based.	--	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.resourcePoolName	Resource pool name	Specify the resource pool, vApp, or cluster where the virtual server will be provisioned.	--	Input	O
VMware.portGroupName	Port group name	Specify the name of the port group currently assigned to the virtual server.	--	Input	O
VMware.portGroupNameNe w	Port group name (updated)	Specify a new port group name to assign to the virtual server.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O
common.CheckTemplateResu lt	Virtual server creation check result	Stores the result of determining whether the virtual server can be created.	--	Outpu t	O

5.11.48 Get list of virtual server information

Function

This plugin outputs to a file, in CSV format, a list of information of virtual servers under the management of a vCenter server.

To focus the list exclusively on virtual servers under the management of a specified ESX server, specify the ESX server name.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed. The plugin is transferred from JP1/AO to this server and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESXi.

Use situation

A list of virtual servers under the management of the vCenter server, specified when new virtual servers are added or when operations are performed on existing virtual servers, can be output to a CSV format file.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running on the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, and 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS of the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is being managed by VMware vCenter Server.

(2) Condition for configuration on VMware vSphere ESXi (or VMware ESX Server)

• Port group has been set.

(3) Conditions for virtual servers

• VMware Tools is installed.

• NIC has been configured.

• There is no duplication of the virtual servers under management of a single VMware vCenter Server.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running on the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereOutVmSpec

Return code

0: Normal

12: Error (user error) Invalid property

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

28: Error (network start error) Network startup after power-on could not be verified

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the ESX server name to be displayed in the Hosts and Clusters inventory view managed by VMware vCenter server.	--	Input	O
common.fileName	File name	Specify the file name.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.49 Extend a virtual disk

Function

This plugin expands the virtual disk capacity set on a virtual server in a VMware vSphere environment.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the virtual disk name (VMware.vHardDiskName property).

- Specify the name of the virtual disk whose capacity is to be expanded. (Example: Hard disk 1)

- You need to specify a virtual disk connected to a SCSI controller.

Use situation

This plugin can be used to expand the virtual disk capacity set on the virtual server if the virtual disk capacity is insufficient.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter,Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- Virtual server names must be unique.

- The VMware-related name shown below is case sensitive in VMware, but the specified name is not case sensitive in a vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Virtual server name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or single quotation mark (') for a property of this plugin.

(2) You cannot reduce the virtual disk capacity. If you specify a value smaller than the set capacity, this plugin ends abnormally.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereExtendVDisk

Return code

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. (This is the virtual server name in VMware vCenter Server. Do not specify a host name.)	--	Input	R
VMware.vHardDiskName	Virtual hard disk name	Specify the names of virtual hard disks.	--	Input	R
VMware.vHardDiskCapacity	Virtual disk capacity	Specifies the new capacity (in GB) of the virtual disk after expansion.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.50 Delete virtual disk

Function

Deletes a virtual disk from a virtual server in a VMware vSphere environment.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed.The plugin is sent to this server by JP1/AO and then is executed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

Use situation

You use this plugin to delete a virtual disk from a virtual server in a VMware vSphere environment.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter,Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86),Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1) VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2)Conditions for virtual servers

• There is no duplication of the names of virtual servers under the management of the same vCenter.

• The virtual servers are powered off.

• VMwareTools has been installed in the virtual servers.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) If the virtual disk to be deleted contains data that you need, make a backup before deleting it.

(2) The virtual disk is also deleted also from the data store.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

Role with disk deletion permissions for the target virtual server or system administrator role

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereDeleteVDisk

Return code

0: Normal

21: Error (invalid environment) Command cannot be found (error detected in the plugin script)

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
VMware.vHardDiskName	Virtual hard disk name	Specify the names of virtual hard disks.	--	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.51 Change virtual machine port group

Function

Changes the port group connected to a virtual server in a VMware vSphere environment.

This plugin assumes the following servers:

• vCenter server

This is a server on which VMware vCenter Server is installed.

• vCenter control server (Execution target server)

This is a server on which VMware vSphere PowerCLI is installed.

• Virtual server

This is a virtual server managed by the vCenter server and VMware vSphere ESX.

Use situation

You use this plugin after you have created a virtual server to change the default port group settings.

Prerequisites

For the latest support information about [Required product in the System]/[Required products on the execution target system]/[Required products on the execution target server]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-10 or later

[Required products on the execution target system]

(1) Prerequisite product of vCenter Server

• VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0, 4.1, 4.0

(2) VMware vSphere ESXi (or VMware ESX Server) that manages the virtual servers

• VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0 or VMware ESX Server 4.1, 4.0

(3) Prerequisite OS running in the virtual servers

The following OSs are supported, based on the required products for the vCenter server and the required products for the VMware vSphere ESXi (or VMware ESX Server)/vCenter control server that manages the virtual server.

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

• Red Hat Enterprise Linux Server 6 (32-bit x86), Red Hat Enterprise Linux Server 6 (64-bit x86_64)

• Red Hat Enterprise Linux Server 7 (64-bit x86_64)

• Red Hat Enterprise Linux Server 8 (64-bit x86_64)

• CentOS 6 (64-bit x86_64)

• CentOS 7 (64-bit x86_64)

• CentOS 8 (64-bit x86_64)

[Usage conditions for required products in the execution target system]

(1)VMware vSphere ESXi (or VMware ESX Server) is managed by VMware vCenter Server.

(2)Conditions for the settings on VMware vSphere ESXi (or VMware ESX Server)

• A port group has been set up. In the case of a port group that is to be set up for a virtual server, specify a port group on the network using a standard virtual switch (vNetwork or vSphere standard switch).

(3)Conditions for virtual servers

• VMware Tools has already been installed.

• NIC has been set up.

• There is no duplication of the names of virtual servers under the management of the same vCenter.

[Required products on the execution target server]

• VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release1, 5.5 Release2, 5.5 Release1, 5.1 Release2, 5.0

• VMware PowerCLI 6.5 Release1

• VMware PowerCLI 6.5.1, 6.5.4

• VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

[Prerequisite product OS running in the execution target server]

• Windows Server 2008 R2 Standard/Enterprise/Datacenter

• Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

• Windows Server 2016 Standard/Datacenter

• Windows Server 2019 Standard/Datacenter

Cautions

(1) The specified port group must be able to communicate with the JP1/AO server. If the virtual server has multiple NICs, set one of them to a port group that can communicate with the JP1/AO server.

(2) You must specify both the current port group name and the new port group name. If either of these is omitted, the port group will not be renamed. If there are multiple port groups with the same name, only one of them will be renamed.

Execution privilege

(1) The user who will be connecting to VMware vCenter Server must have the following permissions:

System administrator role

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetPortGroup

Return code

0: Normal

23: Error (invalid environment) Required environment is invalid

27: Error (check task logs for the nature of error)

41: Error (error detected in plugin) Missing property (error detected in plugin script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
VMware.vmName	Virtual server name	Specify the name of the virtual server. This name is used to represent the virtual server in VMware vCenter server. It is not used as a host name by the OS.	--	Input	R
VMware.portGroupNameNe w	Port group name (updated)	Specify a new port group name to assign to the virtual server.	--	Input	O
VMware.portGroupName	Port group name	Specify the name of the port group currently assigned to the virtual server.	--	Input	O
VMware.vCenterServerName	VMware vCenter server name	Specify the host name or IP address of the VMware vCenter server. You cannot specify an IPv6 address.	--	Input	R
VMware.userName	User name for VMware vCenter Server connection	Specify the user name to use when connecting to the VMware vCenter server.	--	Input	R
VMware.password	Password for VMware vCenter Server connection	Specify the password to use when connecting to the VMware vCenter server.	--	Input	R
VMware.portNumber	Port number for VMware vCenter Server connection	Specify the port number to use when connecting to the VMware vCenter server (specifically, the port number of the VMware vCenter server's Web service). If you omit this property, the default value of the VMware vCenter server applies.	443	Input	O
VMware.protocol	Protocol for VMware vCenter Server connection	Specify the protocol to use when connecting to the VMware vCenter server.	https	Input	R
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin	--	Input	R

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	will be executed. IPv6 addresses are not supported.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	O

5.11.52 Add a port group to the standard virtual switch

Function

This plugin creates a new port group and adds it to the standard virtual switch (vNetwork standard switch or vSphere standard switch) in a VMware vSphere environment.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

Use situation

This plugin can be used to add a new port group to the standard virtual switch.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vCenter Server

- The VMware-related names shown below are case sensitive in VMware, but the specified names are not case sensitive in the vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Standard virtual switch name

- Port group name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double-quotation mark (") or single quotation mark (') for a property of this plugin.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereAddPortGroup

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the host name of the ESX server.	--	Input	R
VMware.targetVSwitchName	Standard virtual switch name	Specifies the name of the standard virtual switch to which you want to add a port group.	--	Input	R
VMware.newPortGroupName	Port group name	Specifies the name of the port group that you want to create.	--	Input	R
VMware.vlanID	VLAN ID	Specifies the VLAN ID to be set for the new port group. You can specify a number in the range from 1 to 4,094. To not set a VLAN ID, specify 0. To use the port group in trunk mode, specify 4,095. If the specification is omitted, no VLAN ID is set.	--	Input	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.53 Get the physical adapter information list

Function

This plugin outputs information about physical adapters connected to an ESX server in a VMware vSphere environment.

If you specify a physical adapter name (VMware.physicalAdapterName property), only the link status of the specified physical adapter is set to the VMware.outPhysicalAdapterStatus property.

If you omit a physical adapter name (VMware.physicalAdapterName property), a listing of information about physical adapters connected to the ESX server is output, in CSV format, to the physical-adapter information output file on the vCenter control server. This file is specified by the VMware.esxAdapterOutputFileName property.

The encoding format of the output file is the default encoding of the system of the vCenter control server.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the physical-adapter information output file name (VMware.esxAdapterOutputFileName property).

- The specification of this property is ignored if a physical adapter name (VMware.physicalAdapterName property) is specified.

Use this plug-in script to execute the following VMware vSphere PowerCLI cmdlet:

Get-EsxCli -VMHost VMHost object#1

#1: Object obtained from the value of the ESX server name (VMware.vmHostName property)

Obtain the value of network.nic.list() from the execution results of the above cmdlet, and then store the value in "State of the physical adapter (VMware.outPhysicalAdapterStatus property)".

The following shows the items in the CSV file that is output.

The items are separated by commas.

(a) ESX server name (header name: VmHostName)

(b) Standard virtual switch name (header name: VirtualSwitchName)

(c) Physical adapter name (header name: PhysicalAdapterName)

(d) Physical adapter status (header name: PhysicalAdapterStatus)

Example of CSV file output

"VmHostName","VirtualSwitchName","PhysicalAdapterName","PhysicalAdapterStatus"

"sysbsx10","vSwitch0","vmnic0","Up"

"sysbsx10","vSwitch1","vmnic1","Up"

"sysbsx10","vSwitch1","vmnic2","Down"

Use situation

This plugin can be used to obtain information about physical adapters connected to an ESX server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vSphere ESX

- The VMware-related name shown below is case sensitive in VMware, but the specified name is not case sensitive in a vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Standard virtual switch name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If the file specified by the physical adapter information output file name (VMware.esxAdapterOutputFileName property) already exists, that file will be overwritten. Therefore, carefully confirm that the specified file name is correct.

(3) If no folder exists in which the physical-adapter information output file (specified by the VMware.esxAdapterOutputFileName property) is to be created, that folder will be created.

(4) If you omit a physical adapter name (VMware.physicalAdapterName property), you must specify a physical-adapter information output file name (VMware.esxAdapterOutputFileName property). If you also omit the physical-adapter information output file name, this plugin ends abnormally.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Gather VM information,VMware vSphere

Plug-in name displayed in the task log

vsphereOutputPhysicalAdapInfo

Return code

0: Normal

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the host name of the ESX server.	--	Input	R
VMware.physicalAdapterName	Physical adapter name	Specifies the name of the physical adapter for which information is to be obtained.	--	Input	O
VMware.esxAdapterOutputFileName	Name of the file output as the physical adapter information list	Specifies the full path name of the file to which the physical adapter information list for the ESX server is to be output.	--	Input	O
VMware.outPhysicalAdapterStatus	State of the physical adapter	Stores the specified physical adapter state.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.11.54 Set the physical adapter

Function

This plugin sets the status of a physical adapter connected to the standard virtual switch (vNetwork standard switch or vSphere standard switch) in a VMware vSphere environment.

The status that can be set is Active, Standby, or Unused.

This plugin requires the following servers:

- vCenter server

A server on which VMware vCenter Server is installed

- ESX server

A server on which VMware vSphere ESXi is installed

- vCenter control server (execution target server)

A server on which VMware vSphere PowerCLI is installed. The plugin is transferred to and executed on this server by JP1/AO.

- Virtual server

A virtual server managed by the vCenter server and VMware vSphere ESXi

The following describes the status to be set (VMware.physicalAdapterStatus property).

- You can specify one of the following statuses:

Active

Standby

Unused

Use situation

This plugin can be used to block or unblock a physical adapter on an ESX server.

Prerequisites

See the Release Notes for the latest support statuses of prerequisite products for the system, prerequisite products for the execution-target system, prerequisite products on the execution-target server, and the supported OSs for the prerequisite products for the execution-target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-10 or later

Prerequisite products for the execution-target system:

(1) Prerequisite product for the vCenter server

- VMware vCenter Server 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

(2) Prerequisite product for VMware vSphere ESX to manage virtual servers

- VMware vSphere ESXi 7.0, 6.7, 6.5, 6.0, 5.5, 5.1, 5.0

Conditions for using the prerequisite products for the execution-target system:

(1) VMware vSphere ESX must be managed by VMware vCenter Server.

(2) Conditions for settings on VMware vSphere ESX

- The VMware-related name shown below is case sensitive in VMware, but the specified name is not case sensitive in the vSphere PowerCLI instance that is executed by this plugin.

Therefore, this plugin cannot be used in an environment in which duplicate names with different case letters are used.

- Standard virtual switch name

Prerequisite products on the execution-target server:

- VMware vSphere PowerCLI 6.3 Release1, 6.0 Release3, 6.0 Release1, 5.8 Release 1, 5.5 Release 2, 5.5 Release 1, 5.1 Release 2, 5.0

- VMware PowerCLI 6.5 Release1

- VMware PowerCLI 6.5.1, 6.5.4

- VMware PowerCLI 10.1.0, 10.1.1, 11.3.0, 12.0.0, 12.1.0

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Cautions

(1) Do not specify a string containing a double quotation mark (") or single quotation mark (') for a property of this plugin.

(2) If you set the status of the physical adapter to Standby or Unused, that physical adapter can no longer be used for communication. Make sure that the physical adapter is not used by a virtual server or ESX in advance.

Execution privilege

(1) Users who connect to VMware vCenter Server must have system administrator permissions.

Version

02.11.00

Plug-in tags

Modify VM,VMware vSphere

Plug-in name displayed in the task log

vsphereSetPhysicalAdapterStatus

Return code

12: Error (Mistake by user) Invalid property

23: Error (Invalid environment) The environment requirements are not met.

27: Error (Check with the task log about the error details.) Unidentified error

41: Error (An error was detected in the component.) Property not entered (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Required
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
VMware.vCenterServerName	Host name of the vCenter server	Specify the host name or IP address of the destination vCenter server. IPv6 addresses are not supported.	--	Input	R
VMware.userName	User name for connecting to the VMware vCenter Server	Specify the user name for connecting to the VMware vCenter Server.	--	Input	R
VMware.password	Password for connecting to the VMware vCenter Server	Specify the password for connecting to the VMware vCenter Server.	--	Input	R
VMware.portNumber	Port number for connecting to the VMware vCenter server	Specify the number of the port for connecting to VMware vCenter Server (for the VMware vCenter Server Web service).	443	Input	O
VMware.protocol	Protocol for connecting to the VMware vCenter server	Specify either HTTP or HTTPS as the protocol for connecting to VMware vCenter Server.	https	Input	R
VMware.vmHostName	Host name of the ESX server	Specify the host name of the ESX server.	--	Input	R
VMware.virtualSwitchName	Standard virtual switch name	Specifies the name of the standard virtual switch that connects to the physical adapter for which you want to set the state.	--	Input	R
VMware.physicalAdapterName	Physical adapter name	Specifies the name of the physical adapter for which you want to set the state.	--	Input	R
VMware.physicalAdapterStatus	State to be set	Specifies the state that you want to set for the physical adapter. You can specify Active, Standby, or Unused.	--	Input	R
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.12 Windows-related Plug-ins

5.12.1 Obtain the MAC address of an NIC

Function

This component obtains the MAC address of the NIC recognized by the OS.

The following servers are required for this component:

- Execution target server

This is the server that executes the component to obtain the MAC address.

This component obtains up to 4 MAC addresses of the NIC recognized by the OS. Without a MAC address set for the NIC, no MAC address can be obtained.

Use situation

This component can be used to obtain the MAC address of an NIC recognized by the OS.

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter, Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

None.

Version

02.00.00

Plug-in tags

Gather OS information,Windows

Plug-in name displayed in the task log

osGetNicMacaddress

Return code

0: Normal

27: Error (Check the task log for error details.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
OS.returnNic1MacAddress	NIC MAC address (for first NIC)	Stores the MAC address of the first NIC recognized by the OS of the execution target server.	--	Output	O
OS.returnNic2MacAddress	NIC MAC address (for second NIC)	Stores the MAC address of the second NIC recognized by the OS of the execution target server.	--	Output	O
OS.returnNic3MacAddress	NIC MAC address (for third NIC)	Stores the MAC address of the third NIC recognized by the OS of the execution target server.	--	Output	O
OS.returnNic4MacAddress	NIC MAC address (for fourth NIC)	Stores the MAC address of the fourth NIC recognized by the OS of the execution target server.	--	Output	O
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.12.2 Windows network settings

Function

This component sets the IP address for the NIC recognized by the OS of the virtual server (Windows). When setting the IP address, the domain can also be set.

The following server is required for this component:

- Execution target server

This is the virtual server that executes the component to obtain the IP address.

Up to 4 IP addresses can be set. If the NIC for which the IP address is to be set is disabled, first enable the NIC, and set the IP address. Depending on the number of NICs held by the virtual server, the setting order of the IP addresses are shown below:

- When the virtual server has one NIC

Set the IP addresses that were specified first in the order of IP address (for the first NIC)>IP address (for the second NIC)>IP address (for the third NIC)>IP address (for the fourth NIC). Note that the other IP addresses are discarded.

- When the virtual server has two or more NICs

Set the IP addresses in the order of IP address (for the first NIC)>IP address (for the second NIC)>IP address (for the third NIC)>IP address (for the fourth NIC). If a specified IP address is blank, set without leaving empty space. For example, if the specified IP addresses are IP address (for the first NIC), IP address (for the second NIC), and IP address (for the fourth NIC) (without any IP address for the third NIC), the IP address for the fourth NIC is set for the third NIC of the virtual machine. Note that, if the number of entered IP addresses exceeds the number of NICs held by the virtual server, the excess IP addresses are discarded.

If the same IP address has been already set for the specified NIC, do not set the IP address for the NIC.

Use situation

This component can be used to set an IP address for an NIC recognized by the OS, and also to join a domain

Prerequisites

For the latest support information about [Required product in the System]/[Prerequisite product OS running in the execution target server], see the release notes.

[Required product in the System]

JP1/Automatic Operation 11-00 or later

[Prerequisite product OS running in the execution target server]

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

This does not apply to Server Core installation environments.

[Usage conditions for required products on the execution target server]

None.

Cautions

(1) Do not change the IP address of an NIC being used for communication with the JP1/AO server. If changed, communication with the JP1/AO server is severed and the task will terminate abnormally. For example, if the NIC in a LAN connection is being used for communication with the JP1/AO server, specify the already set IP address as the IP address (for the first VM), and thus prevent the IP address from being set for the NIC in the LAN connection.

(2) For the IP address set for the OS of a virtual server, do not enter a value that cannot be set as an IP address. For example, network addresses, broadcast addresses, and special addresses such as "0.0.0.0" and "255.255.255.255" cannot be specified. If one of these addresses is entered, an error will occur in the deployment of the virtual server. Also, for the IP address (for management), enter an IP address capable of communication with the JP1/AO server. Even if the address is correct, the virtual server might fail to deploy.

(3) The IP address set for a virtual server must not duplicate the IP address of any other server. If another server has the same IP address, the NIC of the virtual server might become invalid, and the task will abnormally terminate.

(4) To join a domain, the domain name, domain user name, and domain password are required. If any of them is not specified or the processing to join the domain fails, the current OS settings are taken over.

(5) Specify the IP address, subnet mask. If one of these items is not specified, none of these items are set.

Version

02.00.00

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osSetNetworkSetting

Return code

0: Normal

27: Error (Check the task log for error details.)

41: Error (An error was detected in the component.) A property was not entered. (An error was detected in the component script.)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the execution target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
OS.ipAddressMan	The 1st IP address	Specify the 1st IP address for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.subnetMaskMan	The 1st Subnet mask	Specify the 1st subnet mask for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.defaultGWMan	The 1st Default gateway	Specify the 1st default gateway for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.dnsMan	The 1st DNS server IP address	Specify the 1st IP address of the DNS server for the virtual server. You cannot specify an IPv6 address.	--	Input	O
OS.ipAddress2	IP address (for second NIC)	Specifies the IP address set for the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask2	Subnet mask (for second NIC)	Specifies the subnet mask that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW2	Default gateway (for second NIC)	Specifies the default gateway that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Required
OS.dns2	DNS server IP address (for second NIC)	Specifies the IP address of the DNS server that is set to the second NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress3	IP address (for third NIC)	Specifies the IP address set for the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask3	Subnet mask (for third NIC)	Specifies the subnet mask that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW3	Default gateway (for third NIC)	Specifies the default gateway that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns3	DNS server IP address (for third NIC)	Specifies the IP address of the DNS server that is set to the third NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.ipAddress4	IP address (for fourth NIC)	Specifies the IP address set for the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.subnetMask4	Subnet mask (for fourth NIC)	Specifies the subnet mask that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.defaultGW4	Default gateway (for fourth NIC)	Specifies the default gateway that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.dns4	DNS server IP address (for fourth NIC)	Specifies the IP address of the DNS server that is set to the fourth NIC recognized by the virtual server OS. IPv6 addresses are not supported.	--	Input	O
OS.domainName	Domain name	Specify whether the virtual server belongs to a workgroup or domain.	--	Input	O
OS.domainUserName	Domain user name	Specifies the user name of the domain to which the virtual server belongs. You must enter this if "DOMAIN" was selected in the Workgroup/domain selection.	--	Input	O
OS.domainUserPassword	Domain password	Specifies the password of the domain where the virtual server belongs. You must enter this if "DOMAIN" was selected in the Workgroup/domain selection.	--	Input	O
common.flagSucceedDomain	Domain join process successful	The value stored for this property is TRUE when the domain was successfully joined, and FALSE when joining the domain failed.	--	Output	O

Property key	Property name	Description	Default value	I/O type	Required
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Output	O

5.12.3 Install the Windows updates

Function

In a Windows environment, update programs are automatically installed by the Windows Update feature.

The update programs that are subject to installation are those on the execution-target server that meet all of the following conditions:

- Update programs to be automatically installed by Microsoft

- Update programs that have not been installed yet

- Update program for installed software

Note that the following update programs are not subject to installation:

- Update programs whose numbers are included (as an exact match) in the exceptions list

- Update programs requiring user entry (such as service packs)

The exceptions list is a comma-separated list of programs numbers (such as KB9999999) specified by the property Windows.updateProgramExclusionList. Update programs whose numbers are included in this list are excluded from the installation target. You can specify a maximum of 1,024 bytes (including commas) for the list.

Each time Windows Update is executed, a text file (whose contents are described below) is output to a folder on the execution-target server. This folder is specified by the property Windows.updateResultOutputFolder. The format of the file name is YYYYMMDDhhmm.txt. (For example: 201312312345.txt)

- The output text file contains the following items:

(a) Host name

(b) Exceptions list

(c) List of the titles of update programs returned as search results

In the search results, each update program is output on a separate line. For each update program, "adding" (for programs that are subject to installation) or "skipping" (for programs that are not subject to installation) is also specified.

For each update program for which "skipping" is specified, a reason (whether installation was skipped because user entry was needed or because the program was included in the exceptions list) is also specified.

(d) ResultCode for the overall update program installation

The ResultCode values and their meanings are as follows:

0: Installation was not executed, 1: Installation is in progress, 2: Installation ended normally, 3: Part of the processing failed, 4: Installation failed, 5: Installation was canceled

(e) List of the titles of update programs that were installed

The ResultCode value for the update is output for each program.

(f) Whether restart is required

If "Necessary" is output, restart is necessary. If "Unnecessary" is output, restart is unnecessary.

(g) Termination code for the script itself

The termination codes and their meanings are as follows:

0: Normal, 27: Abnormal (error details can be checked in the task log), 41: Abnormal (a plug-in error was detected) or necessary properties were missing (an error was detected in the plug-in script)

(h) Titles of update programs in the search results that were excluded or that were not installed due to an installation error

When the execution target server is Windows, the built-in Administrator is required to execute this plug-in. If the built-in Administrator does not exist or is invalid on the execution target server, execute "Install the Windows updates(SYSTEM)" plug-in that executes with the system account.

Use situation

This plug-in can be used to apply Windows update programs when they are issued.

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the execution-target server:

(1) The execution-target server must be running.

(2) The execution-target server must be able to access the website that allows Windows Update to be executed without using a proxy server.

(3) The execution-target server must be able to access the website that allows Windows Update to be executed from Internet Explorer (browser).

(4) The following service must be running:

- Windows Update

Cautions

(1) If an update program that performs automatic restart is installed, Windows automatically restarts the execution-target server.

(2) Do not simultaneously execute multiple instances of this plug-in on the same execution-target server.

Execution privilege

Built-in Administrator

Version

02.00.00

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osWindowsUpdate

Return code

0: Normal

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.updateResultOutput Folder	Folder name for file output of the result information	Specifies the full path of the folder name on the execution server that is output the installation result information after executing Windows Update.	--	Input	R
Windows.updateProgramExcl usionList	Windows Update exclusion list	Specifies the program update number that excludes the application of a Windows Update. If specifying multiple numbers, use a comma to separate the numbers.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	R
Windows.rebootNecessity	Restart requirements	Stores the value indicating whether the update result requires a restart (Necessary: required, Unnecessary: not required).	--	Outpu t	R

5.12.4 Install the Windows updates(SYSTEM)

Function

In a Windows environment, update programs are automatically installed by the Windows Update feature.

The update programs that are subject to installation are those on the execution-target server that meet all of the following conditions:

- Update programs to be automatically installed by Microsoft

- Update programs that have not been installed yet

- Update program for installed software

Note that the following update programs are not subject to installation:

- Update programs whose numbers are included (as an exact match) in the exceptions list

- Update programs requiring user entry (such as service packs)

The exceptions list is a comma-separated list of programs numbers (such as KB9999999) specified by the property Windows.updateProgramExclusionList. Update programs whose numbers are included in this list are excluded from the installation target. You can specify a maximum of 1,024 bytes (including commas) for the list.

Each time Windows Update is executed, a text file (whose contents are described below) is output to a folder on the execution-target server. This folder is specified by the property Windows.updateResultOutputFolder. The format of the file name is YYYYMMDDhhmm.txt. (For example: 201312312345.txt)

- The output text file contains the following items:

(a) Host name

(b) Exceptions list

(c) List of the titles of update programs returned as search results

In the search results, each update program is output on a separate line. For each update program, "adding" (for programs that are subject to installation) or "skipping" (for programs that are not subject to installation) is also specified.

For each update program for which "skipping" is specified, a reason (whether installation was skipped because user entry was needed or because the program was included in the exceptions list) is also specified.

(d) ResultCode for the overall update program installation

The ResultCode values and their meanings are as follows:

0: Installation was not executed, 1: Installation is in progress, 2: Installation ended normally, 3: Part of the processing failed, 4: Installation failed, 5: Installation was canceled

(e) List of the titles of update programs that were installed

The ResultCode value for the update is output for each program.

(f) Whether restart is required

If "Necessary" is output, restart is necessary. If "Unnecessary" is output, restart is unnecessary.

(g) Termination code for the script itself

The termination codes and their meanings are as follows:

0: Normal, 27: Abnormal (error details can be checked in the task log), 41: Abnormal (a plug-in error was detected) or necessary properties were missing (an error was detected in the plug-in script)

(h) Titles of update programs in the search results that were excluded or that were not installed due to an installation error

Use situation

This plug-in can be used to apply Windows update programs when they are issued.

Prerequisites

See Release Notes for the latest support statuses of prerequisite products in the system, prerequisite products on the execution target server, and OSs of prerequisite products on the execution target server.

Prerequisite products for the system:

JP1/Automatic Operation 11-00 or later

Prerequisite products for the execution-target server:

None.

Supported OSs for the prerequisite products for the execution-target server:

- Windows Server 2008 R2 Standard/Enterprise/Datacenter

- Windows Server 2012 Standard/Datacenter or Windows Server 2012 R2 Standard/Datacenter

- Windows Server 2016 Standard/Datacenter

- Windows Server 2019 Standard/Datacenter

Note: Environments where Server Core is installed are excluded.

Conditions for using the execution-target server:

(1) The execution-target server must be running.

(2) The execution-target server must be able to access the website that allows Windows Update to be executed without using a proxy server.

(3) The execution-target server must be able to access the website that allows Windows Update to be executed from Internet Explorer (browser).

(4) The following service must be running:

- Windows Update

Cautions

(1) If an update program that performs automatic restart is installed, Windows automatically restarts the execution-target server.

(2) Do not simultaneously execute multiple instances of this plug-in on the same execution-target server.

Execution privilege

Users who belong to the Administrator group

Version

03.10.00

Plug-in tags

Configure OS,Windows

Plug-in name displayed in the task log

osWindowsUpdate_System

Return code

0: Normal

27: Error (Check with the task log about the error detail) Unidentified error

41: Error (An error has been detected in the component) Property not entered (An error has been detected in the component script)

Property list

The following table lists the properties:

Property key	Property name	Description	Default value	I/O type	Requ ired
plugin.destinationHost	Host name of the target server	Specify the host name or IP address of the server on which this plugin will be executed. IPv6 addresses are not supported.	--	Input	R
Windows.updateResultOutput Folder	Folder name for file output of the result information	Specifies the full path of the folder name on the execution server that is output the installation result information after executing Windows Update.	--	Input	R
Windows.updateProgramExcl usionList	Windows Update exclusion list	Specifies the program update number that excludes the application of a Windows Update. If specifying multiple numbers, use a comma to separate the numbers.	--	Input	O

Property key	Property name	Description	Default value	I/O type	Requ ired
common.returnValue	Return value for the plugin	The return value of this plugin stored.	--	Outpu t	R
Windows.rebootNecessity	Restart requirements	Stores the value indicating whether the update result requires a restart (Necessary: required, Unnecessary: not required).	--	Outpu t	R

Appendix

A. Reference Information

These appendixes provide reference information for users of JP1/AO.

A.1 Functional differences between basic plug-ins by version

(1) Basic plug-ins available in each version

The table below lists the basic plug-ins that can be used with JP1/AO version 12-60. Plug-ins cannot be used with an earlier version of JP1/AO than the first version to feature the plug-in.

Table A–1: Basic plug-in versions usable with JP1/AO version 12-60

Plug-in	Version
General command plug-in	01.00.00 01.02.00 01.10.00 01.12.00 01.50.00 01.52.00 01.52.01 02.00.00 02.01.00
File-transfer plug-in	01.00.00 01.02.00 01.11.00 01.12.00 01.50.00 01.52.00 01.52.01
Repeated execution plug-in	01.00.00 01.00.01
Email notification plug-in	
User-response wait plug-in	
Standard output plug-in	
Terminal connect plug-in	01.02.00 01.50.00 01.52.00 01.52.01 02.00.00
Terminal command plug-in	01.02.00 01.02.01 02.00.00
Terminal disconnect plug-in	
Flow plug-in	01.10.00 01.10.01 01.11.00
Interval plug-in	01.10.00

Plug-in	Version
Branch by returncode plug-in	01.10.01
Test value plug-in	
Abnormal-end plug-in	
Branch by property value plug-in	
JavaScript plug-in	01.00.00 01.00.01 01.00.02
File Export plug-in	01.00.00
Web Client plug-in	01.00.00 01.01.00
Python plug-in	01.00.01

(a) Difference in functionality of general command plug-in between versions

Functional differences between versions 01.00.00 and 01.02.00

- Devices running Solaris and HP-UX can now be specified as operation target devices.
- The configuration of the following property keys has changed.

Table A–2: Functional differences between property keys

Property key	Functionality in 01.00.00	Functionality in 01.02.00

`stdoutProperty1`	Description
	    Specifies the property key of the service property in which to store the value extracted by the `stdoutPattern1` property. The character string assigned to the service property can be a maximum of 1,024 characters long. The 1,025th and subsequent characters are discarded.
	Input/Output type
	    in
	Mandatory/optional
	    false
		Description
		    The character string extracted by Standard Output Pattern 1 is output to this property.
		Input/Output type
		    out
		Mandatory/optional
		    Not specified.

`stdoutProperty2`	Description
	    Specifies the property key of the service property in which to store the value extracted by the `stdoutPattern2` property. The character string assigned to the service property can be a maximum of 1,024 characters long. The 1,025th and subsequent characters are discarded.
	Input/Output type
	    in
	Mandatory/optional
	    false
		Description
		    The character string extracted by Standard Output Pattern 2 is output to this property.
		Input/Output type
		    out
		Mandatory/optional
		    Not specified.

`stdoutProperty3`	Description
	    Specifies the property key of the service property in which to store the value extracted by the `stdoutPattern3` property. The character string assigned to the service property can be a maximum
		Description
		    The character string extracted by Standard Output Pattern 3 is output to this property.

Property key	Functionality in 01.00.00	Functionality in 01.02.00

stdoutProperty3	of 1,024 characters long. The 1,025th and subsequent characters are discarded.
	
	Input/Output type
	   in
	
	Mandatory/optional
	   false
		Input/Output type
		   out
		
		Mandatory/optional
		   Not specified.

commandLine	When the operation target device is running a version of UNIX other than Linux, specify ASCII characters in the commandLine property.	If the operation target device is running UNIX, you can specify ASCII characters in the commandLine property. Certain conditions must be met to use non-ASCII characters. For details about these conditions, see A.4 Prerequisites for executing command lines containing non-ASCII characters in UNIX.
commandLineParameter	When the operation target device is running a version of UNIX other than Linux, specify ASCII characters in the commandLineParameter property.	If the operation target device is running UNIX, you can specify ASCII characters in the commandLineParameter property. Certain conditions must be met to use non-ASCII characters. For details about these conditions, see A.4 Prerequisites for executing command lines containing non-ASCII characters in UNIX.

Functional differences between versions 01.02.00 and 01.10.00

- Devices running AIX can now be specified as operation target devices.

Functional differences between versions 01.10.00 and 01.12.00

- The elevatePrivileges property was added, allowing the operator to specify whether to elevate user privileges to root for operation target devices running UNIX.

Functional differences between versions 01.12.00 and 01.50.00

- The publicKeyAuthentication property was added, allowing you to specify whether to use public key authentication when connecting to operation target devices via SSH.

Functional differences between versions 01.50.00 and 01.52.00

- The keyboardInteractiveAuthentication property was added, allowing you to specify whether to use keyboard interactive authentication when connecting to operation target devices via SSH.

Functional differences between versions 01.52.00 and 01.52.01

- The category information added to the plug-ins was replaced with tag information.

Functional differences between versions 01.52.01 and 02.00.00

- The runAsSystem property was added, allowing you to specify whether to execute commands using the permissions of the System account when the OS of the operation target device is Windows.

Functional differences between versions 02.00.00 and 02.01.00

- The outputCondition property was added, allowing you to specify whether values are to be output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties when the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties.

(b) Difference in functionality of File-transfer plug-in between versions

Functional differences between versions 01.00.00 and 01.02.00

- The configuration of the following property keys has changed.

Table A–3: Functional differences between property keys

Property key	Functionality in 01.00.00	Functionality in 01.02.00
`remoteFileP ath`	If the operation target device is running Linux, you can only specify ASCII characters in the names of the files and folders to be forwarded.	If the operation target device is running Linux, the character set of the files and folders to be forwarded must match the character set being used by the connecting user. Certain conditions must be met to use non-ASCII characters in the `remoteFilePath` property. For details about these conditions, see A.4 Prerequisites for executing command lines containing non-ASCII characters in UNIX.

Functional differences between versions 01.02.00 and 01.11.00

- Devices running AIX, HP-UX, and Solaris can now be specified as operation target devices.

Functional differences between versions 01.11.00 and 01.12.00

- The elevatePrivileges property was added, allowing the operator to specify whether to elevate user privileges to root for operation target devices running UNIX.

Functional differences between versions 01.12.00 and 01.50.00

- The publicKeyAuthentication property was added, allowing you to specify whether to use public key authentication when connecting to operation target devices via SSH.

Functional differences between versions 01.50.00 and 01.52.00

- The keyboardInteractiveAuthentication property was added, allowing you to specify whether to use keyboard interactive authentication when connecting to operation target devices via SSH.

Functional differences between versions 01.52.00 and 01.52.01

- The category information added to the plug-ins was replaced with tag information.

(c) Difference in functionality of repeated-execution plug-in between versions

Functional differences between versions 01.00.00 and 01.00.01

- The category information added to the plug-ins was replaced with tag information.

(d) Difference in functionality of email notification plug-in between versions

Functional differences between versions 01.00.00 and 01.00.01

- The category information added to the plug-ins was replaced with tag information.

(e) Difference in functionality of user-response wait plug-in between versions

Functional differences between versions 01.00.00 and 01.00.01

- The category information added to the plug-ins was replaced with tag information.

(f) Difference in functionality of standard output plug-in between versions

Functional differences between versions 01.00.00 and 01.00.01

- The category information added to the plug-ins was replaced with tag information.

(g) Difference in functionality of terminal connect plug-in between versions

Functional differences between versions 01.02.00 and 01.50.00

- The publicKeyAuthentication property was added, allowing you to specify whether to use public key authentication when connecting to operation target devices via SSH.

Functional differences between versions 01.50.00 and 01.52.00

- The keyboardInteractiveAuthentication property was added, allowing you to specify whether to use keyboard interactive authentication when connecting to operation target devices via SSH.

Functional differences between versions 01.52.00 and 01.52.01

- The category information added to the plug-ins was replaced with tag information.

Functional differences between versions 01.52.01 and 02.00.00

- The outputCondition property was added, allowing you to specify whether values are to be output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties when the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties.

(h) Difference in functionality of terminal command plug-in between versions

Functional differences between versions 01.02.00 and 01.02.01

- The category information added to the plug-ins was replaced with tag information.

Functional differences between versions 01.02.01 and 02.00.00

- The outputCondition property was added, allowing you to specify whether values are to be output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties when the standard output and standard error output do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties.

(i) Difference in functionality of terminal disconnect plug-in between versions

Functional differences between versions 01.02.00 and 01.02.01

- The category information added to the plug-ins was replaced with tag information.

(j) Difference in functionality of flow plug-in between versions

Functional differences between versions 01.10.00 and 01.10.01

- The category information added to the plug-ins was replaced with tag information.

Functional differences between versions01.10.01 and 01.11.00

- Execution conditions can now be set for subsequent steps.
- The properties errorStep and returnValueOfErrorStep can now be added, and the step IDs and return values of the failed steps (one level lower) can now be output.

(k) Difference in functionality of interval plug-in between versions

Functional differences between versions 01.10.00 and 01.10.01

- The category information added to the plug-ins was replaced with tag information.

(l) Difference in functionality of branch by returncode plug-in between versions

Functional differences between versions 01.10.00 and 01.10.01

- The category information added to the plug-ins was replaced with tag information.

(m) Difference in functionality of test value plug-in between versions

Functional differences between versions 01.10.00 and 01.10.01

- The category information added to the plug-ins was replaced with tag information.

(n) Difference in functionality of abnormal-end plug-in between versions

Functional differences between versions 01.10.00 and 01.10.01

- The category information added to the plug-ins was replaced with tag information.

(o) Difference in functionality of branch by property value plug-in between versions

Functional differences between versions 01.10.00 and 01.10.01

- The category information added to the plug-ins was replaced with tag information.

(p) Difference in functionality of JavaScript plug-in

Functional differences between versions 01.00.00 and 01.00.01

- The category information added to the plug-ins was replaced with tag information.

Functional differences between versions 01.00.01 and 01.00.02

- The importedScript property was added, and the methods and constants (strings of JavaScript code) that are shared with other JavaScript plug-ins used in the same service template can now be specified.

(q) Functional differences between different versions of the Web client plug-in

Functional differences between versions 01.00.00 and 01.01.00

- Properties for referencing the values of the Web service connection settings.

(2) Handling of locales and character sets in each version

This subsection describes the values assigned to the locale environment variable when each version of a plug-in communicates with operation target devices, and whether the plug-in can automatically detect the character set. This automatic detection allows you to use non-ASCII characters in command lines, standard output, standard error output, and the file names of forwarded files.

Note that because the following plug-ins do not connect to connection destinations, they do not set a locale or automatically detect the character set.

- Repeated execution plug-in

- Email notification plug-in

- User-response wait plug-in

- Standard output plug-in

- Flow plug-in

- Interval plug-in

- Branch by ReturnCode plug-in

- Test value plug-in

- Abnormal-end plug-in

- Branch by Property Value plug-in

- JavaScript plug-in

- File Export plug-in

- Web Client plug-in

- Python plug-in

Table A–4: Contents of locale environment variable assigned when communicating with operation target devices

Plug-in name	Plug-in version	
	01.00.00	01.02.00 or later
General command plug-in	LC_ALL=C	The default locale of the connecting user is assigned to LC_ALL and LANG.
File-transfer plug-in	LC_ALL=C	The default locale of the connecting user is assigned to LC_ALL and LANG.
Terminal connect plug-in	--	None
Terminal command plug-in	--	None
Terminal disconnect plug-in	--	None

Legend:

None: No value is assigned. --: No applicable version.

Table A–5: Automatic character set detection by version

Plug-in	Plug-in version	
	01.00.00	01.02.00 or later
General command plug-in	N	Y
File-transfer plug-in	N	Y
Terminal connect plug-in	--	S
Terminal command plug-in	--	S
Terminal disconnect plug-in	--	S

Legend:

Y: Detected automatically when the protocol is SSH. S: Not detected automatically so must be specified in the Character Set property. N: Not detected automatically. --: Not applicable version.

Related topics

- *Locale set for operation target devices during plug-in execution* in the *JP1/Automatic Operation/Automatic Operation Service Template Development Guide*

- *Character set used for communication by JP1/AO during plug-in execution* in the *JP1/Automatic Operation Service Template Development Guide*

(3) Operation target devices usable as connection destinations

This subsection shows the operation target devices that can be used as connection destinations. For details about the specific operating system version that must be running on an agentless connection destination and the commands required to execute plug-ins, see the release notes.

Note that the following plug-ins do not connect to connection destinations:

- Repeated execution plug-in

- Email notification plug-in

- User-response plug-in

- Standard output plug-in

- Flow plug-in

- Interval plug-in

- Branch by ReturnCode plug-in

- Test value plug-in

- Abnormal-end plug-in

- Branch by Property Value plug-in

- JavaScript plug-in

- File Export plug-in

- Web Client plug-in

- Python plug-in

Table A–6: Operation target devices usable as connection destinations

Plug-in	Operation target device					
	Windows	Linux	Solaris	HP-UX	AIX	Device compatible with SSH or Telnet
General command plug-in	01.00.00	01.00.00	01.02.00	01.02.00	01.10.00	N
File-transfer plug-in	01.00.00	01.00.00	01.11.00	01.11.00	01.11.00	N
Terminal connect plug-in	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00
Terminal command plug-in	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00
Terminal disconnect plug-in	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00[#]	01.02.00

Legend:

01.00.00: Can be used with plug-in version 01.00.00 or later.

01.02.00: Can be used with plug-in version 01.02.00 or later.

01.10.00: Can be used with plug-in version 01.10.00 or later.

01.11.00: Can be used with plug-in version 01.11.00 or later.

N: Not supported.

\#

Can be used if configured as a server with SSH or Telnet support.

A.2 List of protocols used by each plug-in

Different plug-ins use different protocols for communication between JP1/AO and connection destinations.

The following table lists the protocols used by each plug-in.

Table A–7: Protocols used by each plug-in

Plug-in		Protocol		
		Windows	SSH[#]	Telnet
Content plug-ins		Y	Y	N
Basic plug-ins	General command plug-in	Y	Y	N
	File-transfer plug-in	Y	Y	N
	Terminal connect plug-in	N	Y	Y

Legend

Y: Can be used. N: Cannot be used.

\#

- You can select password authentication, public key authentication, or keyboard interactive authentication as the authentication method.

- JP1/AO supports version 2 of the SSH protocol.

A.3 List of statuses of virtual servers managed by Hyper-V

Before performing an operation on a virtual server in Hyper-V (Windows Server 2008 R2), JP1/AO checks the status of the virtual server. The status of the virtual server is output to the task log. This information is acquired for the following service templates:

- Add a virtual server (virtual disk)

- Start virtual servers

- Stop the virtual server

- Restart virtual servers

The Obtain the virtual server information list service template acquires the status of the virtual server and outputs it to a CSV file.

The following table lists the correspondence between the status of the server managed by Hyper-V (Windows Server 2008 R2) and the status recorded in the task log and by the Obtain the virtual server information list service template.

Table A–8: List of statuses of virtual servers managed by Hyper-V (Windows Server 2008 R2)

Virtual server status	Status in JP1/AO[#]	Description
0	Unknown	The status is unknown.
2	Enabled	The virtual server has started.
3	Disabled	The virtual server has stopped.
32768	Paused	The virtual server is paused.
32769	Suspended	The virtual server is suspended.
32770	Starting	The virtual server is starting.
32771	Snapshotting	A snapshot of the virtual server is being taken.
32773	Saving	The virtual server is being saved.
32774	Stopping	The virtual server is stopping.
32776	Pausing	The virtual server is being paused.
32777	Resuming	The virtual server is resuming.
Other	UnDefined	The status of the virtual server is not defined.

#

This information appears in the task log and in the output of the Obtain the virtual server information list service template.

A.4 Prerequisites for executing command lines containing non-ASCII characters in UNIX

When the operation target device is running UNIX, certain settings are needed if you intend to execute commands with non-ASCII characters specified in properties. The affected plug-ins and properties are as follows:

- General command plug-in
  - `commandLine` property
  - `commandLineParameter` property

- File-transfer plug-in
  - `remoteFilePath` property

- Terminal command plug-in
  - `commandLine` property

- Content plug-in[#]

#

When the operation target device is running UNIX, settings must be entered in the script when you execute a command that uses non-ASCII characters in a property. For a content plug-in, this applies to the command line and properties referenced from the command line.

The settings that need to be entered in the script depend on the plug-in you are executing and the operating system of the operation target device. The following table describes the required settings by plug-in and operating system. The output of the command will be invalid if these settings are not correct.

Table A–9: Settings required to execute command lines containing non-ASCII characters in UNIX

Plug-in	OS of operation target device	Login script setting	.bashrc setting
General command plug-in File-transfer plug-in# Content plug-in	AIX	Y	N
	HP-UX	Y	N
	Linux	Y	N
	Solaris	Y	Y
Terminal command plug-in	UNIX	Y	N

Legend:

Y: The setting is required. N: The setting is not required.

#

When a non-ASCII character is included in the value of the remoteFilePath property of the file-transfer plug-in.

Login script setting

Overview

Disable the `istrip` setting in the login script of the connection user.

Confirmation

You can check the status of the `istrip` setting in standard output by executing the `stty -a` command in the command line for each plug-in. If `-istrip` appears in standard output, the `istrip` setting is disabled. If `istrip` is not prefixed with `-` in standard output, the `istrip` setting is enabled. In this case, use the procedure below to disable it.

Procedure

Enter the `stty -istrip` command into the login script for the connection user.

> **Important**
>
> If you use the setting that elevates user permissions to root, the `istrip` setting will be overwritten in the login script of the root user. Make sure that the `istrip` setting is disabled in the login script of the root user.

.bashrc setting

Overview

In the .bashrc file of the connection user or the root user, set a valid locale other than C for the LC_ALL environment variable. Set a valid locale other than C even if there is no line in the file that assigns a value to the LC_ALL environment variable.

The confirmation method and setting procedure differ depending on whether you are using the setting that elevates the user to root. The confirmation and setting procedures for each scenario are shown below.

Confirmation

- When JP1/AO is configured to elevate the user to root

  In the .bashrc file of the root user, make sure that a value other than C is assigned to the LC_ALL environment variable.

- When JP1/AO is not configured to elevate the user to root

  In the .bashrc file of the connection user, make sure that a value other than C is assigned to the LC_ALL environment variable.

Procedure

- When JP1/AO is configured to elevate the user to root

  In the .bashrc file of the root user, set a locale other than C that is valid in the user's environment as the value of the LC_ALL environment variable.

- When JP1/AO is not configured to elevate the user to root

  In the .bashrc file of the connection user, set a locale other than C that is valid in the user's environment as the value of the LC_ALL environment variable.

A.5 List of plug-ins contained in service templates

The service templates of JP1/AO listed in the following table are designed to provide plug-ins. This appendix describes the plug-ins contained in these service templates.

Table A–10: List of service templates that provide plug-ins

Service template name	Type
Utility Components	JP1/AO standard-package service template
AWS Components	JP1/AO Content Pack service templates
HCS Components	
Hyper-V2008 Components	
Hyper-V2012 Components	
Hyper-V2016 Components	
OpenStack Components	
Oracle Components	
vSphere Components	

(1) List of plug-ins contained in Utility Components

The following table lists the plug-ins contained in Utility Components.

Table A–11: List of plug-ins contained in Utility Components

Display Name	Category
Moving an object in the Active Directory	Active Directory-related Plug-ins

Display Name	Category
Searching for an object in the Active Directory	Active Directory-related Plug-ins
Delete an object from the Active Directory instance	
Acquiring a group member list in the Active Directory	
Changing the group attribute in the Active Directory	
Add a group to the Active Directory instance	
Changing the OU attribute of the Active Directory	
Acquiring a UPN list in the Active Directory	
Adding an OU to the Active Directory	
Unlocking user account in the Active Directory	
Changing the user password in the Active Directory	
Modify user attributes on the Active Directory instance	
Add a user to the Active Directory instance	
Delete a member from an existing Active Directory group	
Add a member to an existing Active Directory group	
Changing the attribute of the contact in the Active Directory	
Adding a contact in the Active Directory	
JP1 silent install (UNIX)	JP1-related Plug-ins
JP1 silent install (Windows)	
JP1 apply patch (UNIX)	
JP1 apply patch (Windows)	
Register for JP1/AJS jobnet fixed execution	JP1/AJS-related Plug-ins
Forced termination of JP1/AJS jobnet	
Register for JP1/AJS jobnet planned execution	
Re-execute JP1/AJS jobnet	
Change JP1/AJS jobnet execution schedule	
Stop JP1/AJS jobnet execution	
Register JP1/AJS jobnet for execution	
JP1/AJS jobnet scheduled execution results output	
Suspend JP1/AJS jobnet	
Change hold attribute for JP1/AJS jobnet	
Change JP1/AJS job status	
Get JP1/AJS jobnet execution results	
Get JP1/AJS troubleshooting information	
Start JP1/AJS(UNIX)	
Obtain Status of JP1/AJS	

Display Name	Category
Stop JP1/AJS(UNIX)	JP1/AJS-related Plug-ins
Check JP1/AJS unit existence	
Start event service of JP1/Base(UNIX)	JP1/Base-related Plug-ins
Obtain event service Status of JP1/Base	
Stop event service of JP1/Base(UNIX)	
Get JP1/Base troubleshooting information	
Change password management information in JP1/Base	
Change password management information in JP1/Base(SYSTEM)	
Add JP1/Base user mapping	
Add JP1/Base user mapping(SYSTEM)	
Start JP1/Base(UNIX)	
Obtain Status of JP1/Base	
Stop JP1/Base(UNIX)	
Delete JP1/Base user mapping	
Delete JP1/Base user mapping(SYSTEM)	
JP1/Base common definition information setting	
Set JP1/Base permissions	
Set JP1/Base permissions(SYSTEM)	
Registration of a JP1 event	
Change JP1 user password	
Change JP1 user password(SYSTEM)	
Get list of JP1 users	
Delete JP1 user	
Delete JP1 user(SYSTEM)	
Delete JP1 user permissions	
Delete JP1 user permissions(SYSTEM)	
Add JP1 user	
Add JP1 user(SYSTEM)	
Delete OS user information	
Delete OS user information(SYSTEM)	
Check mapping information	
Collect JP1/IM troubleshooting information	JP1/IM-related Plug-ins
Changing the JP1 event action status	
Get JP1 event	
Output of the NNMi topology database content	JP1/NNMi-related Plug-ins

Display Name	Category
Delete monitored node	JP1/NNMi-related Plug-ins
Add monitored node	
Set Store database storage conditions	JP1/PFM-related Plug-ins
Copy alarm table (JP1/PFM)	
Delete alarm table (JP1/PFM)	
Acquire alarm table information (JP1/PFM)	
Get list of alarm table names (JP1/PFM - RM)	
Unbind alarm (JP1/PFM - RM)	
Bind alarm (JP1/PFM - RM)	
Import alarm definition file (JP1/PFM)	
Export alarm definition file (JP1/PFM)	
Set agent hierarchy	
Synchronize service information	
Get list of process monitoring settings	
Add process monitoring settings	
Get report	
Add monitoring setting (JP1/PFM - RM)	
Delete monitoring target (JP1/PFM - RM)	
Add monitoring target (JP1/PFM - RM)	
Display monitoring targets (JP1/PFM - RM)	
Update JP1/IM-SS Instance	JP1/SS-related Plug-ins
Register JP1/IM-SS Instance	
Execute instant recovery (JP1/VERITAS)	JP1/VERITAS-related Plug-ins
End instant recovery (JP1/VERITAS)	
Initialize Backup Policy (VMware)	
Change Backup Policy Attributes (VMware)	
Create Backup Policy	
Add Schedule to Backup Policy	
Change Backup Policy Schedule Attributes	
Add Clients to Backup Policy	
Add File List to Backup Policy	
Perform backup (JP1/VERITAS)	
Virtual-machine restoration	
Rename-file creation	
Update cell data in a CSV/Excel file	OS-related Plug-ins

Display Name	Category
Acquisition of cell data from a CSV/Excel file	OS-related Plug-ins
Division of data from a CSV/Excel file	
Acquisition of row data from a CSV/Excel file	
Acquisition of row data from a CSV/Excel file(SYSTEM)	
Acquisition of column data from a CSV/Excel file	
Acquisition of column data from a CSV/Excel file(SYSTEM)	
Send ICMP echo request message	
Set IP address	
Operate OS Service	
Change password for OS user	
Change password for OS user(SYSTEM)	
Get list of OS users	
Delete OS user	
Delete OS user(SYSTEM)	
Output OS type	
Shutdown Server	
Restart Server	
Extract character string in a text file	
Copy file	
Obtaining the file size	
Compressing a file	
Decompressing a file	
Obtaining the latest update time stamp of a file	
Converting the character encoding of a file	
Acquiring access authority of a file or folder	
Confirm file or folder existence	
Moving a file	
Obtaining a file list	
Delete file	
Delete file(SYSTEM)	
Create folder	
Delete folder	
Acquiring process information	
Get host name	
Execution Wait	

Display Name	Category
Calculating dates and times	OS-related Plug-ins
Obtain date and time	
Comparing dates and times	
Sorting character strings	
Filter Text	
Search Text	
Replace character string	
Adding a character string	
Notifications by TELstaff	TELstaff-related Plug-ins
Add OS user (UNIX)	UNIX-related Plug-ins
Change file or directory access permissions	
Get CSV data	Windows-related Plug-ins
Send ICMP echo request message (confirm no response)	
Changing the account for the OS service	
Startup setting for the OS service	
Set group of OS user (Windows)	
Set group of OS user (Windows)(SYSTEM)	
Add OS user (Windows)	
Add OS user (Windows)(SYSTEM)	
Execute SQL Query	
Configure Windows firewall	
Get event list from Event log	
Create event for Event log	
Printing a file (in Windows)	
Change file or folder access permissions	
Time determination	

(2) List of plug-ins contained in AWS Components

The following table lists the plug-ins contained in AWS Components.

Table A–12: List of plug-ins contained in AWS Components

Display Name	Category
AMI creation	AWS-related Plug-ins
Stack creation	
Stack deletion	
Stack information list	

Display Name	Category
Creating a snapshot	AWS-related Plug-ins
Deleting a snapshot	
Acquiring a list of information about snapshots	
Uploading a file	
Downloading a file	
Deleting a file	
Virtual server resources configuration	
Shut down a virtual server	
Start a virtual server	
Create a virtual server	
Delete a virtual server	
Virtual server information list	
Obtain status of virtual server	

(3) List of plug-ins contained in HCS Components

The following table lists the plug-ins contained in HCS Components.

Table A–13: List of plug-ins contained in HCS Components

Display Name	Category
Create DP volume	HCS-related Plug-ins
Delete DP volume	
Check HDvM connectivity	
Check LU creation	
Get storage information list	
Delete LU from host group	
Register LU in host group	

(4) List of plug-ins contained in Hyper-V2008 Components

The following table lists the plug-ins contained in Hyper-V2008 Components.

Table A–14: List of plug-ins contained in Hyper-V2008 Components

Display Name	Category
Create a response file	Hyper-V2008-related Plug-ins
Obtain the IP address of a virtual server	
Shut down a virtual server	
Virtual server virtual switch settings	

Display Name	Category
Start a virtual server	Hyper-V2008-related Plug-ins
Create a virtual server	
Delete a virtual server	
Obtain a virtual server information list	
Obtain the virtual server status	
Add a disk to the virtual server	
Unmount a virtual disk	
Mount a virtual disk	

(5) List of plug-ins contained in Hyper-V2012 Components

The following table lists the plug-ins contained in Hyper-V2012 Components.

Table A–15: List of plug-ins contained in Hyper-V2012 Components

Display Name	Category
Create a response file	Hyper-V2012-related Plug-ins
Change CPU Settings of Virtual Server	
Obtain IP Address of Virtual Server	
Shut down a virtual server	
Change Memory Settings of Virtual Server	
Virtual server virtual switch settings	
Start a virtual server	
Create a virtual server	
Delete Virtual Servers	
Obtain the virtual server information list	
Obtain Status of Virtual Server	
Unmount a virtual disk	
Mount a virtual disk	
Create Virtual Disk	
Connect Virtual Disk	

(6) List of plug-ins contained in Hyper-V2016 Components

The following table lists the plug-ins contained in Hyper-V2016 Components.

Table A–16: List of plug-ins contained in Hyper-V2016 Components

Display Name	Category
Create a response file	Hyper-V2016-related Plug-ins

Display Name	Category
Change CPU Settings of Virtual Server	Hyper-V2016-related Plug-ins
Obtain IP Address of Virtual Server	
Shut down a virtual server	
Change Memory Settings of Virtual Server	
Virtual server virtual switch settings	
Start a virtual server	
Create a virtual server	
Delete Virtual Servers	
Obtain the virtual server information list	
Obtain Status of Virtual Server	
Unmount a virtual disk	
Mount a virtual disk	
Create Virtual Disk	
Connect Virtual Disk	

(7) List of plug-ins contained in OpenStack Components

The following table lists the plug-ins contained in OpenStack Components.

Table A–17: List of plug-ins contained in OpenStack Components

Display Name	Category
Backup Volume	OpenStack-related Plug-ins
Create Volume	
Delete Volume	
Disconnect volume	
Connect Volume	
Create Temporary Volume	
Obtain IP Address of Virtual Server	
Activate Virtual Server	
Create a virtual server	
Delete virtual server	
Get list of virtual server information	
Obtain Status of Virtual Server	

(8) List of plug-ins contained in Oracle Components

The following table lists the plug-ins contained in Oracle Components.

Table A–18: List of plug-ins contained in Oracle Components

Display Name	Category
Start an Oracle DB instance	Oracle-related Plug-ins
Stop an Oracle DB instance	
Delete an Oracle DB user	
Add an Oracle DB user (UNIX)	
Add an Oracle DB user (Windows)	

(9) List of plug-ins contained in vSphere Components

The following table lists the plug-ins contained in vSphere Components.

Table A–19: List of plug-ins contained in vSphere Components

Display Name	Category
DRS automation level setting for the DRS clusters	vSphere-related Plug-ins
Add a DRS rule (from virtual server to host)	
Set maintenance mode for the ESX server	
Move the ESX server	
Obtain list of virtual network information for the ESX server	
Set FC path priority	
Set virtual server options for the HA cluster	
Monitoring settings for the virtual server in the HA cluster	
Recognize LUN	
Get canonical name of SCSI LUN	
Script execution through the vCenter server	
File deletion through the vCenter server	
File transmission through the vCenter server	
Folder deletion through the vCenter server	
Folder transmission through the vCenter server	
Check VMware vCenter Server connectivity	
Create data store	
Check data store creation	
Delete data store	
Create a template	
Delete a template	
Change the network adapter settings	
Add a network adapter	
Set traffic shaping policy for the port group	

Display Name	Category
Set host DRS group	vSphere-related Plug-ins
Retrieving log bundles	
Set the virtual server DRS group	
Get virtual server IP address	
Set OS init. settings and IP addr. of virtual servers (Linux)	
Set OS init. settings and IP addr. of virtual servers (Windows)	
Creating a virtual server clone	
Deletion of a virtual server clone	
Shut down virtual server	
Moving a virtual server snapshot	
Creating a virtual server snapshot	
Deletion of a virtual server snapshot	
Migrate virtual server	
Resource configuration setting of the virtual server	
Pre-evaluation of resource changes in virtual server	
Set virtual server resources	
Pre-eval. of resource configuration changes in virtual server	
Start virtual server	
Create virtual server	
Delete virtual server	
Get power status of virtual server	
Add virtual disk to virtual server	
Check virtual server creation	
Get list of virtual server information	
Extend a virtual disk	
Delete virtual disk	
Change virtual machine port group	
Add a port group to the standard virtual switch	
Get the physical adapter information list	
Set the physical adapter	

A.6 Version changes

(1) Changes in version 12-60

- Notes were added or changed that are common to all service templates.

- Red Hat Enterprise Linux Server 8 was added as prerequisite OS for the following service templates and plug-ins:
  - Service templates for JP1 (configuration)
  - Service templates for JP1 (operation)
  - Service templates for JP1 (reporting)
  - Service templates for JP1 (troubleshooting)
  - Service templates for OS (generic processing)
  - Service templates for OS (operation)
  - JP1-related Plug-ins
  - JP1/AJS-related Plug-ins
  - JP1/Base-related Plug-ins
  - JP1/IM-related Plug-ins
  - JP1/NNMi-related Plug-ins
  - JP1/PFM-related Plug-ins
  - OS-related Plug-ins
  - UNIX-related Plug-ins
- JP1/VERITAS NetBackup 8.2, 8.3, 9.0, and 9.1 were added as prerequisite products for the following service templates and plug-ins:
  - Service templates for JP1 (configuration)
  - Service templates for JP1 (operation)
  - JP1/VERITAS-related Plug-ins
- Windows Server 2016 Standard/Datacenter and Windows Server 2019 Standard/Datacenter were added as prerequisite product OSs for the following service templates:
  - Service templates for JP1 (configuration)
  - Service templates for JP1 (operation)
  - JP1/VERITAS-related Plug-ins
- JP1/Network Node Manager i 12-10, 12-50, and 12-60 were added as prerequisite products for the following service templates and plug-ins:
  - Deletion of nodes monitored by JP1/Cm2
  - Adding of a node to be monitored by JP1/Cm2
  - Delete monitoring setting
  - Add monitoring setting
  - Obtain JP1/CM2 monitored node list
  - Output of the NNMi topology database content
  - Delete monitored node
  - Add monitored node
- Execution permissions for the following service templates were changed:
  - Create JP1/VERITAS Backup Policy
  - JP1/AJS root jobnet migration

- JP1/AJS root jobnet deletion
- CentOS 8 and Oracle Linux 8 were added as prerequisite OS for the following service templates and plug-ins:
  - Service templates for JP1 (operation)
  - Service templates for OS (generic processing)
  - Service templates for OS (operation)
  - OS-related Plug-ins
  - UNIX-related Plug-ins
- Red Hat Enterprise Linux Server 8 (64-bit x86_64) was added as a prerequisite product OS for the following service templates and plug-ins:
  - Execution of instant recovery of JP1/VERITAS
  - End of instant recovery of JP1/VERITAS
  - Perform JP1/VERITAS backup
  - Execute instant recovery (JP1/VERITAS)
  - End instant recovery (JP1/VERITAS)
  - Perform backup (JP1/VERITAS)
- The following prerequisite products and OSs were added for the "End of instant recovery of JP1/VERITAS" service template:
  - VMware vCenter Server 7.0
  - VMware vSphere ESXi 7.0
  - VMware PowerCLI 11.3.0, 12.0.0, 12.1.0
  - Windows Server 2016 Standard/Datacenter
  - Windows Server 2019 Standard/Datacenter
  - Red Hat Enterprise Linux Server 8 (64-bit x86_64)
- Windows Server 2012 R2 Standard/Datacenter was added as a prerequisite product OS for the following service templates and plug-ins:
  - Perform JP1/VERITAS backup
  - Perform backup (JP1/VERITAS)
- Execution permissions for the following service templates were added:
  - Batch change of operation users
  - Get Lists of Users from Multiple Servers
  - Windows update program installation
- Flow specification details were changed for the following service templates:
  - Get Lists of Users from Multiple Servers (repeated flow)
  - Get Lists of Users from Multiple Servers(SYSTEM)(repeated flow)
  - Stop the virtual server (repeated flow)
  - Modify Virtual Machine Configuration
- Red Hat Enterprise Linux Server 8 (64-bit x86_64) was added as a required OS of an instance for the following service templates and plug-ins:
  - Service templates for AWS (configuration)

- Service templates for AWS (operation)
- AWS-related Plug-ins
- Red Hat Enterprise Linux Server 8 (64-bit x86_64) and CentOS 8 (64-bit x86_64) were added as required OSs of an instance for the following service templates and plug-ins:
  - Service templates for vSphere (configuration)
  - Service templates for vSphere (operation)
  - vSphere-related Plug-ins
- VMware PowerCLI 12.1.0 was added as required products for the following service templates or plug-ins:
  - Service templates for vSphere (configuration)
  - Service templates for vSphere (operation)
  - vSphere-related Plug-ins
- Descriptions of the properties of the following plug-ins were added:
  - General command plug-in
  - Terminal connect plug-in
  - Terminal command plug-in
- Examples of how to specify escape characters in the command line were added to the descriptions of the following property keys:
  - commandLine
  - commandLineParameter
- Note was added for the terminal command plug-in.
- Notes were added for when specifying a command line for the property commandLine.
- Notes related to stopping the execution of a task during the execution of a plug-in were changed.
- Use situations were changed for the following OS-related Plug-ins:
  - Set JP1/Base permissions
  - Set JP1/Base permissions(SYSTEM)
  - Add OS user (UNIX)
- The following notes were added: notes related to when the user set in the authentication information for configuring agentless connection destinations is not a built-in Administrator.
  - Update JP1/IM-SS Instance
  - Register JP1/IM-SS Instance
  - Send ICMP echo request message
  - Get CSV data
  - Send ICMP echo request message (confirm no response)
  - Create DP volume
  - Check LU creation
- Notes on Windows environments were added.
  - Acquisition of row data from a CSV/Excel file
  - Acquisition of row data from a CSV/Excel file(SYSTEM)

- Acquisition of column data from a CSV/Excel file
- Acquisition of column data from a CSV/Excel file(SYSTEM)
- Execution permissions of the following plug-ins were added:
  - Acquisition of row data from a CSV/Excel file
  - Acquisition of column data from a CSV/Excel file
- An explanation of the property key common.targetString was added to the description about sorting character strings.
- Explanations of the property keys common.replaceTarget and common.replaceStr were added to the description about replacing character strings.
- An explanation of the property key common.addStr was added to the description about adding character strings.
- The requirement category of the property keys common.osUserPassword and common.osUserPasswordReEnter were changed for the usage conditions of execution target servers for the following plug-ins:
  - Add OS user (Windows)
  - Add OS user (Windows)(SYSTEM)
- Descriptions of the property keys Windows.accountComment and Windows.userComment were changed in the usage conditions of execution target servers for the following plug-ins:
  - Add OS user (Windows)
  - Add OS user (Windows)(SYSTEM)
- Execution permissions of the following plug-in were changed:
  - Install the Windows updates

(2) Changes in version 12-10

- The description of the versions of AIX (a prerequisite OS for the following service templates and plug-ins) was changed.
  - Service templates for JP1 (configuration)
  - Service templates for JP1 (operation)
  - Service templates for JP1 (troubleshooting)
  - Service templates for OS (generic processing)
  - Service templates for OS (operation)
  - JP1/AJS-related Plug-ins
  - JP1/Base-related Plug-ins
  - JP1/IM-related Plug-ins
  - JP1/PFM-related Plug-ins
  - JP1/VERITAS-related Plug-ins
- The description of the versions of JP1/Cm2/NNMi (a prerequisite product for the following service templates and plug-ins) was changed.
  - Deletion of nodes monitored by JP1/Cm2
  - Adding of a node to be monitored by JP1/Cm2
  - Delete monitoring setting
  - Add monitoring setting

- Obtain JP1/CM2 monitored node list
- JP1/NNMi-related Plug-ins

- Windows Server 2019 Standard/Datacenter was added as prerequisite OS for the following service templates and plug-ins.
  - Deletion of nodes monitored by JP1/Cm2
  - Adding of a node to be monitored by JP1/Cm2
  - Obtain JP1/CM2 monitored node list
  - JP1/NNMi-related Plug-ins

- A description was added explaining that, if the server uses a Windows OS, an administrator user must execute the following service templates or plug-ins.
  - Create JP1/VERITAS Backup Policy
  - JP1/AJS root jobnet migration
  - JP1/AJS root jobnet deletion
  - Get Lists of Users from Multiple Servers
  - Windows update program installation
  - Acquisition of row data from a CSV/Excel file
  - Acquisition of column data from a CSV/Excel file
  - Install the Windows updates

- The following JP1/AO standard-package service templates were added:
  - Create JP1/VERITAS Backup Policy(SYSTEM)
  - JP1/AJS root jobnet migration(SYSTEM)
  - JP1/AJS root jobnet migration(SYSTEM)(repeated flow)
  - JP1/AJS root jobnet deletion(SYSTEM)
  - JP1/AJS root jobnet deletion(SYSTEM)(repeated flow)
  - Batch change of operation users(SYSTEM)(repeated flow 1)
  - Batch change of operation users(SYSTEM)(repeated flow 2)
  - Get Lists of Users from Multiple Servers(SYSTEM)
  - Get Lists of Users from Multiple Servers(SYSTEM)(repeated flow)

- For the following service templates and plug-ins, operations on the local instance of JP1/AJS3 - Manager (on the JP1/AO server) can now be performed.
  - Register JP1/AJS jobnet for execution
  - JP1/AJS jobnet planned execution registration
  - JP1/AJS-related Plug-ins

- Microsoft Access Database Engine 2016 (32 bit) was added as a prerequisite product for the following service templates and plug-ins.
  - JP1/AJS root jobnet migration
  - JP1/AJS root jobnet deletion

- Batch change of operation users
- Batch change of operation users(SYSTEM)
- Windows update program installation
- Acquisition of row data from a CSV/Excel file
- Acquisition of column data from a CSV/Excel file

- The version of the following service templates were changed.
  - Batch change of operation users(SYSTEM)
  - Utility Components

- The following JP1/AO Content Pack service templates were added:
  - Windows update program installation(SYSTEM)
  - Windows update program installation(SYSTEM)(repeated flow)

- For the following plug-ins, the description of the versions of AIX (the OS running on the execution target server) was changed.
  - OS-related Plug-ins
  - UNIX-related Plug-ins

- A description about the maximum length of character strings in fields in CSV files in a Windows environment was added to the cautions about the following plug-ins.
  - Acquisition of row data from a CSV/Excel file
  - Acquisition of column data from a CSV/Excel file
  - Get CSV data

- The following content plug-ins were added to the JP1/AO standard package:
  - Acquisition of row data from a CSV/Excel file(SYSTEM)
  - Acquisition of column data from a CSV/Excel file(SYSTEM)

- A description of the prerequisite OS for virtual servers was added as a prerequisite product for the following plug-in.
  - Extend a virtual disk

- The following content plug-in was added for JP1/AO Content Pack:
  - Install the Windows updates(SYSTEM)

(3) Changes in version 12-01

- The version of the following service templates and plug-ins were changed.
  - Add JP1/Base monitoring settings
  - Add JP1/Base monitoring setting (repeated flow)
  - Replicating a JP1/PFM alarm definition
  - Utility Components
  - Modify Virtual Machine Configuration
  - Service templates for providing Plug-ins

- Copy file

- Replace character string

- Set virtual server resources

- Pre-evaluation of resource changes in virtual server

- The version of JP1/AO, which is a prerequisite product for the following service templates and plug-ins in the system, was changed.

  - Utility Components

  - Service templates for providing Plug-ins

  - Set virtual server resources

  - Pre-evaluation of resource changes in virtual server

- A note was added regarding setting a specific value for the property of the repeated execution plug-in when the service property parameters for the following plug-in are changed:

  - User-response wait plug-in

- A note was added explaining that hidden files cannot be copied to the following plug-in:

  - Copy file

- A note was added regarding cases where one or more space characters are specified in the properties common.replaceTarget and common.replaceStr in the following service template:

  - Replace character string

(4) Changes in version 12-00

- Because the flow plug-in was changed, the version of each service template that includes the flow plug-in was changed to 03.00.00.

- The version of JP1/AO, which is a prerequisite product for each service template in the system, was changed.

- JP1/VERITAS NetBackup 7.7, 8.0, and 8.1 were added as required products for the following service templates or plug-ins:

  - Create JP1/VERITAS Backup Policy

  - Execution of instant recovery of JP1/VERITAS

  - End of instant recovery of JP1/VERITAS

  - Perform JP1/VERITAS backup

  - Virtual-machine restoration with JP1/VERITAS

  - JP1/VERITAS-related Plug-ins

- VMware vSphere ESXi 6.7 and VMware PowerCLI 10.1.1 were added as required products for the following service templates or plug-ins:

  - End of instant recovery of JP1/VERITAS

  - Service templates for vSphere (configuration)

  - Service templates for vSphere (operation)

  - vSphere-related Plug-ins

- The return values "1" and "2" of the flow plug-in, and properties "errorStep" and "returnValueOfErrorStep" were added. Also, the version of the flow plug-in was changed to 01.11.00.

- The "importedScript" property was added to the JavaScript plug-in, and the version was changed to 01.00.02.

- The version of TLS supported in HTTPS by the Web client plug-in was added.

- The Python plug-in was added to the basic plug-ins.

(5) Changes in version 11-51

- An explanation was changed about the superuser password that must be set if the operation-target device uses a UNIX OS.

- The following JP1/AO standard-package service templates were added:

  - Batch change of operation users(SYSTEM)

  - Delete operational user(SYSTEM)

  - Add operational user(SYSTEM)

  - Change operational user(SYSTEM)

- Microsoft Access Database Engine 2010(32bit) was added to the following prerequisite products for service templates or plug-ins:

  - JP1/AJS root jobnet migration

  - JP1/AJS root jobnet deletion

  - Batch change of operation users

  - Batch change of operation users(SYSTEM)

  - Windows update program installation

  - Acquisition of row data from a CSV/Excel file

  - Acquisition of column data from a CSV/Excel file

- A description was added explaining that, if the server uses a Windows OS, an administrator user must execute the following service templates or plug-ins.

  - Batch change of operation users

  - Delete operational user

  - Add operational user

  - Change operational user

  - Change password management information in JP1/Base

  - Add JP1/Base user mapping

  - Delete JP1/Base user mapping

  - Set JP1/Base permissions

  - Change JP1 user password

  - Delete JP1 user

  - Delete JP1 user permissions

  - Add JP1 user

  - Delete OS user information

  - Change password for OS user

  - Delete OS user

  - Delete file

  - Set group of OS user (Windows)

- Add OS user (Windows)

- The version of the following service templates and plug-ins changed to 02.51.00 because content plug-ins were added or changed.

  - Utility Components

  - Update cell data in a CSV/Excel file

  - Acquisition of cell data from a CSV/Excel file

  - Division of data from a CSV/Excel file

- The number of characters that can be specified in the following property keys by using the Web client plug-in was changed.

  - webUsername

  - proxyHostname

  - proxyUsername

- The following content plug-ins were added to the JP1/AO standard package:

  - Change password management information in JP1/Base(SYSTEM)

  - Add JP1/Base user mapping(SYSTEM)

  - Delete JP1/Base user mapping(SYSTEM)

  - Set JP1/Base permissions(SYSTEM)

  - Change JP1 user password(SYSTEM)

  - Delete JP1 user(SYSTEM)

  - Delete JP1 user permissions(SYSTEM)

  - Add JP1 user(SYSTEM)

  - Delete OS user information(SYSTEM)

  - Change password for OS user(SYSTEM)

  - Delete OS user(SYSTEM)

  - Delete file(SYSTEM)

  - Set group of OS user (Windows)(SYSTEM)

  - Add OS user (Windows)(SYSTEM)

- Red Hat Enterprise Linux Server and CentOS were added to the list of OSs that support the following plug-ins. Accordingly, explanations for using the plug-ins in a UNIX environment were added.

  - Update cell data in a CSV/Excel file

  - Acquisition of cell data from a CSV/Excel file

  - Division of data from a CSV/Excel file

- The return code 11 was added to the plug-in for acquisition of cell data from a CSV/Excel file.

- The JP1/AO version that is a prerequisite product for the following plug-ins was changed to 11-10.

  - Acquisition of cell data from a CSV/Excel file

  - Division of data from a CSV/Excel file

- Notes were added for using the following plug-in in a Windows environment: Division of data from a CSV/Excel file.

(6) Changes in version 11-50

- The version of JP1/AO, which is a prerequisite product for each service template in the system, was changed.

- The versions of all of the service templates and plug-ins were changed to version 02.50.00 in line with the content plug-ins that were added or changed.

- The function descriptions and the prerequisites for when the following service templates are used in a Cent OS environment were added.

  - Batch change of operation users

  - Change operational user

- The conditions for prerequisite products and their supported OSs were added.

- The following storage systems were added as execution targets of the service templates listed below: Hitachi Virtual Storage Platform G1500/F1500, Hitachi Virtual Storage Platform G100/G200/G400/G600/G800, and Hitachi Virtual Storage Platform F400/F600/F800.

  - Delete Datastore on VMware vSphere

  - Create Datastore on VMware vSphere

  - Get List of Storage Systems from Device Manager

  - Pre-check for Datastore Creation on VMware vSphere

- "Notes common to basic plug-ins" was added.

- Notes on command execution were added.

- The description about the statuses of steps when a repeated execution plug-in is retried was changed.

- The cautionary notes about stopping a task while the following plug-ins are executing was added.

  - User-response wait plug-in

  - Interval plug-in

- The value 80 was added as a return value for the following plug-ins.

  - Terminal disconnect plug-in

  - Abnormal-end plug-in

- Descriptions about the return value 80 for interval plug-ins were added.

- Cautionary notes about when a task is stopped or forcibly terminated while the following plug-ins are executing were added.

  - JavaScript plug-in

  - File export plug-in

  - Web client plug-in

- Descriptions about using the following plug-ins in a UNIX environment were changed:

  - Change JP1 user password

  - Add JP1 user

  - Change password for OS user

- The following content plug-in was added to the JP1/AO standard package:

  - Update cell data in a CSV/Excel file

- A description about using the 64-bit version of Microsoft Excel for the following plug-ins was added:

  - Acquisition of cell data from a CSV/Excel file

- Division of data from a CSV/Excel file
- A description about specifying the row number of the key row for the "acquisition of row data from a CSV/Excel file" plug-in was added.
- The function descriptions of settings plug-ins for IP addresses were added.
- The following storage systems were added as execution targets of the plug-ins listed below: Hitachi Virtual Storage Platform G1500/F1500, Hitachi Virtual Storage Platform G100/G200/G400/G600/G800, and Hitachi Virtual Storage Platform F400/F600/F800.
    - Create DP volume
    - Delete DP volume
    - Check HDvM connectivity
    - Check LU creation
    - Get storage information list
    - Delete LU from host group
    - Register LU in host group
- Notes on the "script execution through the vCenter server" plug-in were added.
- "Functional differences between content plug-ins by version" was deleted, because the content plug-ins that can be used in multiple versions were discontinued.

(7) Changes in version 11-12

- Microsoft Hyper-V Server 2016 is now supported. As such, the following service template used for providing plug-ins was added:
    - Hyper-V2016 Components
- A note was added regarding the use of PowerCLI V6.3 or later on an execution target server.
- The following service templates used for providing plug-ins were upgraded because content plug-ins were added or changed:
    - Utility Components
    - vSphere Components
- For the following service template, you can now set the number of cores per CPU socket of a virtual server:
    - Modify Virtual Machine Configuration
- The following content plug-in was added to the JP1/AO standard package:
    - Acquisition of cell data from a CSV/Excel file
- HP-UX and Solaris were added OS types for which the following plug-in can be executed:
    - Output OS type

(8) Changes in version 11-11

- The reliability of the processing of the following service templates and plug-ins were improved:
    - Create JP1/VERITAS Backup Policy
    - Virtual-machine restoration with JP1/VERITAS
    - Add File List to Backup Policy
    - Rename-file creation

- Division of data from a CSV/Excel file
- Due to additions or changes made to content plug-ins, the versions of the following service templates for providing components were upgraded:
  - Utility Components
  - vSphere Components
- Prerequisite products were added for the following JP1/AO Content Pack service templates:
  - Create Datastore on VMware vSphere
  - Deploy and Setup OS on Virtual Machine
  - Add Virtual Disk to Virtual Machine
  - Delete Virtual Machine
  - Remove Virtual Disk from Virtual Machine
  - Delete Datastore on VMware vSphere
  - Modify Virtual Machine Configuration
  - Create Snapshot of Virtual Machine
  - Start Virtual Machine
  - Stop Virtual Machine
  - Restart Virtual Machine
  - Migrate Virtual Machine
  - Pre-check for Datastore Creation on VMware vSphere
  - Pre-check for OS Deployment on Virtual Machine
  - Get List of Virtual Machines from VMware vSphere
  - Clone Virtual Machine
  - Delete Cloned Virtual Machine
- Prerequisite products were added for the following JP1/AO Content Pack content plug-ins:
  - Check data store creation
  - Check virtual server creation
  - Check VMware vCenter Server connectivity
  - Get list of virtual server information
  - Creating a virtual server snapshot
  - Moving a virtual server snapshot
  - Deletion of a virtual server snapshot
  - Creating a virtual server clone
  - Deletion of a virtual server clone
  - Resource configuration setting of the virtual server
  - Pre-evaluation of resource changes in virtual server
  - Pre-eval. of resource configuration changes in virtual server
  - Set the physical adapter
  - Get the physical adapter information list

- Set virtual server options for the HA cluster

- Set host DRS group

- Move the ESX server

- Set maintenance mode for the ESX server

- Extend a virtual disk

- Add a network adapter

- Change the network adapter settings

- Add a port group to the standard virtual switch

- Set traffic shaping policy for the port group

- Create a template

- Delete a template

- Set the virtual server DRS group

- Add a DRS rule (from virtual server to host)

- Monitoring settings for the virtual server in the HA cluster

- DRS automation level setting for the DRS clusters

- File transmission through the vCenter server

- Folder transmission through the vCenter server

- Script execution through the vCenter server

- File deletion through the vCenter server

- Folder deletion through the vCenter server

- Obtain list of virtual network information for the ESX server

- The following content plug-in was added for JP1/AO Content Pack:

  - Retrieving log bundles

(9) Changes in version 11-10

- The value that is returned when a task is forcibly terminated while a plug-in is being executed was changed from -1 to 80. Accordingly, descriptions related to the return value for each plug-in were changed.

- The outputCondition property was added to the JP1/AO standard-package plug-ins listed below. This property allows you to specify whether values are to be output to the stdoutProperty1, stdoutProperty2, and stdoutProperty3 properties when the standard output and standard error output of a command or script do not match the stdoutPattern1, stdoutPattern2, and stdoutPattern3 properties:

  - General command plug-in

  - Terminal connect plug-in

  - Terminal command plug-in

- Nesting definitions for the repeated execution plug-in can now be defined for up to 3 layers. A description and notes on these definitions were added.

- The return value of 3, which is returned when the total number of flows under the repeated execution plug-ins within a service exceeds the upper limit, was added.

- HTML tags that can be specified for the dialogText property of the user-response wait plug-in were added. Accordingly, a description of these tags was added.

- The return value of 86, which is returned when the value specified as the mapping parameter in the Response Input dialog box violates the input rules for properties, was added.
- Properties for referencing the values of the Web service connection settings were added to the Web client plug-in.

(10) Changes in version 11-02

- The following JP1/AO standard-package plug-ins were added as plug-ins in the JP1/AJS category:
  - Start JP1/AJS(UNIX)
  - Stop JP1/AJS(UNIX)
  - Obtain Status of JP1/AJS
- The following JP1/AO standard-package plug-ins were added as plug-ins in the JP1/Base category:
  - Start JP1/Base(UNIX)
  - Stop JP1/Base(UNIX)
  - Obtain Status of JP1/Base
  - Start event service of JP1/Base(UNIX)
  - Stop event service of JP1/Base(UNIX)
  - Stop event service of JP1/Base(UNIX)
- The following JP1/AO Content Pack plug-ins were added as plug-ins in thevSphere category:
  - Obtain list of virtual network information for the ESX server
- The following plug-ins were added to Utility Components:
  - Start JP1/AJS(UNIX)
  - Stop JP1/AJS(UNIX)
  - Obtain Status of JP1/AJS
  - Start JP1/Base(UNIX)
  - Stop JP1/Base(UNIX)
  - Obtain Status of JP1/Base
  - Start event service of JP1/Base(UNIX)
  - Stop event service of JP1/Base(UNIX)
  - Obtain event service Status of JP1/Base
- The following plug-ins were added to vSphere Components:
  - Obtain list of virtual network information for the ESX server

(11) Changes in version 11-01

- The following JP1/AO standard-package plug-ins were added as plug-ins in the JP1 category:
  - JP1 silent install (Windows)
  - JP1 silent install (UNIX)
  - JP1 apply patch (Windows)
  - JP1 apply patch (UNIX)
- The following JP1/AO standard-package plug-ins were added as plug-ins in the TELstaff category:

- Notifications by TELstaff
- The following JP1/AO standard-package service templates were added:
  - Create JP1/VERITAS Backup Policy
  - Virtual-machine restoration with JP1/VERITAS
- The following JP1/AO standard-package plug-ins were added:
  - Create Backup Policy
  - Initialize Backup Policy (VMware)
  - Change Backup Policy Attributes (VMware)
  - Add Clients to Backup Policy
  - Add File List to Backup Policy
  - Add Schedule to Backup Policy
  - Change Backup Policy Schedule Attributes
  - Virtual-machine restoration
  - Rename-file creation
  - Create event for Event log
  - Get event list from Event log
- The following JP1/AO Content Pack plug-ins were added:
  - AMI creation
  - Virtual server resources configuration
  - Virtual server information list
  - Stack creation
  - Stack deletion
  - Stack information list
- The runAsSystem property was added to the general command plug-in, making it possible to execute commands on operation target devices using the permissions of the System account.
- The following plug-ins were added to AWS Components:
  - AMI creation
  - Virtual server resources configuration
  - Virtual server information list
  - Stack creation
  - Stack deletion
  - Stack information list
- The following plug-ins were added to Utility Components:
  - JP1 silent install (Windows)
  - JP1 silent install (UNIX)
  - JP1 apply patch (Windows)
  - JP1 apply patch (UNIX)
  - Create Backup Policy

- Initialize Backup Policy (VMware)
- Change Backup Policy Attributes (VMware)
- Add Clients to Backup Policy
- Add File List to Backup Policy
- Add Schedule to Backup Policy
- Change Backup Policy Schedule Attributes
- Virtual-machine restoration
- Rename-file creation
- Notifications by TELstaff
- Create event for Event log
- Get event list from Event log

(12) Changes in version 11-00

(a) Changes from the manual (3021-3-085-B0)

- The following operating systems are now supported:
  - Linux7
  - Oracle Linux 6 (x64)
  - Oracle Linux 7
  - CentOS 6 (x64)
  - CentOS 7
  - SUSE Linux 12
- The following operating systems are no longer supported:
  - Linux 5 (AMD/Intel 64)
  - Linux 5 Advanced Platform (AMD/Intel 64)
- The installation folder was changed for the Windows version of JP1/AO and the Common Component.
- A description of using JP1/AO in English and Chinese-language environments was added.
- The structure and contents of the manual were changed to reflect the redesign of the JP1/AO interface.
- *Tag management* was added as a way to classify service templates, services, and plug-ins. Accordingly, *category management* was removed as a classification method.
- *Service groups* were added as a way to manage resources. Accordingly, *resource groups* were removed.
- The types of service templates and plug-ins were changed.
- The following basic plug-ins were added:
  - JavaScript Plug-in
  - File Export Plug-in
  - Web Client Plug-in
- The following JP1/AO standard-package service templates were added as service templates in the OS_Operations/Configuration category:
  - Registering Chef Client

- Registering the Puppet Enterprise Agent instance
- The following plug-ins were added to Utility Components:
  - Acquiring process information
  - Extract character string in a text file
  - Acquiring access authority of a file or folder
  - Changing the account for the OS service
  - Startup setting for the OS service
  - Adding an OU to the Active Directory
  - Changing the OU attribute of the Active Directory
  - Adding a contact in the Active Directory
  - Changing the attribute of the contact in the Active Directory
  - Changing the group attribute in the Active Directory
  - Changing the user password in the Active Directory
  - Searching for an object in the Active Directory
  - Moving an object in the Active Directory
  - Acquiring a group member list in the Active Directory
  - Acquiring a UPN list in the Active Directory
- The following plug-ins were added to AWS Components:
  - Creating a snapshot
  - Deleting a snapshot
  - Acquiring a list of information about snapshots
  - Uploading a file
  - Downloading a file
  - Deleting a file
- The name of a basic plug-in was changed from File-Forwarding Plug-in to File-Transfer Plug-in.
- The name of a basic plug-in was changed from Judge ReturnCode Plug-in to Branch by ReturnCode Plug-in.
- The name of a basic plug-in was changed from Judge Value Plug-in to Branch by Property Value Plug-in.

(b) Changes from the manual (3021-3-316-20(E))

- AIX was added as an operating system supported by some service templates and plug-ins.
- It is now indicated that if the operation target device is running UNIX, files are transferred from the device to the JP1/AO server in binary mode.
- The following JP1/AO standard-package service templates were added:
  - Execution of instant recovery of JP1/VERITAS
  - End of instant recovery of JP1/VERITAS
  - Perform JP1/VERITAS backup
  - Utility Components
  - Registering Chef Client

- Registering the Puppet Enterprise Agent instance
- The following JP1/AO Content Pack service templates were added:
  - Delete a virtual server
  - Delete a virtual server (virtual disk)
  - Obtain a virtual server information list
  - Script execution through the vCenter server
  - Add a virtual server (deploy)
  - Start virtual servers
  - Stop virtual servers
  - AWS Components
  - HCS Components
  - Hyper-V2008 Components
  - Hyper-V2012 Components
  - OpenStack Components
  - Oracle Components
  - vSphere Components
- The following JP1/AO standard-package plug-ins were added:
  - Obtain date and time
  - Confirm file or folder existence
  - Change file or directory access permissions
  - Time determination
  - Change file or folder access permissions
  - Send ICMP echo request message
  - Execution Wait
  - Obtaining a file list
  - Moving a file
  - Obtaining the latest update time stamp of a file
  - Obtaining the file size
  - Sorting character strings
  - Converting the character encoding of a file
  - Decompressing a file
  - Compressing a file
  - Comparing dates and times
  - Adding a character string
  - Send ICMP echo request message (confirm no response)
  - Printing a file (in Windows)
  - Execute instant recovery (JP1/VERITAS)
  - End instant recovery (JP1/VERITAS)

A. Reference Information

- Set IP address
- Check JP1/AJS unit existence
- Suspend JP1/AJS jobnet
- Forced termination of JP1/AJS jobnet
- Re-execute JP1/AJS jobnet
- Change JP1/AJS job status
- Change hold attribute for JP1/AJS jobnet
- Stop JP1/AJS jobnet execution
- Change JP1/AJS jobnet execution schedule
- Perform backup (JP1/VERITAS)
- Add a group to the Active Directory instance
- Delete an object from the Active Directory instance
- Add a user to the Active Directory instance
- Modify user attributes on the Active Directory instance
- Add a member to an existing Active Directory group
- Delete a member from an existing Active Directory group
- Adding an OU to the Active Directory
- Changing the OU attribute of the Active Directory
- Adding a contact in the Active Directory
- Changing the attribute of the contact in the Active Directory
- Changing the group attribute in the Active Directory
- Changing the user password in the Active Directory
- Searching for an object in the Active Directory
- Moving an object in the Active Directory
- Acquiring a group member list in the Active Directory
- Acquiring a UPN list in the Active Directory

- The following JP1/AO Content Pack plug-ins were added:
  - Set the physical adapter
  - Get the physical adapter information list
  - Set virtual server options for the HA cluster
  - Set host DRS group
  - Move the ESX server
  - Set maintenance mode for the ESX server
  - Extend a virtual disk
  - Add a network adapter
  - Change the network adapter settings
  - Add a port group to the standard virtual switch
  - Set traffic shaping policy for the port group

- Create a template
- Delete a template
- Set the virtual server DRS group
- Add a DRS rule (from virtual server to host)
- Monitoring settings for the virtual server in the HA cluster
- DRS automation level setting for the DRS clusters
- File transmission through the vCenter server
- Folder transmission through the vCenter server
- Script execution through the vCenter server
- File deletion through the vCenter server
- Folder deletion through the vCenter server
- Create a virtual server
- Delete a virtual server
- Start a virtual server
- Shut down a virtual server
- Obtain status of virtual server
- Creating a snapshot
- Deleting a snapshot
- Acquiring a list of information about snapshots
- Uploading a file
- Downloading a file
- Deleting a file
- Start an Oracle DB instance
- Stop an Oracle DB instance
- Add an Oracle DB user (Windows)
- Add an Oracle DB user (UNIX)
- Delete an Oracle DB user
- Disconnect volume
- Delete virtual server
- Get list of virtual server information
- Linux was added as a supported operating system.
- A description of line breaks that cannot be specified in properties of service templates and plug-ins was added.
- It is now explained that service templates that transfer a file between the operation-target device and JP1/AO server do not convert the character encoding of the file.
- Keyboard interactive authentication was added as an authentication method used for SSH connections with operation-target devices.
- A description of the local execution function was added. This function allows users to start processes directly on local hosts and perform tasks such as executing commands and copying files.

- Lists of plug-ins contained in service templates that provide plug-ins were added.

- A description of return code 72, which is output for a general command plug-in when the total amount of data output to the standard output and standard error output exceeds 100 KB, was added.

- The installation folder was changed for the Windows version of JP1/AO and the Common Component.

- The structure and contents of the manual were changed to reflect the redesign of the JP1/AO interface.

- *Tag management* was added as a way to classify service templates, services, and plug-ins. Accordingly, category management was removed as a classification method.

- Service groups were added as a way to manage resources. Accordingly, resource groups were removed.

- The types of service templates and plug-ins were changed.

- The following basic plug-ins were added:

  - JavaScript Plug-in

  - File Export Plug-in

  - Web Client Plug-in

- The name of a basic plug-in was changed from File-Forwarding Plug-in to File-Transfer Plug-in.

- The name of a basic plug-in was changed from Judge ReturnCode Plug-in to Branch by ReturnCode Plug-in.

- The name of a basic plug-in was changed from Judge Value Plug-in to Branch by Property Value Plug-in.

(13) Changes in version 10-54

(a) Changes in the manual (3021-3-085-B0)

- The following categories were added to the JP1/AO Content Set service templates:

  - AWS_Components

  - VM_Operations/Configuration/AWS

  - VM_Operations/Management/AWS

- The following categories were added to the JP1/AO standard-package plug-ins:

  - OperatingSystem/Windows/ActiveDirectory

- The following categories were added to the JP1/AO Content Set plug-ins:

  - VirtualMachine/AWS

- The following JP1/AO Content Set service template was added:

  - Script execution through the vCenter server

- The following JP1/AO standard-package plug-ins were added:

  - Check JP1/AJS unit existence

  - Suspend JP1/AJS jobnet

  - Forced termination of JP1/AJS jobnet

  - Re-execute JP1/AJS jobnet

  - Change JP1/AJS job status

  - Change hold attribute for JP1/AJS jobnet

  - Stop JP1/AJS jobnet execution

  - Change JP1/AJS jobnet execution schedule

- The following JP1/AO Content Set plug-ins were added:
  - Monitoring settings for the virtual server in the HA cluster
  - DRS automation level setting for the DRS clusters
  - File transmission through the vCenter server
  - Folder transmission through the vCenter server
  - Script execution through the vCenter server
  - File deletion through the vCenter server
  - Folder deletion through the vCenter server
- A description about functional differences between content plug-ins by version was added.
- A list of plug-ins contained in AWS Components was added.
- The following plug-ins were added to Utility Components:
  - Check JP1/AJS unit existence
  - Suspend JP1/AJS jobnet
  - Forced termination of JP1/AJS jobnet
  - Re-execute JP1/AJS jobnet
  - Change JP1/AJS job status
  - Change hold attribute for JP1/AJS jobnet
  - Stop JP1/AJS jobnet execution
  - Change JP1/AJS jobnet execution schedule
  - Add a group to the Active Directory instance
  - Delete an object from the Active Directory instance
  - Add a user to the Active Directory instance
  - Modify user attributes on the Active Directory instance
  - Add a member to an existing Active Directory group
  - Delete a member from an existing Active Directory group
- The following plug-ins were added to vSphere Components:
  - Monitoring settings for the virtual server in the HA cluster
  - DRS automation level setting for the DRS clusters
  - File transmission through the vCenter server
  - Folder transmission through the vCenter server
  - Script execution through the vCenter server
  - File deletion through the vCenter server
  - Folder deletion through the vCenter server

(14) Changes in version 10-53

(a) Changes in the manual (3021-3-085-A0)

- The following JP1/AO standard-package service templates were added:

- Execution of instant recovery of JP1/VERITAS
- End of instant recovery of JP1/VERITAS
- A description of return code 72, which is output for a general command plug-in when the total amount of data output to the standard output and standard error output exceeds 100 KB, was added.
- The following JP1/AO standard-package plug-ins were added:
  - Execute instant recovery (JP1/VERITAS)
  - End instant recovery (JP1/VERITAS)
  - Set IP address
- The following JP1/AO Content Set plug-ins were added:
  - Set the physical adapter
  - Get the physical adapter information list
  - Set virtual server options for the HA cluster
  - Set host DRS group
  - Move the ESX server
  - Set maintenance mode for the ESX server
  - Extend a virtual disk
  - Add a network adapter
  - Change the network adapter settings
  - Add a port group to the standard virtual switch
  - Set traffic shaping policy for the port group
  - Create a template
  - Delete a template
  - Set the virtual server DRS group
  - Add a DRS rule (from virtual server to host)
- A description about functional differences between content plug-ins by version was added.
- The following plug-ins were added to Utility Components:
  - Execute instant recovery (JP1/VERITAS)
  - End instant recovery (JP1/VERITAS)
  - Set IP address
- A plug-in *Change Memory Settings of Virtual Server* was added to Hyper-V2012 Components.
- The following plug-ins were added to vSphere Components:
  - Set the physical adapter
  - Get the physical adapter information list
  - Set virtual server options for the HA cluster
  - Set host DRS group
  - Move the ESX server
  - Set maintenance mode for the ESX server
  - Extend a virtual disk

- Add a network adapter
- Change the network adapter settings
- Add a port group to the standard virtual switch
- Set traffic shaping policy for the port group
- Create a template
- Delete a template
- Set the virtual server DRS group
- Add a DRS rule (from virtual server to host)

(15) Changes in version 10-52

(a) Changes in the manual (3021-3-085-90)

- Linux was added as a supported operating system.
- The description of the Utility Components service template was changed.
- The following categories were added to the JP1/AO Content Set service templates:
  - HCS_Components
  - Hyper-V2008_Components
  - Hyper-V2012_Components
  - OpenStack_Components
  - Oracle_Components
  - vSphere_Components
- The following category was added to the JP1/AO Content Set plug-ins:
  - Database/Oracle
- A description of the following plug-ins, which are executed without elevating the user's privileges to root permission, was added:
  - Start an Oracle DB instance
  - Stop an Oracle DB instance
  - Add an Oracle DB user (UNIX)
  - Delete an Oracle DB user
- A description of line breaks that cannot be specified in properties of service templates and plug-ins was added.
- It is now explained that service templates that transfer a file between the operation-target device and JP1/AO server do not convert the character encoding of the file.
- Keyboard interactive authentication was added as an authentication method used for SSH connections with operation-target devices.
- A description of the local execution function was added. This function allows users to start processes directly on local hosts and perform tasks such as executing commands and copying files.
- The following JP1/AO standard-package plug-ins were added:
  - Send ICMP echo request message
  - Execution Wait

- Obtaining a file list
- Moving a file
- Obtaining the latest update time stamp of a file
- Obtaining the file size
- Sorting character strings
- Converting the character encoding of a file
- Decompressing a file
- Compressing a file
- Comparing dates and times
- Adding a character string
- Send ICMP echo request message (confirm no response)
- Printing a file (in Windows)

- The category of the following plug-ins were changed from *OperatingSystem/Windows/Basic* to *OperatingSystem/Common/Basic*:
  - Acquisition of column data from a CSV/Excel file
  - Acquisition of row data from a CSV/Excel file
- The following plug-ins were changed from JP1/AO Content Set plug-ins to JP1/AO standard-package plug-ins:
  - Send ICMP echo request message
  - Execution Wait
  - Send ICMP echo request message (confirm no response)
- A description about functional differences between content plug-ins by version was added.
- Lists of plug-ins contained in service templates that provide plug-ins were added.

(16) Changes in version 10-51

(a) Changes in the manual (3021-3-085-80)

- AIX was added as an operating system supported by the service templates in the JP1_Operations/Configuration category:
  - Add monitoring setting
  - Delete monitoring setting
  - Add JP1/Base monitoring settings
  - Replicating a JP1/PFM alarm definition
- AIX was added as an operating system supported by the service templates in the JP1_Operations/Management category:
  - Add operational user
  - Change operational user
  - Delete operational user
  - Register JP1/AJS jobnet for execution
  - Get JP1 events

- Get list of JP1/PFM alarm information

- Get list of JP1 users

- Get JP1 user mapping definition

- Perform JP1/VERITAS backup

- JP1/AJS jobnet planned execution registration

- JP1/AJS jobnet scheduled execution results output

- Batch change of operation users

- JP1/AJS root jobnet migration

- JP1/AJS root jobnet deletion

- AIX was added as an operating system supported by the service templates in the JP1_Operations/Troubleshoot category:

  - Get JP1/AJS and JP1/Base logs

  - Get JP1/IM and JP1/Base logs

  - Registration of the JP1 event

  - Changing of the JP1 event action status

- AIX was added as an operating system supported by the service templates in the OS_Operations/Management category:

  - Get List of Users from Server

  - Get Lists of Users from Multiple Servers

- AIX was added as an operating system supported by the plug-ins in the OperatingSystem/Common/Basic category:

  - Delete OS user

  - Change password for OS user

  - Create folder

  - Delete folder

  - Delete file

  - Copy file

  - Output OS type

  - Get list of OS users

  - Replace character string

- AIX was added as an operating system supported by the plug-ins in the OperatingSystem/Linux/Basic category:

  - Add OS user (Linux)

- AIX was added as an operating system supported by the plug-ins in the JP1/Base category:

  - Add JP1 user

  - Set JP1/Base permissions

  - Delete JP1 user permissions

  - Delete JP1 user

  - Add JP1/Base user mapping

  - Delete JP1/Base user mapping

- Change JP1 user password
- Get JP1/Base troubleshooting information
- Get list of JP1 users
- Check mapping information
- Registration of a JP1 event
- JP1/Base common definition information setting

- AIX was added as an operating system supported by the plug-ins in the JP1/AJS category:
  - Get JP1/AJS troubleshooting information
  - Register JP1/AJS jobnet for execution
  - Get JP1/AJS jobnet execution results
  - Register for JP1/AJS jobnet planned execution
  - Register for JP1/AJS jobnet fixed execution
  - JP1/AJS jobnet scheduled execution results output

- AIX was added as an operating system supported by the plug-ins in the JP1/IM category:
  - Collect JP1/IM troubleshooting information
  - Get JP1 event
  - Changing the JP1 event action status

- AIX was added as an operating system supported by the plug-ins in the JP1/PFM category:
  - Add monitoring setting
  - Bind alarm (JP1/PFM - RM)
  - Unbind alarm (JP1/PFM - RM)
  - Add process monitoring settings
  - Set Store database storage conditions
  - Set agent hierarchy
  - Synchronize service information
  - Get list of alarm table names (JP1/PFM - RM)
  - Acquire alarm table information (JP1/PFM)
  - Delete alarm table (JP1/PFM)
  - Copy alarm table (JP1/PFM)
  - Export alarm definition file (JP1/PFM)
  - Import alarm definition file (JP1/PFM)

- AIX was added as an operating system supported by the plug-ins in the JP1/VERITAS category:
  - Perform backup (JP1/VERITAS)

- The description of the following category of JP1/AO standard-package service templates was changed to support UNIX:
  - OS_Operations/Management

- The description of the following category of JP1/AO standard-package plug-ins was changed to support UNIX:
  - OperatingSystem/Common/Basic

- The name of the following category of JP1/AO standard-package plug-ins was changed, and the description of this category was changed to support UNIX.

  Before the change

  OperatingSystem/Linux/Basic

  After the change

  OperatingSystem/UNIX/Basic

- It is now indicated that if the operation target device is running UNIX, files are transferred from the device to the JP1/AO server in binary mode.

- The following JP1/AO Content Set service templates were added:

  - Delete a virtual server

  - Delete a virtual server (virtual disk)

  - Obtain a virtual server information list

- The following JP1/AO standard-package plug-ins were added:

  - Obtain date and time

  - Confirm file or folder existence

  - Change file or directory access permissions

  - Time determination

  - Change file or folder access permissions

- The following JP1/AO Content Set plug-ins were added:

  - Disconnect volume

  - Delete virtual server

  - Get list of virtual server information

- A description about functional differences between content plug-ins by version was added.

(17) Changes in version 10-50

(a) Changes in the manual (3021-3-085-70)

- The following category of service template was added to the JP1/AO standard package:

  - Utility_Components

- The following category of JP1/AO standard-package plug-in was added:

  - OperatingSystem/Windows/Database/32bit

- JP1/AJS root jobnet migration and Obtain JP1/CM2 monitored node list were added as services executed with the locale LANG=C. A note wals also added indicating that characters might become garbled when you use multi-byte characters with services that use the locale LANG=C.

- A cautionary note was added regarding the values that can be specified for the properties in a service template.

- A cautionary note was added regarding the specification of user-defined characters and surrogate pair characters in the input values and input files of properties.

- The following JP1/AO Content Set service templates were added:

  - Delete virtual server

  - Add virtual server (virtual disk)

- Restart virtual server

- Obtain virtual server information list

- Public key authentication was added as an authentication method for operation target devices.

- Notes were added explaining that user profiles are not inherited when the OS of the operation target device is Windows.

- 71 and 72 were added as return values of the file-forwarding plug-in.

- The following JP1/AO standard-package plug-ins were added:

  - Filter Text

  - Search Text

  - Operate OS Service

  - Shutdown Server

  - Restart Server

- The following JP1/AO Content Set plug-ins were added:

  - Delete Virtual Servers

  - Obtain the virtual server information list

  - Create Virtual Disk

  - Connect Virtual Disk

- The manual now describes the differences in functionality between the old and new versions of the content plug-ins.

- A description of the protocols each plug-in can use was added.

(b) Changes in the manual (3021-3-316-20(E))

- Windows Server 2012 R2 was added as a supported operating system.

- The following category of service template was added to the JP1/AO standard package:

  - Utility_Components

- The following categories of JP1/AO Content Set service template were added:

  - OS_Operations/Configuration

  - VM_Operations/Configuration/Hyper-V/2012

  - VM_Operations/Configuration/OpenStack

  - VM_Operations/Management/Hyper-V/2012

  - VM_Operations/Management/OpenStack

- The following category of JP1/AO standard-package plug-in was added:

  - JP1/IM-SS

  - OperatingSystem/Windows/Database/32bit

- The following were added as categories of JP1/AO Content Set Plug-in:

  - OperatingSystem/Linux/Basic

  - VirtualMachine/Hyper-V/2012

  - VirtualMachine/Openstack

- JP1/AJS root jobnet migration and Obtain JP1/CM2 monitored node list were added as services executed with the locale LANG=C. A note wals also added indicating that characters might become garbled when you use multi-byte characters with services that use the locale LANG=C.

- A cautionary note was added regarding the values that can be specified for the properties in a service template.

- A cautionary note was added regarding the specification of user-defined characters and surrogate pair characters in the input values and input files of properties.

- The following service templates were added to the JP1/AO standard package:

  - Replicating a JP1/PFM alarm definition

  - JP1/AJS root jobnet migration

  - JP1/AJS root jobnet deletion

  - Register a JP1/IM-SS Item

  - Update JP1/IM-SS Item information

- Notes were added explaining that user profiles are not inherited when the OS of the operation target device is Windows.

- Notes explaining what happens when execution of a task is stopped now explain what happens when execution is stopped during plug-in execution. Cautionary notes and a description of return values of plugins were also added for situations in which a task is forcibly stopped during plug-in execution.

- Public key authentication was added as an authentication method for operation target devices.

- Notes indicating that certain commands must be installed in the operating system of operation target devices before you can execute plug-ins were added.

- The elevatePrivileges property was added to the General command plugin, allowing users to specify whether to elevate user privileges to root. The version of the General command plug-in was changed to 01.12.00, and a description of how its functionality differs from version 01.10.00 was added.

- 71 and 72 were added as return values of the file-forwarding plug-in.

- The maximum total size of forwarded files was changed. Information about limits affecting the folder and file names of forwarded files was also added.

- The following functionality was added to the file-forwarding plug-in:

  - The elevatePrivileges property was added, allowing the user to specify whether to elevate user privileges to root.

  - The location of the temporary work area can now be specified in the property file (config_user.properties).

  The version of the file-forwarding plug-in was changed to 01.12.00, and a description of how its functionality differs from version 01.11.00 was added.

- The file-forwarding plug-in now supports operation target devices running AIX, HP-UX, and Solaris. The version of the file-forwarding plug-in was changed.

- A cautionary note describing what happens when a task is retried for the following basic plug-ins was added:

  - Repeated Execution Plug-in

  - Terminal connect plug-in

  - Terminal command plug-in

- Reserved properties for use by the Standard Output Plug-in were added.

- The ibm-943 character set specifiable in the terminal connect plug-in and terminal command plug-in was changed to ibm-943C.

- The following JP1/AO standard-package plug-ins were added:

- Acquire alarm table information (JP1/PFM)
- Delete alarm table (JP1/PFM)
- Copy alarm table (JP1/PFM)
- Export alarm definition file (JP1/PFM)
- Import alarm definition file (JP1/PFM)
- Replace character string
- Filter Text
- Search Text
- Operate OS Service
- Shutdown Server
- Restart Server

- The following JP1/AO Content Set Plug-ins were added:
  - Install the Windows updates
  - Execution Wait

- The manual now specifies the version of basic Plug-ins you can use with JP1/AO 10-50.
- The manual now describes the differences in functionality between the old and new versions of the content plug-ins.
- A description of the protocols each plug-in can use was added.
- Descriptions of how to configure the login script and .bashrc file now mention the function that allows you to specify whether to elevate users to root privileges.
- In addition to Windows and Linux, content plug-ins that execute commands and scripts in AIX, HP-UX, and Solaris are now supported. AIX, HP-UX and Solaris devices are also supported as operation target devices for the file-forwarding plug-in.

(18) Changes in version 10-13

(a) Changes in the manual (3021-3-085-60)

- The following service templates were added to the JP1/AO standard package:
  - Register a JP1/IM-SS Item
  - Update JP1/IM-SS Item information
- The following categories of JP1/AO Content Set service template were added:
  - VM_Operations/Management/Hyper-V/2012
  - VM_Operations/Management/OpenStack
- The following JP1/AO Content Set service templates were added:
  - Change virtual server specifications (CPU and memory)
  - Add virtual server (virtual disk)
- The following category of JP1/AO standard-package plug-in was added:
  - JP1/IM-SS
- The following JP1/AO Content Set plug-ins were added:
  - Obtain Status of Virtual Server

- Obtain IP Address of Virtual Server
- Change CPU Settings of Virtual Server
- Change Memory Settings of Virtual Server
- Create Volume
- Connect Volume
- Obtain Status of Virtual Server
- Activate Virtual Server
- Obtain IP Address of Virtual Server
- Create Temporary Volume
- Backup Volume
- Delete Volume
- The manual now describes the differences in functionality between the old and new versions of the content plug-ins.

(19) Changes in version 10-12

(a) Changes in the manual (3021-3-085-50)

- Windows Server 2012 R2 was added as a supported operating system.
- The following service templates were added to the JP1/AO standard package:
  - Replicating a JP1/PFM alarm definition
- The following categories of JP1/AO Content Set service template were added:
  - VM_Operations/Configuration/Hyper-V/2012
- The elevatePrivileges property was added to the General command plugin, allowing users to specify whether to elevate user privileges to root. The version of the General command plug-in was changed to 01.12.00, and a description of how its functionality differs from version 01.10.00 was added.
- Notes explaining what happens when execution of a task is stopped now explain what happens when execution is stopped during plug-in execution. Cautionary notes and a description of return values of plugins were also added for situations in which a task is forcibly stopped during plug-in execution.
- The following functionality was added to the file-forwarding plug-in:
  - The elevatePrivileges property was added, allowing the user to specify whether to elevate user privileges to root.
  - The location of the temporary work area can now be specified in the property file (config_user.properties).

  The version of the file-forwarding plug-in was changed to 01.12.00, and a description of how its functionality differs from version 01.11.00 was added.
- A cautionary note describing what happens when a task is retried for the following basic plug-ins was added:
  - Repeated Execution Plug-in
  - Terminal connect plug-in
  - Terminal command plug-in
- The following JP1/AO standard-package plug-ins were added:
  - Acquire alarm table information (JP1/PFM)
  - Delete alarm table (JP1/PFM)
  - Copy alarm table (JP1/PFM)

- Export alarm definition file (JP1/PFM)
- Import alarm definition file (JP1/PFM)
- Replace character string
- The following JP1/AO Content Set Plug-ins were added:
  - Execution Wait
- The following were added as categories of JP1/AO Content Set Plug-in:
  - VirtualMachine/Hyper-V2012
- The manual now describes the differences in functionality between the old and new versions of the content plug-ins.
- Descriptions of how to configure the login script and .bashrc file now mention the function that allows you to specify whether to elevate users to root privileges.

(20) Changes in version 10-11

(a) Changes in the manual (3021-3-085-40)

- The following service templates were added to the JP1/AO standard package:
  - JP1/AJS root jobnet migration
  - JP1/AJS root jobnet deletion
- The following categories of JP1/AO Content Set service template were added:
  - OS_Operations/Configuration
  - VM_Operations/Configuration/OpenStack
- Notes indicating that certain commands must be installed in the operating system of operation target devices before you can execute plug-ins were added.
- The file-forwarding plug-in now supports operation target devices running AIX, HP-UX, and Solaris. The version of the file-forwarding plug-in was changed.
- The maximum total size of forwarded files was changed. Information about limits affecting the folder and file names of forwarded files was also added.
- Reserved properties for use by the Standard Output Plug-in were added.
- The ibm-943 character set specifiable in the terminal connect plug-in and terminal command plug-in was changed to ibm-943C.
- The following were added as categories of JP1/AO Content Set Plug-in:
  - OperatingSystem/Linux/Basic
  - VirtualMachine/Openstack
- The following JP1/AO Content Set Plug-ins were added:
  - Install the Windows updates
- The manual now specifies the version of basic Plug-ins you can use with JP1/AO 10-11.
- In addition to Windows and Linux, content plug-ins that execute commands and scripts in AIX, HP-UX, and Solaris are now supported. AIX, HP-UX and Solaris devices are also supported as operation target devices for the file-forwarding plug-in.

(21) Changes in version 10-10

(a) Changes in the manual (3021-3-085-30)

- A usage example of the Batch change of operation users operation/monitoring template was added.
- The following service templates were added to the JP1/AO standard package:
  - JP1/AJS jobnet planned execution registration
  - JP1/AJS jobnet scheduled execution results output
  - Obtain JP1/CM2 monitored node list
  - Batch change of operation users
- The following service template categories were added to the JP1/AO Content Set:
  - VM_Operations/Configuration/Hyper-V/2008
  - VM_Operations/Management/Hyper-V/2008
- The following basic plug-ins were added:
  - Flow plug-in
  - Interval plug-in
  - Judge returncode plug-in
  - Test value plug-in
  - Abnormal-end plug-in
  - Judge value plug-in
- Devices running AIX can be specified as operation target devices of the general command plug-in. The version number of the general command plug-in was changed to 01.10.00. A description of the functional differences between versions 01.02.00 and 01.10.00 was added.
- A description of what happens when the string [JP1TOKEN] is included in a HTML tag or attribute in the dialogText property of a user-response wait plug-in was added.
- A description of the return values of a terminal connect plug-in that connects to a service such as a HTTP server that does not produce standard output was added.
- A description of how the properties of a terminal connect plug-in can be used in the commandLine property of a terminal command plug-in was added.
- The following plug-ins were added to the JP1/AO standard package:
  - Register for JP1/AJS jobnet planned execution
  - Register for JP1/AJS jobnet fixed execution
  - JP1/AJS jobnet scheduled execution results output
  - Output of the NNMi topology database content
  - Acquisition of column data from a CSV/Excel file
  - Acquisition of row data from a CSV/Excel file
- The following plug-ins were added to the JP1/AO Content Set:
  - Obtain the MAC address of an NIC
  - Windows network settings
- The following plug-in categories were added to the JP1/AO Content Set:

- VirtualMachine/Hyper-V/2008
- A description of each status was added to the list of statuses of virtual servers managed by Hyper-V.
- A description of the prerequisites for executing a command line containing non-ASCII characters in UNIX was added.

(b) Changes in the manual (3021-3-316-10(E))

- Cautionary notes were added that are common to all service templates.
- An explanation of the locale assigned to an operation target device when executing a plug-in was added.
- An explanation of the character set assigned to an operation target device when executing a plug-in was added.
- The following service templates were added to the JP1/AO standard package:
  - Adding of a node to be monitored by JP1/Cm2
  - Deletion of nodes monitored by JP1/Cm2
  - JP1/AJS jobnet planned execution registration
  - JP1/AJS jobnet scheduled execution results output
  - Obtain JP1/CM2 monitored node list
  - Batch change of operation users
  - Registration of the JP1 event
  - Changing of the JP1 event action status
- A usage example of the Batch change of operation users operation/monitoring template was added.
- Figures were added showing the system configurations of the following service templates:
  - Add monitoring setting
  - Delete monitoring setting
  - Add operational user
  - Change operational user
  - Delete operational user
  - Add virtual server (LU creation and data store creation)
  - Add virtual server (deploy/OS initial settings)
  - Add virtual server (virtual disk)
  - Delete virtual server
  - Delete virtual server (virtual disk)
  - Delete virtual server (delete data store and LU)
  - Change virtual server specifications (CPU and memory)
  - Virtual server snapshot
  - Start virtual server
  - Stop virtual server
  - Restart virtual server
  - Migrate virtual server
  - Check env. for adding virtual servers (LU/data store creation)

- Check env. for adding virtual servers (deployment/OS init.)
- Get list of virtual server information
- Get list of storage information
- Creating a virtual server clone
- Deletion of a virtual server clone

- The following service templates were added to the JP1/AO Content Set:
  - Virtual server snapshot
  - Creating a virtual server clone
  - Deletion of a virtual server clone

- The following service template categories were added to the JP1/AO Content Set:
  - VM_Operations/Configuration/Hyper-V/2008
  - VM_Operations/Management/Hyper-V/2008

- Devices running AIX can be specified as operation target devices of the general command plug-in. The version number of the general command plug-in was changed to 01.10.00. A description of the functional differences between versions 01.02.00 and 01.10.00 was added.

- The maximum for the total file size that can be forwarded was changed. In addition, information was added about the limitations on the names of files or folders to be transmitted.

- A description of what happens when the string [JP1TOKEN] is included in a HTML tag or attribute in the dialogText property of a user-response wait plug-in was added.

- Reserved properties that can be output by standard output plug-ins were added.

- The following basic plug-ins were added:
  - Terminal connect plug-in
  - Terminal command plug-in
  - Terminal disconnect plug-in
  - Flow plug-in
  - Interval plug-in
  - Judge returncode plug-in
  - Test value plug-in
  - Abnormal-end plug-in
  - Judge value plug-in

- A description of the return values of a terminal connect plug-in that connects to a service such as a HTTP server that does not produce standard output was added.

- A description of how the properties of a terminal connect plug-in can be used in the commandLine property of a terminal command plug-in was added.

- The following plug-ins were added to the JP1/AO standard package:
  - Register for JP1/AJS jobnet planned execution
  - Register for JP1/AJS jobnet fixed execution
  - JP1/AJS jobnet scheduled execution results output
  - Registration of a JP1 event

- JP1/Base common definition information setting

- Output of the NNMi topology database content

- Changing the JP1 event action status

- Acquisition of column data from a CSV/Excel file

- Acquisition of row data from a CSV/Excel file

- The following plug-ins were added to the JP1/AO Content Set:

  - Obtain the MAC address of an NIC

  - Windows network settings

  - Creating a virtual server snapshot

  - Moving a virtual server snapshot

  - Deletion of a virtual server snapshot

  - Creating a virtual server clone

  - Deletion of a virtual server clone

  - Resource configuration setting of the virtual server

  - Pre-evaluation of resource changes in virtual server

  - Pre-eval. of resource configuration changes in virtual server

- The following plug-in categories were added to the JP1/AO Content Set:

  - VirtualMachine/Hyper-V/2008

- A description of the functional differences between plug-in versions was added.

- A description of each status was added to the list of statuses of virtual servers managed by Hyper-V.

- A description of the prerequisites for executing a command line containing non-ASCII characters in UNIX was added.

(22) Changes in version 10-02

(a) Changes in the manual (3021-3-085-20)

- Cautionary notes were added that are common to all service templates.

- An explanation of the locale assigned to an operation target device when executing a plug-in was added.

- An explanation of the character set assigned to an operation target device when executing a plug-in was added.

- Figures were added showing the system configurations of the following service templates:

  - Virtual server snapshot

  - Get list of virtual server information

  - Get list of storage information

  - Creating a virtual server clone

  - Deletion of a virtual server clone

- Explanations of general command plug-ins and file-forwarding plug-ins were changed to explanations for the plug-in version 01.02.00.

- Reserved properties that can be output by standard output plug-ins were added.

- The following JP1/AO standard-package plug-ins were added:

- Terminal connect plug-in
- Terminal command plug-in
- Terminal disconnect plug-in
- JP1/Base common definition information setting

- The following plug-ins were added to the JP1/AO Content Set:
  - Resource configuration setting of the virtual server
  - Pre-evaluation of resource changes in virtual server
  - Pre-eval. of resource configuration changes in virtual server
- The following reserved properties were added:
  - reserved.terminal.account
  - reserved.terminal.password
  - reserved.terminal.suPassword
- The following folder and file were added to the description of the configuration of the folder for editing service templates:
  - *language-encoding* folder
  - *explanation-window-file-name.extension*
- A description of how to create service template packages was added.
- A description of how to apply service templates in an execution environment was added.
- enableSSHCharsetDetection was added as an element that can be specified in the plug-in definition file.
- A description of the functional differences between plug-in versions was added.

(23) Changes in version 10-01

(a) Changes in the manual (3021-3-085-10)

- The following service templates were added to the JP1/AO standard package:
  - Adding of a node to be monitored by JP1/Cm2
  - Deletion of nodes monitored by JP1/Cm2
  - Registration of the JP1 event
  - Changing of the JP1 event action status
- The following service templates were added to the JP1/AO Content Set:
  - Virtual server snapshot
  - Creating a virtual server clone
  - Deletion of a virtual server clone
- The following plug-ins were added to the JP1/AO standard package:
  - Registration of a JP1 event
  - Changing the JP1 event action status
- The following plug-ins were added to the JP1/AO Content Set:
  - Creating a virtual server snapshot
  - Moving a virtual server snapshot

- Deletion of a virtual server snapshot
- Creating a virtual server clone
- Deletion of a virtual server clone

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