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Job Management Partner 1 Version 10

Job Management Partner 1/Automatic Operation GUI, Command, and API Reference

3021-3-366(E)

Notices

■ Relevant program products

P-242C-E1AL Job Management Partner 1/Automatic Operation 10-50 (for Windows Server 2008 R2,Windows Server 2012,Windows Server 2012 R2)

The above product includes the following:

• P-CC242C-EAAL Job Management Partner 1/Automatic Operation - Server 10-50 (for Windows Server 2008 R2,Windows Server 2012,Windows Server 2012 R2)

• P-CC242C-EBAL Job Management Partner 1/Automatic Operation - Contents 10-50 (for Windows Server 2008 R2,Windows Server 2012,Windows Server 2012 R2)

P-F242C-E1AL1 Job Management Partner 1/Automatic Operation Contents Set 10-50 (for Windows Server 2008 R2,Windows Server 2012,Windows Server 2012 R2)

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Summary of amendments

The following table lists changes in this manual (3021-3-366(E)) and product changes related to this manual.

Changes	Location
For the manual issued in December 2014 or later, the title and reference number were changed as shown below. Before the change: *Job Management Partner 1/Automatic Operation GUI and Command Reference* (3021-3-315(E)) After the change: *Job Management Partner 1/Automatic Operation GUI, Command, and API Reference* (3021-3-366(E))	--
Windows Server 2012 R2 was added to the supported OSs.	--
With addition of the task monitor function and the service template debugger function, the following windows were added: • **Task log** dialog box • **Debug-Tasks** view • **Task Monitor** view • **Perform Debugging** dialog box • **Debug** view • Service template debugging view	1.1, 1.2, 5.2.3, 5.4, 5.5, 7.4.3, 7.5, 7.6, A.1
A function that links with Active Directory to manage users was added.	1.1, 1.2, 6.4, 6.4.1, 6.4.5, 6.7, 6.7.1, 6.7.2, 6.7.3, 6.7.4, 6.7.5, 6.8, 6.8.5, 8.5.2, A.1
HTTPS connections are now supported.	2.1
With the change to slide bars, the screenshots of the following windows were changed: • Main window • **Services** dialog box • **Tasks** window • **Tasks** view • **Task Histories** view • **Administration** window • **Connection Destinations** view • **Service Share Properties** view • **User Groups** view (**User Groups** tab) • **User Groups** view (**Users** tab) • **Resource Groups** view • **Editor** window • **Service template view** dialog box • Service template editing view	3.1, 4.1, 5.1, 5.2, 5.3, 6.1, 6.2, 6.3, 6.8, 6.9, 6.10, 7.1, 7.3.4, 7.4
A function for viewing the task log was added to the following windows: • **Waiting for Response Task List** dialog box • **In Progress Task List** dialog box • **Completed Task List** dialog box	3.1.5, 3.1.6, 3.1.7, 3.1.8, 5.2, 5.2.1

Changes	Location
• **Failed Task List** dialog box • **Tasks** view • **Task Details** dialog box	3.1.5, 3.1.6, 3.1.7, 3.1.8, 5.2, 5.2.1
A function that retries tasks and a function that forcibly stops tasks were added to the following windows: • **Waiting for Response Task List** dialog box • **In Progress Task List** dialog box • **Tasks** view	3.1.5, 3.1.6, 5.2
With the addition of the task monitor and service template debugger, the conditions in which the following windows are displayed were changed: • **Submit Service** dialog box • **Task Details** dialog box • **Respond** dialog box • **Plug-in** view • **View Service Definition** dialog box • **Steps** dialog box • Service template editing view • **Build/Release Result** dialog box The descriptions of items displayed in the following windows were changed: • **Tasks** window • **Task Details** dialog box • **Editor** window • Service template editing view • **Build/Release Result** dialog box	4.1.1, 5.1, 5.2.1, 5.2.2, 7.1, 7.2, 7.3.5, 7.3.9, 7.4, 7.4.2
Return Value was added to the list of steps displayed in the **Task Details** dialog box. In addition, a description stating that the statuses displayed in the list of steps can be changed was added.	5.2.1
Public key authentication is now supported as a method of authenticating operation-target devices.	6.2.1,6.2.2
Functions that can be executed or specified as root were added to the following windows: • **Plug-in** view • **Create Plug-in** dialog box • **Edit Plug-in** dialog box	7.2,7.2.5,7.2.6
A Release plug-in can now be deleted.	7.2.2
Content plug-ins that execute commands or scripts are now supported in AIX, HP-UX, and Solaris, in addition to Windows and Linux.	7.2.5,7.2.6,7.2.12
The `stopcluster` command was added. Preparations for stopping JP1/AO services in a cluster environment can now be performed.	8.1,8.2,8.5.8
The `hcmdsldapuser` command was added. The user information that is necessary to search Active Directory registration information when Active Directory linkage is used can now be edited.	8.1,8.5.5

Changes	Location
The hcmdsssltool command was added. A private key, CSR, self-signed certificate, and a file to contain the self-signed certificate, which are necessary for SSL connections, can now be created.	8.1,8.5.6
The listtasks command can now be used to output the details of multiple tasks. In addition, the submittask command can now be used to re-register multiple tasks that are to be executed periodically or according to the schedule.	8.1,8.6.7,8.6.9
A description of the /user option of the hcmdscheckauth command was added, and return value 247 was added.	8.5.2
A note on the user name or password to be specified for an option was added.	8.6.4
A description stating that debug services and debug tasks are not targets of the following commands was added: • listservices command • listtasks command • stoptask command • submittask command	8.6.6,8.6.7,8.6.8,8.6.9
The submittask command can now be used to register a command that is to be executed periodically.	8.6.9
A description stating that the following files are not targets of the backupsystem and restoresystem commands was added: • SSL server certificate files for HTTPS connections • Private key files for HTTPS connections • Private key files for public key authentication	8.7.1,8.7.6
The description of the JP1/Base service was deleted because the JP1/Base service starts when the JP1/AO service starts.	8.7.1,8.7.6
Notes that apply in a cluster system were added.	8.7.2
The descriptions of the /workpath and /file options were changed. In addition, notes on the hcmdsdbtrans command were added.	8.7.4
Explanations of debug services and debug tasks were added in the description of the restoresystem command. In addition, a description stating that the retry operation cannot be selected for restored tasks and debug tasks was added.	8.7.6
API functions are now supported.	9.
Descriptions of the status icons displayed in windows were added.	A.2

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

Preface

This manual describes the windows, commands, and API functions of Job Management Partner 1/Automatic Operation.

In this manual, Job Management Partner 1 is abbreviated to *JP1*, and Job Management Partner 1/Automatic Operation is abbreviated to *JP1/AO*.

For reference information on JP1/AO manuals and a glossary, see the manual *Job Management Partner 1/Automatic Operation Overview and System Design Guide*.

■ Intended readers

This manual is intended:

- Users who want to learn about the JP1/AO windows
- Users who operate the JP1/AO windows
- Users of the JP1/AO commands
- Users who use the JP1/AO API

■ Microsoft product name abbreviations

This manual uses the following abbreviations for Microsoft product names.

Abbreviation			Full name or meaning
.NET Framework	.NET Framework 3.5		Microsoft(R) .NET Framework 3.5
Active Directory			Microsoft(R) Active Directory
Hyper-V			Microsoft(R) Hyper-V(R)
Internet Explorer	Microsoft Internet Explorer		Microsoft(R) Internet Explorer(R)
	Windows Internet Explorer		Windows(R) Internet Explorer(R)
Windows	Windows 7		Microsoft(R) Windows(R) 7 Enterprise
			Microsoft(R) Windows(R) 7 Professional
			Microsoft(R) Windows(R) 7 Ultimate
	Windows Server 2003[1]	Windows Server 2003[1]	Microsoft(R) Windows Server(R) 2003, Enterprise Edition
			Microsoft(R) Windows Server(R) 2003, Standard Edition
		Windows Server 2003 (x64)	Microsoft(R) Windows Server(R) 2003, Enterprise x64 Edition
			Microsoft(R) Windows Server(R) 2003, Standard x64 Edition
		Windows Server 2003 R2[2]	Windows Server 2003 R2[2]	Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition

Abbreviation				Full name or meaning
Windows	Windows Server 2003[#1]	Windows Server 2003 R2[#2]	Windows Server 2003 R2[#2]	Microsoft(R) Windows Server(R) 2003 R2, Standard Edition
			Windows Server 2003 R2 (x64)	Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
				Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition
	Windows Server 2008	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 2008 x64	Windows Server 2008 Datacenter x64	Microsoft(R) Windows Server(R) 2008 Datacenter x64
			Windows Server 2008 Enterprise x64	Microsoft(R) Windows Server(R) 2008 Enterprise x64
			Windows Server 2008 Standard x64	Microsoft(R) Windows Server(R) 2008 Standard x64
		Windows Server 2008 x86	Windows Server 2008 Datacenter x86	Microsoft(R) Windows Server(R) 2008 Datacenter x86
			Windows Server 2008 Enterprise x86	Microsoft(R) Windows Server(R) 2008 Enterprise x86
			Windows Server 2008 Standard x86	Microsoft(R) Windows Server(R) 2008 Standard x86
	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 Failover Cluster			Microsoft(R) Windows Server(R) Failover Cluster
	Windows Vista			Microsoft(R) Windows Vista(R) Business
				Microsoft(R) Windows Vista(R) Enterprise
				Microsoft(R) Windows Vista(R) Ultimate
	Windows XP			Microsoft(R) Windows(R) XP Professional Operating System

#1

In descriptions, if Windows Server 2003 (x64) or Windows Server 2003 R2 is noted alongside Windows Server 2003, the description for Windows Server 2003 does not apply to Windows Server 2003 (x64) or Windows Server 2003 R2.

In descriptions, if Windows Server 2003 R2 (x64) is noted alongside Windows Server 2003 R2, the description for Windows Server 2003 R2 does not apply to Windows Server 2003 R2 (x64).

■ Formatting conventions used in this manual

This section describes the conventions used in this manual.

Conventions in syntax explanations

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 are represented as follows:

JP1/AO installation folder:

    system-drive\Program Files (x86)\Hitachi\JP1AO

Common Component installation folder:

    system-drive\Program Files (x86)\Hitachi\HiCommand\Base

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1

Overview of windows

This chapter provides a list of windows used in JP1/AO, an overview of screen transitions, and notes on using each window.

1.1 List of windows

In addition to its common function windows, JP1/AO provides extended functions through the **Services**, **Tasks**, **Administration**, and **Editor** windows. The following tables describe those windows, including the dialog boxes and views that are displayed from or in those windows.

Table 1–1: List of JP1/AO windows (common)

Window name	Description	See:
Login window	Window used to log in to JP1/AO	2.1 **Login** window
Main window	Window used to execute services, check the progress of tasks, or perform various JP1/AO operations	3.1 Main window
About dialog box	Dialog box used to check the JP1/AO version	3.1.1 **About** dialog box
Column Settings dialog box	Dialog box used to select columns to be displayed in a list	3.1.3 **Column Settings** dialog box
Waiting Task List dialog box	Dialog box used to display and check a list of user-executed tasks that are currently in a waiting state	3.1.4 **Waiting Task List** dialog box
Waiting for Response Task List dialog box	Dialog box used to display and check a list of user-executed tasks that are currently waiting for a response	3.1.5 **Waiting for Response Task List** dialog box
In Progress Task List dialog box	Dialog box used to display and check a list of user-executed tasks that are currently in progress	3.1.6 **In Progress Task List** dialog box
Completed Task List dialog box	Dialog box used to display and check a list of user-executed tasks that have completed normally	3.1.7 **Completed Task List** dialog box
Failed Task List dialog box	Dialog box used to display and check a list of user-executed tasks that have failed	3.1.8 **Failed Task List** dialog box

Table 1–2: List of JP1/AO windows (related to the **Services** window)

Window name	Description	See:
Services window	Window used to check the services registered in JP1/AO or execute one of the services	4.1 **Services** window
Submit Service dialog box	Dialog box used to check or execute a service registered in JP1/AO	4.1.1 **Submit**

Window name	Description	See:
Submit Service dialog box	Dialog box used to check or execute a service registered in JP1/AO	**Service** dialog box
Add Service dialog box	Dialog box used to select a service to be added from the service templates that have been imported into JP1/AO and then assign that service to a resource group	4.1.2 **Add Service** dialog box
Service Definition dialog box	Dialog box used to set property information for a service	4.1.3 **Service Definition** dialog box
Delete Services dialog box	Dialog box used to delete unnecessary services	4.1.4 **Delete Services** dialog box

Table 1–3: List of JP1/AO windows (related to the **Tasks** window)

Window name	Description	See:
Tasks window	Window used to check debug tasks, and the progress or history of tasks processed by JP1/AO.	5.1 **Tasks** window
Tasks view	View used to check information about tasks processed by JP1/AO, or to stop tasks.	5.2 **Tasks** view
Task Details dialog box	Dialog box used to check the input and output properties or the progress of steps	5.2.1 **Task Details** dialog box
Respond dialog box	Dialog box used to enter a user response for an in-progress task	5.2.2 **Respond** dialog box
Task log dialog box	Dialog box used to view the task log and debug task log.	5.2.3 **Task log** dialog box
Task Histories view	View used to check (a history of) archived tasks.	5.3 **Task Histories** view
Delete Task Histories dialog box	Dialog box used to delete history entries that are no longer necessary	5.3.1 **Delete Task Histories** dialog box
Debug-Tasks view	View used to check information about debug tasks, or to stop debug tasks.	5.4 **Debug-Tasks** view
Task Monitor view	View used to display the flow of debug tasks and other tasks so that the user can check the flow progress or step status.	5.5 **Task Monitor** view

Table 1–4: List of JP1/AO windows (related to the **Administration** window)

Window name	See:	See:
Administration window	Window used to specify JP1/AO settings for user management, resource group management, and other purposes	6.1 **Administration** window
Connection Destinations view	View used to check the connection definition that is used for connection to a destination	6.2 **Connection Destinations** view
Create Connection Destination dialog box	Dialog box used to create the connection definition that is used for connection to a destination	6.2.1 **Create Connection Destination** dialog box
Edit Connection Destination dialog box	Dialog box used to edit the connection definition that is used for connection to a destination	6.2.2 **Edit Connection Destination** dialog box
Delete Destinations dialog box	Dialog box used to delete the connection definition that is used for connection to a destination	6.2.3 **Delete Destinations** dialog box
Service Share Properties view	View used to check the settings of the shared service properties (properties common to services) that are set in JP1/AO	6.3 **Service Share Properties** view
Set Service Share Property dialog box	Dialog box used to change the settings of shared service properties that are set in JP1/AO	6.3.1 **Set Service Share Property** dialog box
Users and Permissions window	Window used to manage JP1/AO user profiles, permissions, and Active Directory groups linked to JP1/AO	6.4 **Users and Permissions** window
User List view	View used to list, add, or delete users	6.4.1 **User List**
Add Users dialog box (Users and Permissions)	Dialog box used to add users to JP1/AO	6.4.2 **Add User** dialog box (Users and Permissions)
Lock Users dialog box	Dialog box used to prevent specified users from logging in to JP1/AO	6.4.3 **Lock Users** dialog box

Window name	See:	See:
Unlock Users dialog box	Dialog box used to unlock specified users	6.4.4 **Unlock Users** dialog box
Change Authentication Method dialog box	Dialog box used to change the authentication method of a specified user	6.4.5 **Change Authentication Method** dialog box
Delete Users dialog box	Dialog box used to delete users from JP1/AO	6.4.6 **Delete Users** dialog box
User Profile view	View used to check or change a user profile	6.5 **User Profile** view
Edit Profile dialog box	Dialog box used to change a user profile	6.5.1 **Edit Profile** dialog box
Change Password dialog box	Dialog box used to change the password of a user	6.5.2 **Change Password** dialog box
Change Permission dialog box (opened from the **User Profile** view)	Dialog box used to change the permission settings of a user	6.5.3 **Change Permission** dialog box (when accessed from the **User Profile** view)
Permissions view	View used to manage permissions	6.6 **Permissions** view
Authorized User List view	View used to check authorized users	6.6.1 **Authorized User List** view
Authorized User and Group List view	View used to check authorized users and groups	6.6.2 **Authorized User and Group List** view
Groups view	View used to check the Active Directory domains that can be linked with JP1/AO	6.7 **Groups** view
Group List view	View used to manage Active Directory groups that are registered as JP1/AO user groups	6.7.1 **Group List** view

Window name	See:	See:
Add Groups dialog box	Dialog box used to register Active Directory groups as JP1/AO user groups	6.7.2 **Add Groups** dialog box
Delete Groups dialog box	Dialog box used to delete Active Directory groups that are registered as JP1/AO user groups in JP1/AO	6.7.3 **Delete Groups** dialog box
Group Detail view	View used to check the details of Active Directory groups that are registered as JP1/AO user groups	6.7.4 **Group Detail** view
Change Permission dialog box (opened from the **Group Detail** view)	Dialog box used to change the permission settings of Active Directory groups that are registered as JP1/AO user groups	6.7.5 **Change Permission** dialog box (when accessed from the **Group Detail** view)
User Groups view (**User Groups** tab)	View used to manage user groups	6.8 **User Groups** view (**User Groups** tab)
Create User Group dialog box	Dialog box used to create a user group, and then assign users and resource groups to that user group	6.8.1 **Create User Group** dialog box
Add Users dialog box (User Groups)	Dialog box used to add users to a user group	6.8.2 **Add Users** dialog box (User Groups)
Add Resource Groups dialog box	Dialog box used to add resource groups to a user group	6.8.3 **Add Resource Groups** dialog box
Edit Roles dialog box	Dialog box used to select the role that is to be assigned to a resource group	6.8.4 **Edit Roles** dialog box
Edit User Group dialog box	Dialog box used to edit the users and resource groups assigned to the selected user group	6.8.5 **Edit User Group** dialog box
Delete User Groups dialog box	Dialog box used to delete user groups	6.8.6 **Delete User Groups** dialog box
User Groups view (**Users** tab)	View used to assign users to a user group or check the users assigned to a user group	6.9 **User Groups**

Window name	See:	See:
User Groups view (**Users** tab)	View used to assign users to a user group or check the users assigned to a user group	view (**Users** tab)
Assign User Groups dialog box	Dialog box used to assign users to a user group	6.9.1 **Assign User Groups** dialog box
Resource Groups view	View used to manage resource groups	6.10 **Resource Groups** view
Create Resource Group dialog box	Dialog box used to create a resource group	6.10.1 **Create Resource Group** dialog box
Edit Resource Group dialog box	Dialog box used to change the name or description of a resource group	6.10.2 **Edit Resource Group** dialog box
Delete Resource Groups dialog box	Dialog box used to delete resource groups	6.10.3 **Delete Resource Groups** dialog box
User Profile window	Window used to check a user profile	6.11 **User Profile** window

Table 1–5: List of JP1/AO windows (related to the **Editor** window)

Window name	Description	See:
Editor window	Window used to develop service templates or plug-ins	7.1 **Editor** window
Plug-in view	View used to list or develop plug-ins	7.2 **Plug-in** view
Plug-in view (**Basic** tab)	View used to create or edit a service template with basic plug-ins	7.2.1 **Plug-in** view (**Basic** tab)
Plug-in view (**Release** tab)	View used to create or edit a service template with release plug-ins	7.2.2 **Plug-in** view (**Release** tab)
Plug-in view (**Under Development** tab)	View used to create plug-ins or develop a service template with plug-ins previously created	7.2.3 **Plug-in** view (**Under Development** tab)
Copy Plug-in dialog box	Dialog box used to copy plug-ins	7.2.4 **Copy Plug-in** dialog box
Create Plug-in dialog box	Dialog box used to create plug-ins	7.2.5 **Create Plug-in** dialog box
Edit Plug-in dialog box	Dialog box used to edit the definition information of a plug-in	7.2.6 **Edit Plug-in** dialog box
Set the Plug-in Resources dialog box	Dialog box used to upload or download plug-in resource files	7.2.7 **Set the Plug-in Resources** dialog box
Create Input Property for Plug-in dialog box	Dialog box used to add input properties to a plug-in	7.2.8 **Create Input Property for Plug-in** dialog box

Window name	Description	See:
Edit Input Property for Plug-in dialog box	Dialog box used to edit the input properties that are defined for a plug-in	7.2.9 **Edit Input Property for Plug-in** dialog box
Create Output Property for Plug-in dialog box	Dialog box used to add output properties to a plug-in	7.2.10 **Create Output Property for Plug-in** dialog box
Edit Output Property for Plug-in dialog box	Dialog box used to edit the output properties that are defined for a plug-in	7.2.11 **Edit Output Property for Plug-in** dialog box
Edit Remote Command dialog box	Dialog box used to set the remote command that will be executed by a plug-in	7.2.12 **Edit Remote Command** dialog box
Create Environment Variable dialog box	Dialog box used to create the environment variables that are required to execute a remote command	7.2.13 **Create Environment Variable** dialog box
Edit Environment Variable dialog box	Dialog box used to edit the environment variables that are required to execute a remote command	7.2.14 **Edit Environment Variable** dialog box
Edit Output Filter dialog box	Dialog box used to specify the output filter settings	7.2.15 **Edit Output Filter** dialog box
Service Template Editor Home View view	View used to develop a service template	7.3 **Service Template Editor Home** view
Create Service Template dialog box	Dialog box used to create a service template	7.3.1 **Create Service Template** dialog box
Service Template List dialog box	Dialog box used to display a list of service templates and to select service templates to be edited, copied, viewed, or deleted	7.3.2 **Service Template List** dialog box
Copy Service Template dialog box	Dialog box used to copy a service template	7.3.3 **Copy Service Template** dialog box
Service template view dialog box	View used to display the definitions of a service template	7.3.4 Service template view dialog box
View Service Definition dialog box	Dialog box used to view the definitions of a service	7.3.5 **View Service Definition** dialog box
View Input Property for Service dialog box	Dialog box used to view the input properties of a service	7.3.6 **View Input Property for Service** dialog box
View Output Property for Service dialog box	Dialog box used to view the output properties of a service	7.3.7 **View Output Property for Service** dialog box
View Variable dialog box	Dialog box used to view the variables of a service	7.3.8 **View Variable** dialog box
View Step dialog box	Dialog box used to view the step information about a service	7.3.9 **View Step** dialog box
Service template editing view	View used to edit an existing service template or create a service template	7.4 Service template editing view
Set the Service Resources dialog box	Dialog box used to upload or download service resource files	7.4.1 **Set the Service Resources** dialog box
Build / Release Result dialog box	Dialog box used to check the result or progress of building or releasing a service template	7.4.2 **Build / Release Result** dialog box
Perform Debugging dialog box	Dialog box used to start debugging a service template	7.4.3 **Perform Debugging** dialog box
Edit Service Definition dialog box	Dialog box used to edit the definitions of a service	7.4.4 **Edit Service Definition** dialog box
Create Property Group dialog box	Dialog box used to add a property group	7.4.5 **Create Property Group** dialog box
Edit Property Group dialog box	Dialog box used to edit the definitions of a property group	7.4.6 **Edit Property Group** dialog box

Window name	Description	See:
Select Service Share Property dialog box	Dialog box used to set shared service properties as input properties for a service	7.4.7 **Select Service Share Property** dialog box
Create Input Property for Service dialog box	Dialog box used to add input properties to a service	7.4.8 **Create Input Property for Service** dialog box
Edit Input Property for Service dialog box	Dialog box used to edit the input properties of a service	7.4.9 **Edit Input Property for Service** dialog box
Create Output Property for Service dialog box	Dialog box used to add output properties to a service	7.4.10 **Create Output Property for Service** dialog box
Edit Output Property for Service dialog box	Dialog box used to edit the output properties of a service	7.4.11 **Edit Output Property for Service** dialog box
Create Variable dialog box	Dialog box used to create variables for a service	7.4.12 **Create Variable** dialog box
Edit Variable dialog box	Dialog box used to edit the variables of a service	7.4.13 **Edit Variable** dialog box
Create Step dialog box	Dialog box used to add steps to a service template	7.4.14 **Create Step** dialog box
Edit Step dialog box	Dialog box used to edit the steps of a service template	7.4.15 **Edit Step** dialog box
Specify Plug-in Input Properties for Mapping dialog box	Dialog box used to set mapping parameters for input properties	7.4.16 **Specify Plug-in Input Properties for Mapping** dialog box
Specify Plug-in Output Properties for Mapping dialog box	Dialog box used to set mapping parameters for output properties	7.4.17 **Specify Plug-in Output Properties for Mapping** dialog box
Debug view	View used to manage debug tasks or to set the step-by-step execution method	7.5 **Debug** view
Service template debugging view	View used to debug a service template	7.6 Service template debugging view

1.2 Window transition

The following figures show the window transitions in JP1/AO.

Figure 1–1: JP1/AO window transition (from the main window)
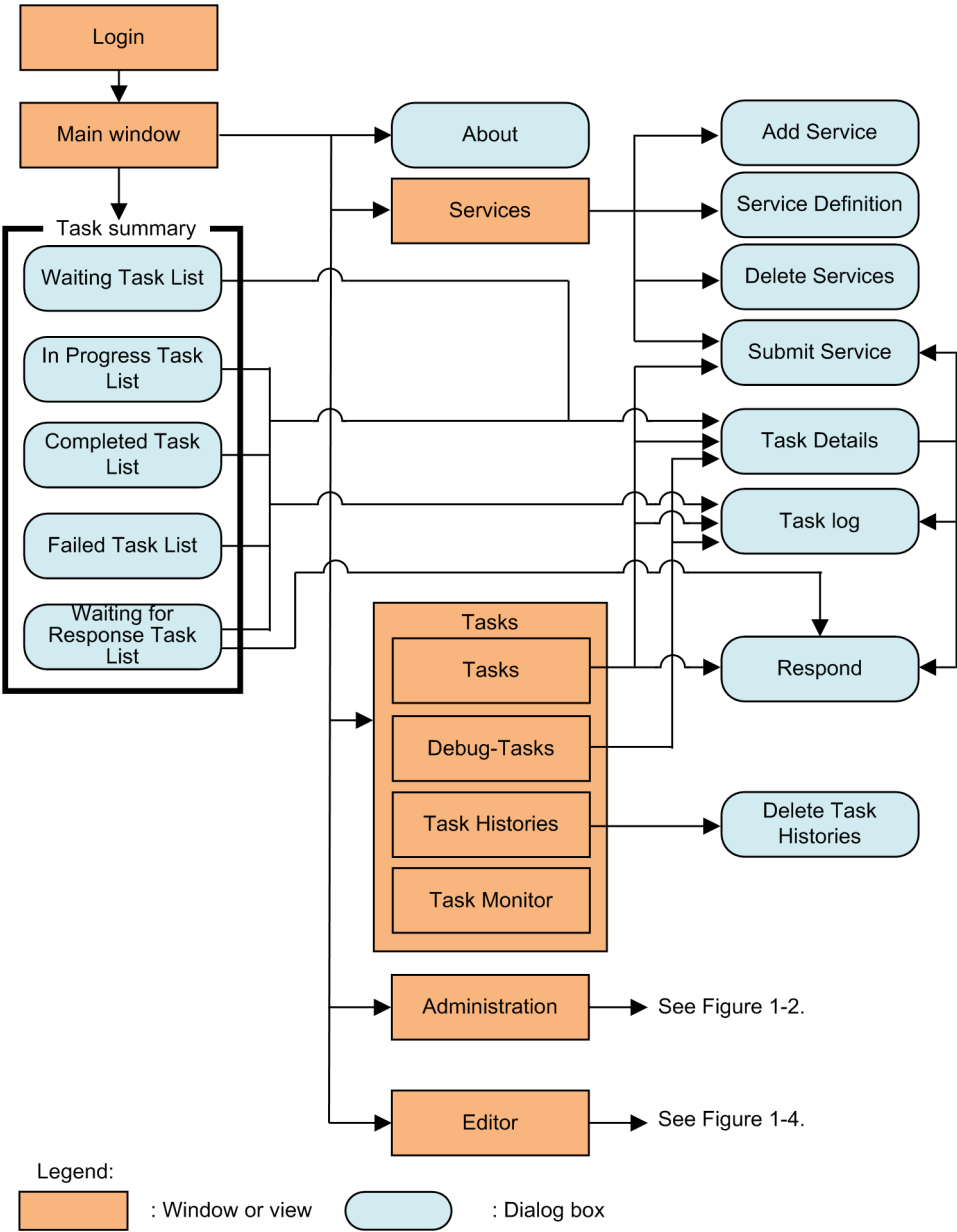
Figure 1–2: JP1/AO window transition (from the Administration window) (1/2)

Legend:

[Window or view (orange box)] : Window or view   [Dialog box (rounded box)] : Dialog box   [Tab (dashed box)] : Tab
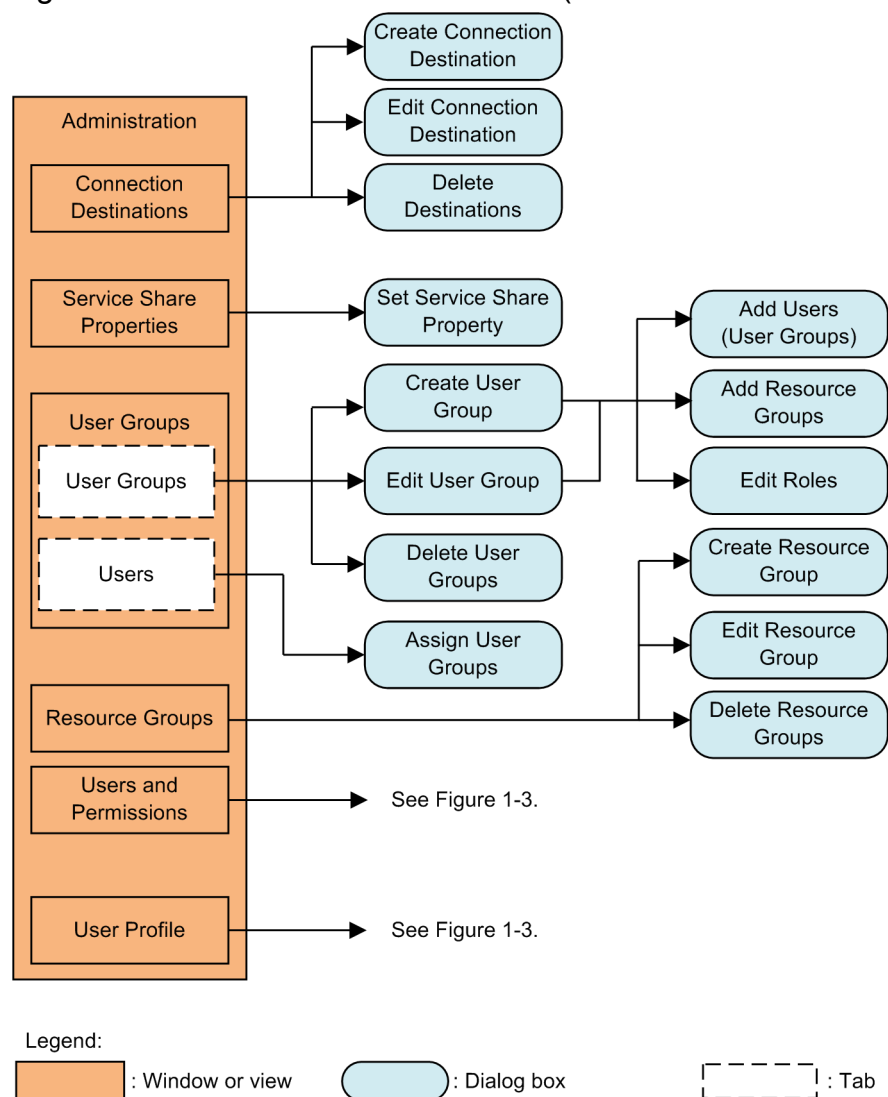
Figure 1–3: JP1/AO window transition (from the Administration window) (2/2)

Administration	
Connection Destinations	→ See Figure 1-2.
Service Share Properties	→ See Figure 1-2.
User Groups	
User Groups	→ See Figure 1-2.
Users	→ See Figure 1-2.
Resource Groups	
Users and Permissions	
User Profile	

User List → **User Profile** → Edit Profile
→ Change Password
→ Change Permission

→ Add User (Users and Permissions)
→ Lock
→ Unlock
→ Change Authentication Method
→ Delete Users

Permissions → **Authorized User List**
→ **Authorized User and Group List**

Groups → **Group List** → Change Permission
→ **Group Detail**
→ Add Groups
→ Delete Groups

Legend:

[orange box] : Window or view   [blue rounded box] : Dialog box   [dashed box] : Tab

Figure 1–4: JP1/AO window transition (from the Editor window) (1/3)

Legend:

[orange box] : Window or view   [blue rounded box] : Dialog box   [dashed box] : Tab
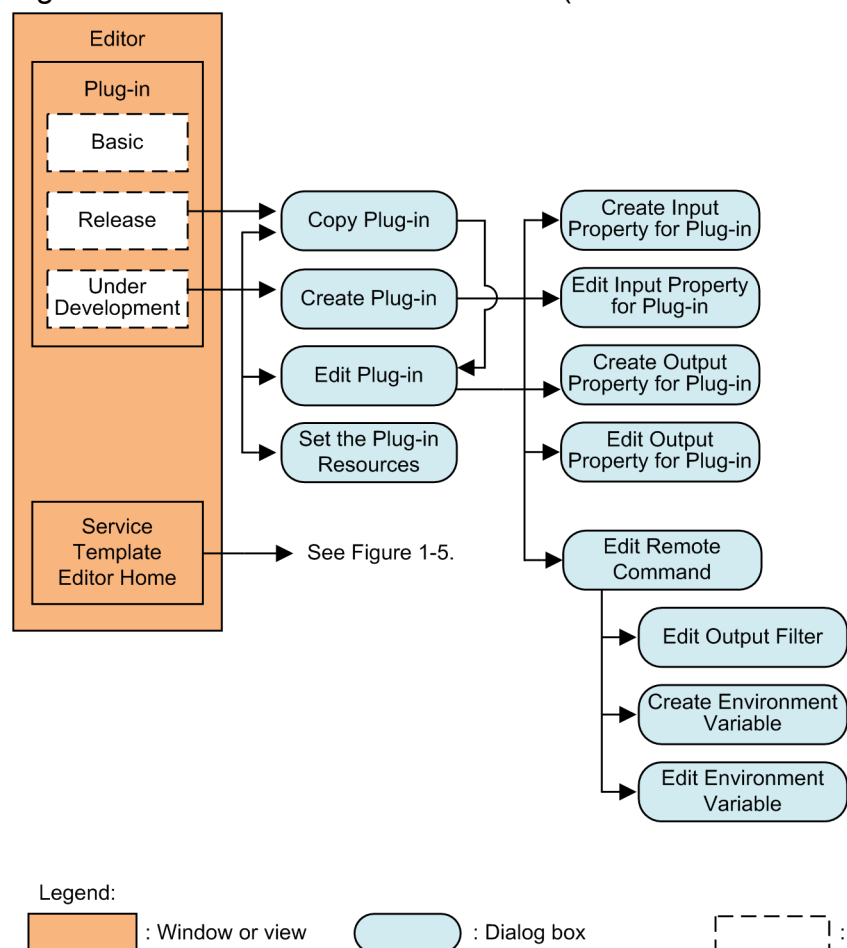
Figure 1–5: JP1/AO window transition (from the Editor window) (2/3)
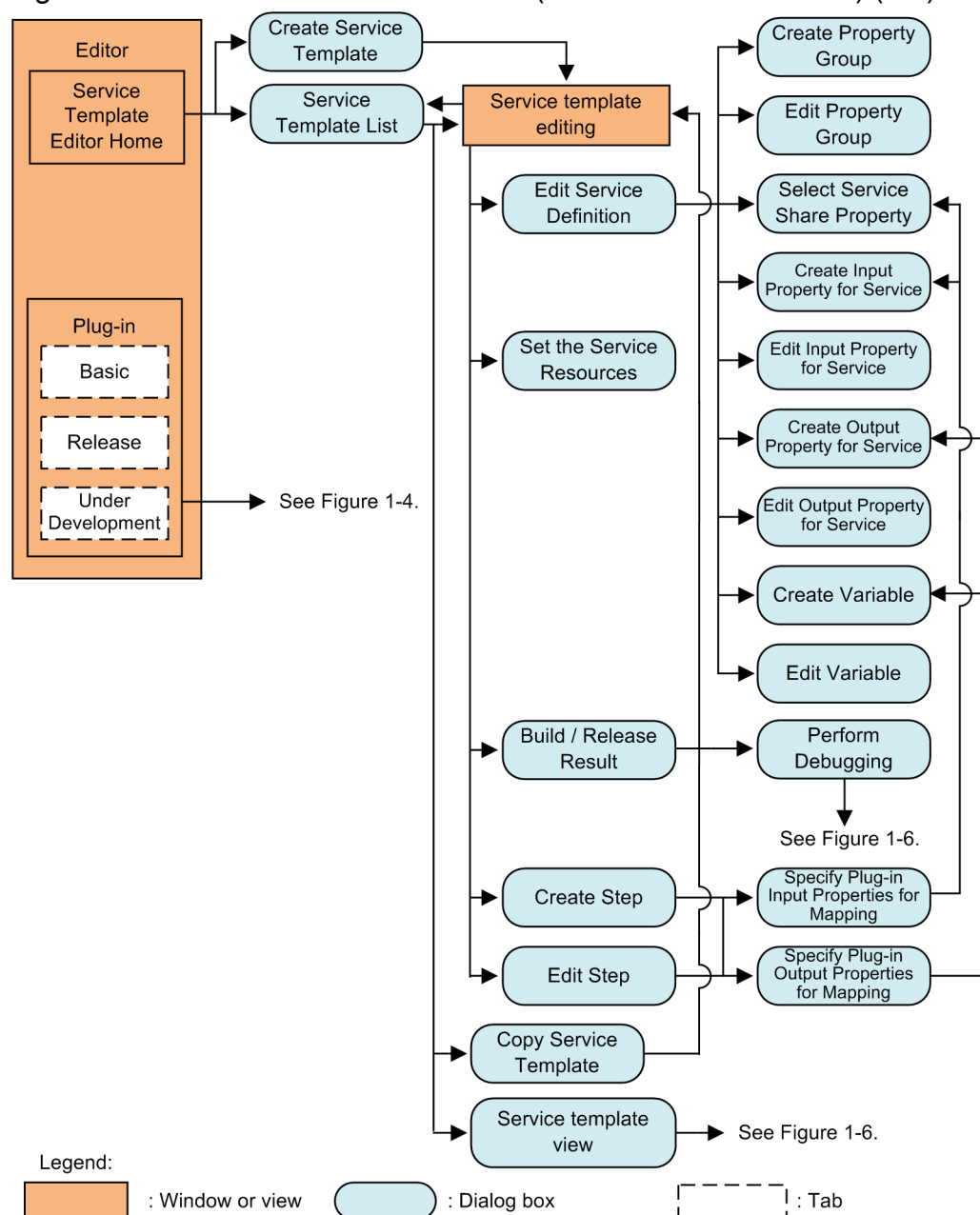
Figure 1–6: JP1/AO window transition (from the Editor window) (3/3)

Legend:

[orange box] : Window or view   [blue rounded box] : Dialog box   [dashed box] : Tab
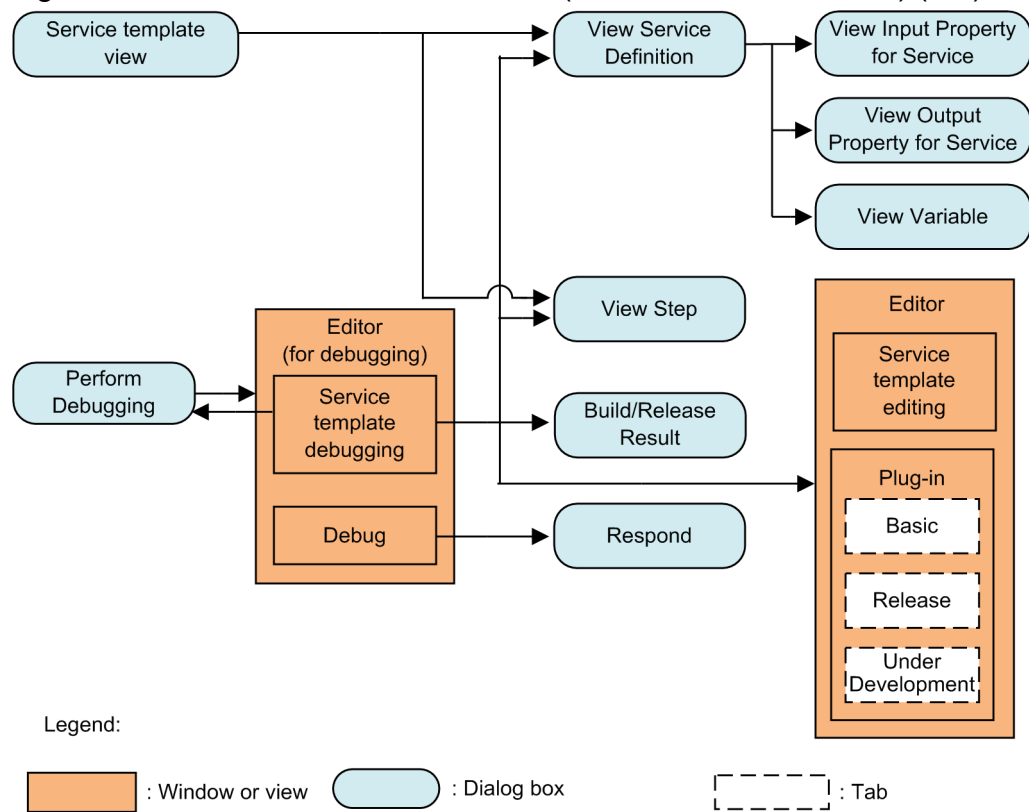
1.3 Notes on operating windows

This section provides notes on operating the JP1/AO windows:

- Do not change from one page displayed on the Web browser to another page, or use the **Back**, **Forward**, or **Refresh** button. If you do, JP1/AO might not work properly. In addition, do not change the magnification of the display by using functions that are not provided by JP1/AO. If you do so, JP1/AO might not work properly. If a problem occurs, restart your Web browser, and then log in again.

- The language used in the JP1/AO windows is determined by your Web browser's language setting. JP1/AO supports Japanese, English, and Chinese (Simplified) as the display languages. For this reason, set Japanese (ja), English (en), or Chinese (zh) as the display language for your Web browser. Unless you specifically set the language, several different display languages might appear in some of the operation windows. If Chinese messages contain placeholders, the placeholders might be replaced with character strings entered by users in English or some other language.

- To exit the Web browser, log out from JP1/AO before using the **Close** button to close the window. Clicking the **Close** button while you are still logged in can result in abnormal termination of the Web browser or occurrence of an error. If a problem occurs, restart your Web browser, and then log in again.

- Do not use **Internet Options** to make changes while an operation window is displayed. If you do, restart the Web browser and try logging in again.

- Make sure that you enable Adobe Flash Player on the Web browser. For details about enabling Adobe Flash Player, see the relevant Adobe Flash Player documentation.

- If you have enabled the pop-up block setting on the Web browser, a popup window might not appear even when you perform an operation that is supposed to cause a pop-up window to appear. You can solve this problem by using the pop-up block setting to add the JP1/AO address to the **Allowed sites** list on the Web browser.

- If you are using Windows Server 2003 or Windows Server 2008 as an operation terminal with the **Internet Explorer Enhanced Security Configuration** (IE ESC) enabled, an animation indicating the loading progress might appear frozen.

- Do not operate another JP1/AO window if the download destination selection window has been opened (by clicking the **Download Log File** button in the **Task Details** dialog box). If you do so, JP1/AO might not work properly. Make sure that the download destination selection window is closed before you operate another JP1/AO window. If a problem occurs, restart your Web browser, and then log in again.

- The dialog box displayed by clicking the **Download Log File** button in the **Task Details** dialog box displays a list of download destinations that can be selected. (Note that the host name or IP address of the JP1/AO server to which you are logged in is displayed in the task bar of the dialog box.)

- Depending on the Web browser that you are using, pressing the Esc key or clicking a Stop button of the browser might cause JP1/AO to operate incorrectly. If a problem occurs, restart your Web browser, and then log in again.

- Depending on the environment, an Adobe Flash Player error might occur during operation of a JP1/AO window, causing Internet Explorer to terminate abnormally. For example, this might occur when you click the **Download Log File** button in the **Task Details** dialog box. If a problem occurs, update Adobe Flash Player to the newest version, and then restart Internet Explorer.

- Strings entered in the Web browser operation window are converted to UTF-8.

- JP1/AO does not support the input of external characters or surrogate pair characters. The use of such characters can cause them to become garbled in an operation window or otherwise result in the characters not being processed as correct characters.

- If you choose to use a computer that runs Windows Server 2012 or Windows Server 2012 R2 as an operation terminal, install the Desktop Experience feature so that you can add Adobe Flash Player. To install this feature, in **Server Manager**, from the **Manage** menu, select **Add Roles and Features**.

- If Enhanced Protected Mode is enabled in Internet Explorer, you can only download a task log to the current folder. Before you download a task log, make sure that the operation window is registered as a trusted site.

- JP1/AO does not support Modern-style Internet Explorer.

- When you log in to JP1/AO, if a message box reporting an unexpected error is displayed and the main window is incorrectly displayed, delete all temporary Internet files from your Web browser.

- When the built-in Administrator user who uses Internet Explorer 11 opens a new dialog box, a blank window might open in addition to that dialog box. If a blank window opens, close it.

2 Login Window

This chapter provides information on a window used to log in to JP1/AO.

2.1 Login window

Use the **Login** window to log in to JP1/AO.

To display the **Login** window, specify the following URL:

When connecting your Web browser to the JP1/AO server via HTTP:

http://*host-name-or-IP-address-of-the-JP1/AO-server*:*HTTP-port-number*/Automation/

When connecting your Web browser to the JP1/AO server via HTTPS:

https://*host-name-or-IP-address-of-the-JP1/AO-server*:*HTTPS-port-number*/Automation/

Figure 2–1: **Login** window
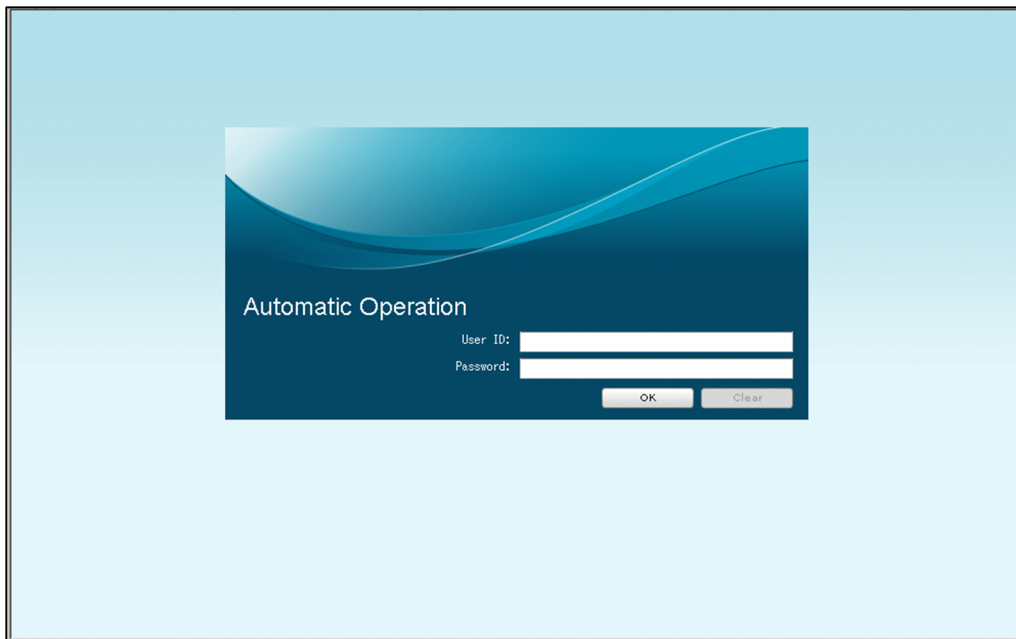
The following items are displayed in this window:

User ID text box

Enter the ID of the user logging in.

Password text box

Enter the password of the user logging in.

OK button

Enter the user ID and the password and then click this button to log in to JP1/AO. The **main** window appears.

Clear button

Click this button to clear the values you have entered in the **User ID** and **Password** text boxes.

> **Tip**
>
> When you connect your Web browser to the JP1/AO server via HTTPS, determine whether to specify a host name or IP address according to whether a host name or IP address is specified in the SSL server certificate. That is, if a host name is specified, specify the host name. If a IP address is specified, specify the IP address.

If you specify a host name when an IP address is specified, or an IP address when a host name is specified, a warning or error message is displayed.

3

Main Window

This chapter provides information on the main window used to operate JP1/AO.

3.1 Main window

From the main window, you can perform various JP1/AO operations, including execution of services and confirmation of the progress of tasks.

As you log in to JP1/AO, the main window appears.

Figure 3–1: Main window
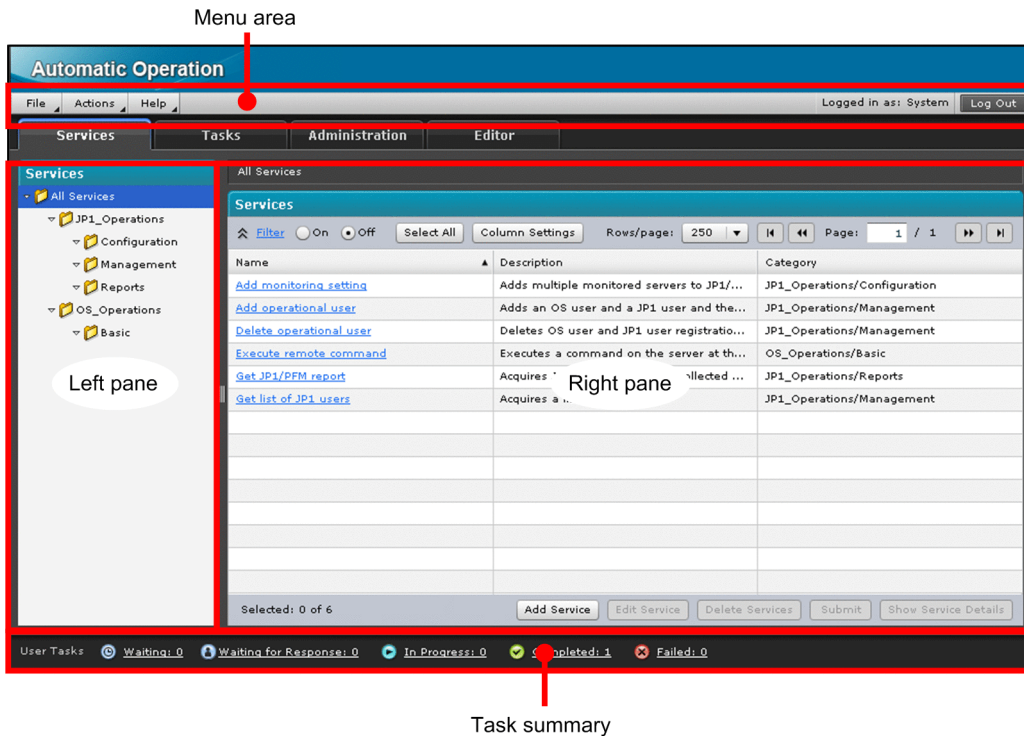
The following items are displayed in this window:

Menu area

The main window menu and the ID of the current user logged in are displayed in this area.

File menu

If you click this menu, the following submenu items appear:

- **Close**

  If you select this item, a confirmation dialog box appears. To close the main window, click the **OK** button.

- **Log Out**

  If you select this item, a confirmation dialog box appears. To log out from JP1/AO, click the **OK** button. The **Login** window appears.

Actions menu

If you click this menu, the following submenu items appear:

- **Add Service**

  If you select this item, the **Add Service** dialog box appears.

Tools menu

To start Hitachi Command Suite products with single sign-on, click this menu and select *Hitachi-Command-Suite-product-name*. This menu is displayed only when the Link & Launch function is enabled.

Help menu

If you click this menu, the following submenu items appear:

- **Online Manual**

  If you select this item, the JP1/AO manuals appear.

- **About**

  If you select this item, the **About** dialog box appears.

Logged in as

If you select this item, the ID of a logged-in user is displayed as follows:

- For JP1 users:

  The JP1 user name is displayed.

- For users other than JP1 users:

  The full name specified for the logged-in user is displayed. If the full name is not specified, the user ID specified upon login is displayed.

Log Out button

If you select this item, a confirmation dialog box appears. To log out from JP1/AO, click the **OK** button. The **Login** window appears.

Left pane

The items corresponding to the **Services**, **Tasks**, **Administration**, or **Editor** window are displayed, as follows:

- **Services** window

  A tree view of the categories to which services are registered is displayed.

- **Tasks** window

  The categories to which tasks are registered as well as a history node are displayed. The displayed categories correspond to the categories in the **Services** window.

- **Administration** window

  Menu items available in the **Administration** window are displayed, including **Users and Permissions** and **Connection Destinations**.

- **Editor** window

  A list of plug-ins that can be used to develop service templates is displayed.

Right pane

A list is displayed for a menu item selected in the left pane, such as a list of services or a list of users. A filter area is provided at the top of the list, so that you can filter the items in the list according to a specified condition.

Task summary

A summary of the status of and the number of tasks executed by a logged-in user is displayed.

- **Waiting**

  If you select this item, the **Waiting Task List** dialog box appears.

- **Waiting for Response**

  If you select this item, the **Waiting for Response Task List** dialog box appears.

- **In Progress**

  If you select this item, the **In Progress Task List** dialog box appears.

- **Completed**

  If you select this item, the **Completed Task List** dialog box appears.

- **Failed**

    If you select this item, the **Failed Task List** dialog box appears.

3.1.1 About dialog box

Use the **About** dialog box to check the JP1/AO version.

To display the **About** dialog box, select the **Help** menu and then **About**.

Figure 3–2: **About** dialog box (if the JP1/AO version is 10-00)

3.1.2 Filter area

Use the filter area to filter items in a list or to specify the columns to be displayed.

The filter area is provided at the top section of the right pane of the **Services**, **Tasks**, or **Administration** window, or a view or a dialog box that is displayed from these windows. Note that the setting specified in the filter area is saved, which will be applied the next time you log in.

Figure 3–3: Filter area

The following items are displayed in this area:

Filter

    Click this text to display the conditions setting area.

Conditions setting area

    Specify the conditions and click the **Apply** button. The items in the list are filtered according to the specified conditions.

    Figure 3–4: Conditions setting area
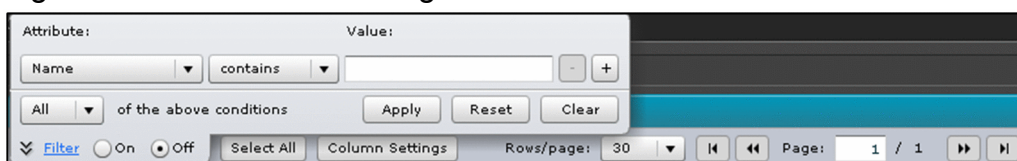
Attribute list box

    Specify the column for which to set the filtering conditions.

Value text box

    Specify a value to set a filtering condition.

- button

    Click this button to delete the specified condition setting column.

+ button

    Click this button to add a condition setting column. In this way you can specify multiple conditions.

All/**Any** list box

    If you have specified multiple conditions, select **All** or **Any** in this list box to specify whether to display items matching all conditions or items matching any condition.

Apply button

    Click this button to filter the items in the list according to the specified conditions.

Reset button

    Click this button to display the filtering conditions specified for the current list.

Clear button

    Click this button to delete the specified conditions.

On radio button

    Select this radio button to apply the specified conditions to the list.

Off radio button

    Select this radio button to cancel the specified conditions.

Select All button

    Click this button to select all items displayed in the list.

Column Settings button

    Click this button to display the **Column Settings** dialog box.

Rows/page list box

    Select the number of rows to be displayed on each page of the list. The options available are **30**, **50**, **100**, **250**, and **500**.

Page text box

    Specify the number of pages to be displayed.

3.1.3 Column Settings dialog box

Use the **Column Settings** dialog box to select the columns to be displayed in a list.

To display the **Column Settings** dialog box, click the **Column Settings** button in the filter area.

Figure 3–5: **Column Settings** dialog box
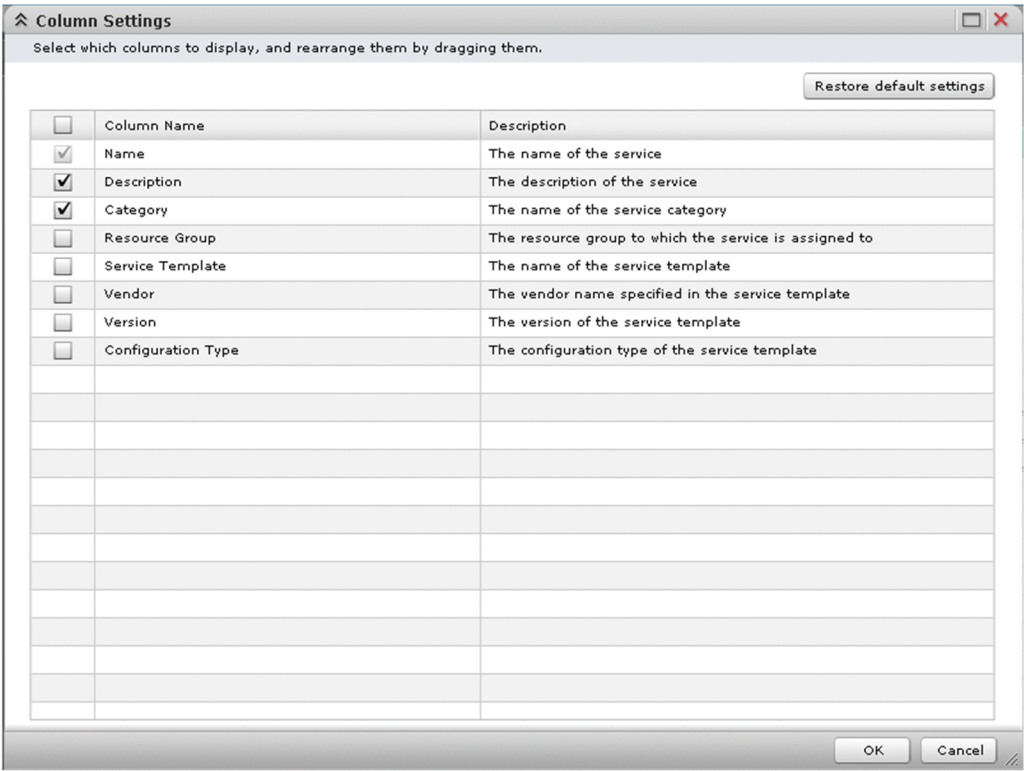
The following items are displayed in this dialog box:

Restore default settings button

    Click this button to reset the column settings to the JP1/AO default. For details about the default column settings for each window, see the *Displayed by default* settings for each window, which are presented later in this manual.

Column Settings

    You can select the items to be displayed in the list by selecting the show/hide check boxes. You can sort the list in ascending or descending order by clicking column titles. You can also re-arrange the order in which to display these items by dragging any given item to a desired position.

Table 3–1: Items displayed in the column settings list (**Column Settings** dialog box)

Display item	Description
Show/hide check box	To display a desired column in the list, select the corresponding show/hide check box.
Column Name	The name of each column is displayed here.
Description	A brief description of each column is provided here.

OK button

    Click this button to apply the specified column settings.

Cancel button

    Click this button to close the **Column Settings** dialog box.

3.1.4 Waiting Task List dialog box

Use the **Waiting Task List** dialog box to display and check a list showing the tasks executed by a user that are currently in a waiting state. Note that the list displayed in this dialog box does not include debug tasks.

To display the **Waiting Task List** dialog box, select **Waiting** in the task summary.

Figure 3–6: **Waiting Task List** dialog box
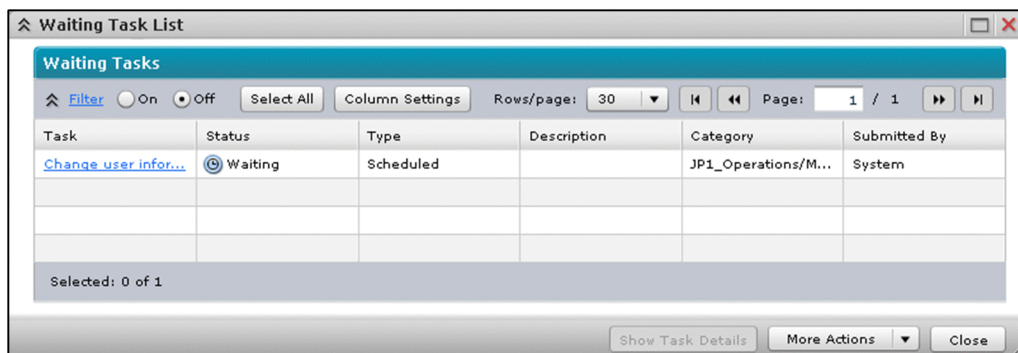
The following items are displayed in this dialog box:

Waiting Tasks

Information on the tasks that are currently in a waiting state is displayed. You can sort the list in ascending or descending order by clicking column titles. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 3–2: Items displayed in "Waiting Tasks" (**Waiting Task List** dialog box)

Display item	Displayed by default	Description
Task	Yes	Displays the name of each task. If you click *task*, the **Task Details** dialog box appears.
Status	Yes	Displays the current status of each task.
Scheduled Time	No	Displays the scheduled time for starting each task.
Start Time	No	Displays the date and time of starting each task.
End Time	No	Displays the date and time of ending each task.
Type	Yes	Displays the type of each task. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.
ID	No	Displays the ID of each task.
Description	Yes	Displays a brief description of each task.
Service	No	Displays the name of the service that generated the task.
Resource Group	No	Displays the resource group to which the task is registered.
Category	Yes	Displays the name of the category to which the service that generated the task belongs.
Submitted By	Yes	Displays the name of the individual who executed the service that generated the task.
Submitted At	No	Displays the date and time of service submission.
Recurrence Pattern	No	Displays the recurrence pattern.
Recurrence Time	No	Displays the recurrence time.
Recurrence Start	No	Displays the start date of recurrence.

Display item	Displayed by default	Description
Configuration Type	No	Displays the configuration type of the service template.

Legend:

Yes: Displayed by default, No: Hidden by default

Show Task Details button

If you select a task and then click this button, the **Task Details** dialog box appears.

More Actions menu

If you select a task and then click this menu, the items described below appear. You can select multiple tasks at a time.

- **Suspend Schedules**

  If you click this item, the **Suspend Schedules** dialog box appears.

- **Resume Schedules**

  If you click this item, the **Resume Schedules** dialog box appears.

- **Cancel Schedules**

  If you click this item, the **Cancel Schedules** dialog box appears.

Close button

To close the **Waiting Task List** dialog box, click this button.

3.1.5 Waiting for Response Task List dialog box

Use the **Waiting for Response Task List** dialog box to display and check a list showing the tasks executed by a user that are currently waiting for a response. Note that the list displayed in this dialog box does not include debut tasks.

To display the **Waiting for Response Task List** dialog box, select **Waiting for Response** in the task summary.

Figure 3–7: **Waiting for Response Task List** dialog box
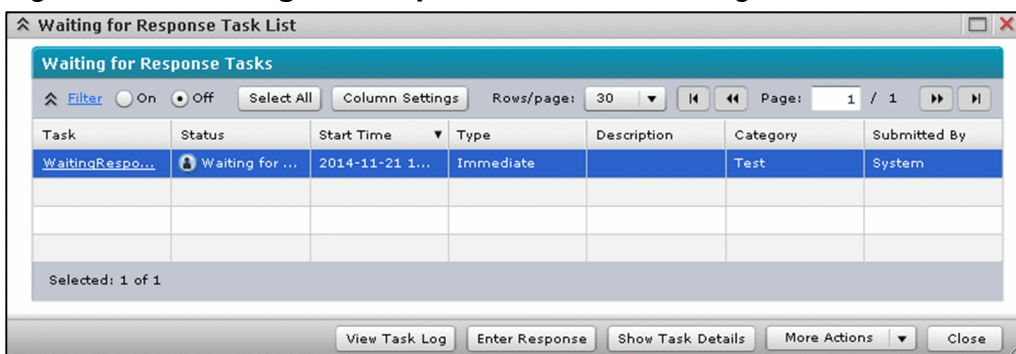
The following items are displayed in this dialog box:

Waiting for Response Tasks

Information on the tasks that are currently waiting for a response is displayed. You can sort the list in ascending or descending order by clicking column titles. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 3–3: Items displayed in "Waiting for Response Tasks" (**Waiting for Response Task List** dialog box)

Display item	Displayed by default	Description
Task	Yes	Displays the name of each task. If you click *task*, the **Task Details** dialog box appears.
Status	Yes	Displays the current status of each task.
Scheduled Time	No	Displays the scheduled time for starting each task.
Start Time	Yes	Displays the date and time of starting each task.
End Time	No	Displays the date and time of ending each task.
Type	Yes	Displays the type of each task. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.
ID	No	Displays the ID of each task.
Description	Yes	Displays a brief description of each task.
Service	No	Displays the name of the service that generated the task.
Resource Group	No	Displays the resource group to which the task is registered.
Category	Yes	Displays the name of the category to which the service that generated the task belongs.
Submitted By	Yes	Displays the name of the individual who executed the service that generated the task.
Submitted At	No	Displays the date and time of service submission.
Recurrence Pattern	No	Displays the recurrence pattern.
Recurrence Time	No	Displays the recurrence time.
Recurrence Start	No	Displays the start date of recurrence.
Configuration Type	No	Displays the configuration type of the service template.

Legend:

Yes: Displayed by default, No: Hidden by default

View the Task Log button

If you select a task and then click this button, the **task log** dialog box appears.

Enter Response button

If you click this button, the **Respond** dialog box appears. If there are multiple steps that are waiting for response in the task, corresponding **Respond** dialog boxes are displayed in the order in which those steps began to wait.

Show Task Details button

If you select a task and then click this button, the **Task Details** dialog box appears.

More Actions menu

If you select a task and then click this menu, the item described below appears. You can select multiple tasks at a time.

- **Stop Tasks**

  If you click this item, the **Stop Tasks** dialog box appears.

- **Forcibly Stop Tasks**

  If you click this item, the **Forcibly Stop Tasks** dialog box appears.

Close button

To close the **Waiting for Response Task List** dialog box, click this button.

3.1.6 In Progress Task List dialog box

Use the **In Progress Task List** dialog box to display and check a list showing the tasks executed by a user that are currently in progress. Note that the list displayed in this dialog box does not include debug tasks.

To display the **In Progress Task** List dialog box, select **In Progress** in the task summary.

Figure 3–8: **In Progress Task List** dialog box
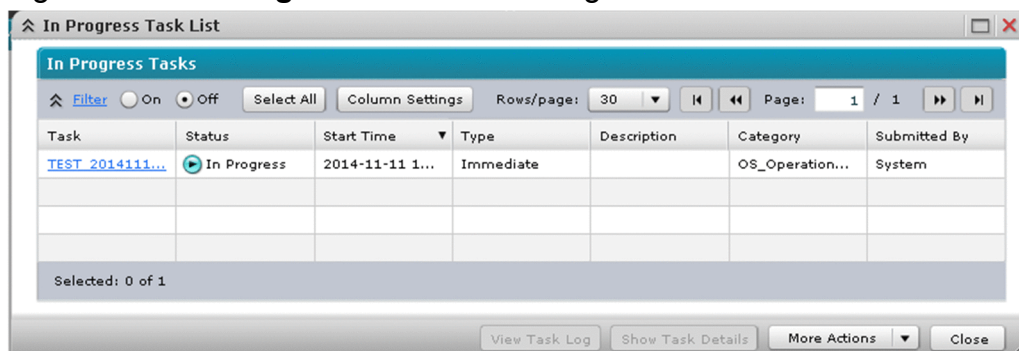
The following items are displayed in this dialog box:

In Progress Tasks

Information on the tasks that are currently in progress is displayed. You can sort the list in ascending or descending order by clicking column titles. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 3–4: Items displayed in "In Progress Tasks" (**In Progress Task List** dialog box)

Display item	Displayed by default	Description
Task	Yes	Displays the name of each task. If you click *task*, the **Task Details** dialog box appears.
Status	Yes	Displays the current status of each task.
Scheduled Time	No	Displays the scheduled time for starting each task.
Start Time	Yes	Displays the date and time of starting each task.
End Time	No	Displays the date and time of ending each task.
Type	Yes	Displays the type of each task. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.
ID	No	Displays the ID of each task.
Description	Yes	Displays a brief description of each task.
Service	No	Displays the name of the service that generated the task.
Resource Group	No	Displays the resource group to which the task is registered.
Category	Yes	Displays the name of the category to which the service that generated the task belongs.
Submitted By	Yes	Displays the name of the individual who executed the service that generated the task.
Submitted At	No	Displays the date and time of service submission.

Display item	Displayed by default	Description
Recurrence Pattern	No	Displays the recurrence pattern.
Recurrence Time	No	Displays the recurrence time.
Recurrence Start	No	Displays the start date of recurrence.
Configuration Type	No	Displays the configuration type of the service template.

Legend:

Yes: Displayed by default, No: Hidden by default

View the Task Log button

If you select a task and then click this button, the **task log** dialog box appears.

Show Task Details button

If you select a task and then click this button, the **Task Details** dialog box appears.

More Actions menu

If you select a task and then click this menu, the item described below appears. You can select multiple tasks at a time.

- **Stop Tasks**

  If you click this item, the **Stop Tasks** dialog box appears.

- **Forcibly Stop Tasks**

  If you click this item, the **Forcibly Stop Tasks** dialog box appears.

Close button

To close the **In Progress Task List** dialog box, click this button.

3.1.7 Completed Task List dialog box

Use the **Completed Task List** dialog box to display and check a list of user-executed tasks that have finished normally. Note that the list displayed in this dialog box does not include debug tasks.

To display the **Completed Task List** dialog box, select **Completed** in the task summary.

Figure 3–9: **Completed Task List** dialog box
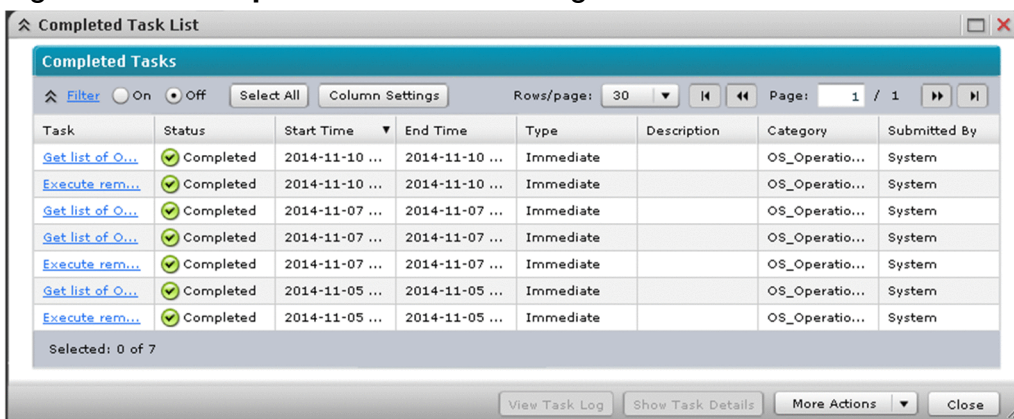
The following items are displayed in this dialog box:

Completed Tasks

Information on the tasks that have been completed normally is displayed. You can sort the list in ascending or descending order by clicking column titles. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 3–5: Items displayed in "Completed Tasks" (**Completed Task List** dialog box)

Display item	Displayed by default	Description
Task	Yes	Displays the name of each task. If you click *task*, the **Task Details** dialog box appears.
Status	Yes	Displays the current status of each task.
Scheduled Time	No	Displays the scheduled time for starting each task.
Start Time	Yes	Displays the date and time of starting each task.
End Time	Yes	Displays the date and time of ending each task.
Type	Yes	Displays the type of each task. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.
ID	No	Displays the ID of each task.
Description	Yes	Displays a brief description of each task.
Service	No	Displays the name of the service that generated the task.
Resource Group	No	Displays the resource group to which the task is registered.
Category	Yes	Displays the name of the category to which the service that generated the task belongs.
Submitted By	Yes	Displays the name of the individual who executed the service that generated the task.
Submitted At	No	Displays the date and time of service submission.
Recurrence Pattern	No	Displays the recurrence pattern.
Recurrence Time	No	Displays the recurrence time.
Recurrence Start	No	Displays the start date of recurrence.
Configuration Type	No	Displays the configuration type of the service template.

Legend:

Yes: Displayed by default, No: Hidden by default

View the Task Log button

If you select a task and then click this button, the **task log** dialog box appears.

Show Task Details button

If you select a task and then click this button, the **Task Details** dialog box appears.

More Actions menu

If you select a task and then click this menu, the items described below appear. You can select multiple tasks at a time.

• **Resubmit**

If you click this item, the **Submit Service** dialog box appears.

• **Archive Tasks**

If you click this item, the **Archive Tasks** dialog box appears.

Close button

To close the **Completed Task List** dialog box, click this button.

3.1.8 Failed Task List dialog box

Use the **Failed Task List** dialog box to display and check a list of user-executed tasks that have failed. Note that the list displayed in this dialog box does not include debug tasks.

To display the **Failed Task List** dialog box, select **Failed** in the task summary.

Figure 3–10: **Failed Task List** dialog box
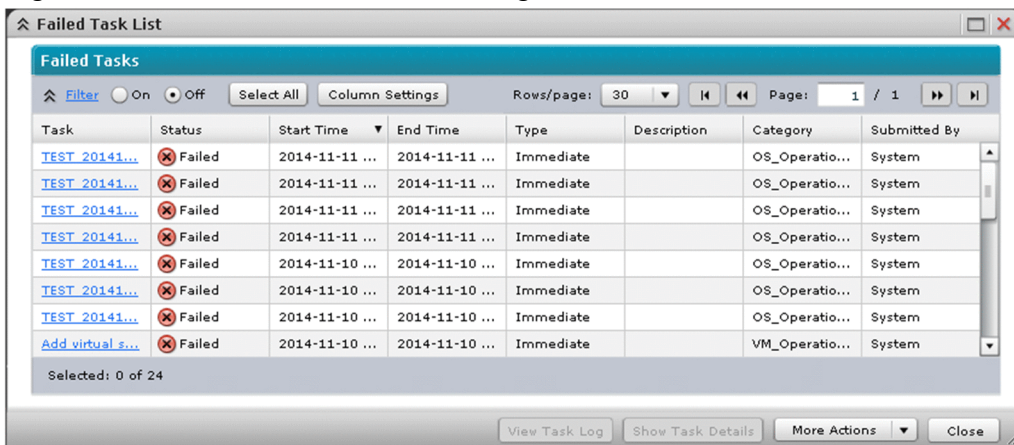
The following items are displayed in this dialog box:

Failed Tasks

Information on the tasks that have failed is displayed. You can sort the list in ascending or descending order by clicking column titles. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 3–6: Items displayed in "Failed Tasks" (**Failed Task List** dialog box)

Display item	Displayed by default	Description
Task	Yes	Displays the name of each task. If you click *task*, the **Task Details** dialog box appears.
Status	Yes	Displays the current status of each task.
Scheduled Time	No	Displays the scheduled time for starting each task.
Start Time	Yes	Displays the date and time of starting each task.
End Time	Yes	Displays the date and time of ending each task.
Type	Yes	Displays the type of each task. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.
ID	No	Displays the ID of each task.
Description	Yes	Displays a brief description of each task.
Service	No	Displays the name of the service that generated the task.
Resource Group	No	Displays the resource group to which the task is registered.

Display item	Displayed by default	Description
Category	Yes	Displays the name of the category to which the service that generated the task belongs.
Submitted By	Yes	Displays the name of the individual who executed the service that generated the task.
Submitted At	No	Displays the date and time of service submission.
Recurrence Pattern	No	Displays the recurrence pattern.
Recurrence Time	No	Displays the recurrence time.
Recurrence Start	No	Displays the start date of recurrence.
Configuration Type	No	Displays the configuration type of the service template.

Legend:

Yes: Displayed by default, No: Hidden by default

View the Task Log button

If you select a task and then click this button, the **task log** dialog box appears.

Show Task Details button

If you select a task and then click this button, the **Task Details** dialog box appears.

More Actions menu

If you select a task and then click this menu, the items described below appear. You can select multiple tasks at a time.

- **Resubmit**

  If you click this item, the **Submit Service** dialog box appears.

- **Archive Tasks**

  If you click this item, the **Archive Tasks** dialog box appears.

Close button

To close the **Failed Task List** dialog box, click this button.

4

Services Window

This chapter provides information on the JP1/AO **Services** window.

4.1 Services window

Use the **Services** window to check or execute the services registered in JP1/AO.

To display the **Services** window, select the **Services** tab in the main window.

Figure 4–1: **Services** window
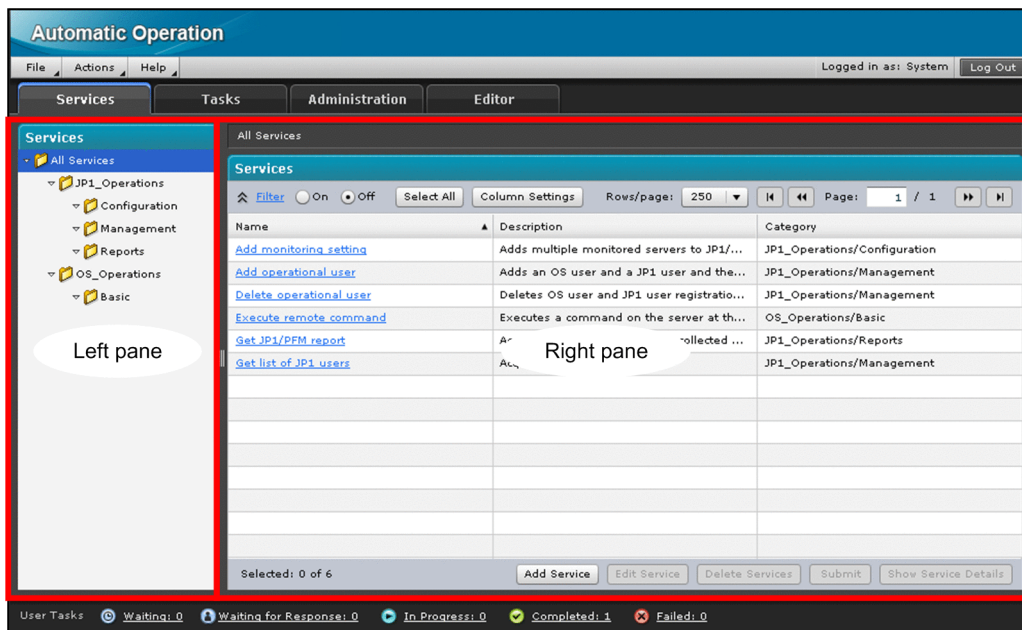
The following items are displayed in this window:

Left pane

> **All Services** menu
>
>> A tree view of the categories to which services are registered is displayed.

Right pane

> Services
>
>> The information on services belonging to the category selected in the left pane is displayed in list format. If you click the column title of a display item, the data will be sorted in ascending or descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 4–1: Items displayed in Services (**Services** window)

Display item	Displayed by default	Description
Name	Yes	Displays the name of each service. If you click *Name*, the **Submit Service** dialog box appears.
Description	Yes	Displays a brief description of each service.
Category	Yes	Displays the category specified for each service.
Resource Group	No	Displays a resource group to which the service is registered.
Service Template	No	Displays the name of the service template on which the service is based.
Vendor	No	Displays the name of the vendor that created the service template.
Version	No	Displays the version of the service template on which the service is based.

Display item	Displayed by default	Description
Configuration Type	No	Displays the configuration type of the service template that is used for each service.

Legend:

Yes: Displayed by default, No: Hidden by default

Add Service button

If you click this button, the **Add Service** dialog box appears.

Edit Service button

If you select a service and then click this button, the **Service Definition** dialog box appears.

Delete Services button

If you select a service and then click this button, the **Delete Services** dialog box appears.

Submit button

Use this button to execute the selected service. If you click this button, the **Submit Service** dialog box appears.

Show Service Details button

If you click this button, a brief description of the selected service is displayed.

4.1.1 Submit Service dialog box

Use the **Submit Service** dialog box to execute a service registered in JP1/AO.

To display the **Submit Service** dialog box, select a service in the **Services** window, and then click the **Submit** button. Alternatively, in the **Task Details** dialog box, click the **Resubmit** button.

Figure 4–2: **Submit Service** dialog box

The following items are displayed in this dialog box:

Services

    Name

        The name of the service to be executed is displayed.

    Description

        A brief description of the service is displayed.

    Category

        The category to which the service to be executed belongs is displayed.

    Resource Group

        The resource group that the service to be executed is registered to is displayed

    Configuration Type

        The configuration type of the service template on which the service is based is displayed.

Tasks

    Name text box

        Enter a task name in this text box.

The text box allows a maximum of 128 characters. The default task name displayed in this text box is *service-name_YYYYMMDDhhmmss* (*YYYYMMDDhhmmss*: date and time that the service was executed).

Description text box

Enter a brief description of the task. The text box allows a maximum of 256 characters.

Properties

Property information is displayed for the selected service. If you click the column title of a display item, the data will be sorted in ascending or descending order. The properties vary depending on the service template used.

property-group

Each property is displayed per group. This item will not be displayed when no property groups are set in the service template.

Table 4–2: Items displayed in the list of properties (**Submit Service** dialog box)

Display item	Description
Name	Displays the name of each property.
Key	Displays the name of each property key.
Value	Provides fields in which to enter a property value necessary to execute each service.
Description	Displays a brief description of each property.

Schedule

Select the timing to execute the services.

Schedule Type list box

Select the type of Schedule.

- Now

  Select this item to execute the services immediately.

- Later

  If you select this item, the **Schedule Starts On** text box and the **Schedule Time** spin box appear.

  If you want to execute the services at the specified date and time, select this item.

  Figure 4–3: **Submit Service** dialog box (when Later is selected)

Schedule Starts On text box

Click the **Calendar** button. From the displayed calendar, select the date to specify the execution start date for the service.

Schedule Time spin box

Specify the execution start time (hour and minute) in 24-hour format.

- Recurring

If you select this item, the **Schedule Starts On** text box, the **Recurrence Pattern** list box, and the **Recurrence Time** spin box appear.

If you want to execute the services periodically at the specified date and time, select this item.

Figure 4–4: **Submit Service** dialog box (when Recurring is selected)

Schedule Starts On text box

Click the **Calendar** button. From the displayed calendar, select the date to specify the execution start date for the service.

Recurrence Pattern list box

Specify the recurrence pattern of the service. The options available are **Daily**, **Weekly**, and **Monthly**.

- Daily

  Starting from the specified execution start date, the service is executed daily at the specified time.

- Weekly

  If you select this option, the **Recurs On** check boxes appear. Select the day of the week on which to execute the service.

  Recurs On check boxes

  Specify the day of the week on which to periodically execute the service. You can select multiple days.

- Monthly

  If you select this option, the **Recurrence Date** text box and the **Last day of the month** check box appear.

  Recurrence Date text box

  Enter the date on which to periodically execute the service. An integer value in the range from 1 to 31 can be entered. You can specify multiple dates. To specify multiple dates, delimit the dates with a comma (,). For example, if you want to execute the service on the 1st and 15th day of the month, enter 1,15.

  If you specify 31, the service will not be executed in the months that have only 30 days. If you want to execute the service at every end of the month, select the **Last day of the month** check box.

  Last day of the month check box

  If you select this check box, the service is executed at every end of the month.

Recurrence Time spin box

Specify the start time (hour and minute) at which to periodically execute the service.

Show Plan button

If you click this button, the **Plan Summary** dialog box appears. Check the detailed plan for executing the service. To execute the service, click the **Submit** button in the **Plan Summary** dialog box.

Cancel button

If you click this button, the **Submit Service** dialog box closes.

Show Service Details button

If you click this button, a brief description of the service appears.

4.1.2 Add Service dialog box

Use the **Add Service** dialog box to select a service to be added from the service templates imported to JP1/AO and then assign that service to a resource group.

To display the **Add Service** dialog box, click the **Add Service** button in the **Services** window.

Figure 4–5: **Add Service** dialog box
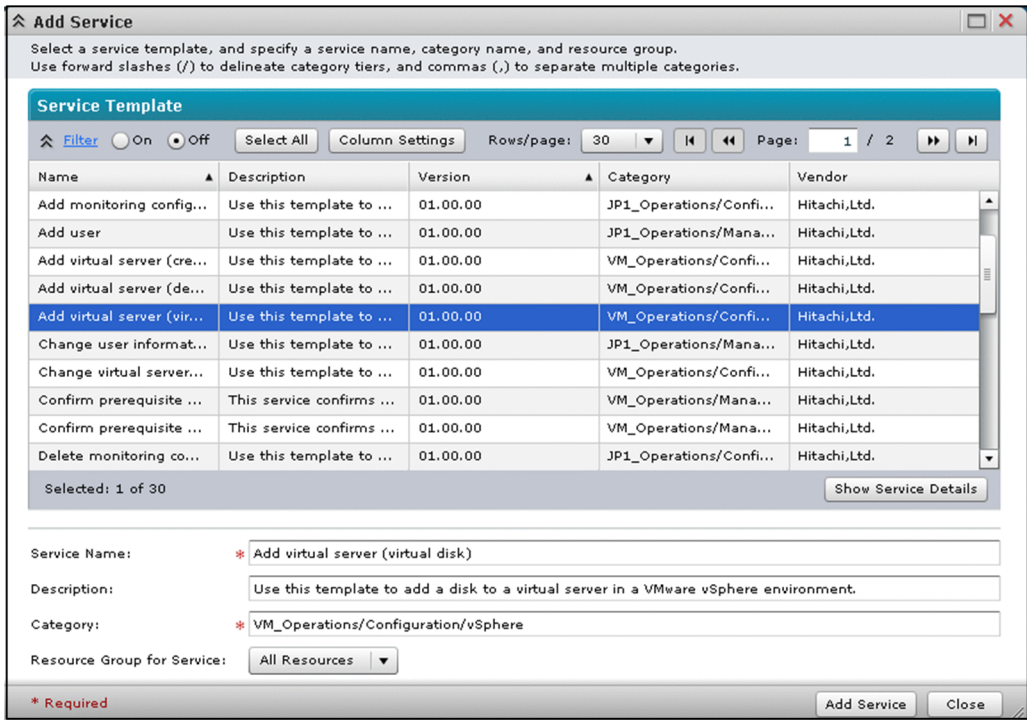
The following items are displayed in this dialog box:

Service Template

A list of service templates imported to JP1/AO is displayed. If you click the column title of a display item, the data will be sorted in ascending or descending order. Select a service template to be used to create a service to be added. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 4–3: Items displayed in the list of service templates (**Add Service** dialog box)

Display item	Displayed by default	Description
Name	Yes	Displays the name of each service template.

Display item	Displayed by default	Description
Description	Yes	Displays a brief description of each service template.
Version	Yes	Displays the version of each service template.
Category	Yes	Displays the category of each service template.
Vendor	Yes	Displays the name of the vendor that created the service template.
Configuration Type	No	Displays the configuration type of each service template.

Legend:

Yes: Displayed by default, No: Hidden by default

Show Service Details button

If you click this button, a detailed description of the service appears.

Service Name text box

The name of the service template you have selected in the list of service templates is automatically entered here. You can rename the service. The text box allows a maximum of 64 characters.

Description text box

A brief description of the service template you have selected in the list of service templates is automatically entered here. You can change this description. The text box allows a maximum of 256 characters.

Category text box

The name of the category of the service template you have selected in the list of service templates is automatically entered here. You can rename the category. The text box allows a maximum of 256 characters. To delineate category tiers, use forward slashes (/) to separate categories. You can have a maximum of 10 category tiers. To specify multiple categories for a service, use commas (,) to separate categories. Make sure that you enter values for all tiers of a category name.

Resource Group for Service list box

Select a resource group. You (as a logged-in user) can select one of your resource groups for which Modify or higher role is set. However, if you are granted Modify or higher role for All Resources, you can select any resource group from all registered resource groups.

Add Service button

To add a service, click this button. The **Service Definition** dialog box appears. You can add a maximum of 1,000 services.

Close button

If you click this button, the **Add Service** dialog box closes.

4.1.3 Service Definition dialog box

Use the **Service Definition** dialog box to set property information for a service.

To display the **Service Definition** dialog box, click the **Add Service** button in the **Add Service** dialog box, or select a service in the **Services** window and then click the **Edit Service** button.

Figure 4–6: **Service Definition** dialog box

The following items are displayed in this dialog box:

Services

In this section of the dialog box, you can change the information specified at the time the service was added, including the service name and the category name.

Name text box

The service name specified at the time the service was added is displayed here. You can rename the service. The text box allows a maximum of 64 characters.

Description text box

The service description specified at the time the service was added is displayed here. You can change this description. The text box allows a maximum of 256 characters.

Category text box

The category name specified at the time the service was added is displayed here. You can rename the category. The text box allows a maximum of 256 characters. To delineate category tiers, use forward slashes (/) to separate categories. You can have a maximum of 10 category tiers. To specify multiple categories for a service, use commas (,) to separate categories. Make sure that you enter values for all tiers of a category name.

Resource Group

The resource group specified at the time the service was added is displayed here.

Configuration Type

The configuration type of the service template on which the service is based is displayed here.

Properties

Lists showing the property information of the service are displayed here. If you click the column title of a display item, the data will be sorted in ascending or descending order. Enter property values as necessary. The properties vary depending on the service template used.

Preset Properties list box

This list box allows you to select the preset property you want to set for the service template. If no preset properties are set for the service template, the list box will not be displayed.

Apply button

Click this button to apply the selected preset property to the list of properties. If no preset properties are set for the service template, the button will not be displayed.

property-group

If you click this item, a list of properties included in the property group appears. This item will not be displayed when no property groups are set in the service template.

Table 4–4: Items displayed in the list of properties (**Service Definition** dialog box)

Display item	Description
Name	Displays the name of each property.
Key	Displays the name of each property key.
Value	Provides fields in which to enter a property value.
Description	Displays a brief description of each property.
Scope	Displays the scope of each property.

OK button

If you click this button, changes made to the service are applied.

Cancel button

If you click this button after entering all the mandatory items, the **Service Definition** dialog box closes. If you have not entered some of the mandatory items, a confirmation dialog box appears. To close the **Service Definition** dialog box, click the **OK** button.

Show Service Details button

If you click this button, a brief description of the service appears.

4.1.4 Delete Services dialog box

Use the **Delete Services** dialog box to delete unnecessary services.

To display the **Delete Services** dialog box, click a service in the **Services** window and then click the **Delete Services** button.

Figure 4–7: **Delete Services** dialog box
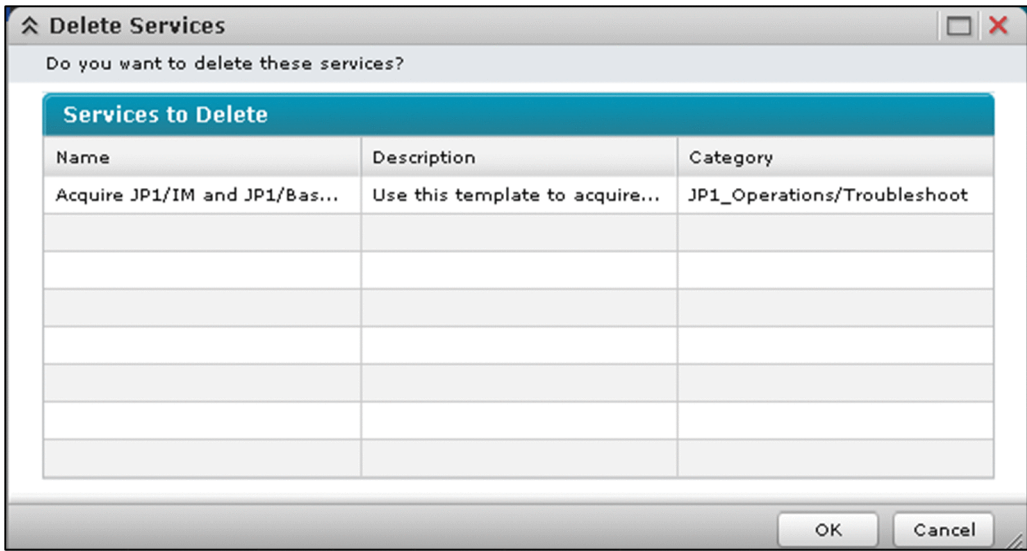
The following items are displayed in this dialog box:

Services to Delete

A list of services to be deleted is displayed here. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 4–5: Items displayed in Services to Delete (**Delete Services** dialog box)

Display item	Description
Name	Displays the name of each service.
Description	Displays a brief description of each service.
Category	Displays the name of each category.

OK button

If you click this button, the services displayed in the list are deleted.

Cancel button

If you click this button, the **Delete Services** dialog box closes.

5

Tasks window

This chapter provides information on the JP1/AO **Tasks** window.

5.1 Tasks window

Use the **Tasks** window to check debug tasks and the progress or histories of tasks processed by JP1/AO.

To display the **Tasks** window, select the **Tasks** tab in the main window.

Figure 5–1: **Tasks** window
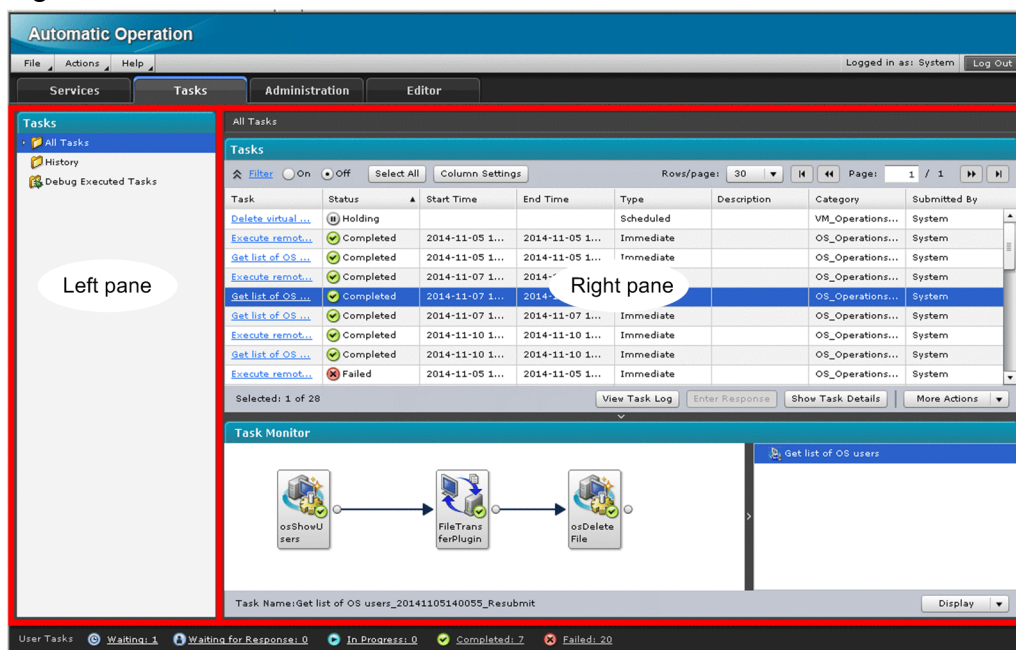
The following items are displayed in this window:

Left pane

All Tasks menu

The information on tasks belonging to the selected category is displayed in list format. If you select this menu, the **Tasks** view is displayed in the right pane.

History menu

If you select this menu, the **Task Histories** view is displayed in the right pane.

Debug Executed Tasks menu

If you select this menu, the **Debug-Tasks** view is displayed in the right pane.

Right pane

The contents in the right pane change according to the menu item selected in the left pane.

5.2 Tasks view

Use the **Tasks** view to check information about tasks that were processed by JP1/AO, or to terminate tasks.

To display the **Tasks** view, select the category of tasks in the left pane of the **Tasks** window.

Figure 5–2: **Tasks** view
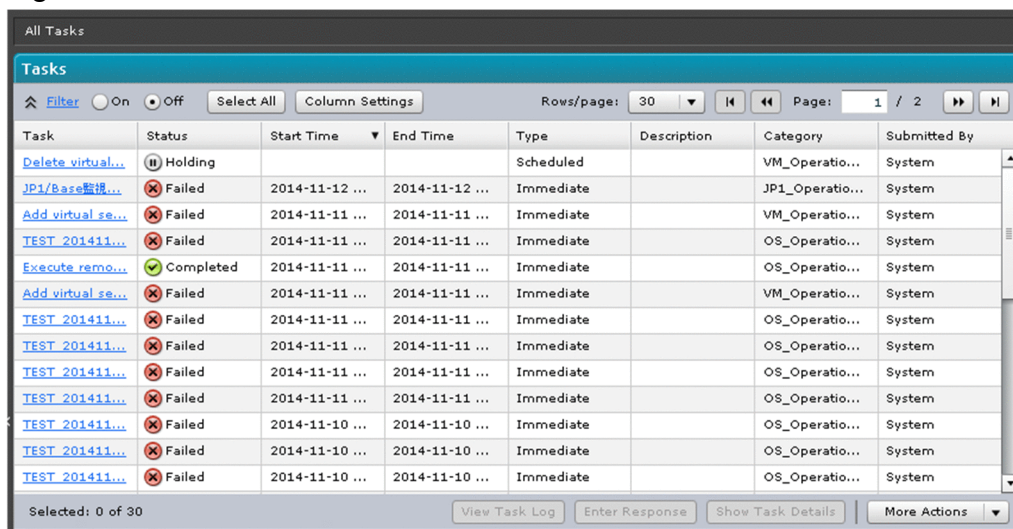
The following items are displayed in this view:

Tasks

The information on tasks belonging to the category selected in the left pane is displayed in list format. The list can be sorted in ascending or descending order by clicking the title of an item (column). The items to be displayed can be selected by using the **Column Settings** dialog box. By default, a maximum of 5,000 tasks (including debug tasks) can be managed. Note that debug tasks are displayed in the **Debug-Tasks** view.

Table 5–1: Items displayed in the Tasks list (**Tasks** view)

Display item	Displayed by default	Description
Task	Yes	Displays the name of each task. If you click *task*, the **Task Details** dialog box appears.
Status	Yes	Displays the current status of each task.
Scheduled Time	No	Displays the scheduled time for starting each task.
Start Time	Yes	Displays the date and time of starting each task. The date and time displayed here is not updated even when the task is retried.
End Time	Yes	Displays the date and time of ending each task. For tasks that have been canceled due to a schedule cancellation or restoration operation, the date and time of this operation is displayed here. The displayed date and time is updated every time the task is retried.
Type	Yes	Displays the type of each task. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.
ID	No	Displays the ID of each task.
Description	Yes	Displays a brief description of each task.
Service	No	Displays the name of the service that generated the task.
Resource Group	No	Displays the resource group to which the task is registered.

Display item	Displayed by default	Description
Category	Yes	Displays the name of the category to which the service that generated the task belongs.
Submitted By	Yes	Displays the name of the individual who executed the service that generated the task.
Submitted At	No	Displays the date and time of service submission.
Recurrence Pattern	No	Displays the recurrence pattern.
Recurrence Time	No	Displays the recurrence time.
Recurrence Start	No	Displays the start date of recurrence.
Configuration Type	No	Displays the service template configuration type.

Legend:

Yes: Displayed by default, No: Hidden by default

View the Task Log button

If you select a task and then click this button, the **task log** dialog box appears.

Enter Response button

If you select a task waiting for a response and then click this button, the **Respond** dialog box appears. If there are multiple steps that are waiting for a response in the task, the corresponding **Respond** dialog boxes are displayed in the order in which those steps began to wait.

Show Task Details button

If you select a task from **Tasks** and then click this button, the **Task Details** dialog box for the selected task appears.

More Actions menu

If you select a task from **Tasks** and then click this menu, the items described below appear. You can select multiple tasks at a time.

- Suspend Schedules

  If you select a scheduled task or a recurring task that is in a waiting state and then click this item, the **Suspend Schedules** dialog box appears. Clicking the **OK** button in the **Suspend Schedules** dialog box causes the selected task to be put on hold.

- Resume Schedules

  If you select a task on hold and then click this item, the **Resume Schedules** dialog box appears. Clicking the **OK** button in the **Resume Schedules** dialog box causes the selected task to enter a waiting state if it is not past the scheduled time for starting the task, or to enter a canceled state if it is past the scheduled time for starting the task.

- Cancel Schedules

  If you select a scheduled task or a recurring task in a waiting state or a task on hold and then click this item, the **Cancel Schedules** dialog box appears. Clicking the **OK** button in the **Cancel Schedules** dialog box causes the selected task to be canceled.

- Stop Tasks

  If you select a task in progress, a task waiting for a response, or a task for which abnormality has been detected and then click this item, the **Stop Tasks** dialog box appears. Clicking the **OK** button in the **Stop Tasks** dialog box causes the selected task to enter a terminated state and then a failed state. After processing of the step in progress is completed, the task stops.

- Forcibly Stop Tasks

If you select a task that is in an *In Progress*, a *Waiting for Response*, an *Abnormal Detection*, or a *Terminated* state and then click this item, the **Forcibly Stop Tasks** dialog box appears. Clicking the **OK** button in the **Forcibly Stop Tasks** dialog box causes the selected task to enter a *Terminated* state and then a *Failed* state. The step in progress immediately stops, and then the task stops.

- Resubmit

  If you select a task in a completed, failed, or canceled state and then click this item, the **Submit Service** dialog box appears. You can only select one task at a time. Check the setting in the **Submit Service** dialog box and then click the **Show Plan** button. The **Plan Summary** dialog box appears. To create a new task according to the specified setting, click the **Submit** button in the **Plan Summary** dialog box.

- Retry the Task From the Failed Step

  If you select a task in a failed state and then click this item, the **Retry the Task From the Failed Step** dialog box appears. You can only select one task at a time. Clicking the **OK** button in the **Retry the Task From the Failed Step** dialog box retries executing the same task that was selected. The retried task is first placed in a *Waiting* state, and then the processing of the task is resumed from the failed step.

- Retry the Task From the Step After the Failed Step

  If you select a task in a failed state and then click this item, the **Retry the Task From the Step After the Failed Step** dialog box appears. You can only select one task at a time. Clicking the **OK** button in the **Retry the Task From the Step After the Failed Step** dialog box retries executing the same task that was selected. The retried task is first placed in a *Waiting* state, and then the processing of the task is resumed from the step after the failed step.

- Archive Tasks

  If you select a task in a completed, failed, or canceled state and then click this item, the **Archive Tasks** dialog box appears. Clicking the **OK** button in the **Archive Tasks** dialog box causes the selected task to be deleted from **Tasks**, which is then added to the list of histories as a task history.

5.2.1 Task Details dialog box

Use the **Task Details** dialog box to check the input/output properties of tasks or the progress of jobs.

The **Task Details** dialog box appears when one of the following operations is performed:

- In the **Waiting Task List** dialog box, select a task, and then click the **Show Task Details** button.
- In the **Waiting for Response Task List** dialog box, select a task, and then click the **Show Task Details** button.
- In the **In Progress Task List** dialog box, select a task, and then click the **Show Task Details** button.
- In the **Completed Task List** dialog box, select a task, and then click the **Show Task Details** button.
- In the **Failed Task List** dialog box, select a task, and then click the **Show Task Details** button.
- In the **Tasks** view, click a task name.
- In the **Tasks** view, select a task, and then click the **Show Task Details** button.
- In the **Debug-Tasks** view, click a task name.
- In the **Debug-Tasks** view, select a task, and then click the **Show Task Details** button.

Figure 5–3: **Task Details** dialog box

The following items are displayed in this dialog box:

Task Information

Task information is displayed.

Task

The name of the task is displayed.

Status

The current status of the task is displayed.

Scheduled Time

The scheduled time for starting the task is displayed.

Start Time

The date and time of starting the task is displayed. The date and time displayed here is not updated even when the task is retried.

End Time

The date and time of ending the task is displayed. For tasks that have been canceled due to a schedule cancellation or restoration operation, the date and time of this operation is displayed here. The date and time displayed here is updated every time the task is retried.

Type

> The type of the task is displayed. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.

ID

> The ID of the task is displayed.

Description

> A brief description of the task is displayed.

Service

> The name of the service that generated the task is displayed.

Resource Group

> The resource group to which the task is registered is displayed.

Category

> The name of the category to which the service that generated the task belongs is displayed.

Submitted By

> The name of the individual who executed the service that generated the task is displayed.

Submitted At

> The date and time of service submission is displayed.

Recurrence Pattern

> The recurrence pattern is displayed.

Recurrence Time

> The recurrence time is displayed.

Recurrence Start

> The start date of recurrence is displayed.

Configuration Type

> The service template configuration type is displayed.

Properties

> If you click this text, the input/output properties of the task are displayed.

Input Properties

> A list of input properties is displayed for the task. The list can be sorted in ascending or descending order by clicking the title of an item (column).

Table 5–2: Items displayed in the Input Properties list (**Task Details** dialog box)

Display item	Description
Name	Displays the name of each property.
Key	Displays the name of each property key.
Value	Displays the property value.
Description	Displays a brief description of each property.

Output Properties

> A list of output properties is displayed for the task. The list can be sorted in ascending or descending order by clicking the title of an item (column).

Table 5–3: Items displayed in the Output Properties list (**Task Details** dialog box)

Display item	Description
Name	Displays the name of each property.
Key	Displays the name of each property key.
Value	Displays the property value.
Description	Displays a brief description of each property.

Step Details

If you click this text, the **Step Information** and **Steps** lists are displayed.

Step Information

Displays information about the highest-level flow.

Progress

Displays the progress of the highest-level flow.

Steps

Displays the list of jobs defined in the highest-level flow. The list can be sorted in ascending or descending order by clicking the title of an item (column).

Table 5–4: Items displayed in the Steps list (**Task Details** dialog box)

Display item	Description
Name	Displays the name of each step defined in the highest-level flow.
Status	Displays the status of each step.[1] This information is used to estimate the progress of the step.
Return Value	Displays the return value of the step.[2]
Start Time	Displays the date and time of starting the step in $YYYY\text{-}MM\text{-}DD\ hh\text{:}mm\text{:}ss$ format.
End Time	Displays the date and time of ending the step in $YYYY\text{-}MM\text{-}DD\ hh\text{:}mm\text{:}ss$ format.
Description	Displays a brief description of the step.

#1

Instead of displaying the step status, you can display the processing status in the task-processing engine. Which type of status is displayed is determined by the setting of the task.details.jobnet.status.visible key in the property file (config_user.properties). By default, the step status is displayed.

#2

The manual describing the return value of a step differs depending on the plug-in.

Basic plug-in

See the topic on the relevant basic plug-in in the manual *Job Management Partner 1/Automatic Operation Service Template Reference*

Content plug-in

- For return values from 0 to 63, see the topic on the relevant content plug-in in the manual *Job Management Partner 1/Automatic Operation Service Template Reference*

- From other return values, see the topic on the return values of content plug-ins in the *Job Management Partner 1/Automatic Operation Service Template Developer's Guide*.

Enter Response button

This button is displayed only when the task is currently waiting for a response. Note that this button is not displayed if the selected task is a debug task. If you click this button, the **Respond** dialog box appears. If there are multiple steps that are waiting for a response in the task, the corresponding **Respond** dialog boxes are displayed in the order in which those steps began to wait.

Resubmit button

This button is displayed when the task is in a completed, failed, or canceled state. Note that this button is not displayed if the selected task is a debug task. Clicking this button displays the **Submit Service** dialog box in which the properties that were specified when the task was previously submitted are preset.

View the Task Log button

This button is displayed when the status of the task is not *Waiting*, *Being held*, or *Canceled*. Clicking this button displays the **task log** dialog box.

Download Log File button

This button is displayed when the task is in a state other than the waiting, on-hold, or canceled state. If you click this button, a download dialog box appears, which allows you to download a task log to a specified location, such as an operation terminal. The default file name for the task log to be downloaded is task_*task-ID*_1.log. You can rename the file and save it.

Related topic

- Topic on the property file (config_user.properties) in the *Job Management Partner 1/Automatic Operation Configuration Guide*

5.2.2 Respond dialog box

Use the **Respond** dialog box to enter a user response for an in-progress task.

The **Respond** dialog box appears when one of the following operations is performed:

- In the **Waiting for Response Task List** dialog box, select a task, and then click the **Enter Response** button.
- In the **Tasks** view, select a task in a *Waiting for Response* state, and then click the **Enter Response** button.
- In the **Task Details** dialog box, click the **Enter Response** button.
- In the **Debug** view, click (**Enter Response** button).

Figure 5–4: **Respond** dialog box (for shutting down a virtual server)
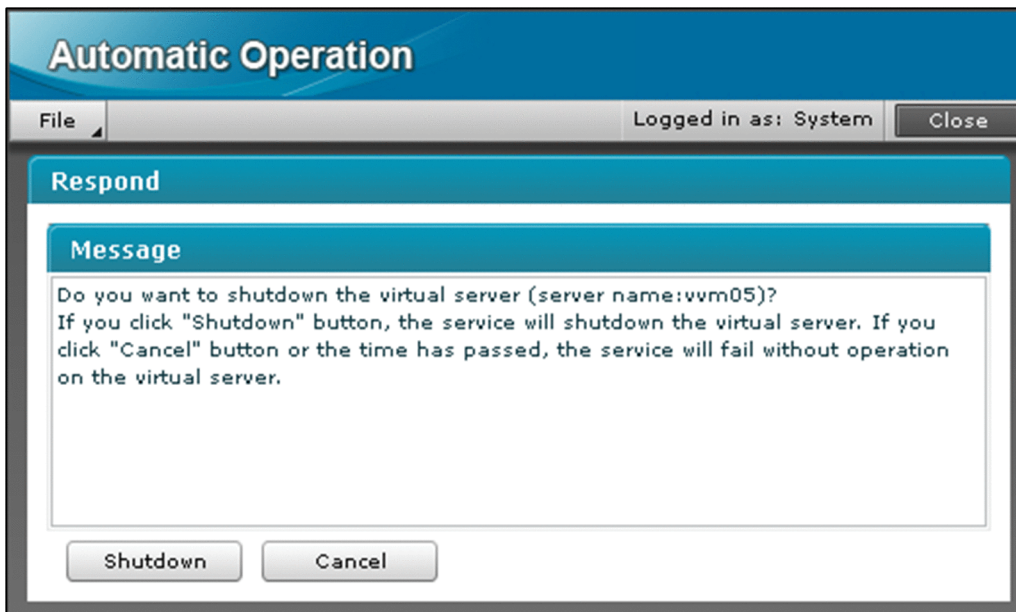
The following items are displayed in this dialog box:

Message area
 A message containing information necessary for a user to enter a response is displayed here.

Response button area
 Response buttons appropriate to the response content are displayed here. If you click a response button, a confirmation message appears. If you click the **OK** button, the processing is resumed or stopped according to the input response.

5.2.3 Task log dialog box

Use the **task log** dialog box to view a task log or debug task log.

The **task log** dialog box appears when one of the following operations is performed:

- In the **Waiting for Response Task List** dialog box, select a task, and then click the **View the Task Log** button.
- In the **In Progress Task List** dialog box, select a task, and then click the **View the Task Log** button.
- In the **Completed Task List** dialog box, select a task, and then click the **View the Task Log** button.
- In the **Failed Task List** dialog box, select a task, and then click the **View the Task Log** button.
- In the **Tasks** view, select a task, and then click the **View the Task Log** button.
- In the **Debug-Tasks** view, select a task, and then click the **View the Task Log** button.
- In the **Task Details** dialog box, click the **View the Task Log** button.

Figure 5–5: **Task log** dialog box
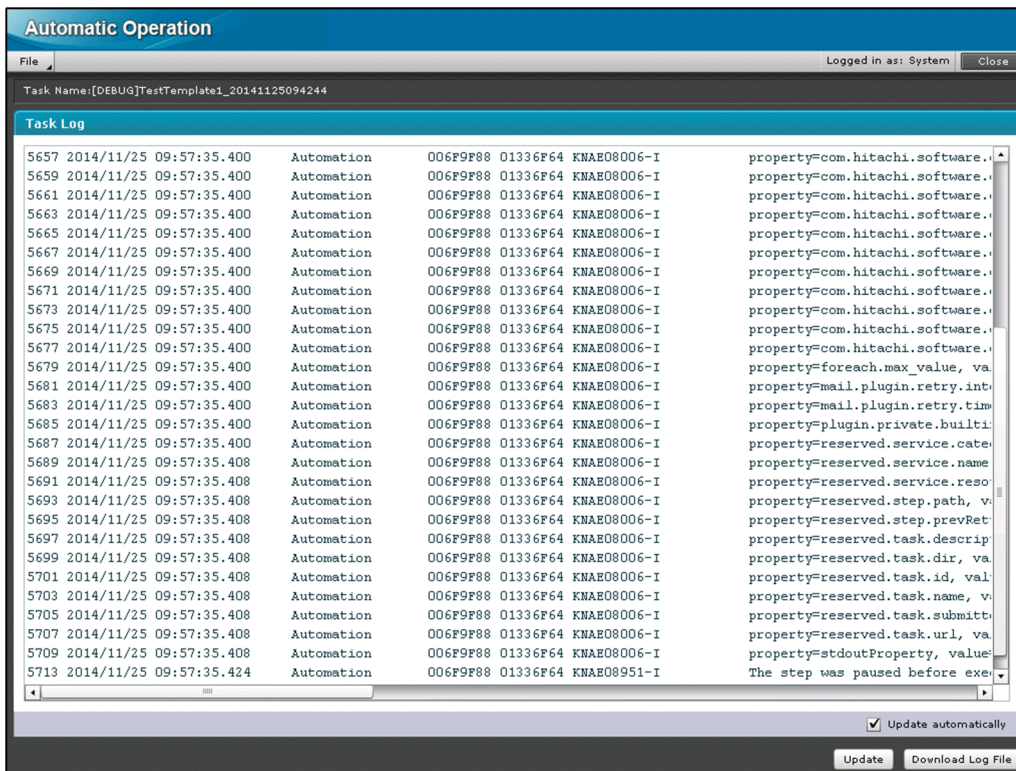
The following items are displayed in this dialog box:

Task log area

The task log for the selected task is displayed.

Log entry display area

The contents of the task log are displayed. The maximum size of log file that can be displayed can be set by using the client.monitor.tasklog.maxfilesize key in the property file (config_user.properties).

Update automatically check box

If this check box is selected, the log entry display area is automatically refreshed to display the most recent task log entries regardless of the task status. The default refresh interval is 30 seconds. If this check box is cleared, the log entry display area is not refreshed automatically. The refresh interval of the log entry display area can be set by using the client.monitor.tasklog.refresh.interval key in the property file (config_user.properties).

Update button

When this button is clicked, the contents of the log entry display area are immediately refreshed to display the most recent task log entries.

Download Log File button

Clicking this button displays a dialog box for downloading a task log to a file. The default task log file name is task_*task-ID*_1.log. You can change the default file name.

Related topic

- Topic on the property file (config_user.properties) in the *Job Management Partner 1/Automatic Operation Configuration Guide*

5.3 Task Histories view

Use the **Task Histories** view to check (a history of) archived tasks.

To display the **Task Histories** view, select the **History** menu in the left pane of the **Tasks** window.

Figure 5–6: **Task Histories** view
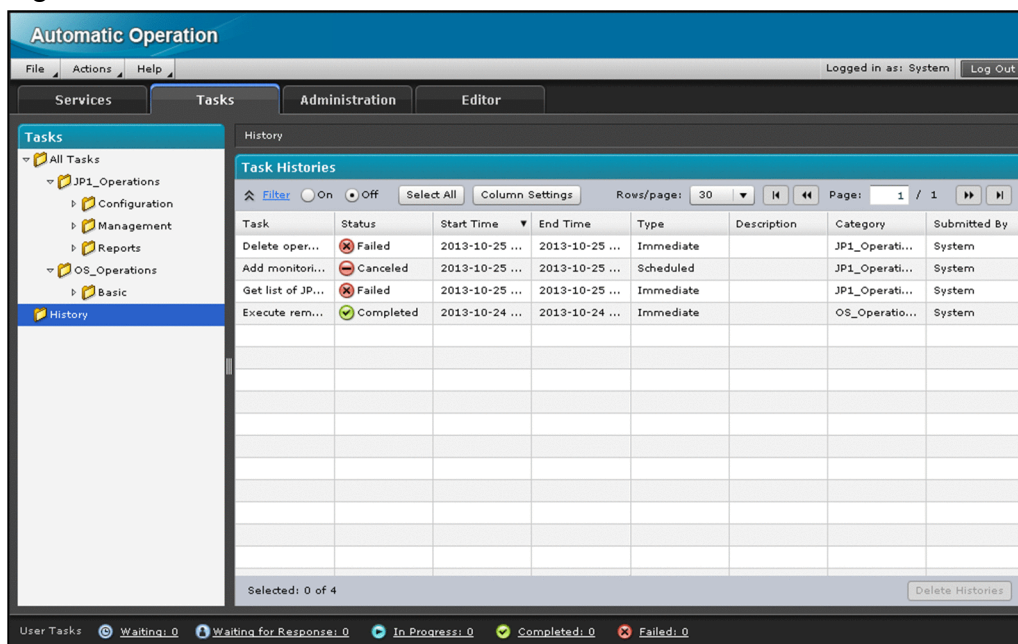
The following items are displayed in this view:

Task Histories

 A list of task history entries is displayed here. The list can be sorted in ascending or descending order by clicking the title of an item (column). The items to be displayed in the list can be selected by using the **Column Settings** dialog box. By default, a maximum of 30,000 entries can be managed.

Table 5–5: Items displayed in the task history list (**Task Histories** view)

Display item	Displayed by default	Description
Task	Yes	Displays the name of each task.
Status	Yes	Displays the current status of each task.
Scheduled Time	No	Displays the scheduled time for starting each task.
Start Time	Yes	Displays the date and time of starting each task. The date and time displayed here is not updated even when the task is retried.
End Time	Yes	Displays the date and time of ending each task. For tasks that have been canceled due to a schedule cancellation or restoration operation, the date and time of this operation is displayed here. The date and time displayed here is updated every time the task is retried.
Type	Yes	Displays the type of each task. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.
ID	No	Displays the ID of each task.
Description	Yes	Displays a brief description of each task.
Service	No	Displays the name of the service that generated the task.

Display item	Displayed by default	Description
Resource Group	No	Displays the resource group in which the task is registered.
Category	Yes	Displays the name of the category to which the service that generated the task belongs.
Submitted By	Yes	Displays the date and time of service submission.
Submitted At	No	Displays the date and time of service submission.
Recurrence Pattern	No	Displays the recurrence pattern.
Recurrence Time	No	Displays the recurrence time.
Recurrence Start	No	Displays the start date of recurrence.
Configuration Type	No	Displays the service template configuration type.

Legend:

Yes: Displayed by default, No: Hidden by default

Delete Histories button

If you select a history entry and then click this button, the **Delete Task Histories** dialog box appears. You can also select multiple entries.

Clicking the **OK** button in the **Delete Task Histories** dialog box causes the selected history entries to be deleted.

5.3.1 Delete Task Histories dialog box

Use the **Delete Task Histories** dialog box to delete unnecessary history entries.

To display the **Delete Task Histories** dialog box, select one or more history entries in the **Task Histories** view and then click the **Delete Histories** button.

Figure 5–7: **Delete Task Histories** dialog box
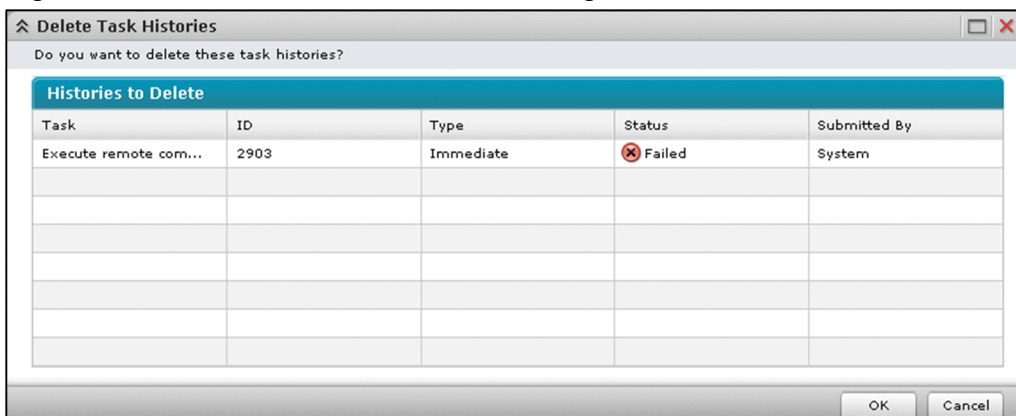
The following items are displayed in this dialog box:

Histories to Delete

A list of history entries to be deleted is displayed here. The list can be sorted in ascending or descending order by clicking the title of an item (column).

Table 5–6: Items displayed in the Histories to Delete list (**Delete Task Histories** dialog box)

Display item	Description
Task	Displays the name of each task.
ID	Displays the ID of each task.
Type	Displays the type of each task. **Immediate**, **Scheduled**, or **Recurring** is displayed, depending on the type of task.
Status	Displays the status of each task.
Submitted By	Displays the name of the individual who executed the service that generated the task.

OK button

If you click this button, the history entries displayed in the list are deleted.

Cancel button

If you click this button, the **Delete Task Histories** dialog box closes.

5.4 Debug-Tasks view

Use the **Debug-Tasks** view to check the information about debug tasks or to stop debug tasks.

To display the **Debug-Tasks** view, in the left pane of the **Tasks** window, select the **Debug Executed Tasks** menu.

Figure 5–8: **Debug-Tasks** view

The following items are displayed in this view:

Debug-Tasks

Information about debug tasks is displayed in table format. Clicking the header of a column switches that column's sort order between ascending and descending. The columns to be displayed can be selected by using the **Column Settings** dialog box. By default, a maximum of 5,000 tasks (including debug tasks) can be managed. Note that tasks other than debug tasks are displayed in the **Tasks** view.

Table 5–7: Items displayed in the debug-task list (**Debug-Tasks** view)

Display item	Displayed by default	Description
Task	Yes	Displays the name of the task.
Status	Yes	Displays the current status of the task.
Start Time	Yes	Displays the date and time that the task was started. The date and time displayed here is not updated even when the task is retried.
End Time	Yes	Displays the date and time that the task was ended. The date and time displayed here is updated every time the task is retried.
ID	No	Displays the ID of the task.
Description	Yes	Displays a description of the task.
Service Name	No	Displays the name of the service that generated the task.
Resource Group	No	Displays the resource group in which the task is registered.
Category	Yes	Displays the category name of the service that generated the task.

Display item	Displayed by default	Description
Submitted By	Yes	Displays the name of the user who generated the task.
Service Template Name	Yes	Displays the name of the service template on which the service is based.
Vendor Name	Yes	Displays the vendor name of the service template on which the service is based.
Service Template Version	Yes	Displays the version of the service template on which the service is based.

Legend

Yes: Displayed by default, No: Hidden by default

View the Task Log button

If you select a task in the debug task list and then click this button, the **task log** dialog box appears.

Show Task Details button

If you select a task in the debug task list and then click this button, the **Task Details** dialog box appears.

More Actions menu

If you select one or more tasks in the debug task list and then click this button, the following items appear:

- Stop Tasks

  If you select a task in an *In Progress*, *Waiting for Response*, or *Abnormal Detection* state and then click this item, the **Stop Tasks** dialog box appears. Clicking the **OK** button in the **Stop Tasks** dialog box causes the selected task to enter a *Terminated* state and then a *Failed* state. After the current step of the task is completed, the task is terminated.

- Forcibly Stop Tasks

  If you select a task in an *In Progress*, *Waiting for Response*, *Abnormal Detection*, or *Terminated* state and then click this item, the **Forcibly Stop Tasks** dialog box appears. Clicking the **OK** button in the **Forcibly Stop Tasks** dialog box causes the selected task to enter a *Terminated* state and then a *Failed* state. After the current step in the task is terminated immediately, the task itself is also terminated.

- Delete Tasks

  If you select one or more tasks and then click this item, the **Delete Tasks** dialog box appears. Clicking the **OK** button in the **Delete Tasks** dialog box deletes the selected tasks.

5.5 Task Monitor view

Use the **Task Monitor** view to display the flow of a task or debug task when you want to check the flow progress or step status.

To display the **Task Monitor** view, in the left pane of the **Tasks** window, select the **All Tasks** menu or the **Debug Executed Tasks** menu.

Figure 5–9: **Task Monitor** view

The following items are displayed in this view:

Task Monitor

> If you select a task in the **Tasks** view or the **Debug-Tasks** view, the items described below appear. These items are not displayed if you select no task or multiple tasks.

> Flow view

>> Displays the execution order of steps. Each step icon is displayed together with an icon that indicates the step status.

>> Double-clicking a step that uses the **Flow Plug-in** displays the flow of subordinate steps.

>> Double-clicking a step that uses the **Repeated Execution Plug-in** displays as many repeated-execution flows as the number of times the step is repeated. These repeated-execution flows are displayed after the Repeated Execution plug-in is started (they are also displayed during and after execution). Flow names are displayed in the following format: *repeat-number_value-entered-for-repeated-execution (reserved.loop.input)*

> Flow tree view

>> Displays the names of service template flows hierarchically. Clicking a flow name displays the subordinate flows in the flow view.

>> Clicking **Repeated Execution Plug-in** displays as many repeated-execution flows as the number of times the flow is repeated. These repeated-execution flows are displayed after the Repeated Execution plug-in is started (they are also displayed during and after execution). Flow names are displayed in the following format: *repeat-number_value-entered-for-repeated-execution (reserved.loop.input)*

Display list box

> Use this list box to select the magnification of the flow view. You can select **25%**, **50%**, **75%**, or **100%**.

Related topic

- A.2(2) Step status icons

6

Administration Window

This chapter provides information on the JP1/AO **Administration** window.

6.1 Administration window

Use the **Administration** window to specify the JP1/AO user management and resource group management settings.

To display the **Administration** window, select the **Administration** tab in the main window.

Figure 6–1: **Administration** window
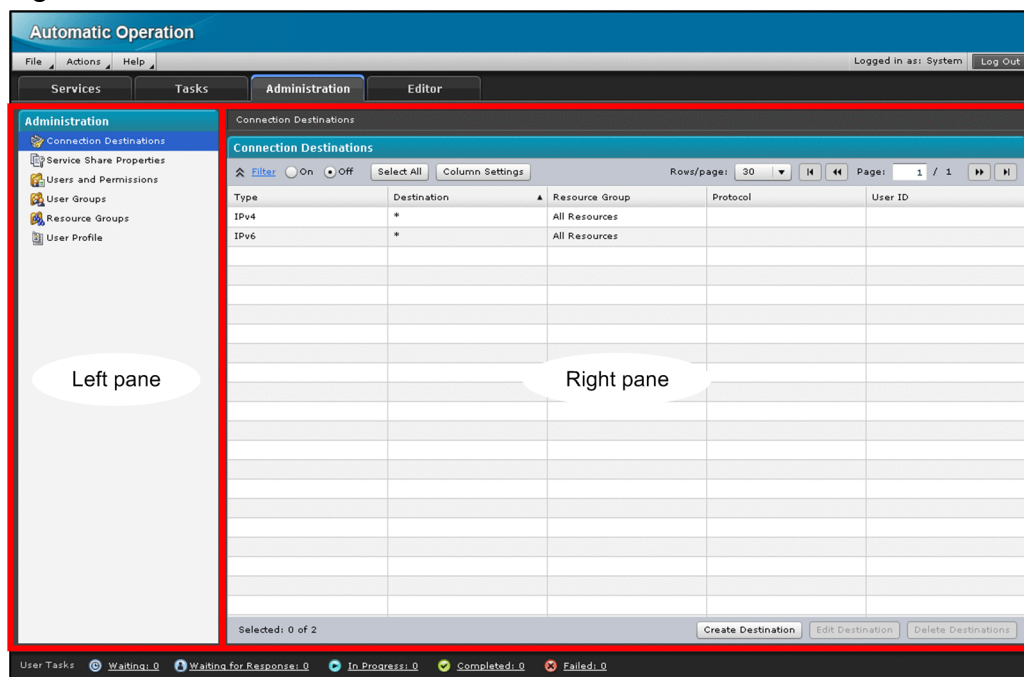
The following items are displayed in this window:

Left pane

Connection Destinations menu
> If you select this menu, the **Connection Destinations** view is displayed in the right pane.

Service Share Properties menu
> If you select this menu, the **Service Share Properties** view is displayed in the right pane.

Users and Permissions menu
> If you select this menu, the **Users and Permissions** window appears.

User Groups menu
> If you select this menu, the **User Groups** view is displayed in the right pane.

Resource Groups menu
> If you select this menu, the **Resource Groups** view is displayed in the right pane.

User Profile menu
> If you select this menu, the **User Profile** window appears.

Right pane
> A window corresponding to the menu selected in the left pane is displayed here.

6.2 Connection Destinations view

Use the **Connection Destinations** view to check the connection destination definition used for connecting to the connection destination.

To display the **Connection Destinations** view, select the **Connection Destinations** menu in the left pane of the **Administration** window.

Figure 6–2: **Connection Destinations** view
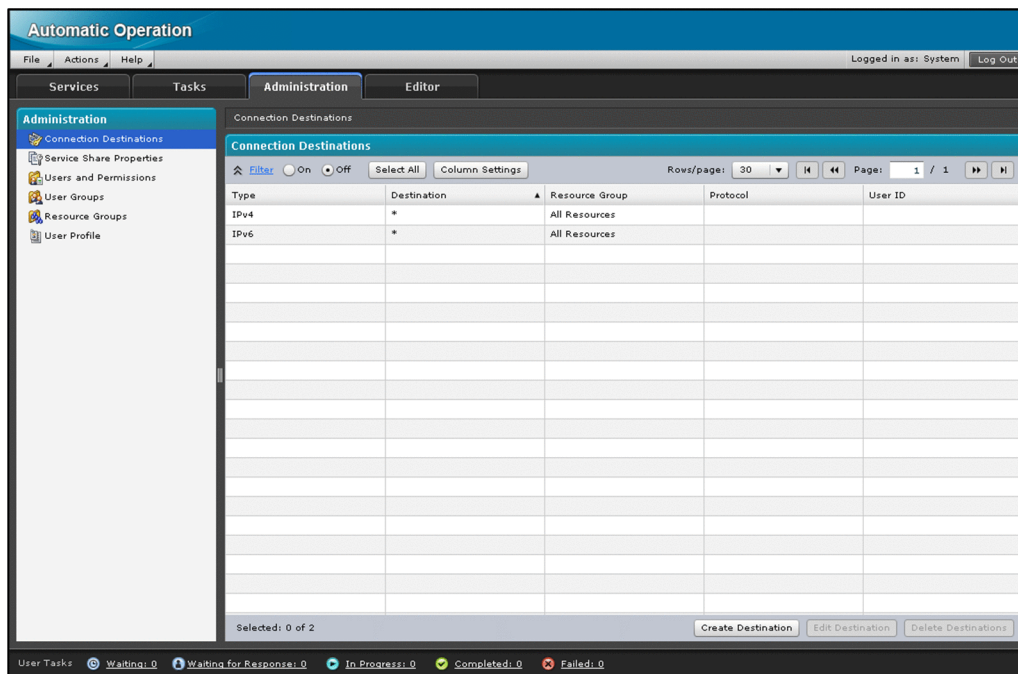
The following items are displayed in this view:

Connection Destinations

A list of connection destinations is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box. You can register a maximum of 10,000 connection destinations.

Table 6–1: Items displayed in the list of connection destination definitions (**Connection Destinations** view)

Display item	Displayed by default	Description
Type	Yes	Displays the type of connection destination (host name, IPv4, or IPv6).
Destination	Yes	Displays the name or IP address of the host at the connection destination.
Resource Group	Yes	Displays the name of the resource group.
Protocol	Yes	Displays the protocol for connecting to the connection destination.
User ID	Yes	Displays the user ID for connecting to the connection destination.

Legend:

Yes: Displayed by default

Create Destination button

If you click this button, the **Create Destination** dialog box appears.

Edit Destination button

If you select a connection destination and then click this button, the **Edit Connection Destination** dialog box appears.

Delete Destinations button
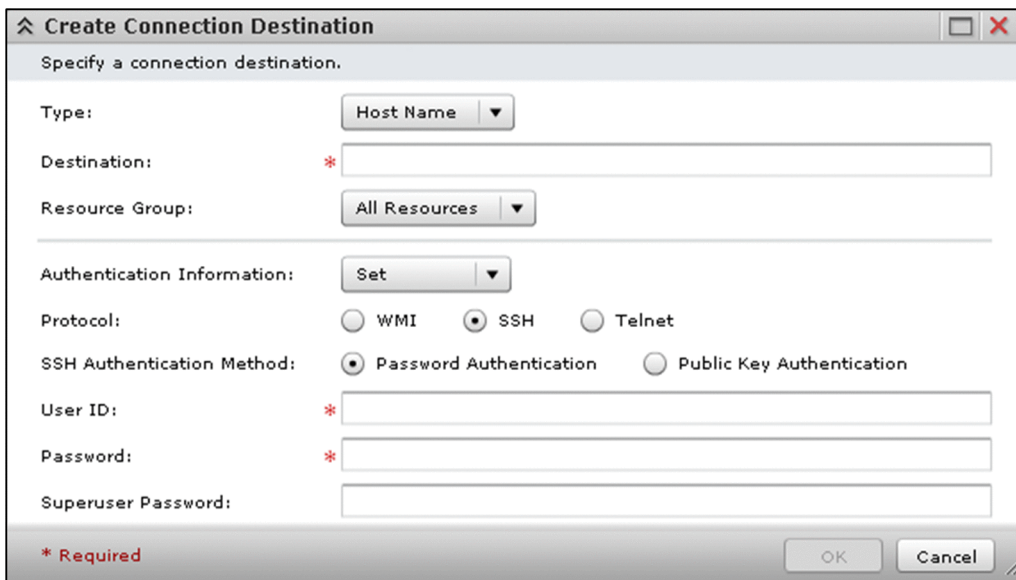
If you select a connection destination and then click this button, the **Delete Destinations** dialog box appears. You can select multiple connection destinations at a time.

6.2.1 Create Connection Destination dialog box

Use the **Create Connection Destination** dialog box to create the connection destination definition used for connecting to the connection destination.

To display the **Create Connection Destination** dialog box, click the **Create Destination** button in the **Connection Destinations** view.

Figure 6–3: **Create Connection Destination** dialog box

The following items are displayed in this dialog box:

Type list box

Select the type of connection destination.

- Host Name

  Select this item to specify a host name.

- IPv4

  Select this item to specify an IPv4 address.

- IPv6

  Select this item to specify an IPv6 address.

Destination text box

Enter the name or IP address of the host at the connection destination. The text box allows a maximum of 1,024 characters.

Resource Group list box

Select a resource group to be assigned to the connection destination definition. By default, **All Resources** is displayed in this list box.

Authentication Information list box

Specify whether to set authentication information.

- Set

  Select this item to set authentication information.

- Do not Set

  Select this item to omit authentication information.

Protocol area (radio buttons)

Select WMI, SSH, or Telnet as the protocol to be used for communication with the connection-destination host. The **Protocol** area appears if **Set** is selected in the **Authentication Information** list box.

- WMI

  Select this radio button to establish a connection using WMI.

- SSH

  Select this radio button to establish a connection using SSH.

- Telnet

  Select this radio button to establish a connection using Telnet.

SSH authentication method area (radio buttons)

Select password authentication or public key authentication as the authentication method used on the connection-destination host. The **SSH authentication method** area appears if **SSH** is selected in the **Protocol** area.

- Password authentication

  Select this radio button to establish a connection using password authentication.

- Public key authentication

  Select this radio button to establish a connection using public key authentication.

User ID text box

Specify the ID of the user who logs in to the connection-destination host. To specify a domain user, use *domain-name\user-name* format or *user-name@domain-name* format. The **User ID** text box appears if **Set** is selected in the **Authentication Information** list box.

Password text box

Specify the password of the user who logs in to the connection-destination host. The **Password** text box appears if **Set** is selected in the **Authentication Information** list box. However, this text box is not displayed if the **Public key authentication** radio button is selected in the **SSH authentication method** area, which appears if the **SSH** radio button is selected in the **Protocol** area.

Superuser Password text box

Specify the superuser password for the connection-destination host in the following cases:

- When you execute a service that uses a general command plug-in, file-forwarding plug-in, or content plug-in by elevating the user who executes the plug-in to root privileges

- When you execute a service that uses a terminal command plug-in by specifying the reserved property (reserved.terminal.suPassword) as the command value for the plug-in property commandLine

The **Superuser Password** text box appears if **SSH** or **Telnet** is selected in the **Protocol** area.

OK button

To add the connection destination definition, click this button.

Cancel button

To close the **Create Connection Destination** dialog box, click this button.

6.2.2 Edit Connection Destination dialog box

Use the **Edit Connection Destination** dialog box to edit the connection destination definition used for connecting to the connection destination.

To display the **Edit Connection Destination** dialog box, select a connection destination in the **Connection Destinations** view and then click the **Edit Destination** button.

Figure 6–4: **Edit Connection Destination** dialog box

The following items are displayed in this dialog box:

Type list box

Select the type of connection destination.

- Host Name

  Select this item to specify a host name.

- IPv4

  Select this item to specify an IPv4 address.

- IPv6

  Select this item to specify an IPv6 address.

Destination text box

Enter the name or IP address of the host at the connection destination. The text box allows a maximum of 1,024 characters.

Resource Group list box

Select a resource group to be assigned to the connection destination definition.

Authentication Information list box

Specify whether to set authentication information.

- Set

Select this item to set authentication information.

- Do not Set

Select this item to omit authentication information.

Protocol area (radio buttons)

Select WMI, SSH, or Telnet as the protocol to be used for communication with the connection-destination host. The **Protocol** area appears if **Set** is selected in the **Authentication Information** list box.

- WMI

Select this radio button to establish a connection using WMI.

- SSH

Select this radio button to establish a connection using SSH.

- Telnet

Select this radio button to establish a connection using Telnet.

SSH authentication method area (radio buttons)

Select password authentication or public key authentication as the authentication method used on the connection-destination host. The **SSH authentication method** area appears if **SSH** is selected in the **Protocol** area.

- Password authentication

Select this radio button to establish a connection using password authentication.

- Public key authentication

Select this radio button to establish a connection using public key authentication.

User ID text box

Specify the ID of the user who logs in to the connection-destination host. To specify a domain user, use *domain-name\user-name* format or *user-name@domain-name* format. The **User ID** text box appears if **Set** is selected in the **Authentication Information** list box.

Password text box

Specify the password of the user who logs in to the connection-destination host. The **Password** text box appears if **Set** is selected in the **Authentication Information** list box. However, this text box is not displayed if the **Public key authentication** radio button is selected in the **SSH authentication method** area, which appears if the **SSH** radio button is selected in the **Protocol** area.

Superuser Password text box

Specify the superuser password for the connection-destination host in the following cases:

- When you execute a service that uses a general command plug-in, file-forwarding plug-in, or content plug-in by elevating the privilege of the user who executes the plug-in to root privileges

- When you execute a service that uses a terminal command plug-in by specifying the reserved property (reserved.terminal.suPassword) as the command value for the plug-in property commandLine

The **Superuser Password** text box appears if **SSH** or **Telnet** is selected in the **Protocol** area.

OK button

To apply the changes made to the connection destination definition, click this button.

Cancel button

To close the **Edit Connection Destination** dialog box, click this button.

6.2.3 Delete Destinations dialog box

Use the **Delete Destinations** dialog box to delete a connection destination definition used for connecting to a connection destination.

To display the **Delete Destinations** dialog box, select a connection destination in the **Connection Destinations** view and then click the **Delete Destinations** button.

Figure 6–5: **Delete Destinations** dialog box
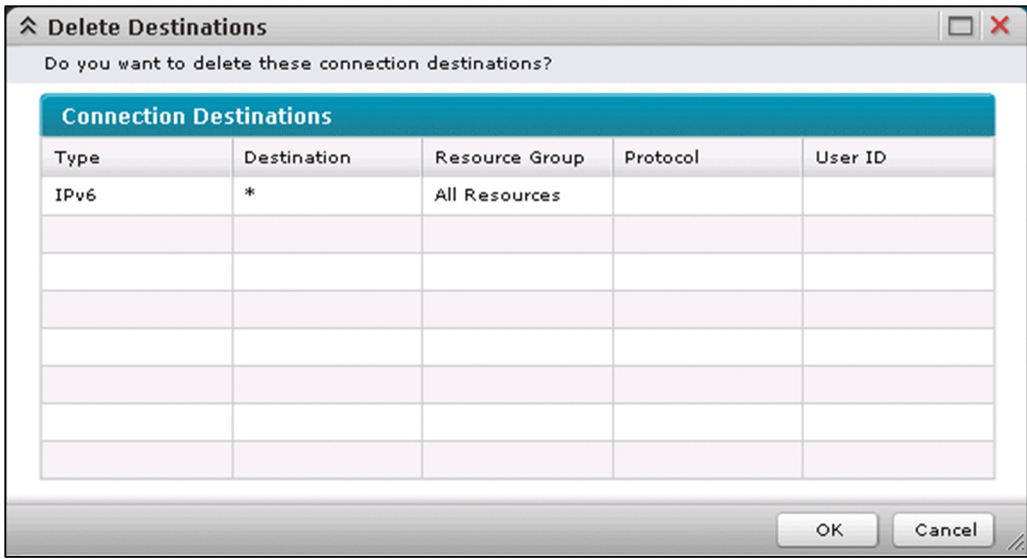
The following items are displayed in this dialog box.

Connection Destinations

A list of connection destinations to be deleted is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–2: Items displayed in the list of connection destination definitions (**Delete Destinations** dialog box)

Display item	Description
Type	Displays the type of connection (host name, IPv4, or IPv6).
Destination	Displays the name or IP address of the host at the connection destination.
Resource Group	Displays the name of the resource group.
Protocol	Displays the protocol of the connection destination.
User ID	Displays the ID of the user at the connection destination.

OK button

To delete the connection destinations displayed in the list, click this button.

Cancel button

To close the **Delete Destinations** dialog box, click this button.

6.3 Service Share Properties view

Use the **Service Share Properties** view to check the settings of properties that are shared among services set in JP1/AO (service share properties).

To display the **Service Share Properties** view, select the **Service Share Properties** menu in the **Administration** window.

Figure 6–6: **Service Share Properties** view
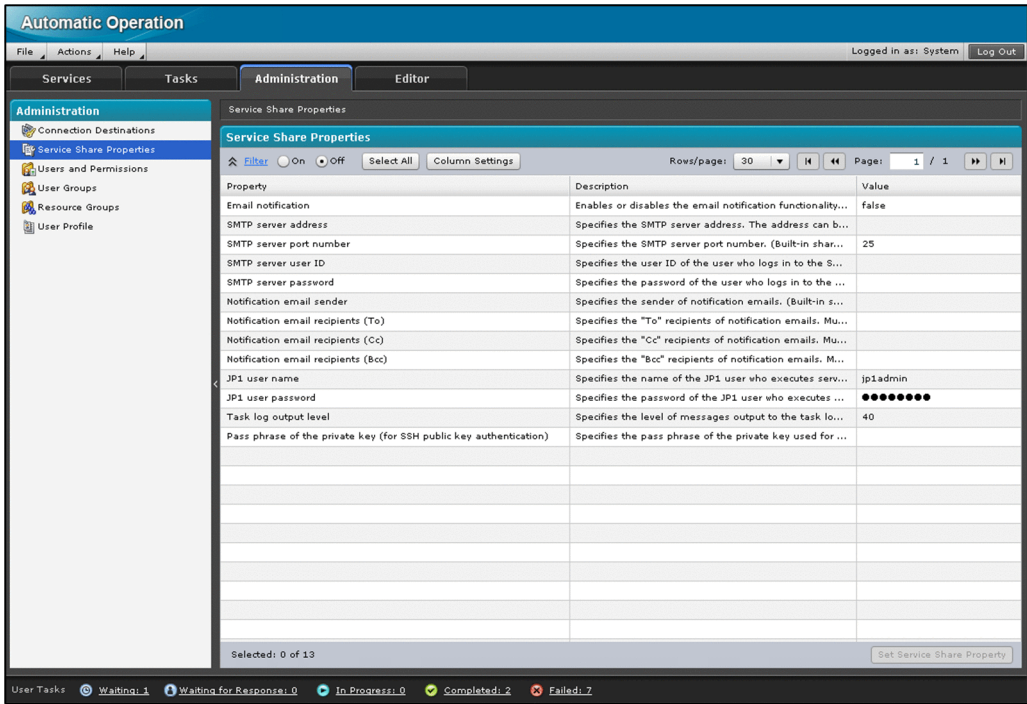
The following items are displayed in this view:

Service Share Properties

A list showing service share property information is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be display in this list, use the **Column Settings** dialog box.

Table 6–3: Items displayed in the list of service share properties (**Service Share Properties** view)

Display item	Displayed by default	Description
Property	Yes	Displays the name of each service share property.
Description	Yes	Displays a brief description of each service share property.
Value	Yes	Displays the value of each service share property.
Key	No	Displays the key of each service share property.
#	No	Displays the order in which each property is displayed in the **Service Share Properties** view.

Legend:

Yes: Displayed by default, No: Hidden by default

Set Service Share Property button

If you select a service share property and then click this button, the **Set Service Share Property** dialog box appears.

6.3.1 Set Service Share Property dialog box

Use the **Set Service Share Property** dialog box to change the settings of service share properties that are set in JP1/AO.

To display the **Set Service Share Property** dialog box, select a service share property in the in the **Service Share Properties** view and then click the **Set Service Share Property** button.

Figure 6–7: **Set Service Share Property** dialog box (setting the log output level for tasks)
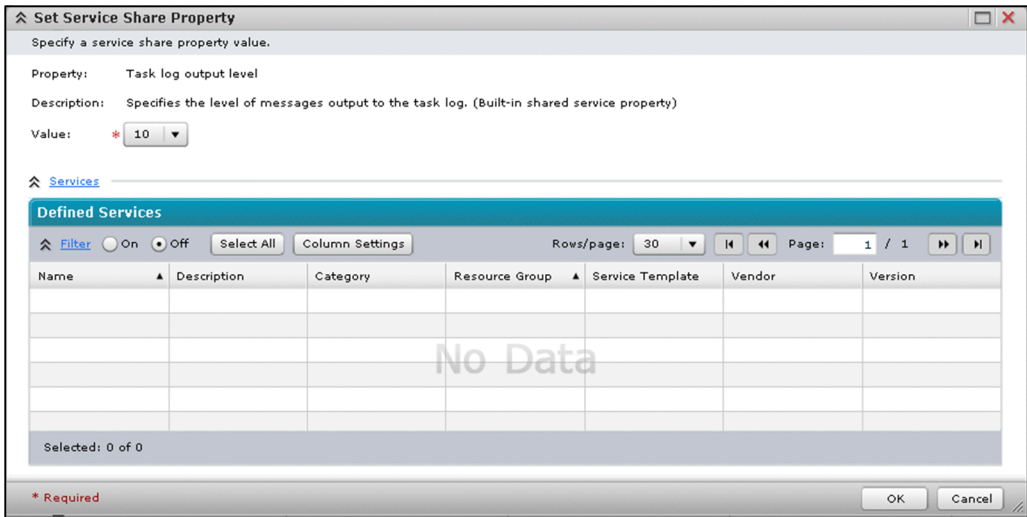
The following items are displayed in this dialog box:

Property

The name of the service share property to be set is displayed.

Description

A brief description of the service share property is displayed. If **Built-in shared service property** is displayed in here, the property is provided by JP1/AO.

Value

Set the value of the service share property. The value to be entered here varies depending on the type of properties.

Services

If you click this text, a list of services that define the selected service share property is displayed.

Defined Services

A list of services that define the selected service share property is displayed. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–4: Items displayed in Defined Services (**Set Service Share Property** dialog box)

Display item	Displayed by default	Description
Name	Yes	Displays the name of each service.

Display item	Displayed by default	Description
Description	Yes	Displays a brief description of each service.
Category	Yes	Displays the category of each service.
Resource Group	No	Displays a resource group to which the service is assigned.
Service Template	No	Displays the name of each service template.
Vendor	No	Displays the display name of the service template vendor.
Version	No	Displays the version of each service template.
Configuration Type	No	Displays the configuration type of each service template.

Legend:

Yes: Displayed by default, No: Hidden by default

OK button

To apply the change made to the service share property value, click this button.

Cancel button

To close the **Set Service Share Property** dialog box, click this button.

6.4 Users and Permissions window

Use the **Users and Permissions** window to manage JP1/AO user profiles, permissions, and Active Directory groups linked to JP1/AO.

To display the **Users and Permissions** window, select the **Users and Permissions** menu in the left pane of the **Administration** window.

Figure 6–8: **Users and Permissions** window
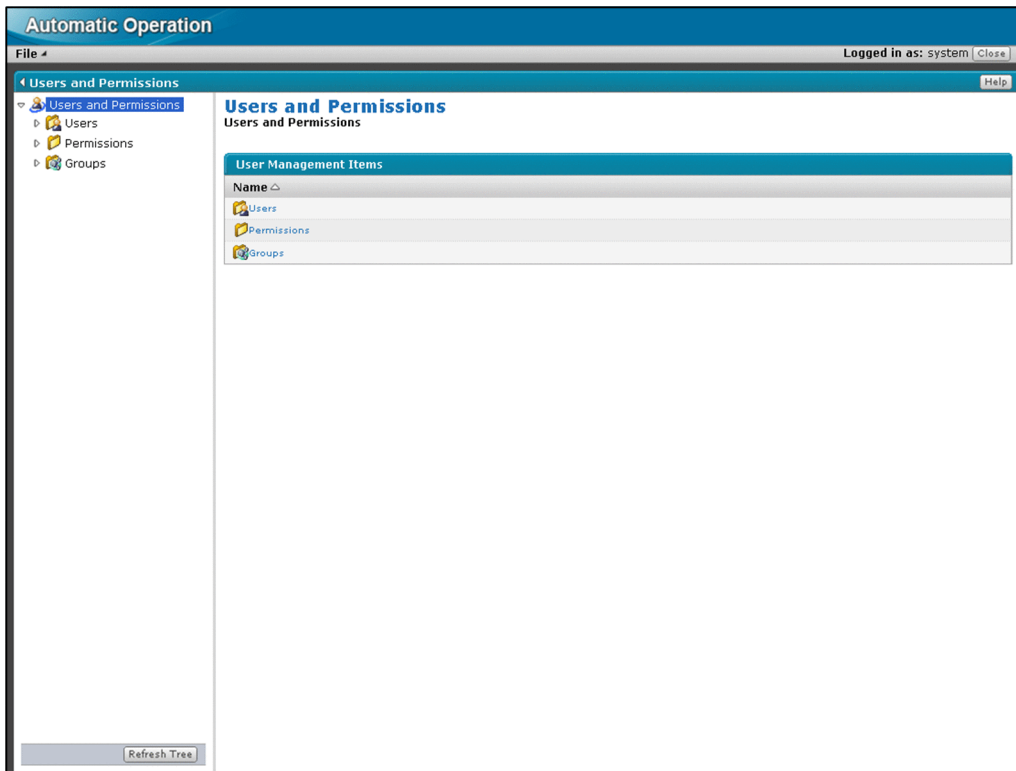
The following items are displayed in this window:

Left pane

    A tree view of users and permissions is displayed here.

    Users and Permissions menu

        If you select this menu, a list of users and permissions is displayed in the right pane.

        Users menu

            If you select this menu, the **User** List is displayed in the right pane. If you select *user-ID* under the tree, the **User Profile** view is displayed for the selected user.

        Permissions menu

            If you select this menu, the **Permissions** view is displayed in the right pane. If you select *permission-name* under the tree, the **Authorized User List** view is displayed for the selected permission.

    Groups menu

        If you select this menu, the **Groups** view is displayed in the right pane. If you select *domain-name* under the tree, the **Groups** view is displayed for the selected domain.

        The **Groups** menu is displayed if group linkage with Active Directory is enabled.

Refresh Tree button

> If you click this button, the tree is updated to reflect the current status.

Right pane

> A window corresponding to the menu selected in the left pane is displayed here.

6.4.1 User List

Use the **User** List to display a list of users, and to add or remove users.

To display the **User** List, select the **Users** menu in the **Users and Permissions** window.

Figure 6–9: **User List** view (when linkage with Active Directory is enabled)
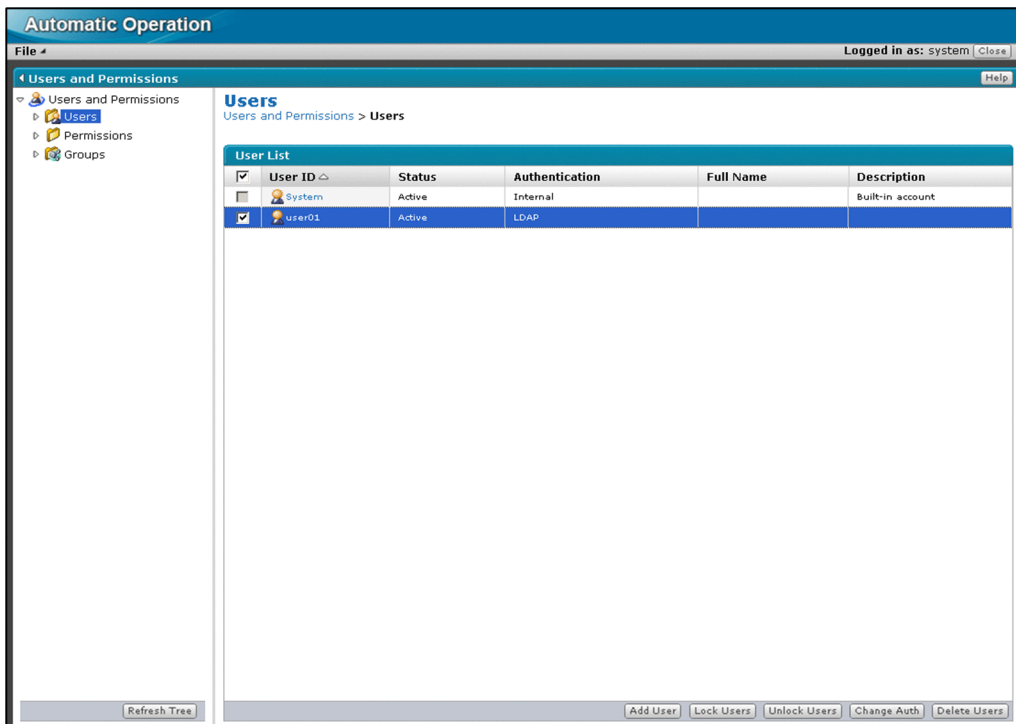
The following items are displayed in this view:

Users

> A list of users registered in JP1/AO is displayed. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–5: Items displayed in Users (**User List**)

Display item	Description
User selection check boxes	Allows you to select the users to be removed or locked.
User ID	Displays the user ID. If you click *user-ID*, the **User Profile** view is displayed for the selected user.
Status	Displays the status (enable or locked) of each user.
Authentication	Displays the user authentication method (*Internal* or *LDAP*) if linkage with Active Directory is enabled in the exauth.properties file (configuration file for external authentication server linkage).
Full Name	Displays the full name of each user.

Display item	Description
Description	Displays a brief description of each user.

Add User button

If you click this button, the **Add User** dialog box (Users and Permissions) appears.

Lock Users button

If you select a user selection check box and then click this button, the **Lock Users** dialog box appears. You can select multiple users at a time.

Unlock Users button

If you select a user selection check box and then click this button, the **Unlock Users** dialog box appears. You can select multiple users at a time.

Change Authentication Method button

If you select a user selection check box and then click this button, the **Change Authentication Method** dialog box appears. You can select multiple users.

The **Change Authentication Method** button appears if linkage with Active Directory is enabled in the exauth.properties file (configuration file for external authentication server linkage).

Delete Users button

If you select a user selection check box and then click this button, the **Delete Users** dialog box appears. You can select multiple users at a time.

6.4.2 Add User dialog box (Users and Permissions)

Use the **Add User** dialog box (Users and Permissions) to add users to JP1/AO.

To display the **Add User** dialog box (Users and Permissions), click the **Add User** button in the **User** List.

Figure 6–10: **Add User** dialog box (Users and Permissions) (when linkage with Active Directory is enabled)

The following items are displayed in this dialog box:

User Profile

Enter user profile information.

User ID text box

Enter the ID of the user to be added. The text box allows a maximum of 256 characters.

Password text box

Enter the password of the user to be added. The text box allows a maximum of 256 characters.

Verify Password text box

Enter the same text you have entered in **Password**.

Full Name text box

Enter the full name of the user to be added. The text box allows a maximum of 80 characters.

E-mail text box

Enter the email address of the user to be added. The text box allows a maximum of 255 bytes of characters.

Description text box

Enter the description of the user to be added. The text box allows a maximum of 80 characters.

OK button

To add a user, click this button.

Cancel button

To close the **Add User** dialog box (Users and Permissions), click this button.

6.4.3 Lock Users dialog box

Use the **Lock Users** dialog box to prevent specified users from logging in to JP1/AO.

To display the **Lock Users** dialog box, select one or more user selection boxes in the **User** List and then click the **Lock Users** button.

Figure 6–11: **Lock Users** dialog box
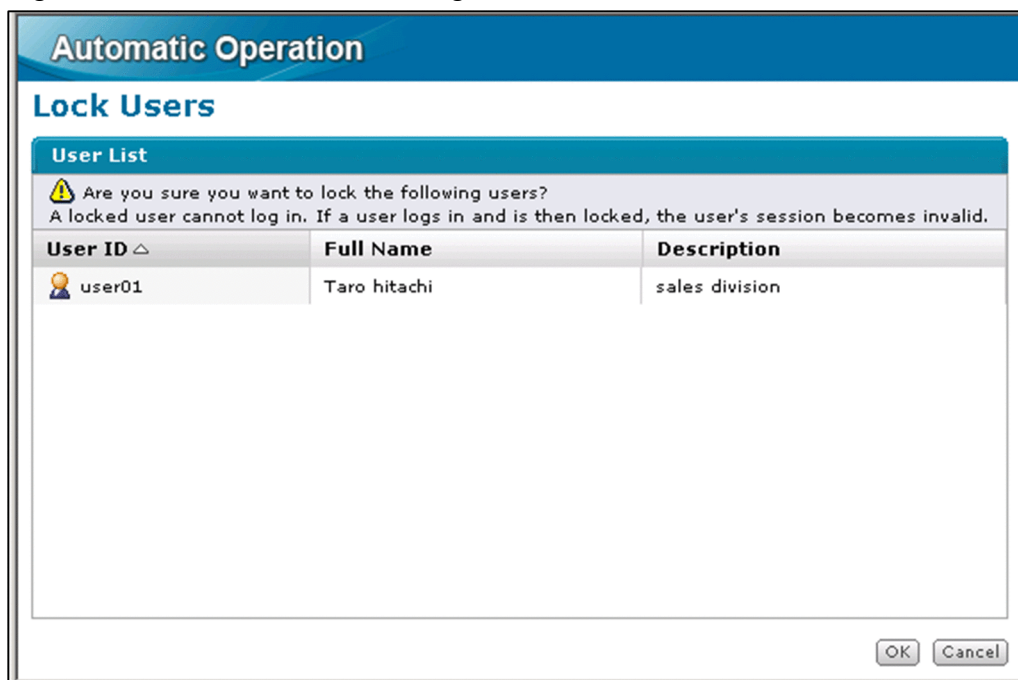
The following items are displayed in this dialog box:

User List

A list of users to be locked is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–6: Items displayed in User List (**Lock Users** dialog box)

Display item	Description
User ID	Displays the user ID.
Full Name	Displays the full name of each user.
Description	Displays a brief description of each user.

OK button

If you click this button, the selected users are locked. This means that the users can no longer log in to JP1/AO.

Cancel button

    If you click this button, the **Lock Users** dialog box closes.

6.4.4 Unlock Users dialog box

Use the **Unlock Users** dialog box to unlock specified users.

To display the **Unlock Users** dialog box, select one or more user selection check boxes in the **User** List and then click the **Unlock Users** button.

Figure 6–12: **Unlock Users** dialog box
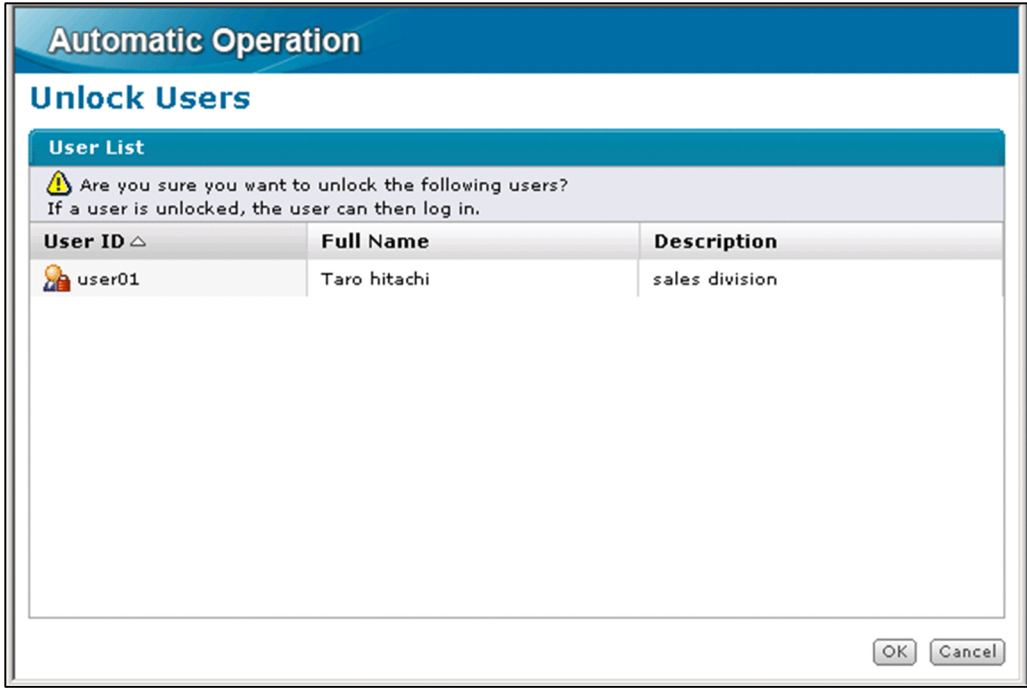
The following items are displayed in this dialog box:

User List

    A list of users to be unlocked is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–7: Items displayed in User List (**Unlock Users** dialog box)

Display item	Description
User ID	Displays the user ID.
Full Name	Displays the full name of each user.
Description	Displays a brief description of each user.

OK button

    If you click this button, the selected users are unlocked. This means that the users can now log in to JP1/AO again.

Cancel button

    If you click this button, the **Unlock Users** dialog box closes.

6.4.5 Change Authentication Method dialog box

Use the **Change Authentication Method** dialog box to change the authentication method of the specified users.

To display the **Change Authentication Method** dialog box, in the **User List** view, select the check boxes of the target users, and then click the **Change Authentication Method** button.

Figure 6–13: **Change Authentication Method** dialog box
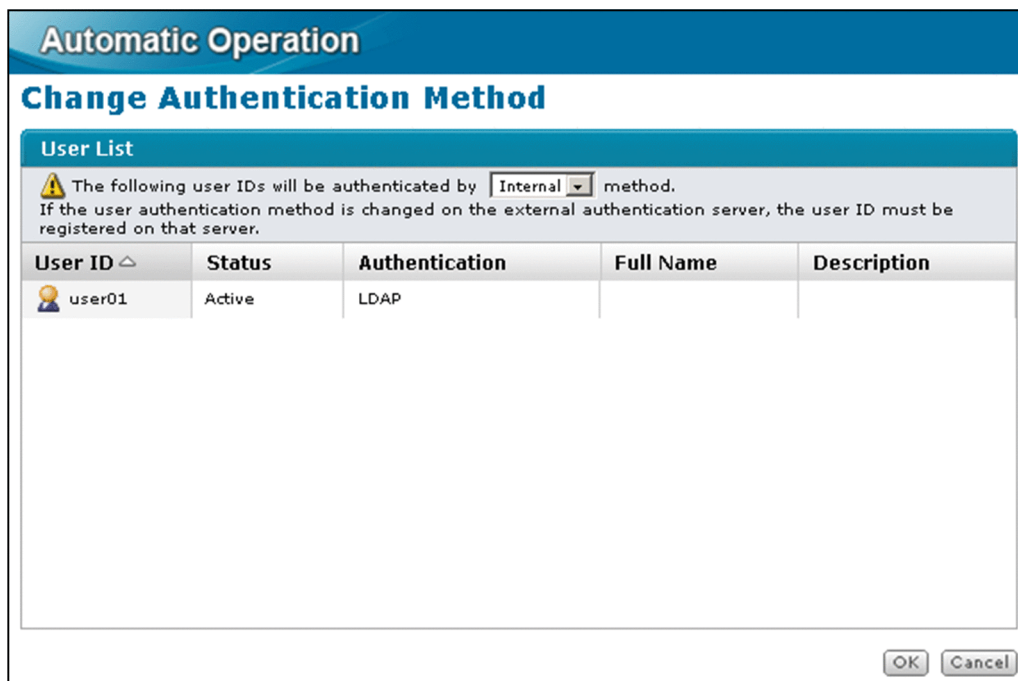
The following items are displayed in this dialog box:

Authentication list box

Select the user authentication method from this list box.

- Internal

  Select this item to perform user authentication based on JP1/AO.

- LDAP

  Select this item to perform user authentication based on Active Directory.

User List

Displays a list of users for which the authentication method is to be changed. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–8: Items displayed in User List (**Change Authentication Method** dialog box)

Display item	Description
User ID	Displays the ID of each user.
Status	Displays the status of each user (*Active* or *Locked*).
Authentication	Displays the authentication method of each user (*Internal* or *LDAP*).
Full Name	Displays the name of each user.
Description	Displays a brief description of each user.

OK button

    If you click this button, the authentication method of the users is changed.

Cancel button

    If you click this button, the **Change Authentication Method** dialog box closes.

6.4.6 Delete Users dialog box

Use the **Delete Users** dialog box to delete users that have been added to JP1/AO.

To display the **Delete Users** dialog box, select one or more user selection check boxes in the **User** List and then click the **Delete Users** button.

Figure 6–14: **Delete Users** dialog box
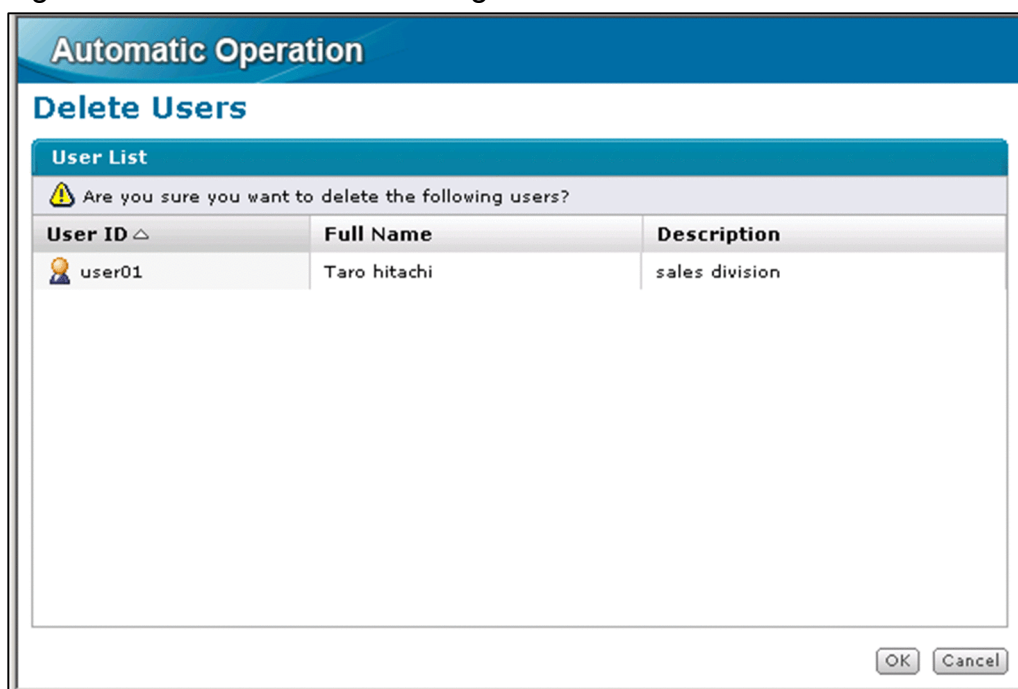
The following items are displayed in this dialog box:

User List

    A list of users to be deleted is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

    Table 6–9: Items displayed in User List (**Delete Users** dialog box)

Display item	Description
User ID	Displays the user ID.
Full Name	Displays the full name of each user.
Description	Displays a brief description of each user.

OK button

    If you click this button, the selected users are deleted.

Cancel button

If you click this button, the **Delete Users** dialog box closes.

6.5 User Profile view

Use the **User Profile** view to check or change user profiles.

To display the **User Profile** view, click *user-ID* in the **User** List.

Figure 6–15: **User Profile** view (when external authentication linkage is enabled)
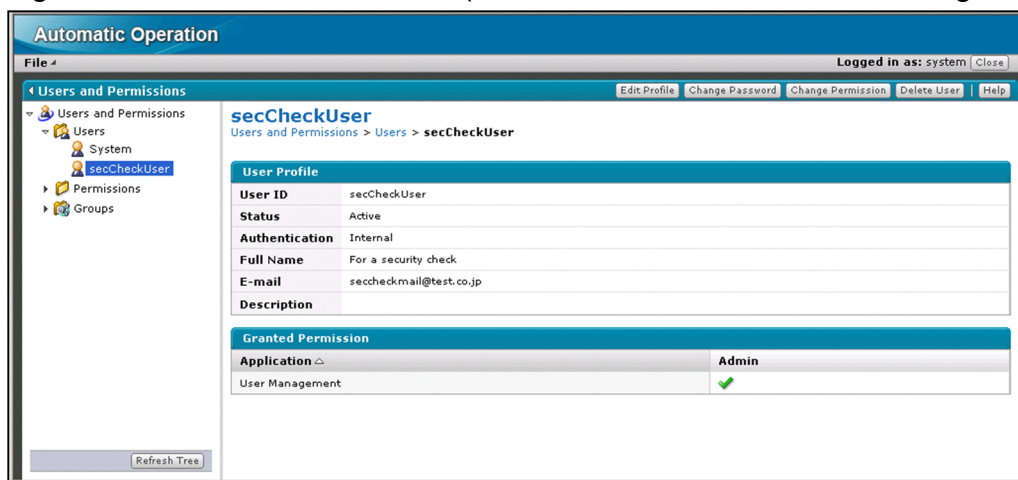
The following items are displayed in this view:

User Profile

The user profile information is displayed.

User ID

The user ID is displayed.

Status

The status (enabled or locked) of the user is displayed.

Authentication

The authentication method is displayed for the user. This item is displayed only when external authentication linkage is enabled.

Full Name

The full name of the user is displayed.

E-mail

The email address of the user is displayed.

Description

A brief description of the user is displayed.

Granted Permission

A list of permissions granted to the user is displayed. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–10: Items displayed in Granted Permission (**User Profile** view)

Display item	Description
Application	Displays the name of the permission specified for the user.
Admin	Displays whether the user is granted User Management permission.

Edit Profile button

  If you click this button, the **Edit Profile** dialog box appears.

Change Password button

  If you click this button, the **Change Password** dialog box appears.

Change Permission button

  If you click this button, the **Change Password** dialog box appears. This button is not displayed if you have selected a logged-in user or a System account.

Delete Users button

  If you click this button, a message dialog box prompting you to confirm whether to delete the user appears. To remove the user, click the **OK** button. The **Delete Users** button is not displayed if you have selected a logged-in user or a System account.
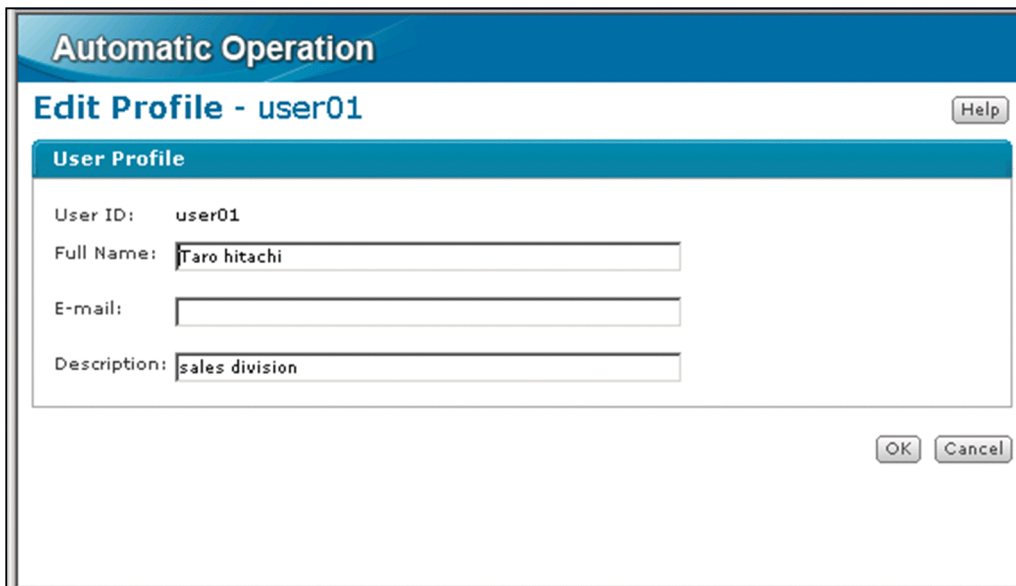
6.5.1 Edit Profile dialog box

Use the **Edit Profile** dialog box to change user profile information.

To display the **Edit Profile** dialog box, perform one of the following operations:

- Click the **Edit Profile** button in the **User Profile** view.
- Click the **Edit Profile** button in the **User Profile** window.

Figure 6–16: **Edit Profile** dialog box

The following items are displayed in this dialog box:

User Profile

  Use this section to change user profile information.

  User ID

    The user ID is displayed. You cannot change the user ID.

Full Name text box

The full name specified at the time the user was added is displayed here. You can change the full name. The text box allows a maximum of 80 characters.

E-mail text box

The email address specified at the time the user was added is displayed here. You can change the email address. The text box allows a maximum of 255 bytes of characters.

Description text box

The description specified at the time the user was added is displayed here. You can change this description. The text box allows a maximum of 80 characters.

OK button

To change the profile information, click this button.

Cancel button

To close the **Edit Profile** dialog box, click this button.
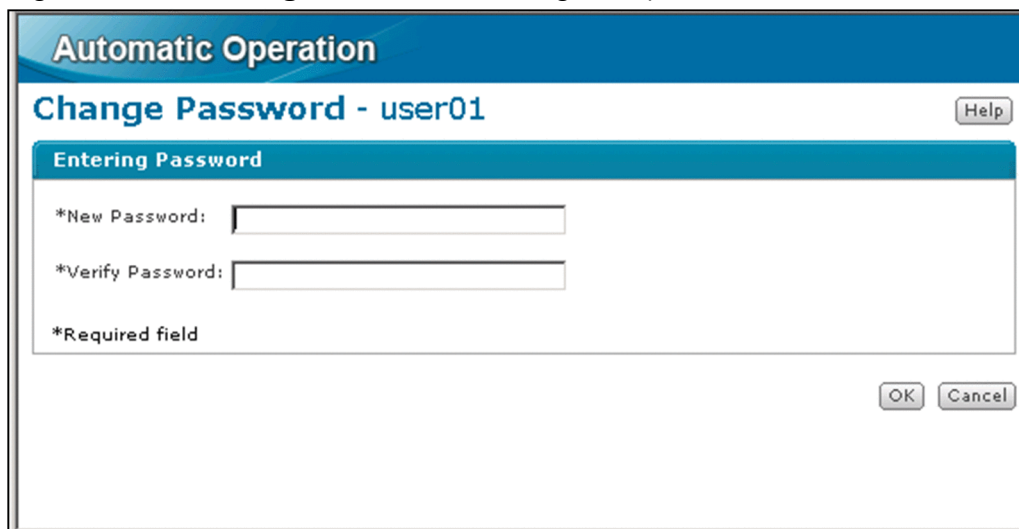
6.5.2 Change Password dialog box

Use the **Change Password** dialog box to change the password of a user.

To display the **Change Password** dialog box, perform one of the following operations:

- Click the **Change Password** button in the **User Profile** view.
- Click the **Change Password** button in the **User Profile** window.

Figure 6–17: **Change Password** dialog box (when accessed from the **User Profile** view)

The following items are displayed in this dialog box:

Entering Password

Use this section to set a new password for a user.

Old Password text box

Enter the current password. This text box is displayed only when the **Change Password** dialog box is displayed from the **User Profile** window.

New Password text box

Enter a new password. The text box allows a maximum of 256 characters.

Verify Password text box

Enter the same text you have entered in **New Password**.

OK button

To change the password of the user, click this button.

Cancel button

To close the **Change Password** dialog box, click this button.

6.5.3 Change Permission dialog box (when accessed from the User Profile view)

Use the **Change Permission** dialog box to change the permissions granted to a user.

To display the **Change Permission** dialog box, click the **Change Permission** button in the **User Profile** view.

Note that JP1/AO provides another **Change Permission** dialog box, which can be accessed from the **Group Detail** view. For details about this other dialog box, see 6.7.5 **Change Permission** dialog box (when accessed from the **Group Detail** view).

Figure 6–18: Items displayed in Granted Permission (**Change Permission** dialog box accessed from the **User Profile** view)
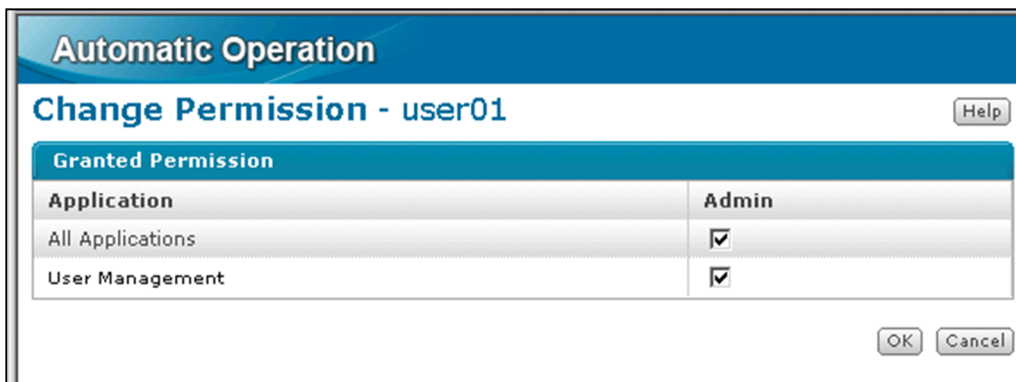
The following items are displayed in this dialog box:

Granted Permission

A list of permissions granted to the user is displayed.

Table 6–11: Items displayed in Granted Permission (**Change Permission** dialog box accessed from the **User Profile** view)

Display item	Description
Application	Displays the name of each permission.
Admin	If the check box is selected, User Management permission is set for the relevant user.

OK button

To apply the change made to the permissions granted to the user, click this button.

Cancel button

To close the **Change Permission** dialog box, click this button.

6.6 Permissions view

Use the **Permissions** view to manage permissions.

To display the **Permissions** view, select the **Permissions** menu in the **Users and Permissions** window.

Figure 6–19: **Permissions** view
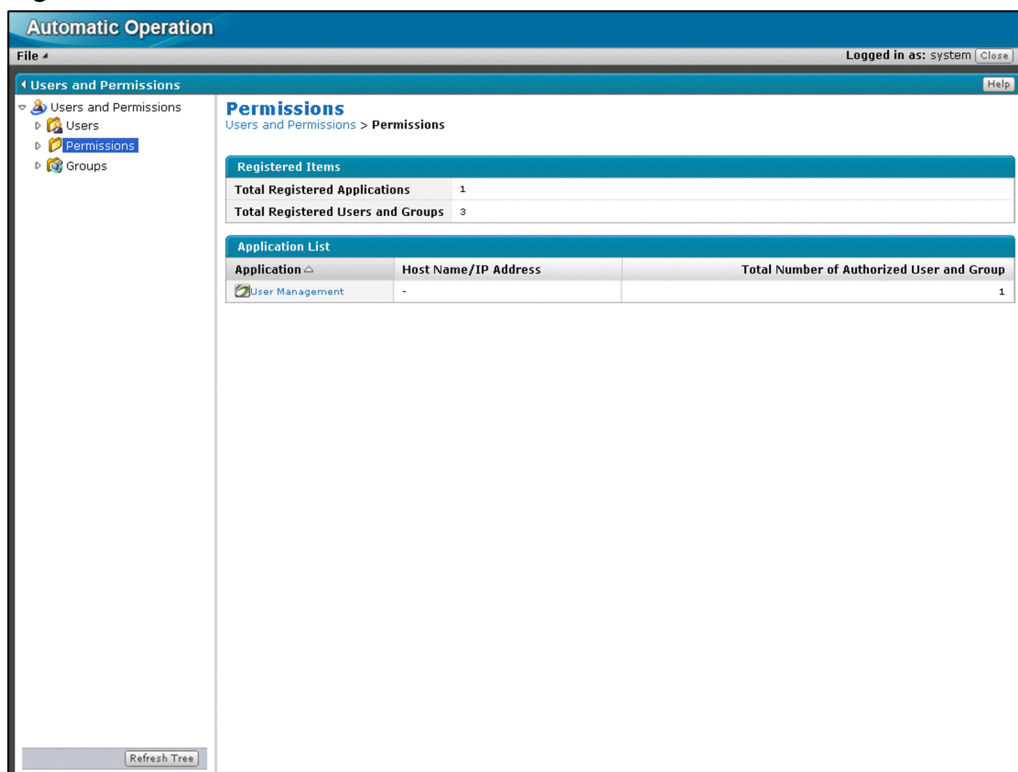
The following items are displayed in this view:

Registered Items

The registration status regarding permissions is displayed here.

Total Registered Applications

The number of granted permissions is displayed.

Total Registered Users

The number of users registered to permissions is displayed. If external authentication linkage is enabled, the total number of registered users and groups is displayed here. This, however, does not include JP1 users or JP1 resource groups registered in JP1/Base.

Application List

A list of permissions is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–12: Items displayed in Application List (**Permissions** view)

Display item	Description
Application	Displays the name of each permission. If you click *permission-name* when external authentication linkage is disabled, the **Authorized User List** view is displayed for the selected permission. When external authentication linkage is enabled, the **Authorized User and Group List** view is displayed for the selected permission.

Display item	Description
Host Name/IP Address	Displays the host name or the IP address.
Number of Authorized User	Displays the number of users to whom each permission is granted. If external authentication linkage is enabled, the total number of users and groups to which each permission is granted is displayed here. This, however, does not include JP1 users or JP1 resource groups registered in JP1/Base.

6.6.1 Authorized User List view

Use the **Authorized User List** view to check the users to whom each permission is granted. The **Authorized User List** view is displayed when external authentication linkage is disabled.

To display the **Authorized User List** view, click *permission-name* in the **Permissions** view.

Figure 6–20: **Authorized User List** view
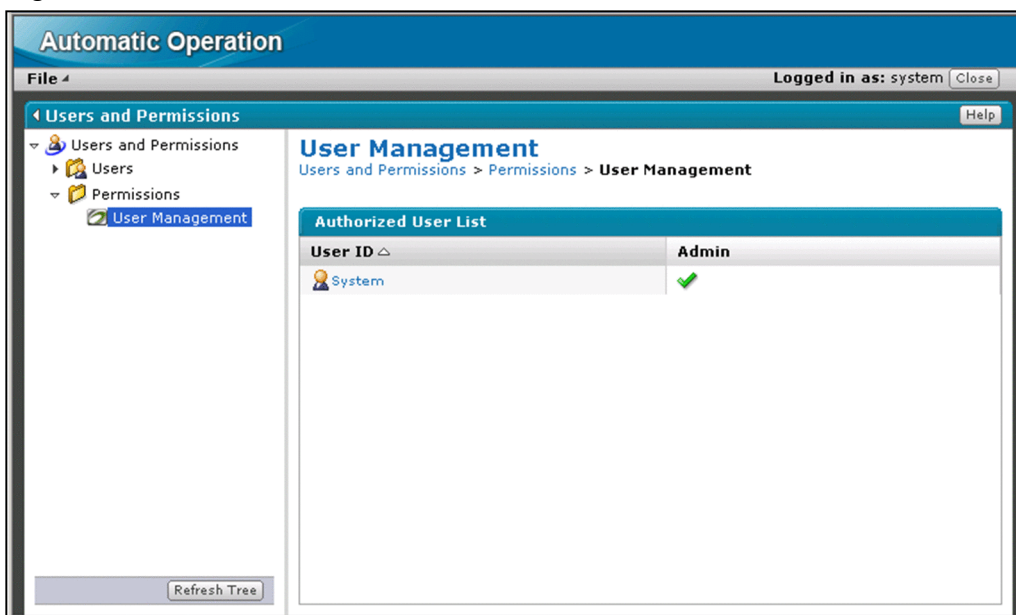
The following items are displayed in this view:

Authorized User List

A list of users to whom the permission is granted is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–13: Items displayed in Authorized User List (**User Management** view)

Display item	Description
User ID	Displays the ID of each user to whom the permission is granted. If you click *user-ID*, the **User Profile** view is displayed for the selected user.
Admin	Displays a check mark for a user to whom User Management permission is granted.

6.6.2 Authorized User and Group List view

Use the **Authorized User and Group List** view to check the users and groups to which each permission is granted. The **Authorized User and Group List** view is displayed when external authentication linkage is enabled.

To display the **Authorized User and Group List** view, click *permission-name* in the **Permissions** view.

Figure 6–21: **Authorized User and Group List** view
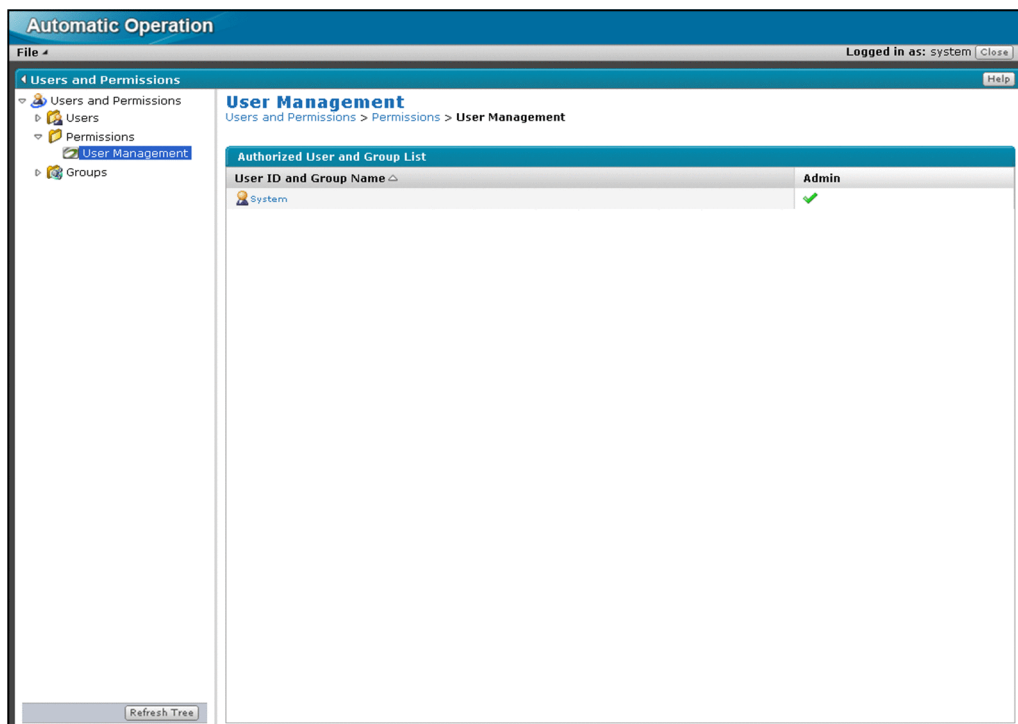
The following items are displayed in this view:

Authorized User and Group List

A list of users and groups to which the permission is granted is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. However, JP1 users or JP1 resource groups registered in JP1/Base are not displayed here.

Table 6–14: Items displayed in Authorized User and Group List (**User Management** view)

Display item	Description
User ID and Group Name	Displays the user ID and group name of each user to whom the permission is granted. If you click *user-ID*, the **User Profile** view is displayed for the selected user.
Admin	Displays a check mark for a user and group to which User Management permission is granted.

6.7 Groups view

Use the **Groups** view to check the Active Directory domains that can be linked with JP1/AO.

To display the **Groups** view, make sure that group linkage with Active Directory is enabled, and then, in the **Users and Permissions** window, select the **Groups** menu.

Figure 6–22: **Groups** view
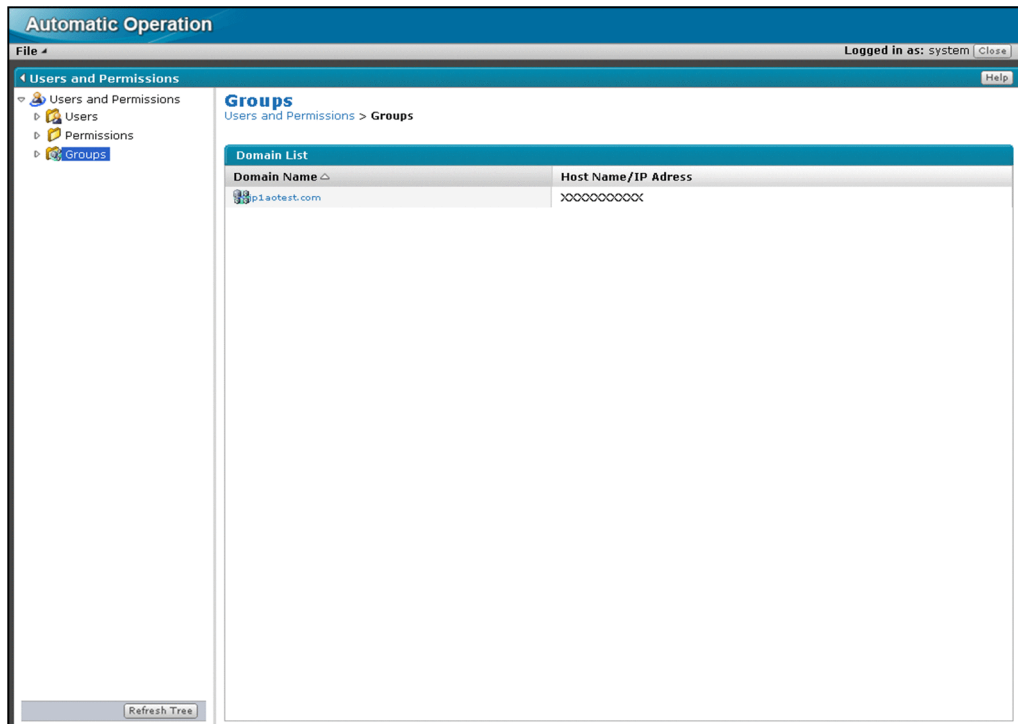
The following items are displayed in this view:

Domain List

A list of Active Directory domains is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–15: Items displayed in Domain List (**Groups** view)

Display item	Description
Domain Name	Displays the names of domains. Clicking a *domain name* in this column displays the **Group List** view. The value of the auth.ldap.*server-identifier*.domain.name key in the exauth.properties file (configuration file for external authentication server linkage) is displayed as a domain name.
Host Name/IP Address	Displays the host names or IP addresses of domains. The value of the auth.ldap.*server-identifier*.host key in the exauth.properties file (configuration file for external authentication server linkage) is displayed as a host name or IP address. However, if true is specified for the auth.ldap.*server-identifier*.dns_lookup key, data received from the DNS server is displayed. If no data is received, a hyphen (-) is displayed.

6.7.1 Group List view

Use the **Group List** view to manage Active Directory groups that are registered as JP1/AO user groups.

To display the **Group List** view, in the **Groups** view, click a *domain-name* in the Domain Name column.

Figure 6–23: **Group List** view
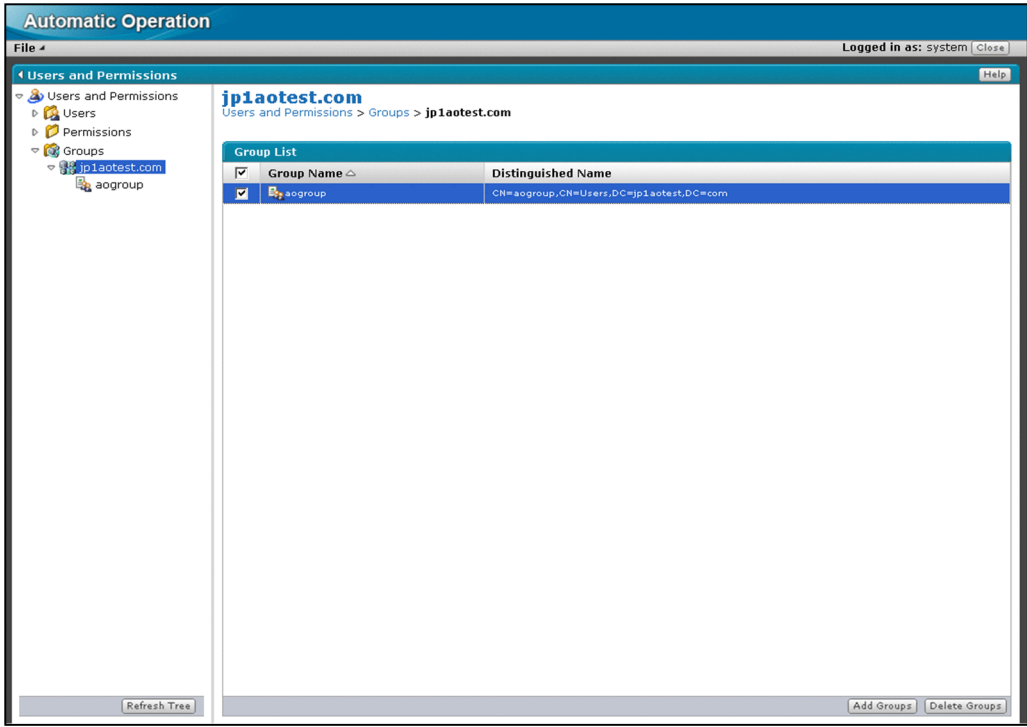
The following items are displayed in this view:

Group List

A list of Active Directory groups that are registered as JP1/AO user groups is displayed. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–16: Items displayed in Group List (**Group List** view)

Display item	Description
Group selection check box	To select groups to be deleted, select the check boxes of those groups.
Group Name	Displays the names of groups. Clicking a *group-name* in this column displays the **Group Detail** view.
Distinguished Name	Displays the identification name of each group.

Add Groups button

Use this button to register Active Directory groups as JP1/AO user groups. Clicking this button displays the **Add Groups** dialog box.

Delete Groups button

Use this button to delete Active Directory groups that are registered as JP1/AO user groups in JP1/AO. If you select the check boxes of the groups to be deleted and then click this button, the **Delete Groups** dialog box is displayed.

6.7.2 Add Groups dialog box

Use the **Add Groups** dialog box to register Active Directory groups as JP1/AO user groups.

To display the **Add Groups** dialog box, in the **Group List** view, click the **Add Groups** button.

Figure 6–24: **Add Groups** dialog box

The following items are displayed in this view:

Group List

Use this area to enter the information about Active Directory groups to be registered as JP1/AO user groups.

Distinguished Name text box

Enter the identification name of each Active Directory group that you want to register as a JP1/AO user group. You can enter a string that has no more than 250 characters. The string must conform to the conventions prescribed in RFC 4514. The first RDN (relative distinguished name) is registered as a group name.

- (minus sign) button

Clicking a minus sign (-) button on the right of a **Distinguished Name** text box deletes the text box. You cannot click a minus sign button if there is only one **Distinguished Name** text box.

+ (plus sign) button

Clicking a plus sign (+) button adds a **Distinguished Name** text box. You can display a maximum of 20 **Distinguished Name** text boxes.

Check DN button

Clicking this button checks whether the identification names entered in the **Distinguished Name** text boxes are correct and whether the entered identification names are registered in Active Directory.

Reset button

Clicking this button clears all text entered in the **Distinguished Name** text boxes.

OK button

Clicking this button registers the entered groups as JP1/AO user groups.

Cancel button

Clicking this button closes the **Add Groups** dialog box.

6.7.3 Delete Groups dialog box

Use the **Delete Groups** dialog box to delete Active Directory groups that are registered as JP1/AO user groups in JP1/AO.

To display the **Delete Groups** dialog box, in the **Group List** view, select the check boxes of the groups to be deleted, and then click the **Delete Groups** button.

Figure 6–25: **Delete Groups** dialog box
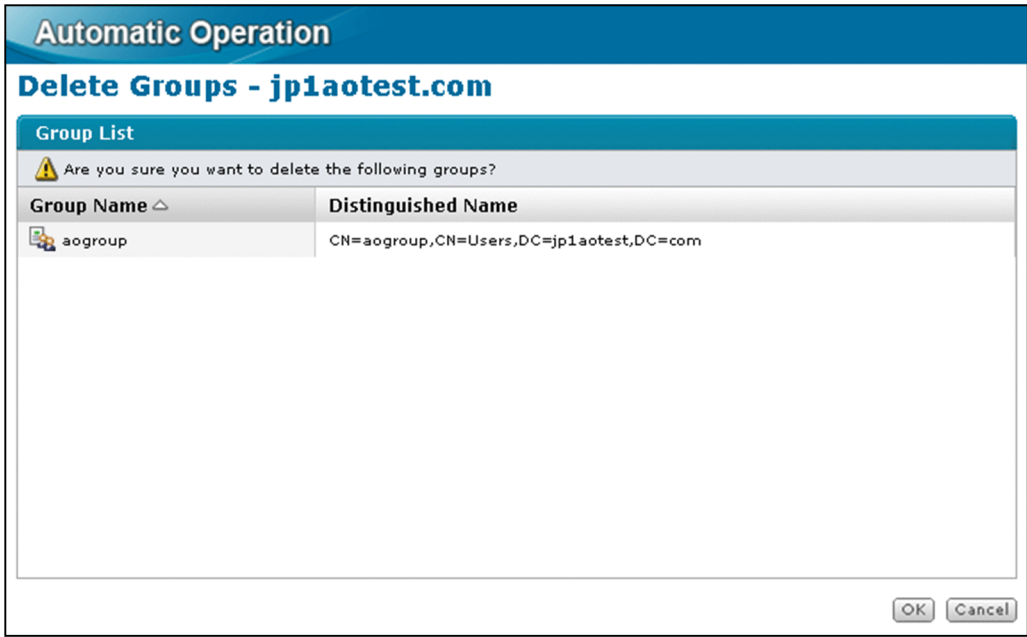
The following items are displayed in this dialog box:

Group List

A list of groups to be deleted from JP1/AO is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–17: Items displayed in Group List (**Delete Groups** dialog box)

Display item	Description
Group Name	Displays the names of groups to be deleted from JP1/AO.
Distinguished Name	Displays the identification names of groups to be deleted from JP1/AO.

OK button

Clicking this button deletes the displayed groups from JP1/AO.

Cancel button

Clicking this button closes the **Delete Groups** dialog box.

6.7.4 Group Detail view

Use the **Group Detail** view to check the details of Active Directory groups that are registered as JP1/AO user groups.

To display the **Group Detail** view, in the **Group List** view, click a *group-name*.

Figure 6–26: **Group Detail** view
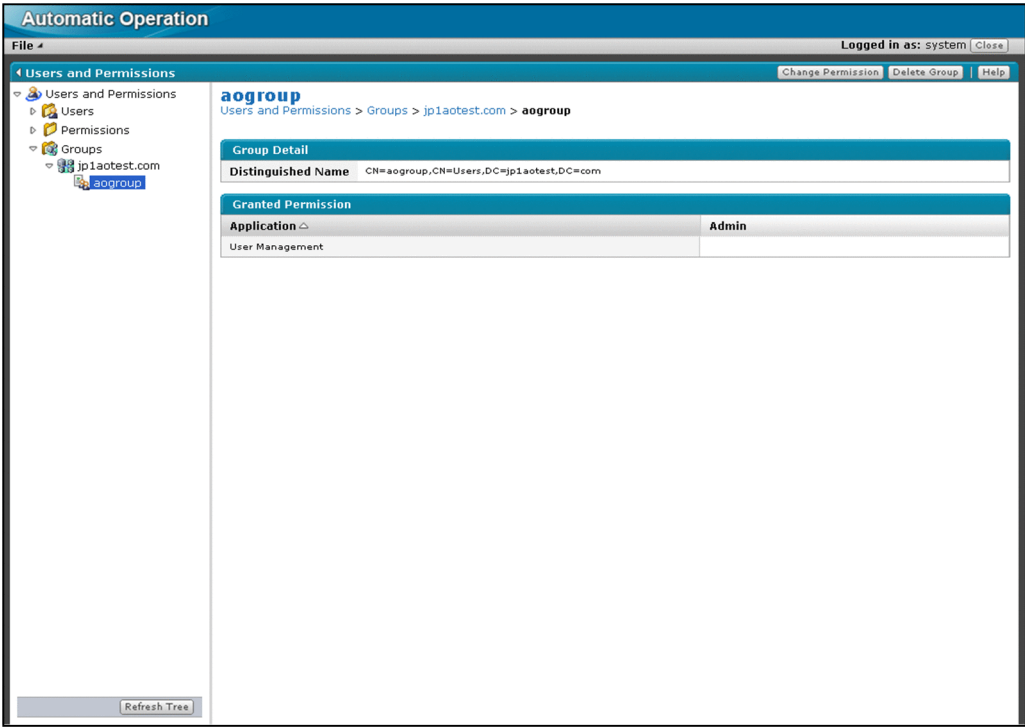
The following items are displayed in this view:

Change Permission button

Use this button to change the permission of the displayed group. Clicking this button displays the **Change Permission** dialog box.

Delete Group button

Use this button to delete an Active Directory group that is registered as a JP1/AO user group in JP1/AO. Clicking this button displays a message dialog box asking you whether you really want to delete the displayed group from JP1/AO. If you click the **OK** button, the displayed group is deleted.

Group Detail

The information about an Active Directory group that is registered as a JP1/AO user group is displayed here.

Distinguished Name

The identification name of the group is displayed here.

Granted Permission

The permissions that are granted to the group are listed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–18: Items displayed in Granted Permission (**Group Detail** view)

Display item	Description
Application	Displays the names of granted permissions.
Admin	If the check box is selected, User Management permission is set for the relevant group.

6.7.5 Change Permission dialog box (when accessed from the Group Detail view)

Use the **Change Permission** dialog box to change the permission of Active Directory groups that are registered as JP1/ AO user groups.

To display the **Change Permission** dialog box, in the **Group Detail** view, click the **Change Permission** button.

Note that JP1/AO provides another **Change Permission** dialog box, which can be displayed from the **User Profile** view. For details about this other dialog box, see 6.5.3 **Change Permission** dialog box (when accessed from the **User Profile** view).

Figure 6–27: **Change Permission** dialog box (when accessed from the **Group Detail** view)
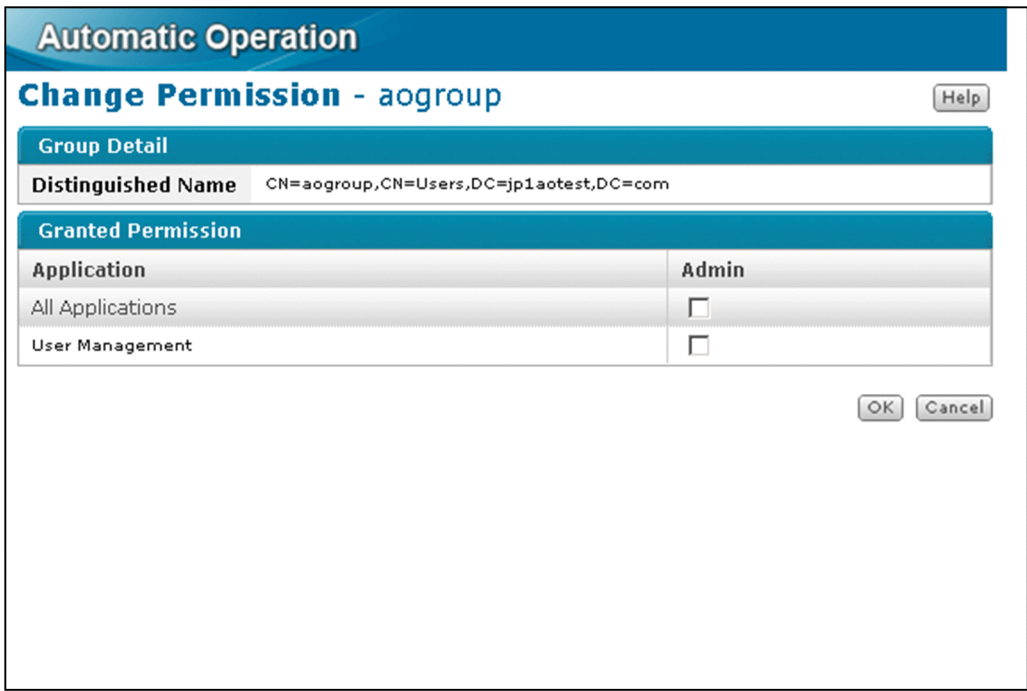
The following items are displayed in this dialog box:

Group Detail

    The information about the Active Directory groups that are registered as JP1/AO user groups is displayed here.

    Distinguished Name

        The identification name of the group is displayed here.

Granted Permission

    The permissions that are granted to the group are listed here.

    Table 6–19: Items displayed in Granted Permission (**Change Permission** dialog box accessed from the **Group Detail** view)

Display item	Description
Application	Displays the names of granted permissions.
Admin	If the check box is selected, User Management permission is set for the relevant group.

OK button

Clicking this button changes the permission of the group.

Cancel button

Clicking this button closes the **Change Permission** dialog box.

6.8 User Groups view (User Groups tab)

Use the **User Groups** view (**User Groups** tab) to manage user groups. The **User Groups** view (**User Groups** tab) is displayed when the logged-in user has User Management permission.

To display the **User Groups** view (**User Groups** tab), select the **User Groups** in the **Administration** window.

The **User Groups** view (**User Groups** tab) and windows accessed from this view display user groups and users that are shared with Hitachi Command Suite products.

Figure 6–28: **User Groups** view (**User Groups** tab)
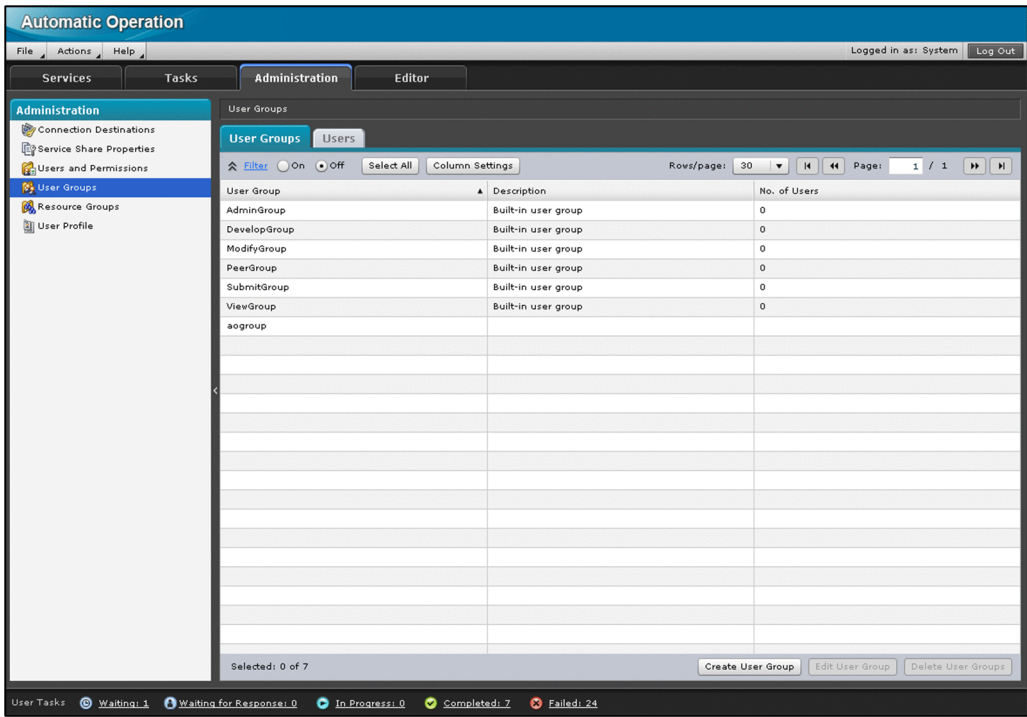
The following items are displayed in this view:

User Groups

A list of user groups is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–20: Items displayed in the list of user groups (**User Groups** view (**User Groups** tab))

Display item	Displayed by default	Description
User Group	Yes	Displays the name of each user group.
Description	Yes	Displays a brief description of each user group. In the case of a built-in user group, **Built-in user group** is displayed here.[1]
No. of Users	Yes	Displays the number of users registered to each user group.[1]
Distinguished Name	No	Displays the identification name of each Active Directory group. [2]

Legend:

Yes: Displayed by default, No: Hidden by default

#1

For Active Directory groups, this item is not displayed.

#2

For built-in user groups and user groups created by JP1/AO, this item is not displayed.

Create User Group button

If you click this button, the **Create User Group** dialog box appears.

Edit User Group button

If you select a user group and then click this button, the **Edit User Group** dialog box appears.

Delete User Groups button

If you select a user group and then click this button, the **Delete User Groups** dialog box appears. You can select multiple user groups at a time.

6.8.1 Create User Group dialog box

Use the **Create User Group** dialog box to create a user group to which to assign users and resource groups. The created user groups are shared with Hitachi Command Suite products.

To display the **Create User Group** dialog box, click the **Create User Group** button in the **User Groups** view (**User Groups** tab).

Figure 6–29: **Create User Group** dialog box

The following items are displayed in this dialog box:

Name text box

Enter the name of the user group. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the user group. The text box allows a maximum of 80 characters.

Users

A list of users to be added to the user group is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–21: Items displayed in the list of users (**Create User Group** dialog box)

Display item	Displayed by default	Description
User ID	Yes	Displays the user ID.
Full Name	Yes	Displays the full name of each user.
User Groups	Yes	Displays the user group to which the user currently belongs.

Legend:

Yes: Displayed by default

Add Users button

If you click this button, the **Add Users** dialog box (User Groups) appears.

Remove Users button

If you select a user and then click this button, the selected user is deleted from the list. You can select multiple users at a time.

Resource Groups

A list of JP1/AO resource groups to be assigned to the user group is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. This list is displayed only when the logged-in user has both the User Management permission and the Admin role.

To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–22: Items displayed in the list of resource groups (**Create User Group** dialog box)

Display item	Displayed by default	Description
Resource Group	Yes	Displays the name of each resource group.
Description	Yes	Displays a brief description of each resource group. In the case of a built-in resource group, **default resource groups which contains all resources** is displayed here.
User Groups	Yes	Displays a user group that is currently assigned to the resource group.
Role	Yes	Displays the role of the selected resource group.
Product	Yes	Displays the name of the product that manages the resource group. In the case of a JP1/AO resource group, **Automation** is displayed here.

Legend:

Yes: Displayed by default

Add Resource Groups button

If you click this button, the **Add Resource Groups** dialog box appears.

Edit Roles button

If you click this button, the **Edit Roles** dialog box appears. You can select multiple resource groups at a time.

Remove Resource Groups button

If you select a resource group and then click this button, the selected resource group is removed from the list. You can select multiple resource groups at a time.

OK button

To create a user group, click this button.

Cancel button

To close the **Create User Group** dialog box, click this button.

6.8.2 Add Users dialog box (User Groups)

Use the **Add Users** dialog box (User Groups) to add users to a user group.

To display the **Add Users** dialog box (User Groups), perform one of the following operations:

- In the **Create User Group** dialog box, click the **Add Users** button.
- In the **Edit User Group** dialog box, click the **Add Users** button.

Figure 6–30: **Add Users** dialog box (User Groups)
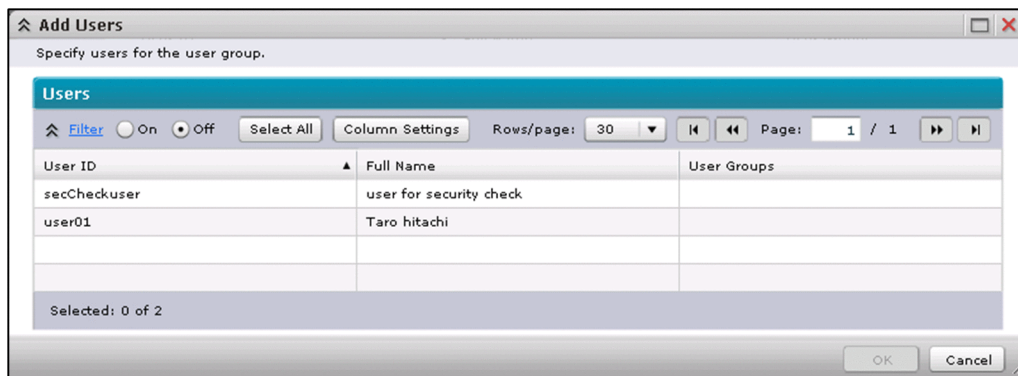
The following items are displayed in this dialog box:

Users

A list of available users is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–23: Items displayed in the list of users (**Add Users** dialog box (User Groups))

Display item	Displayed by default	Description
User ID	Yes	Displays the user ID.
Full Name	Yes	Displays the full name of each user.
User Groups	Yes	Displays the user group to which the user currently belongs.

Legend:

Yes: Displayed by default

OK button

If you select a user and then click this button, the selected user is displayed in the list of users in the **Create User Group** dialog box. You can select multiple users at a time.

Cancel button

> If you click this button, the **Add Users** dialog box (User Groups) closes.

6.8.3 Add Resource Groups dialog box

Use the **Add Resource Groups** dialog box to add resource groups to a user group.

To display the **Add Resource Groups** dialog box, perform one of the following operations:

- In the **Create User Group** dialog box, click the **Add Resource Groups** button.
- In the **Edit User Group** dialog box, click the **Add Resource Groups** button.

Figure 6–31: **Add Resource Groups** dialog box
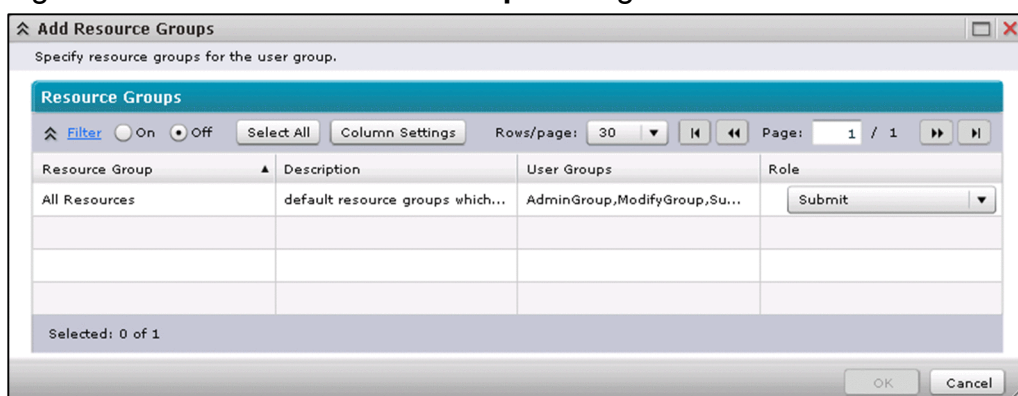
The following items are displayed in this dialog box:

Resource Groups

> A list of resource groups that can be added to a user group is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box. Note that resource groups created by Hitachi Command Suite products are not displayed here even when Hitachi Command Suite products are already installed.

Table 6–24: Items displayed in the list of resource groups (**Add Resource Groups** dialog box)

Display item	Displayed by default	Description
Resource Group	Yes	Displays the name of each resource group.
Description	Yes	Displays a brief description of each resource group. In the case of a built-in resource group, **default resource groups which contains all resources** is displayed here.
User Groups	Yes	Displays a user group that is currently assigned to the resource group.
Role	Yes	Provides a list box for selecting the role of the selected resource group.

Legend:

> Yes: Displayed by default

OK button

> If you select a resource group and then click this button, the selected resource group is displayed in the list of resource groups in the **Create User Group** dialog box. You can select multiple resource groups at a time.

Cancel button

    If you click this button, the **Add Resource Groups** dialog box closes.

6.8.4 Edit Roles dialog box

Use the **Edit Roles** dialog box to select a role to be assigned to a resource group.

To display the **Edit Roles** dialog box, perform one of the following operations:

- In the **Create User Group** dialog box, click the **Edit Roles** button.
- In the **Edit User Group** dialog box, click the **Edit Roles** button.

Figure 6–32: **Edit Roles** dialog box
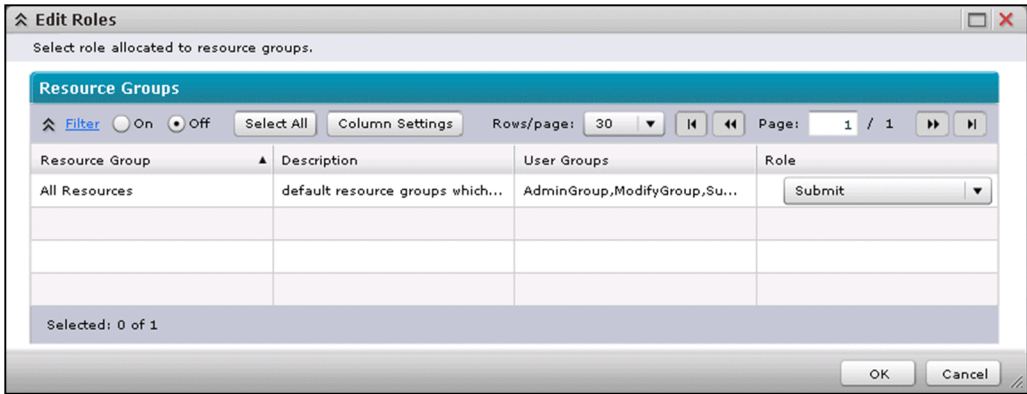
The following items are displayed in this dialog box:

Resource Groups

    A list of resource groups for which to select roles is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–25: Items displayed in the list of resource groups (**Edit Roles** dialog box)

Display item	Displayed by default	Description
Resource Group	Yes	Displays the name of each resource group.
Description	Yes	Displays a brief description of each resource group. In the case of a built-in resource group, **default resource groups which contains all resources** is displayed here.
User Groups	Yes	Displays a user group that is currently assigned to the resource group.
Role	Yes	Provides a list box for selecting the role of the selected resource group.

    Legend:

        Yes: Displayed by default

OK button

    To apply the change made to the role, click this button.

Cancel button

    To close the **Edit Roles** dialog box, click this button.

6.8.5 Edit User Group dialog box

Use the **Edit User Group** dialog box to edit a selected user group to which to assign users and resource groups.

To display the **Edit User Group** dialog box, select a user group in the **User Groups** view (**User Groups** tab) and then click the **Edit User Group** button.

Figure 6–33: **Edit User Group** dialog box

The following items are displayed in this dialog box:

Name text box

The name of the user group is displayed here. Enter a new name for the user group. The text box allows a maximum of 64 characters. Note that you cannot change the name of a built-in user group or Active Directory group.

Description text box

A brief description of the user group is displayed here. Enter a new description for the user group. The text box allows a maximum of 80 characters. Note that you cannot change the description of a built-in user group or Active Directory group.

Users

A list of users added to the user group is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

For an Active Directory group, this item is not displayed.

Table 6–26: Items displayed in the list of users (**Edit User Group** dialog box)

Display item	Displayed by default	Description
User ID	Yes	Displays the user ID.
Full Name	Yes	Displays the full name of each user.
User Groups	Yes	Displays the user group to which the user currently belongs.

Legend:

Yes: Displayed by default

Add Users button

If you click this button, the **Add Users** dialog box (User Groups) appears.

Remove Users button

If you select a user and then click this button, the selected user is deleted from the list. You can select multiple users at a time.

Resource Groups

A list of resource groups to be assigned to the user group is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

To select the items to be displayed in this list, use the **Column Settings** dialog box. If Hitachi Command Suite products are already installed, the list also shows the resource groups created by Hitachi Command Suite products. Note, however, that you cannot edit roles of or remove the resource groups created by Hitachi Command Suite products.

Table 6–27: Items displayed in the list of resource groups (**Edit User Group** dialog box)

Display item	Displayed by default	Description
Resource Group	Yes	Displays the name of each resource group.
Description	Yes	Displays a brief description of each resource group. In the case of a built-in resource group, **default resource groups which contains all resources** is displayed here.
User Groups	Yes	Displays a user group that is currently assigned to the resource group.
Role	Yes	Displays the role of the selected resource group.
Product	Yes	Displays the name of the product that manages the resource group. In the case of a JP1/AO resource group, **Automation** is displayed here.

Legend:

Yes: Displayed by default

Add Resource Groups button

If you click this button, the **Add Resource Groups** dialog box appears. This button is displayed only when the logged-in user has both the User Management permission and the Admin role. This button, however, is not displayed when a built-in user group is selected.

Edit Roles button

If you select a resource group and then click this button, the **Edit Roles** dialog box appears. You can select multiple resource groups at a time. This button is displayed only when the logged-in user has both the User Management permission and the Admin role. This button, however, is not displayed when a built-in user group is selected, or when a resource group created by Hitachi Command Suite products is selected.

Remove Resource Groups button

If you select a resource group and then click this button, the selected resource group is removed from the list. You can select multiple resource groups at a time. This button is displayed only when the logged-in user has both the User Management permission and the Admin role. This button, however, is not displayed when a built-in user group is selected, or when a resource group created by Hitachi Command Suite products is selected.

OK button

To apply the changes made to the user group, click this button.

Cancel button

To close the **Edit User Group** dialog box, click this button.

6.8.6 Delete User Groups dialog box

Use the **Delete User Groups** dialog box to delete user groups.

To display the **Delete User Groups** dialog box, select a user group in the **User Groups** view (**User Groups** tab) and then click the **Delete User Groups** button.

Figure 6–34: **Delete User Groups** dialog box
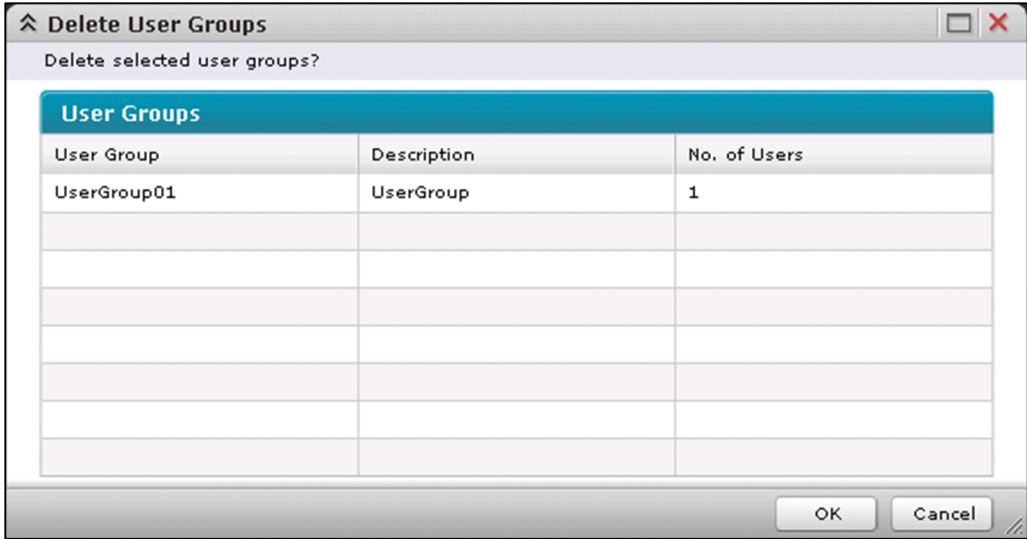
The following items are displayed in this dialog box:

User Groups

A list of user groups to be deleted is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–28: Items displayed in the list of user groups (**Delete User Groups** dialog box)

Display item	Description
User Group	Displays the name of each user group.
Description	Displays a brief description of each user group.
No. of Users	Displays the number of users belonging to each user group.

OK button

To delete the user groups displayed in the list, click this button. If the list includes any user groups to which a resource group created by Hitachi Command Suite products is assigned, an error occurs as you click this button to delete user groups.

Cancel button

To close the **Delete User Groups** dialog box, click this button.

6.9 User Groups view (Users tab)

Use the **User Groups** view (**Users** tab) to check the users assigned to a user group or to assign users to a user group. The **User Groups** view (**Users** tab) is displayed if the logged-in user has User Management permission.

To display the **User Groups** view (**Users** tab), select the **User Groups** menu in the **Administration** window and then select the **Users** tab.

The **User Groups** view (**Users** tab) and windows accessed from this view display user groups and users that are shared with Hitachi Command Suite products. These windows also allow you to assign users to user groups created by Hitachi Command Suite products.

Figure 6–35: **User Groups** view (**Users** tab)
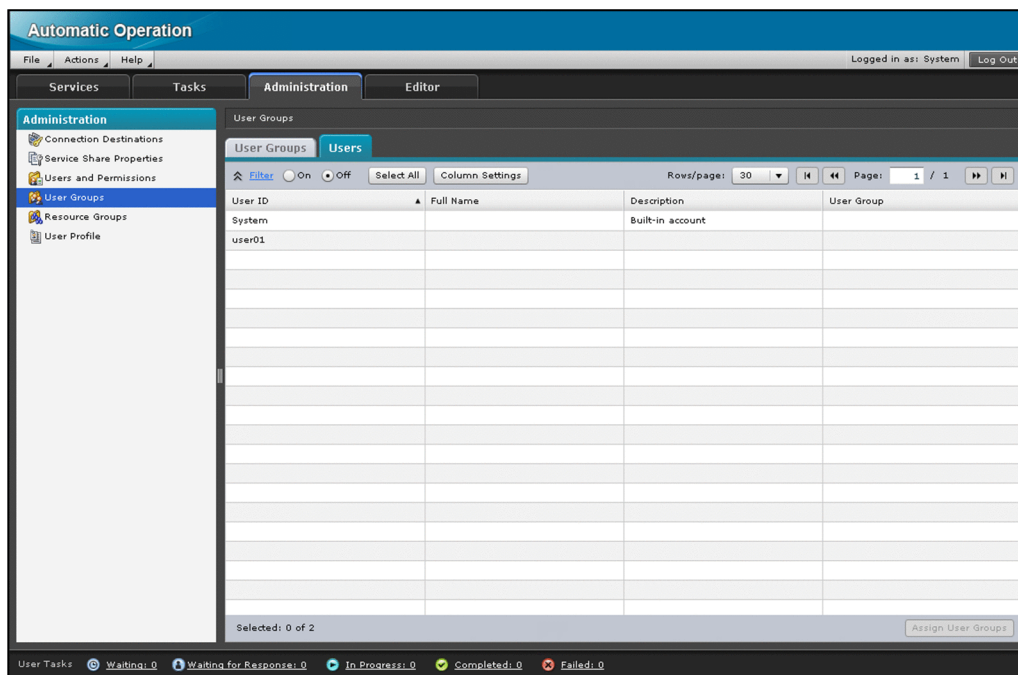
The following items are displayed in this view:

Users

A list of users to be assigned to the user group is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–29: Items displayed in the list of users (**User Groups** view (**Users** tab))

Display item	Displayed by default	Description
User ID	Yes	Displays the user ID.
Full Name	Yes	Displays the full name of each user.
Description	Yes	Displays a brief description of each user.
User Group	Yes	Displays the user group to which the user belongs.

Legend:

Yes: Displayed by default

Assign User Groups button

> If you select a user and then click this button, the **Assign User Groups** dialog box appears.

6.9.1 Assign User Groups dialog box

Use the **Assign User Groups** dialog box to assign users to a user group.

To display the **Assign User Groups** dialog box, select a user in the **User Groups** view (**Users** tab) and then click the **Assign User Groups** button.

Figure 6–36: **Assign User Groups** dialog box
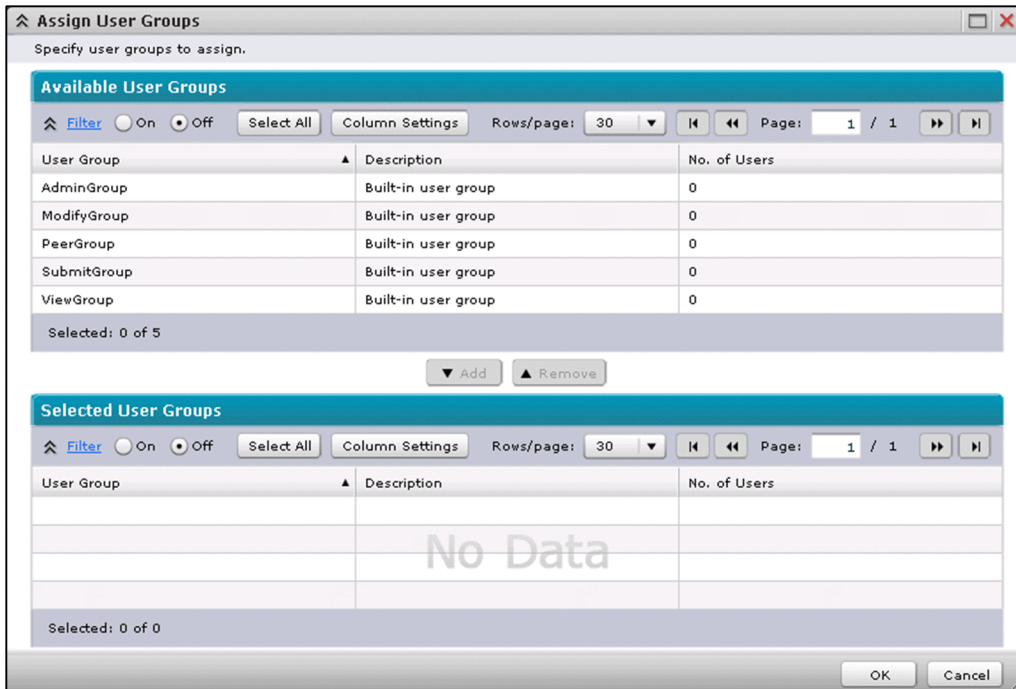
The following items are displayed in this dialog box:

Available User Groups

> A list of available user groups is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box. If Hitachi Command Suite products are already installed, the user groups created by Hitachi Command Suite products are also available for selection.

Table 6–30: Items displayed in the list of available user groups (**Assign User Groups** dialog box)

Display item	Displayed by default	Description
User Group	Yes	Displays the name of each user group.
Description	Yes	Displays a brief description of each user group. In the case of a built-in user group, **Built-in user group** is displayed here.
No. of Users	Yes	Displays the number of users belonging to each user group.

Legend:

> Yes: Displayed by default

Add button

If you select one of the available user groups and then click this button, the selected user group appears under **Selected User Groups**. You can select multiple user groups at a time.

Remove button

If you select one of the selected user groups and then click this button, the selected user group is removed from **Selected User Groups**. You can select multiple user groups at a time.

Selected User Groups

A list of user groups to be assigned to the user is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–31: Items displayed in the list of selected user groups (**Assign User Groups** dialog box)

Display item	Displayed by default	Description
User Group	Yes	Displays the name of each user group.
Description	Yes	Displays a brief description of each user group. In the case of a built-in user group, **Built-in user group** is displayed here.
No. of Users	Yes	Displays the number of users belonging to each user group.

Legend:

Yes: Displayed by default

OK button

To assign a user group to the user, click this button.

Cancel button

To close the **Assign User Groups** dialog box, click this button.

6.10 Resource Groups view

Use the **Resource Groups** view to manage resource groups.

To display the **Resource Groups** view, select the **Resource Groups** menu in the **Administration** window.

Figure 6–37: **Resource Groups** view
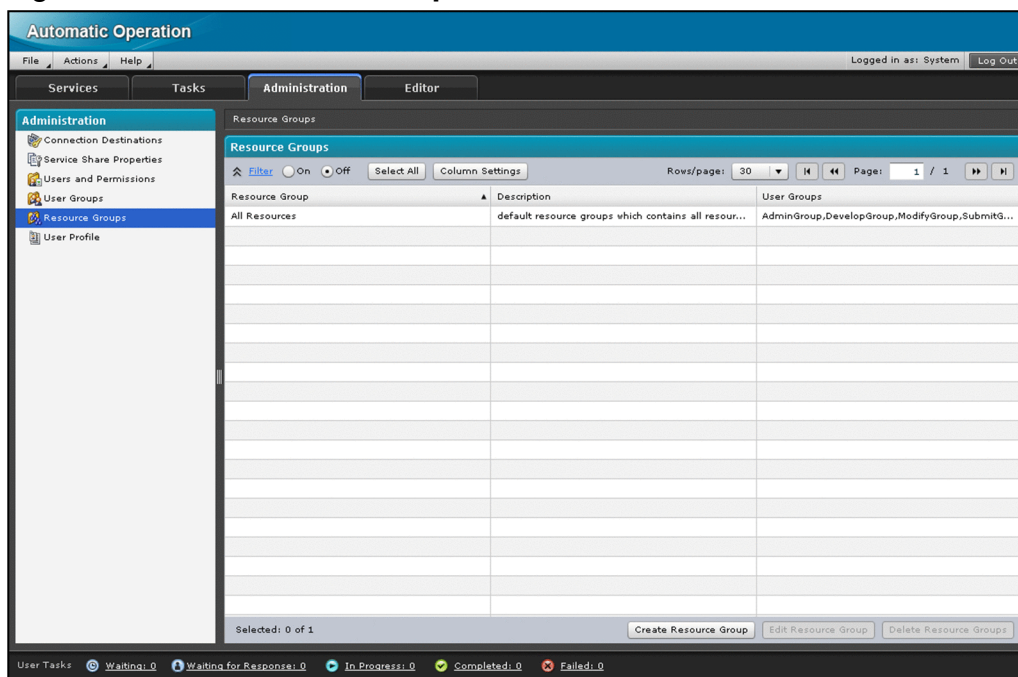
The following items are displayed in this view:

Resource Groups

A list of resource groups is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 6–32: Items displayed in the list of resource groups (**Resource Groups** view)

Display item	Displayed by default	Description
Resource Group	Yes	Displays the name of each resource group.
Description	Yes	Displays a brief description of each resource group. In the case of a built-in resource group, **default resource groups which contains all resources** is displayed here.
User Groups	Yes	Displays a user group to which the resource group is assigned.

Legend:

Yes: Displayed by default

Create Resource Group button

If you click this button, the **Create Resource Group** dialog box appears.

Edit Resource Group button

If you select a resource group and then click this button, the **Edit Resource Group** dialog box appears.

Delete Resource Groups button
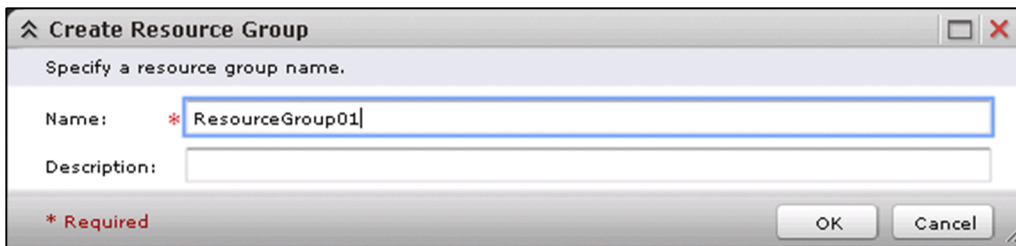
> If you select a resource group and then click this button, the **Delete Resource Groups** dialog box appears. You can select multiple resource groups at a time.

6.10.1 Create Resource Group dialog box

Use the **Create Resource Group** dialog box to create a resource group.

To display the **Create Resource Group** dialog box, click the **Create Resource Group** button in the **Resource Groups** view.

Figure 6–38: **Create Resource Group** dialog box

The following items are displayed in this dialog box:

Name text box

> Enter the name of a resource group. The text box allows a maximum of 63 characters.

Description text box

> Enter a brief description of the resource group. The text box allows a maximum of 80 characters.

OK button

> To create a resource group, click this button.

Cancel button
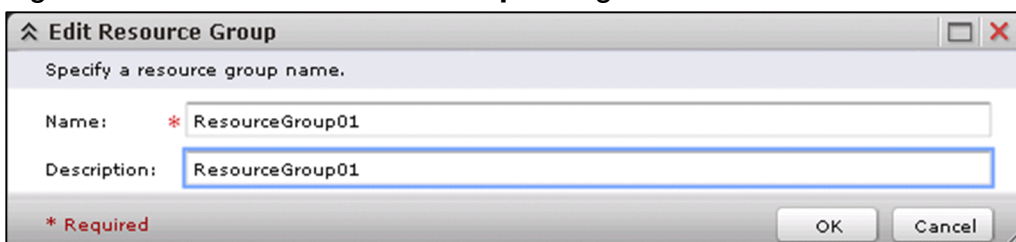
> To close the **Create Resource Group** dialog box, click this button.

6.10.2 Edit Resource Group dialog box

Use the **Edit Resource Group** dialog box to edit the name and description of a resource group.

To display the **Edit Resource Group** dialog box, select a resource group in the **Resource Groups** view and then click the **Edit Resource Group** button.

Figure 6–39: **Edit Resource Group** dialog box

The following items are displayed in this dialog box:

Name text box

The name of the resource group is displayed here. Enter a new name for the resource group. The text box allows a maximum of 63 characters.

Description text box

A brief description of the resource group is displayed here. Enter a new description for the resource group. The text box allows a maximum of 80 characters.

OK button

To apply the changes made to the resource group, click this button.

Cancel button

To close the **Edit Resource Group** dialog box, click this button.

6.10.3 Delete Resource Groups dialog box

Use the **Delete Resource Groups** dialog box to delete resource groups.

To display the **Delete Resource Groups** dialog box, select one or more resource groups in the **Resource Groups** view and then click the **Delete Resource Groups** button.

Figure 6–40: **Delete Resource Groups** dialog box
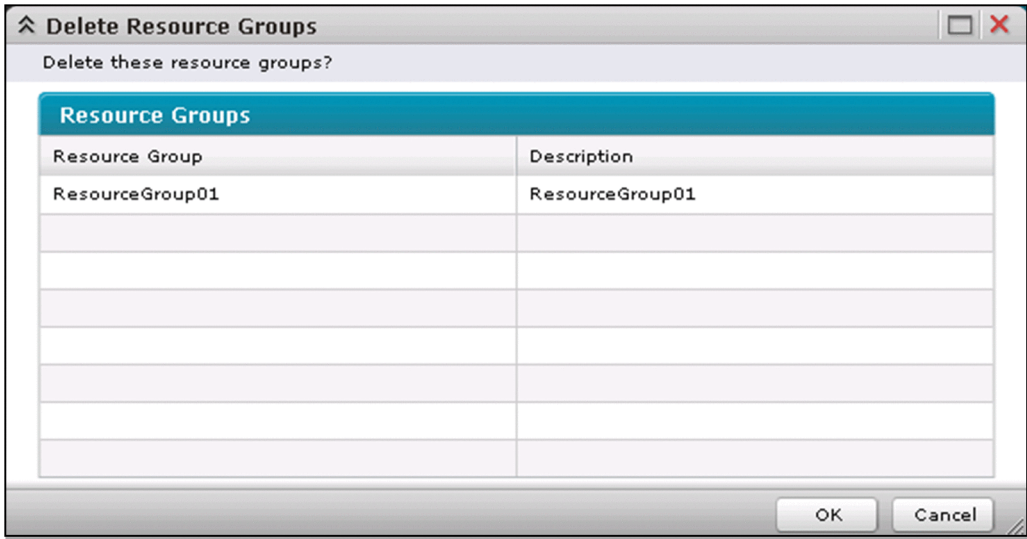
The following items are displayed in this dialog box:

Resource Groups

A list of resource groups to be deleted is displayed here. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–33: Items displayed in the list of resource groups (**Delete Resource Groups** dialog box)

Display item	Description
Resource Group	Displays the name of each resource group.

Display item	Description
Description	Displays a brief description of each resource group.

OK button

To delete the resource groups, click this button.

Cancel button

To close the **Delete Resource Groups** dialog box, click this button.

6.11 User Profile window

Use the **User Profile** window to check user profile information.

To display the **User Profile** window, select the **User Profile** menu in the **Administration** window.

Figure 6–41: **User Profile** window
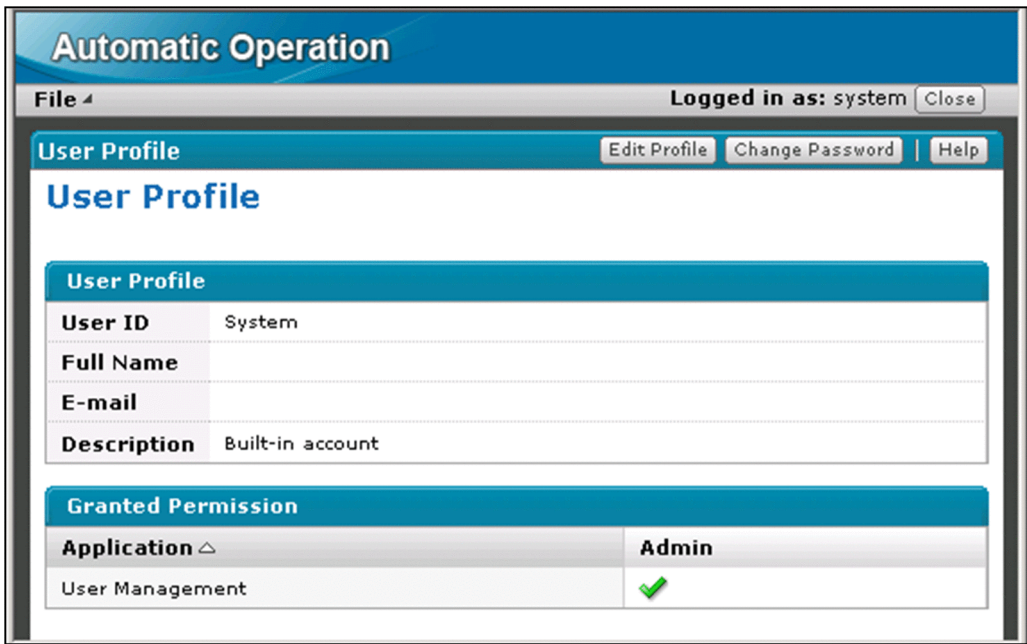
The following items are displayed in this window:

User Profile

The user profile information is displayed.

User ID

The user ID is displayed.

Full Name

The full name of the user is displayed.

E-mail

The email address of the user is displayed.

Description

A brief description of the user is displayed.

Granted Permission

A list of permissions granted to the user is displayed. If you click the title of a display item, the data will be sorted in ascending order or in descending order.

Table 6–34: Items displayed in Granted Permission (**User Profile** window)

Display item	Description
Application	Displays the name of the permission specified for the user.
Admin	Displays a check mark if the user is granted User Management permission.

Edit Profile button

    If you click this button, the **Edit Profile** dialog box appears.

Change Password button

    If you click this button, the **Change Password** dialog box appears.

7

Editor Window

This chapter provides information on the JP1/AO **Editor** window.

7.1 Editor window

Use the **Editor** window to develop service templates and plug-ins.

To display the **Editor** window, select the **Editor** tab in the main window.

Figure 7–1: **Editor** window (displaying the **Plug-in** view in the left pane and the **Service Template Editor Home** view in the right pane)
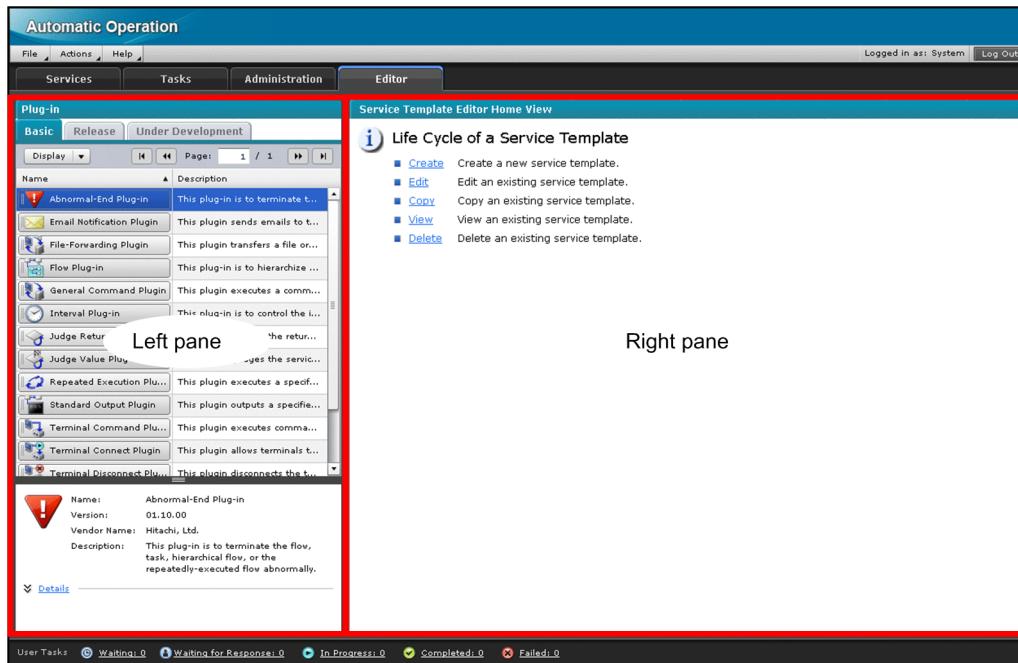
The following items are displayed in this window:

Left pane

The view displayed here changes according to the operation.

Plug-in view

Use this view to display a list of plug-ins or to develop plug-ins. You can create, edit, copy, or delete plug-ins here.

Debug view

Use this view to manage debug tasks or to set the step-by-step execution method. The **Debug** view is displayed when the **Run** button is clicked in the **Perform Debugging** dialog box.

Right pane

Either of the following views is displayed depending on your operation:

Service Template Editor Home view

Use this view to develop service templates. You can create, edit, copy, view, or delete service templates here. If you click an item, a corresponding window appears.

Service template editing view

Use this view to edit a service template. The service template editing view is displayed when either of the following operations is performed:

• In the **Service Template List** dialog box, click the **Edit** button.

- In the **Create Service Template** or **Copy Service Template** dialog box, click the **Save** button.

Service template debugging view

Use this view to debut a service template. This view is displayed when the **Run** button is clicked in the **Perform Debugging** dialog box.

7.2 Plug-in view

Use the **Plug-in** view to display a list of plug-ins that can be used to edit service templates, or use it to develop plug-ins. The **Plug-in** view is displayed in the left pane of the **Editor** when one of the following operations is performed:

- In the main window, select the **Editor** tab.
  (Note that this view is not displayed when a service template is being debugged.)
- In the service template debugging view, click the **End Debug** button.

Figure 7–2: **Plug-in** view
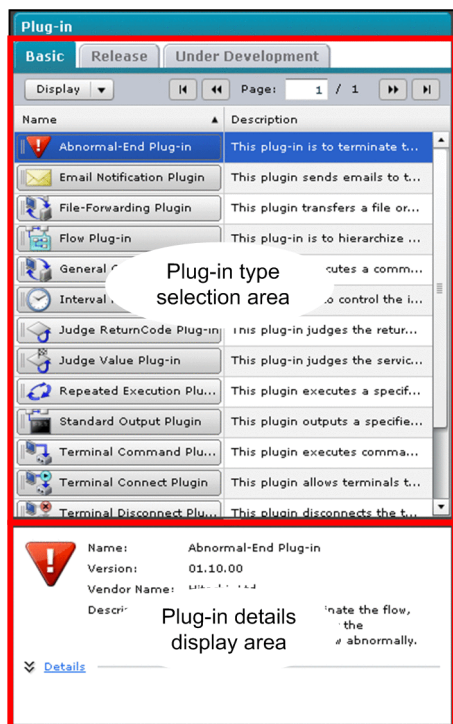
The following items are displayed in this view:

Plug-in type selection area

 The plug-in type selection area is composed of the following tabs:

- **Basic** tab

  Displays a list of basic plug-ins.

- **Release** tab

  Displays a list of release plug-ins.

- **Under Development** tab

  Displays a list of development plug-ins.

Plug-in details display area

 This area displays the items below. The plug-in details display area displays detailed information about the plug-in selected in the plug-in type selection area.

 Name

  The name of the plug-in

Version

The version of the plug-in

Vendor Name

The vendor name of the plug-in

Description

A description of the plug-in

Details

If you click this, the following information is displayed:

ID

The ID of the plug-in

Vendor ID

The vendor ID of the plug-in

Category

The category of the plug-in

Credential Type

The credential type of the plug-in. The credential type is displayed when you select a plug-in in the **Plug-in** view (**Release** tab) or the **Plug-in** view (**Under Development** tab).

Character Set Auto Judgment (SSH)

Shows whether character set auto judgment (for SSH) is enabled for the plug-in. **Character Set Auto Judgment (SSH)** is displayed when you select a plug-in in the **Plug-in** view (**Release** tab) or in the **Plug-in** view (**Under Development** tab).

Execute with root privileges (SSH)

Shows whether commands and scripts executed on the connection-destination host connected via the SSH protocol are executed as root. **Execute with root privileges (SSH)** is displayed when you select a plug-in in the **Plug-in** view (**Release** tab) or in the **Plug-in** view (**Under Development** tab).

Input Properties

Shows the number of input properties defined for the plug-in that was selected in the list of plug-ins.

Output Properties

Shows the number of output properties defined for the plug-in that was selected in the list of plug-ins.

Platform

Shows the OS running on the device on which the command or script set for the plug-in is to be executed. **Platform** is displayed when you select a plug-in in the **Plug-in** view (**Release** tab) or in the **Plug-in** view (**Under Development** tab).

7.2.1 Plug-in view (Basic tab)

Use the **Plug-in** view (**Basic** tab) to create or edit service templates by using basic plug-ins. If you select the **Basic** tab, a list of basic plug-ins is displayed.

Figure 7–3: **Plug-in** view (**Basic** tab)
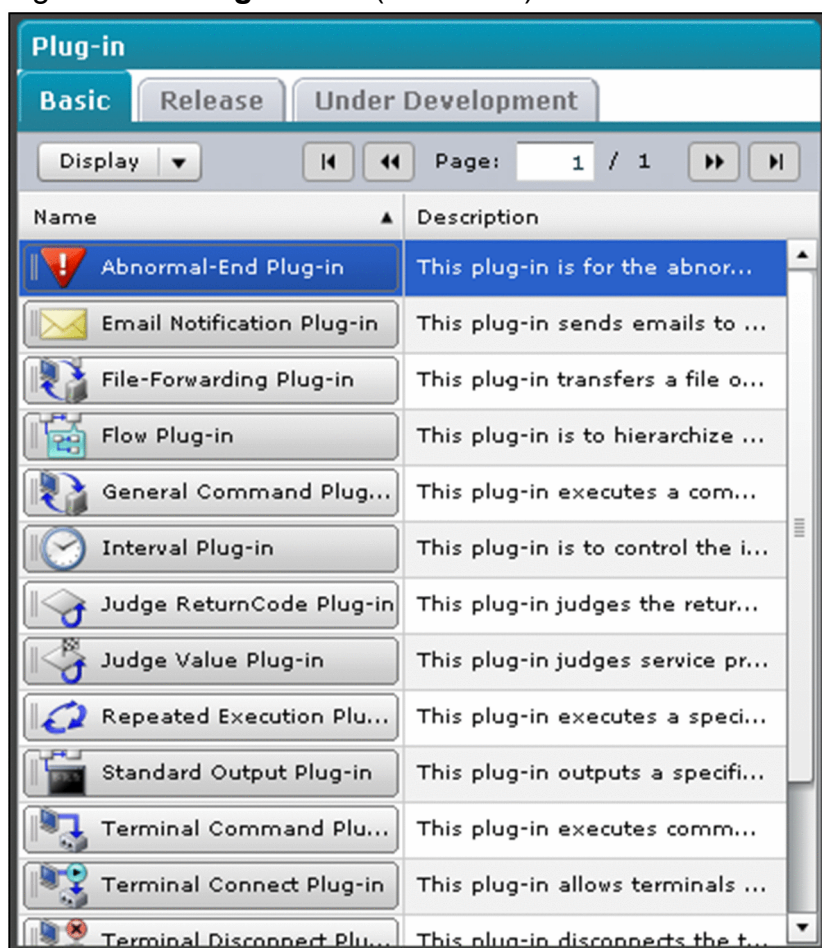
The following items are displayed in this view:

Display list box

Select how to display a list of plug-ins.

- **Display Latest Version**

  If you select this check box, only the latest versions of individual plug-ins are displayed. If you deselect this check box, all plug-ins are displayed.

- **Display** *number-of-rows* **Rows Per Page**

  Select the number of rows displayed per page. For *number-of-rows*, you can select **30**, **50**, **100**, **250**, or **500**.

List of plug-ins

A list of basic plug-ins is displayed. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–1: Items displayed in the list of plug-ins (**Plug-in** view (**Basic** tab))

Display item	Description
Name	Displays the name of each plug-in.
Version[#]	Displays the version of each plug-in.
Description	Displays a brief description of each plug-in.

\#

Version is displayed only when the **Display Latest Version** check box is not selected in the **Display** list box.

7.2.2 Plug-in view (Release tab)

Use the **Plug-in** view (**Release** tab) to create or edit service templates by using release plug-ins. If you select the **Release** tab, a list of release plug-ins is displayed.

Figure 7–4: **Plug-in** view (**Release** tab)
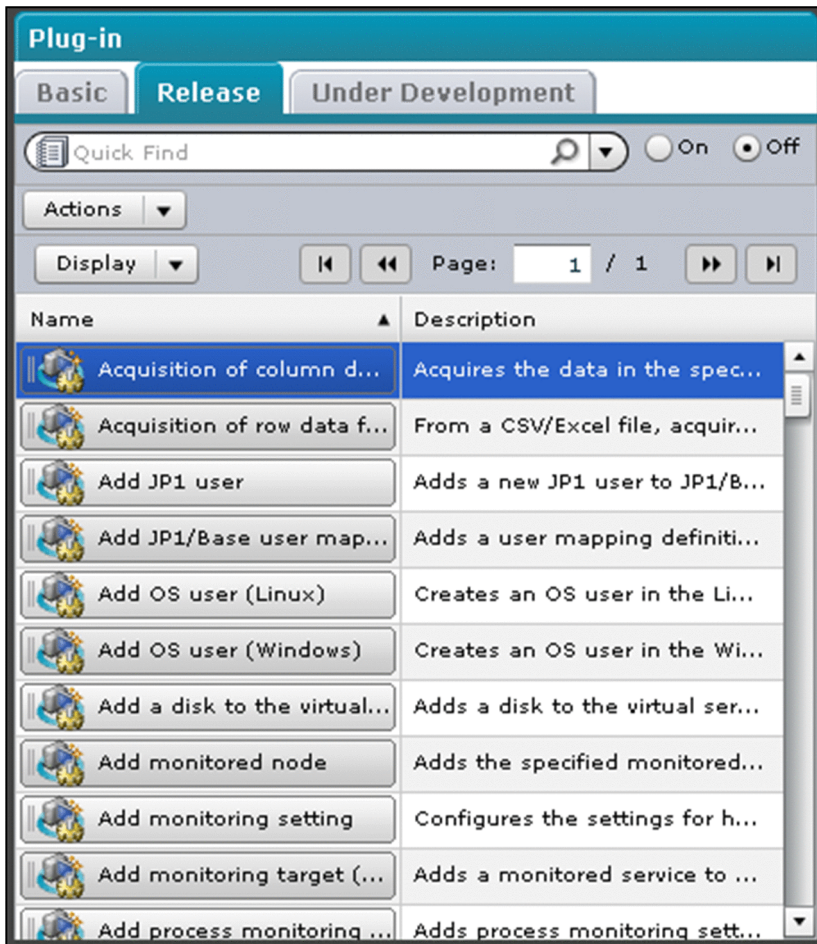
The following items are displayed in this view:

Quick Find text box
  Enter a search term. You can enter a maximum of 256 characters.

On radio button
  If you select this radio button, the search result is applied to the list.

Off radio button
  If you select this radio button, the search result is not applied to the list, and all plug-ins are displayed.

Actions list box
  Specify an operation you want to perform for the plug-in.

  • **Copy**

To copy the selected plug-in, select this option. If you select this option, the **Copy Plug-in** dialog box appears.

- **Delete**

  To delete the selected plug-in, select this option. If you select this option, a message dialog box appears, asking you whether you really want to delete the plug-in. If you are sure you want to delete the plug-in, click the **OK** button.

Display list box

Select how to display a list of plug-ins.

- **Display Latest Version**

  If you select this check box, only the latest versions of individual plug-ins are displayed. If you deselect this check box, all plug-ins are displayed.

- **Display** *number-of-rows* **Rows Per Page**

  Select the number of rows displayed per page. For *number-of-rows*, you can select **30**, **50**, **100**, **250**, or **500**.

List of plug-ins

A list of release plug-ins is displayed. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–2: Items displayed in the list of plug-ins (**Plug-in** view (**Release** tab))

Display item	Description
Name	Displays the name of each plug-in.
Version[#]	Displays the version of each plug-in.
Description	Displays a brief description of each plug-in.

\#

Version is displayed only when the **Display Latest Version** check box is not selected in the **Display** list box.

7.2.3 Plug-in view (Under Development tab)

Use the **Plug-in** view (**Under Development** tab) to create plug-ins, or to create or edit service templates by using the plug-ins you created. If you select the **Under Development** tab, a list of development plug-ins is displayed.

Figure 7–5: **Plug-in** view (**Under Development** tab)
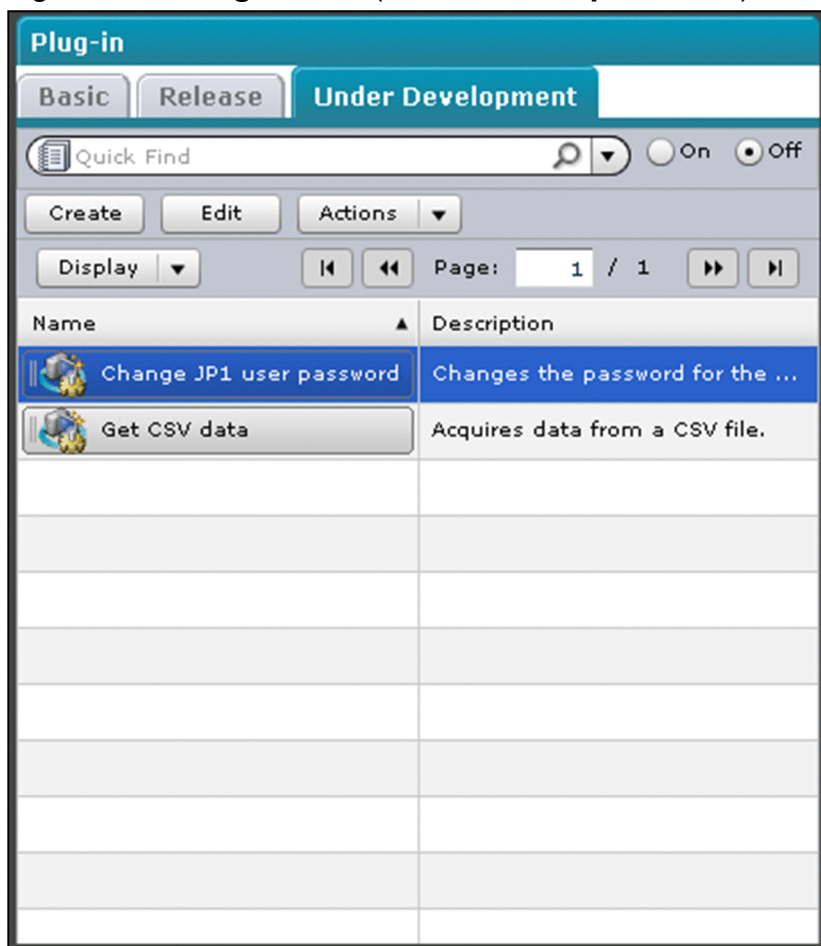
The following items are displayed in this view:

Quick Find text box
> Enter a search term. You can enter a maximum of 256 characters.

On radio button
> If you select this radio button, the search result is applied to the list.

Off radio button
> If you select this radio button, the search result is not applied to the list, and all plug-ins are displayed.

Create button
> To create a plug-in, click this button. If you click this button, the **Create Plug-in** dialog box appears.

Edit button
> To edit a plug-in, click this button. If you click this button, the **Edit Plug-in** dialog box appears.

Actions list box
> Specify an operation you want to perform on the plug-in.
> - **Set Resources**
>   To specify a resource file for the selected plug-in, select this option. If you select this option, the **Set the Plug-in Resources** dialog box appears.
> - **Copy**

To copy the selected plug-in, select this option. If you select this option, the **Copy Plug-in** dialog box appears.

- **Delete**

  To delete the selected plug-in, select this option. If you select this option, a confirmation dialog box appears. If you click the **OK** button, the plug-in is deleted.

Display list box

Select how to display a list of plug-ins.

- **Display Latest Version**

  If you select this check box, only the latest versions of individual plug-ins are displayed. If you deselect this check box, all plug-ins are displayed.

- **Display** *number-of-rows* **Rows Per Page**

  Select the number of rows displayed per page. For *number-of-rows*, you can select **30**, **50**, **100**, **250**, or **500**.

List of plug-ins

A list of development plug-ins is displayed. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–3: Items displayed in the list of plug-ins (**Plug-in** view (**Under Development** tab))

Display item	Description
Name	Displays the name of each plug-in.
Version[#]	Displays the version of each plug-in.
Description	Displays a brief description of each plug-in.

\#

> **Version** is displayed only when the **Display Latest Version** check box is not selected in the **Display** list box.

7.2.4 Copy Plug-in dialog box

Use the **Copy Plug-in** dialog box to copy the selected plug-in. To display the **Copy Plug-in** dialog box, in the **Plug-in** view (**Release** tab) or in the **Plug-in** view (**Under Development** tab), select **Copy** in the **Actions** list box.

Figure 7–6: **Copy Plug-in** dialog box

The following items are displayed in this dialog box:

ID text box

Enter the ID of the plug-in. The text box allows a maximum of 64 characters. Specify the ID, however, so that the total number of characters entered in the **ID** and **Vendor ID** text boxes is no more than 115.

Version text box

Enter the version number of the plug-in as *major-version-number.minor-version-number.revision-number*. Specify each of the numbers in the range from 00 to 99.

Vendor ID text box

Enter the vendor ID of the plug-in. The text box allows a maximum of 64 characters. Specify the vendor ID, however, so that the total number of characters entered in the **ID** and **Vendor ID** text boxes is no more than 115.

Name text box

Enter the name of the plug-in. The text box allows a maximum of 64 characters.

Vendor Name text box

Enter the name of the plug-in's vendor. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the plug-in. The text box allows a maximum of 256 characters.

Category text box

Enter the category name of the plug-in. The text box allows a maximum of 256 characters. If you use a hierarchical category name, delimit individual layers with a slash (/). You can use maximum of 10 layers for a category name. If you want to enter the plug-in in multiple categories, delimit the category names with a comma (,). Make sure that you enter values for all layers of a category name.

Save button

If you click this button, the selected plug-in is copied and the **Edit Plug-in** dialog box appears.

Cancel button

Click this button to close the **Copy Plug-in** dialog box.

> **Important note**
>
> You cannot copy the selected plug-in unless you change **ID**, **Version**, or **Vendor ID**.

7.2.5 Create Plug-in dialog box

Use the **Create Plug-in** dialog box to create a plug-in. To display the **Create Plug-in** dialog box, click the **Create** button in the **Plug-in** view (**Under Development** tab).

Figure 7–7: **Create Plug-in** dialog box

The following items are displayed in this dialog box:

Plug-in

Use this section to specify definition information of a plug-in.

ID text box

Enter the ID of the plug-in. The text box allows a maximum of 64 characters. Specify the ID, however, so that the total number of characters entered in the **ID** and **Vendor ID** text boxes is no more than 115.

Version text box

Enter the version number of the plug-in as *major-version-number.minor-version-number.revision-number*. Specify each of the numbers in the range from 00 to 99.

Vendor ID text box

Enter the vendor ID of the plug-in. The text box allows a maximum of 64 characters. Specify the vendor ID, however, so that the total number of characters entered in the **ID** and **Vendor ID** text boxes is no more than 115.

Name text box

Enter the name of the plug-in. The text box allows a maximum of 64 characters.

Vendor Name text box

Enter the name of the plug-in's vendor. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the plug-in. The text box allows a maximum of 256 characters.

Category text box

Enter the category name of the plug-in. The text box allows a maximum of 256 characters. If you use a hierarchical category name, delimit individual layers with a slash (/). You can use maximum of 10 layers for a category name. If you want to enter the plug-in in multiple categories, delimit the category names with a comma (,). Make sure that you enter values for all layers of a category name.

Plug-in Icon

Displays the icon specified for the plug-in.

Back to the Default button

If you click this button, the icon set for the plug-in changes back to the default.

Change button

If you click this button, a dialog box used to select a plug-in icon file to be uploaded appears. In this dialog box, you can change the icon for the plug-in. You can select a png file for the plug-in icon.

Credential Type radio button

Select one of the following credential types for the plug-in:

- **Destination**

  Select this option if you want to use the credential information set in the **Connection Destinations** view when the service is executed.

- **Property**

  Select this option if you want to specify the credential information as an input property.

Character Set Auto Judgment (SSH) check box

If you select this check box, character set auto judgment (for SSH) will be enabled. For details about character set auto judgement, see *Locale set for operation target devices during plug-in execution* in the *Job Management Partner 1/Automatic Operation Service Template Developer's Guide*.

Execute with root privileges (SSH) check box

If you select this check box, commands and scripts executed on the connection-destination host are executed as root.

Input Properties

Click this to display a list of input properties.

Input Properties

This section displays a list of input properties for the plug-in.

Table 7–4: Items displayed in **Input Properties** (**Create Plug-in** dialog box)

Display item	Description
Key	Displays the property key for each input property.
Name	Displays the name of each input property.
Description	Displays a brief description of each input property.

Add button

To create an input property, click this button. If you click this button, the **Create Input Property for Plug-in** dialog box appears.

Edit button

To edit the selected input property, click this button. If you click this button, the **Edit Input Property for Plug-in** dialog box appears.

Remove button

To delete the selected input property, click this button. If you click this button, a confirmation dialog box appears. If you click the **OK** button, the property is deleted.

Output Properties

Click this to display a list of output properties.

Output Properties

This section lists the output properties of the plug-in.

Table 7–5: Items displayed in **Output Properties** (**Create Plug-in** dialog box)

Display item	Description
Key	Displays the property key for each output property.
Name	Displays the name of each output property.
Description	Displays a brief description of each output property.

Add button

To create an output property, click this button. If you click this button, the **Create Output Property for Plug-in** dialog box appears.

Edit button

To edit the selected output property, click this button. If you click this button, the **Edit Output Property for Plug-in** dialog box appears.

Remove button

To delete the selected output property, click this button. If you click this button, a confirmation dialog box appears. If you click the **OK** button, the property is deleted.

Remote Command

Use this section to set the execution mode of the remote command for each OS on the target devices.

Windows, Linux, AIX, HP-UX, and Solaris

The execution mode of the remote command is displayed for each OS.

Edit button

You can edit the remote command for each OS. Clicking this button displays the **Edit Remote Command** dialog box.

Save button

Click this button to create the plug-in.

Cancel button

Click this button to close the **Create Plug-in** dialog box.

7.2.6 Edit Plug-in dialog box

Use the **Edit Plug-in** dialog box to edit the definition information of a plug-in. To display the **Edit Plug-in** dialog box, click the **Edit** button in the **Plug-in** view (**Under Development** tab), or click the **Save** button in the **Copy Plug-in** dialog box.

Figure 7–8: **Edit Plug-in** dialog box

The following items are displayed in this dialog box:

Plug-in

Use this section to specify the definition information of the plug-in you are editing.

ID

Shows the ID of the plug-in.

Version

Shows the version number of the plug-in.

Vendor ID

Shows the vendor ID of the plug-in.

Name text box

Enter the name of the plug-in. The text box allows a maximum of 64 characters.

Vendor Name text box

Enter the name of the plug-in's vendor. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the plug-in. The text box allows a maximum of 256 characters.

Category text box

Enter the category name of the plug-in. The text box allows a maximum of 256 characters. If you use a hierarchical category name, delimit individual layers with a slash (/). You can use maximum of 10 layers for a category name. If you want to enter a plug-in in multiple categories, delimit the category names with a comma (,). Make sure that you enter values for all layers of a category name.

Plug-in Icon

The icon specified for the plug-in is displayed.

> **Back to the Default** button
>
> If you click this button, the icon set for the plug-in changes back to the default.

> **Change** button
>
> If you click this button, a dialog box used to select a plug-in icon file to be uploaded appears. In this dialog box, you can change the icon for the plug-in. You can select a png file for the plug-in icon.

Credential Type radio button

Select one of the following credential types:

- **Destination**

  Select this option if you want to use the credential information set in the **Connection Destinations** view when the service is executed.

- **Property**

  Select this option if you want to specify the credential information as an input property.

Character Set Auto Judgment (SSH) check box

If you select this check box, character set auto judgment (for SSH) will be enabled. For details about character set auto judgement, see *Locale set for operation target devices during plug-in execution* in the *Job Management Partner 1/Automatic Operation Service Template Developer's Guide*.

Execute with root privileges (SSH) check box

If you select this check box, commands and scripts executed on the connection-destination host are executed as root.

Input Properties

Click this to display a list of input properties.

Input Properties

This section lists the input properties of the plug-in.

Table 7–6: Items displayed in **Input Properties** (**Edit Plug-in** dialog box)

Display item	Description
Key	Displays the property key for each input property.
Name	Displays the name of each input property.
Description	Displays a brief description of each input property.

Add button

> To create an input property, click this button. If you click this button, the **Create Input Property for Plug-in** dialog box appears.

Edit button

> To edit the selected input property, click this button. If you click this button, the **Edit Input Property for Plug-in** dialog box appears.

Remove button

> To delete the selected input property, click this button. If you click this button, a confirmation dialog box appears. If you click the **OK** button, the property is deleted.

Output Properties

> Click this to display a list of output properties.

Output Properties

> This section lists the output properties of the plug-in.

Table 7–7: Items displayed in **Output Properties** (**Edit Plug-in** dialog box)

Display item	Description
Key	Displays the property key for each output property.
Name	Displays the name of each output property.
Description	Displays a brief description of each output property.

Add button

> To create an output property, click this button. If you click this button, **Create Output Property for Plug-in** dialog box appears.

Edit button

> To edit the selected output property, click this button. If you click this button, **Edit Output Property for Plug-in** dialog box appears.

Remove button

> To delete the selected output property, click this button. If you click this button, a confirmation dialog box appears. If you click the **OK** button, the property is deleted.

Remote Command

> This section displays execution mode for each OS running on the target devices of the remote command.

> **Windows, Linux, AIX, HP-UX, and Solaris**

> > The execution mode of the remote command is displayed for each OS.

> > **Edit** button

> > > You can edit the remote command for each OS. Clicking this button displays the **Edit Remote Command** dialog box.

Save button

> Click this button to apply the changes.

Cancel button

> Click this button to close the **Edit Plug-in** dialog box.

7.2.7 Set the Plug-in Resources dialog box

Use the **Set the Plug-in Resources** dialog box to upload or download a plug-in resource file. To display the **Set the Plug-in Resources** dialog box, in the **Plug-in** view (**Under Development** tab), select **Set Resources** in the **Actions** list box.

Figure 7–9: **Set the Plug-in Resources** dialog box
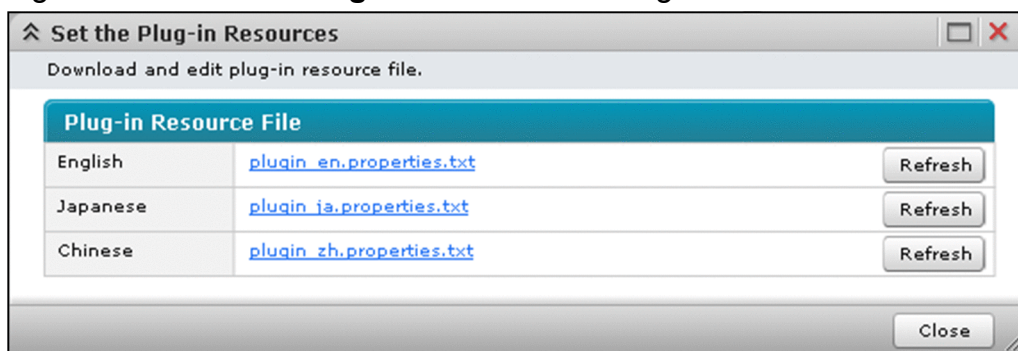
This dialog box displays the following items:

Plug-in Resource File

The plug-in resource file is displayed and applied when the plug-in is displayed in each language environment.

Japanese

The name of the plug-in resource file is displayed and applied when the plug-in is displayed in a Japanese environment. The file can be downloaded by clicking the file name.

English

The name of the plug-in resource file is displayed and applied when the plug-in is displayed in an English environment. The file can be downloaded by clicking the file name.

Chinese

The name of the plug-in resource file is displayed and applied when the plug-in is displayed in a Chinese environment. The file can be downloaded by clicking the file name.

Refresh button

If you click this button, a dialog box used to upload an edited plug-in resource file is displayed. In this dialog box, if you select a file and click the **Open** button, a message dialog box appears confirming whether you want to update the file. If you click the **OK** button, the file is updated. The only name that can be registered for a plug-in resource file is "`plugin_ja.properties.txt`" in a Japanese environment, "`plugin_en.properties.txt`" in an English environment, or "`plugin_zh.properties.txt`" in a Chinese environment.

Close button

Click this button to close the **Set the Plug-in Resources** dialog box.

7.2.8 Create Input Property for Plug-in dialog box

Use the **Create Input Property for Plug-in** dialog box to add an input property to the plug-in. To display the **Create Input Property for Plug-in** dialog box, in the **Create Plug-in** dialog box or in the **Edit Plug-in** dialog box, click the **Add** button in the **Input Properties** section.

Figure 7–10: **Create Input Property for Plug-in** dialog box

This dialog box displays the following items:

Key text box

Enter a property key. The text box allows a maximum of 128 characters.

Name text box

Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box

Enter a brief description of the property. The text box allows a maximum of 256 characters.

Required check box

Sets whether a value must be entered for the property. Select this check box to require a value to be entered for the property.

Default Value text box

Enter the default value for the property. The text box allows a maximum of 1,024 characters.

OK button

Click this button to add the input property.

Cancel button

Click this button to close the **Create Input Property for Plug-in** dialog box.

7.2.9 Edit Input Property for Plug-in dialog box

Use the **Edit Input Property for Plug-in** dialog box to edit an input property defined for the plug-in. To display the **Edit Input Property for Plug-in** dialog box, in the **Create Plug-in** dialog box or in the **Edit Plug-in** dialog box, click the **Edit** button in the **Input Properties** section.

Figure 7–11: **Edit Input Property for Plug-in** dialog box

This dialog box displays the following items:

Key text box

Enter a property key. The text box allows a maximum of 128 characters. If you select a reserved plug-in property, you cannot edit the **Key** text box.

Name text box

Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box

Enter a brief description of the property. The text box allows a maximum of 256 characters.

Required check box

Sets whether a value must be entered for the property. Select this check box to require a value to be entered for the property. The **Required** check box is disabled if the plugin.destinationHost or plugin.account reserved plug-in property is selected.

Default Value text box

Enter the default value for the property. The text box allows a maximum of 1,024 characters.

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Input Property for Plug-in** dialog box.

7.2.10 Create Output Property for Plug-in dialog box

Use the **Create Output Property for Plug-in** dialog box to add an output property to the plug-in. To display the **Create Output Property for Plug-in** dialog box, in the **Create Plug-in** dialog box or in the **Edit Plug-in** dialog box, click the **Add** button in the **Output Properties** section.

Figure 7–12: **Create Output Property for Plug-in** dialog box

This dialog box displays the following items:

Key text box
> Enter a property key. The text box allows a maximum of 128 characters.

Name text box
> Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box
> Enter a brief description of the property. The text box allows a maximum of 256 characters.

OK button
> Click this button to add the output property to the plug-in.

Cancel button
> Click this button to close the **Create Output Property for Plug-in** dialog box.

7.2.11 Edit Output Property for Plug-in dialog box

Use the **Edit Output Property for Plug-in** dialog box to edit an output property defined for the plug-in. To display the **Edit Output Property for Plug-in** dialog box, in the **Create Plug-in** dialog box or in the **Edit Plug-in** dialog box, click the **Edit** button in the **Output Properties** section.

Figure 7–13: Edit Output Property for Plug-in dialog box

This dialog box displays the following items:

Key text box
> Enter a property key. The text box allows a maximum of 128 characters.

Name text box
> Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box

Enter a brief description of the property. The text box allows a maximum of 256 characters.

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Output Property for Plug-in** dialog box.

7.2.12 Edit Remote Command dialog box

Use the **Edit Remote Command** dialog box to set the remote command that the plug-in will execute. To display the **Edit Remote Command** dialog box, in the **Create Plug-in** dialog box or in the **Edit Plug-in** dialog box, click the **Edit** button in the Remote Command section.

Figure 7–14: **Edit Remote Command** dialog box (when **Script** is selected for **Execution Mode** and **Attachment** is selected for **Setting the Scripts**)

This dialog box displays the following items:

Platform

Shows the OS on the target devices of the remote command.

- **Setting uptake of other platforms** list box

    Use this list box to select the platform for which you want to import remote command definition information. You can select Windows, AIX, HP-UX, Linux, or Solaris. Note that no attached files are imported. Therefore, after the definition information is imported, you must upload the attached files for the specified platform.

Execution Mode radio button

Select the execution mode of the remote command.

- **Script**

  To select a script created by a user, select this option.

- **Command**

  To select a command stored on the operation-target device, select this option.

- **Do not Submit**

  Not to execute a remote command, select this option.

Command line text box

Enter a command line. The text box allows a maximum of 8,192 characters. The **Command line** text box is displayed when you select either **Script** or **Command** for the **Execution Mode** radio button.

Insert All Input Properties button

If you click this button, all input properties defined for the plug-in are input to the **Command line** text box in the format of `?dna_property-key-1? ?dna_property-key-2?`.... The **Insert All Input Properties** button is displayed when you select **Script** or **Command** for the **Execution Mode** radio button.

Setting the Scripts radio button

Select how to set the script. The **Setting the Scripts** radio button is displayed when you select **Script** for the **Execution Mode** radio button.

- **Attachment**

  To attach a script, select this option.

- **Direct Input**

  To directly enter the script, select this option.

File

Shows the file name of the script to be attached.

If the script file has already been uploaded, you can download the file by clicking the file name. **File** is displayed when you select **Attachment** for the **Setting the Scripts** radio button.

Select button

If you click this button, a dialog box appears that is used to select a script file to be attached. Specify a script file with a name that has no more than 90 characters. (If you specify a zip file, the relative path to the script file in the zip file must have no more than 90 characters.) Also, the total number of characters entered in the **ID**, **Vendor ID**, and **File Name** text boxes must be no more than 123. (If you specify a zip file, the relative path to the script file in the zip file must be assumed as the file name. Then the total must be no more than 123 characters.)

The **Select** button is displayed when you select **Attachment** for the **Setting the Scripts** radio button.

File Name text box

Enter the file name of the script that you entered in the **Script** text box. The file name must have no more than 90 characters. Also, the total number of characters entered in the **ID**, **Vendor ID**, and **File Name** text boxes must be no more than 123. The script whose name you entered in the **Script** text box will be uploaded with the file name set in the **File Name** text box. The **File Name** text box is displayed when you select **Direct Input** for the **Setting the Scripts** radio button.

Script text box

Enter the name of a script you want to execute on the operation-target device. The text box allows a maximum of 5,000 characters. The script whose name you entered in the **Script** text box will be uploaded with the file name set

in the **File Name** text box. The **Script** text box is displayed when you select **Direct Input** for the **Setting the Scripts** radio button.

Mapping Definition of Output Properties

This section lists the mapping definitions of output properties. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–8: Items displayed in **Mapping Definition of Output Properties** (**Edit Remote Command** dialog box)

Display item	Description
Key	Displays the property key of each output property.
Name	Displays the name of each output property.
Description	Displays the description of each output property.
Output Filter	Displays the output filter for each output property.

Edit button

To edit the output filter for the selected output property, click this button. If you click this button, the **Edit Output Filter** dialog box appears.

Specify the Details

If you click this, the **Execution Directory** text box and a list of environment variables are displayed.

Execution Directory text box

Enter a directory on the operation-target device. The specified command or script will be executed, targeted to that directory. The text box allows a maximum of 256 characters.

Environment Variable

This section lists the environment variables required when a command or script is executed. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–9: Items displayed in **Environment Variable** (**Edit Remote Command** dialog box)

Display item	Description
Name	Displays the name of each environment variable.
Value	Displays the variable set for each environment variable.

Add button

To create an environment variable, click this button. If you click this button, the **Create Environment Variable** dialog box appears.

Edit button

To edit the selected environment variable, click this button. If you click this button, the **Create Environment Variable** dialog box appears.

Remove button

To delete the selected environment variable, click this button. If you click this button, a confirmation dialog box appears. If you click the **OK** button, the environment variable is deleted.

OK button

Click this button to apply the changes are applied.

Cancel button

Click this button to close the **Edit Remote Command** dialog box.

7.2.13 Create Environment Variable dialog box

Use the **Create Environment Variable** dialog box to create an environment variable required when the remote command is executed. To display the **Create Environment Variable** dialog box, in **Edit Remote Command** dialog box, click the **Add** button in the Environment Variable section.

Figure 7–15: **Create Environment Variable** dialog box

This dialog box displays the following items:

Name text box

Enter the name of the environment variable you are creating. The text box allows a maximum of 256 characters.

Value text box

Enter the value of the environment variable you are creating. The text box allows a maximum of 2,048 characters.

OK button

Click this button to add the environment variable.

Cancel button

Click this button to close the **Create Environment Variable** dialog box.

7.2.14 Edit Environment Variable dialog box

Use the **Edit Environment Variable** dialog box to edit an environment variable required when the remote command is executed. To display the **Edit Environment Variable** dialog box, in the **Edit Remote Command** dialog box, click the **Edit** button in the Environment Variable section.

Figure 7–16: **Edit Environment Variable** dialog box

This dialog box displays the following items.

Name text box

Enter the name of the environment variable you are editing. The text box allows a maximum of 256 characters.

Value text box

Enter the value of the environment variable you are editing. The text box allows a maximum of 2,048 characters.

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Environment Variable** dialog box.

7.2.15 Edit Output Filter dialog box

Use the **Edit Output Filter** dialog box to set an output filter. An output filter is a regular expression used to extract the value to be set as an output property from the standard output value or the standard error output value. To display the **Edit Output Filter** dialog box, in the **Edit Remote Command** dialog box, click the **Edit** button in the **Mapping Definition of Output Properties** section.

Figure 7–17: **Edit Output Filter** dialog box

This dialog box displays the following items:

Key

Shows the property key of the output property.

Name

Shows the name of the output property.

Description

Shows a brief description of the output property.

Output Filter text box

Enter an output filter. The text box allows a maximum of 1,024 characters. Specify a regular expression that conforms to PCRE.

Verification of the Output Filter

If you click this, the **Standard Output / Standard Error Output** text box, the **Verification of the Output Filter** button, and the **Value of the Output Property** display area are displayed.

Standard Output / Standard Error Output text box

Enter test data to be used for verification of the specified output filter. The text box allows a maximum of 500,000 characters.

Verification of the Output Filter button

If you click this button, verification of the output filter starts, using the data entered in the **Standard Output / Standard Error Output** text box.

Value of the Output Property display area

Displays the result of verification of the output filter.

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Output Filter** dialog box.

7.3 Service Template Editor Home view

Use the **Service Template Editor Home** view to develop service templates. To display the **Service Template Editor Home** view, select the **Editor** tab in the main window. The **Service Template Editor Home** view appears in the right pane of the **Editor** window. Note that this view is not displayed when a service template is being debugged.

Figure 7–18: **Service Template Editor Home** view
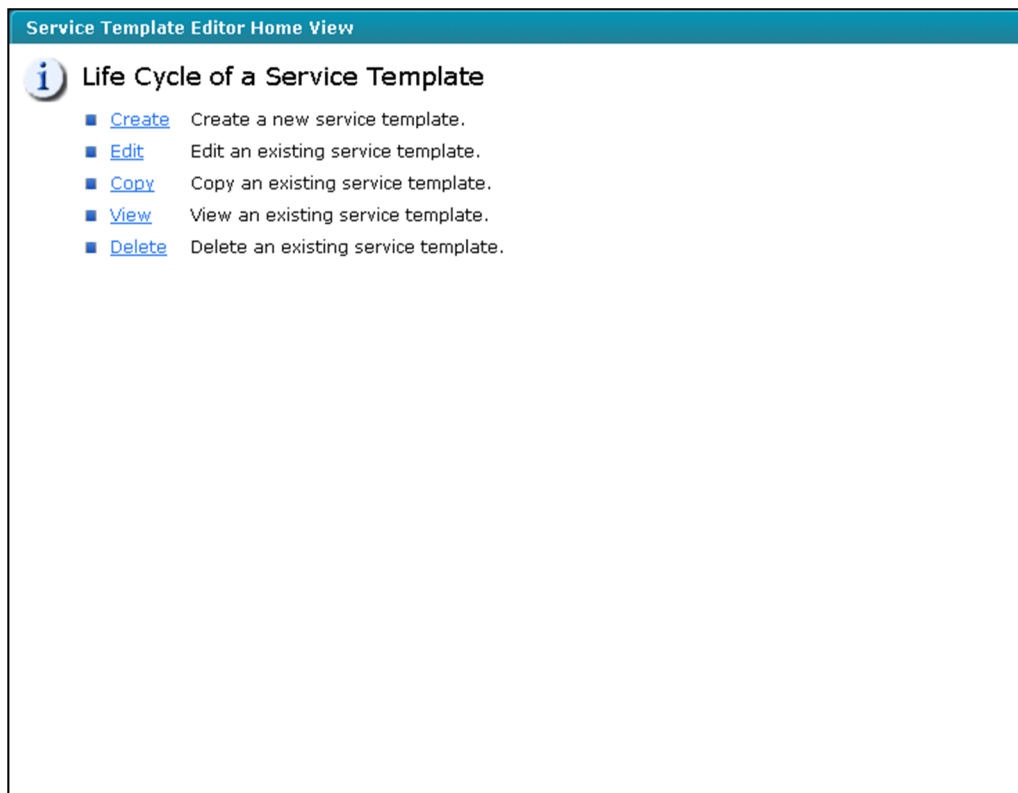
This view displays the following items:

Create

> To create a service template, click this button. If you click this button, the **Create Service Template** dialog box appears.

Edit

> To edit an existing service template, click this button. If you click this button, the **Service Template List** dialog box appears.

Copy

> To copy an existing service template, click this button. If you click this button, the **Service Template List** dialog box appears.

View

> To view an existing service template, click this button. If you click this button, the **Service Template List** dialog box appears.

Delete

> To delete an existing service template, click this button. If you click this button, the **Service Template List** dialog box appears.

7.3.1 Create Service Template dialog box

Use the **Create Service Template** dialog box to create a service template. To display the **Create Service Template** dialog box, click **Create** in the **Service Template Editor Home** view.

Figure 7–19: **Create Service Template** dialog box
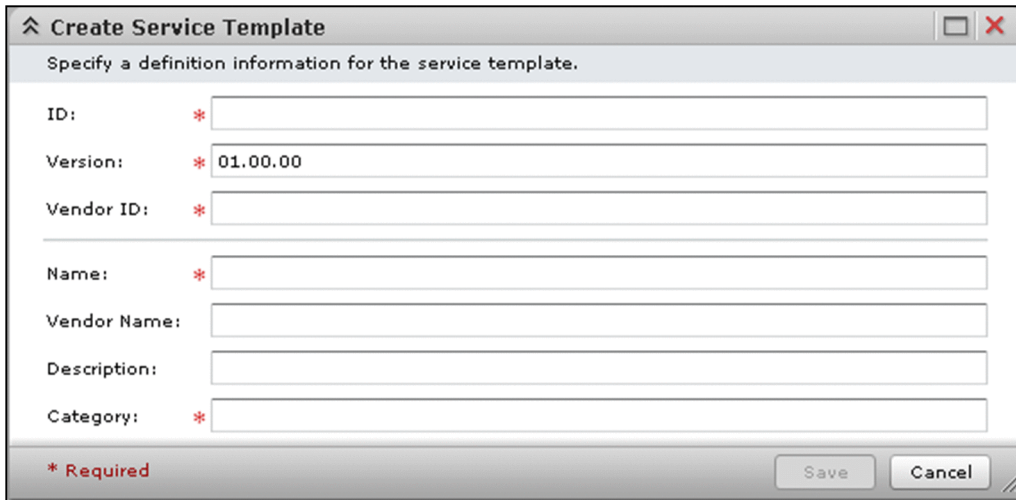
This dialog box displays the following items:

ID text box

Enter a service template ID. The text box allows a maximum of 64 characters. Specify the ID, however, so that the total number of characters entered in the **ID** and **Vendor ID** text boxes is no more than 112.

Version text box

Enter the version of the service template as *major-version-number.minor-version-number.revision-number*. Specify each of the numbers in the range from 00 to 99.

Vendor ID text box

Enter the vendor ID of the service template. The text box allows a maximum of 64 characters. Specify the vendor ID, however, so that the total number of characters entered in the **ID** and **Vendor ID** text boxes is no more than 112.

Name text box

Enter the name of the service template. The text box allows a maximum of 64 characters.

Vendor Name text box

Enter the name of the service template's vendor. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the service template. The text box allows a maximum of 256 characters.

Category text box

Enter the category name of the service template. The text box allows a maximum of 256 characters. If you use a hierarchical category name, delimit individual layers with a slash (/). You can use a maximum of 10 layers for a category name. If you want to enter a service template in multiple categories, delimit the category names with a comma (,). Make sure that you enter values for all layers of a category name.

Save button

Click this button to create the service template. The service template editing view appears in the right pane of the **Editor** window.

Cancel button

Click this button to close the **Create Service Template** dialog box.

7.3.2 Service Template List dialog box

Use the **Service Template List** dialog box to display a list of service templates, and to select a service template to be edited, copied, viewed, or deleted. To display the **Service Template List** dialog box, in the **Service Template Editor Home** view, click **Create**, **Copy**, **View**, or **Delete**, or in the service template editing view, select **View** in the **Actions** list box.

Figure 7–20: Service Template List dialog box (when displayed by clicking **Copy** in the **Service Template Editor Home** view)
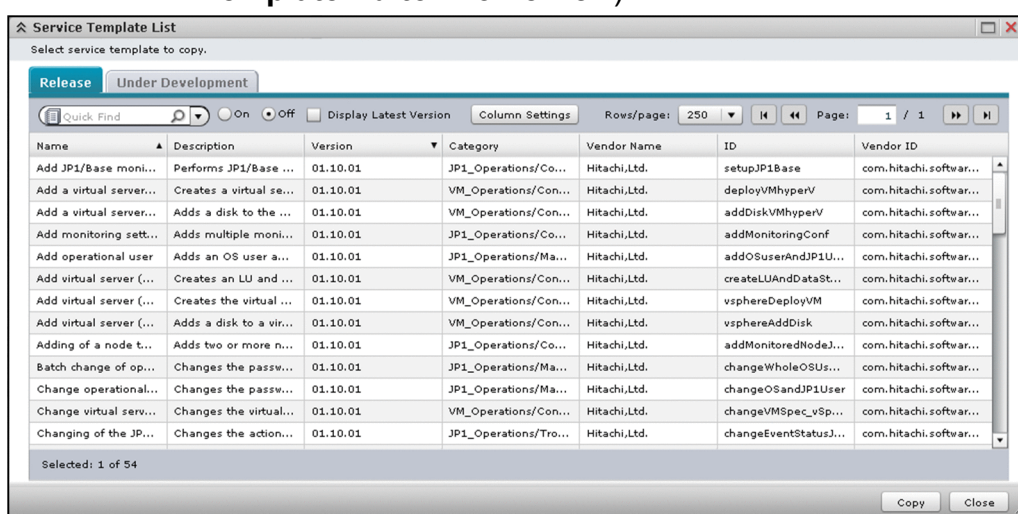
This dialog box displays the following items:

Release tab

If you click this tab, a list of release service templates is displayed. To display the **Release** tab, in the **Service Template Editor Home** view, click **Copy** or **View**, or in the service template editing view, select **View** in the **Actions** list box.

Under Development tab

If you click this tab, a list of development service templates is displayed.

Quick Find text box

Enter a search term. The text box allows a maximum of 256 characters.

On radio button

If you select this radio button, the search result is applied to the list.

Off radio button

If you select this radio button, the search result is not applied to the list, and all service templates are displayed.

Display Latest Version check box

If you select this check box, only the latest versions of individual service templates are displayed. If you deselect this check box, all service templates are displayed.

Column Settings button

To select the items to be displayed in the list, click this button. If you click this button, the **Column Settings** dialog box appears.

Rows/page list box

Select the number of rows (**30**, **50**, **100**, **250**, or **500**) to be displayed per page in the list.

Service Template List

A list of service templates is displayed. If you click the column title of a display item, the data will be sorted in ascending or descending order. To select the items to be displayed in this list, use the **Column Settings** dialog box.

Table 7–10: Items displayed in **Service Template List** (**Service Template List** dialog box)

Display item	Displayed by default	Description
Name	Yes	Displays the name of each service template.
Description	Yes	Displays a brief description of each service template.
Version	Yes	Displays the version of each service template.
Category	Yes	Displays the category name of each service template.
Vendor Name	Yes	Displays the vendor name of each service template.
ID	No	Displays the ID of each service template.
Vendor ID	No	Displays the vendor ID of each service template.

Legend:

Yes: Displayed by default, No: Hidden by default

Edit button

To edit the selected service template, click this button. If you click this button, the **Service Template List** dialog box closes, and the service template editing view appears in the right pane of the **Editor** window. The **Edit** button is displayed when the **Service Template List** dialog box is displayed after you click **Edit** in the **Service Template Editor Home** view.

Copy button

To copy the selected service template, click this button. If you click this button, the **Copy Service Template** dialog box appears. The **Copy** button is displayed when the **Service Template List** dialog box is displayed after you click **Copy** in the **Service Template Editor Home** view.

View button

To view the selected service template, click this button. If you click this button, the **Service Template List** dialog box closes, and the service template view dialog box appears. The **View** button is displayed when you click **View** in the **Service Template Editor Home** view, or when you click **View** in the **Actions** list box in the service template editing view.

Delete button

Click this button to delete the selected service template. If you click this button, a confirmation dialog box appears. If you click the **OK** button, the service template is deleted. The **Delete** button is displayed when the **Service Template List** dialog box is displayed after you click **Delete** in the **Service Template Editor Home** view.

Close button

Click this button to close the **Service Template List** dialog box.

7.3.3 Copy Service Template dialog box

Use the **Copy Service Template** dialog box to copy a service template. To display the **Copy Service Template** dialog box, click the **Copy** button in the **Service Template List** dialog box.

Figure 7–21: **Copy Service Template** dialog box

This dialog box displays the following items:

ID text box

Enter the ID of a service template. The text box allows a maximum of 64 characters. Specify the ID, however, so that the total number of characters entered in the **ID** and **Vendor ID** text boxes is no more than 112.

Version text box

Enter the version of the service template as *major-version-number.minor-version-number.revision-number*. Specify each of the numbers in the range from 00 to 99.

Vendor ID text box

Enter the vendor ID of the service template. The text box allows a maximum of 64 characters. Specify the vendor ID, however, so that the total number of characters entered in the **ID** and **Vendor ID** text boxes is no more than 112.

Name text box

Enter the name of the service template. The text box allows a maximum of 64 characters.

Vendor Name text box

Enter the name of the service template's vendor. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the service template. The text box allows a maximum of 256 characters.

Category text box

Enter the category name of the service template. The text box allows a maximum of 256 characters. If you use a hierarchical category name, delimit individual layers with a slash (/). You can use a maximum of 10 layers for a category name. If you want to enter a service template in multiple categories, delimit the category names with a comma (,). Make sure that you enter values for all layers of a category name.

Save button

Click this button to copy the service template. The service template editing view appears on the right pane of the **Editor** window.

Cancel button

Click this button to close the **Copy Service Template** dialog box.

> **Important note**
>
> You cannot copy the selected service template unless you change **ID**, **Version**, or **Vendor ID**.

7.3.4 Service template view dialog box

Use the service template view dialog box to view the definitions of a service template. To display the service template view dialog box, click the **View** button in the **Service Template List** dialog box.

Figure 7–22: Service template view dialog box
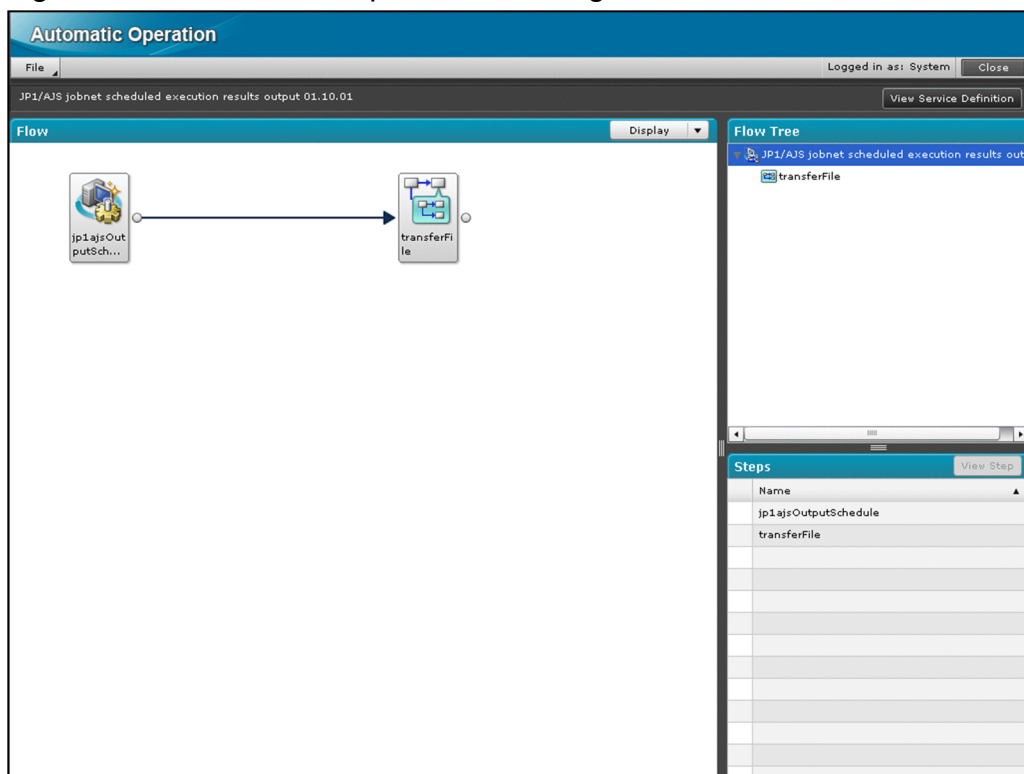
This dialog box displays the following items:

> **▌ Tip**
>
> The service template view dialog box is read only. You cannot change the settings here.

View Service Definition button

Click this button to view the definition information of a service. The **View Service Definition** dialog box appears.

Flow view

Displays the order of execution steps. If you double-click a step that uses a **flow plug-in** or a **repeated execution plug-in**, the underlying flow is displayed. If you double-click another type of step, the **View Step** dialog box appears. You can select multiple step icons. If there is a step for which no mapping parameter value has been input for an input property that requires the mapping parameter setting, ⚠ is displayed on the corresponding step icon.

Display list box

Select the display magnification of the **Flow** view (**25%**, **50%**, **75%**, or **100%**).

If you right-click a step icon, you can select one of the following operations:

- **View**

  If you select this item, the **View Step** dialog box appears.

- **Copy**

  Select this item to copy the selected step and relational line. The copied step and relational line will be pasted in the **Flow** view of the service template editing view.

If you right-click any place other than step icons, you can select the following operation:

- **Select All**

  If you select this item, all the displayed steps and relational lines are selected. If there is a step that uses a **flow plug-in** or a **repeated execution plug-in**, the underlying steps and relational lines are also selected.

Flow Tree view

Displays a hierarchical view of the flow names of the service template. If you click a flow name, the underlying flows are displayed in the **Flow** view. If a flow contains a step for which no mapping parameter value has been input for an input property that requires a mapping parameter setting, ⚠ is displayed on the corresponding icon.

Steps view

Displays a list of steps for the service template. If you select a step, the corresponding step icon in the **Flow** view is also selected. You can select multiple steps. If you click the column title of a display item, the data will be sorted in ascending or descending order.

View Step button

Click this button to view the selected step. The **View Step** dialog box appears.

Table 7–11: Items displayed in the **Steps** view (service template view dialog box)

Display item	Description
Input warning icon	If no mapping parameter value has been input for an input property that requires a mapping parameter setting, ⚠ is displayed.
Name	Displays the name of the step.

7.3.5 View Service Definition dialog box

Use the **View Service Definition** dialog box to view the definition information of a service. The **View Service Definition** dialog box is displayed when one of the following operations is performed:

- In the service template view dialog box, click the **View Service Definition** button.
- In the service template debugging view, click the **View Service Definitions** button.

Figure 7–23: **View Service Definition** dialog box (1/2)

Figure 7–24: **View Service Definition** dialog box (2/2)

This dialog box displays the following items:

> **▌ Tip**
>
> The **View Service Definition** dialog box is read only. You cannot change the settings here.

Service

Shows the definition information of the service.

> **ID**
>
> Shows the ID of the service template.
>
> **Version**
>
> Shows the version of the service template.
>
> **Vendor ID**
>
> Shows the ID of the service template's vendor.
>
> **Name** text box
>
> Shows the name of the service template.
>
> **Vendor Name** text box
>
> Shows the name of the service template's vendor.
>
> **Description** text box
>
> Shows a brief description of the service template.
>
> **Category** text box
>
> Shows the category of the service template.
>
> **Custom Files**
>
> Shows the custom file set for the service template.
>
> **Custom File Name for Service Details Dialog** text box
>
> Shows the relative path to the Service Details window file in the zip file. The **Custom File Name for Service Details Dialog** text box is displayed when you specify a zip file as the custom file.

Property Groups

Click this to list property groups.

Property Groups

Displays a list of property groups.

Table 7–12: Items displayed in **Property Groups** (**View Service Definition** dialog box)

Display item	Description
ID	Displays the ID of each property group.
Name	Displays the name of each property group.
Description	Displays a brief description of each property group.
Initial Status	Displays the initial display status of each property group.

Input Properties

Click this to list input properties.

Input Properties

Displays a list of input properties.

Table 7–13: Items displayed in **Input Properties** (**View Service Definition** dialog box)

Display item	Description
Key	Displays the property key for each input property.
Name	Displays the name of each input property.
Description	Displays a brief description of each input property.
Property Group Name	Displays the property group name for each input property.

View button

Click this button to view the selected input property. The **View Input Property for Service** dialog box appears.

Output Properties

Click this button to display a list of output properties.

Output Properties

Displays a list of output properties.

Table 7–14: Items displayed in **Output Properties** (**View Service Definition** dialog box)

Display item	Description
Key	Displays the property key of each output property.
Name	Displays the name of each output property.
Description	Displays a brief description of each output property.

View button

Click this button to view the selected output property. The **View Output Property for Service** dialog box appears.

Variables

Click this to display a list of variables.

Variables

Displays a list of variables.

Table 7–15: Items displayed in **Variables** (**View Service Definition** dialog box)

Display item	Description
Key	Displays the property key of each property.
Name	Displays the name of each variable.
Description	Displays a brief description of each variable.

View button

Click this button to view the selected variable. The **View Variable** dialog box appears.

Close button

Click this button to close the **View Service Definition** dialog box.

7.3.6 View Input Property for Service dialog box

Use the **View Input Property for Service** dialog box to view an input property for a service. To display the **View Input Property for Service** dialog box, click the **View** button in the **Input Properties** section of the **View Service Definition** dialog box.

Figure 7–25: **View Input Property for Service** dialog box

This dialog box displays the following items:

> **Tip**
>
> The **View Input Property for Service** dialog box is read only. You cannot change the settings here.

Key text box
   Shows the property key of the input property.

Name text box
   Shows the name of the input property.

Description text box
   Shows a brief description of the input property.

Property Group list box
   Shows the property groups that the input property belongs to.

Visibility radio button
   Shows the visibility of the input property.

   - **exec**
     If this option is selected, you can set the property value when you edit or execute the service.

- **config**

    If this option is selected, you can set the property value when you edit the service.

Scope check box

Shows the scope of the input property. If this check box is selected, the input property is set to a service share property.

Required check box

Shows whether a value must be entered for the property. If this check box is selected, a value must be entered for the property.

Data Type list box

Shows the data type of the input property.

- **string**

    If this option is selected, the data type has been set to string.

- **boolean**

    If this option is selected, the data type has been set to boolean.

- **integer**

    If this option is selected, the data type has been set to integer.

- **double**

    If this option is selected, the data type has been set to double.

- **date**

    If this option is selected, the data type has been set to date.

- **password**

    If this option is selected, the data type has been set to password.

- **list**

    If this option is selected, the data type has been set to list.

Default Value text box

Shows the default value of the input property

Minimum Length text box

This text box is displayed when **string** or **password** is set for the data type. It shows the minimum length of the character string that can be entered for the input property.

Maximum Length text box

This text box is displayed when **string** or **password** is set for the data type. It shows the maximum length of the character string that can be entered for the input property.

Restricted Character text box

This text box is displayed when **string** or **password** is set for the data type. It shows the restrictions on the characters that can be entered for the input property.

Minimum Value text box

This text box is displayed when **integer**, **double**, or **date** is set for the data type. It shows the minimum value of the input property.

Maximum Value text box

This text box is displayed when **integer**, **double**, or **date** is set for the data type. It shows the maximum value of the input property.

Specify List Items text box

Shows the list items defined for the input property. The **Specify List Items** text box is displayed when **list** is set for the data type.
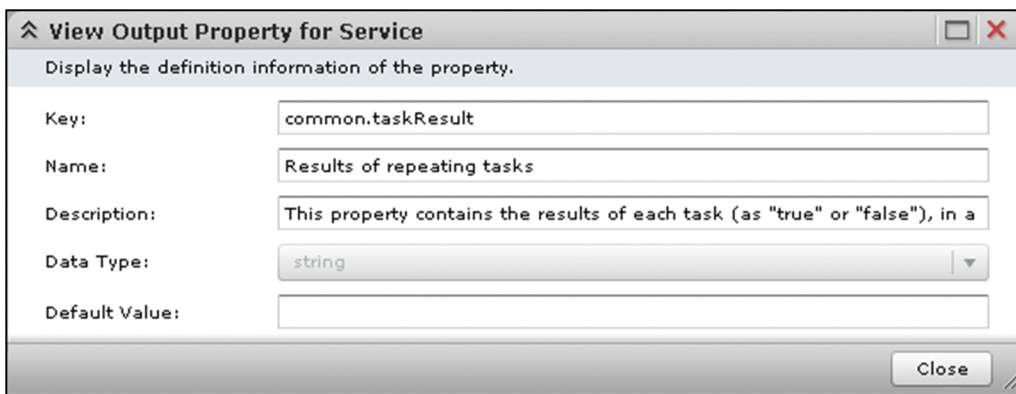
Close button

Click this button to close the **View Input Property for Service** dialog box.

7.3.7 View Output Property for Service dialog box

Use the **View Output Property for Service** dialog box to view an output property for a service. To display the **View Output Property for Service** dialog box, in the **View Service Definition** dialog box, click the **View** button in the **Output Properties** section.

Figure 7–26: **View Output Property for Service** dialog box

This dialog box displays the following items:

> **Tip**
>
> The **View Output Property for Service** dialog box is read only. You cannot change the settings here.

Key text box

Shows the property key of the output property.

Name text box

Shows the name of the output property.

Description text box

Shows a brief description of the output property.

Data Type list box

Shows the data type of the output property.

- **string**

  If this option is selected, the data type has been set to string.

- **password**

  If this option is selected, the data type has been set to password.

Default Value text box

Shows the default value of the output property.

Close button

Click this button to close the **View Output Property for Service** dialog box.

7.3.8 View Variable dialog box

Use the **View Variable** dialog box to view a variable for a service. To display the **View Variable** dialog box, in the **View Service Definition** dialog box, click the **View** button in the **Variables** section.

Figure 7–27: **View Variable** dialog box

This dialog box displays the following items:

> **Tip**
>
> The **View Variable** dialog box is read only. You cannot change the settings here.

Key text box

Shows the property key of the variable.

Name text box

Shows the name of the variable.

Description text box

Shows a brief description of the variable.

Data Type list box

Shows the data type of the variable.

- **string**

  If this option is selected, the data type has been set to string.

- **password**

  If this option is selected, the data type has been set to password.

Default Value text box

    Shows the default value of the variable.

Close button

    Click this button to close the **View Variable** dialog box.

7.3.9 View Step dialog box

Use the **View Step** dialog box to view information about a step of a service template. Do one of the following to display the **View Step** dialog box:

- In the service template view dialog box, click the **View Step** button in the **Steps** view.
- In the service template view dialog box, right-click a step icon displayed in the **Flow** view, and then select **View**.
- In the service template view dialog box, double-click a step icon displayed in the **Flow** view.
- In the service template debugging view, right-click a step icon displayed in the **Flow** view, and then select **View**.
- In the service template debugging view, double-click a step icon displayed in the **Flow** view.

Figure 7–28: **View Step** dialog box (1/2)

Figure 7–29: **View Step** dialog box (2/2)

This dialog box displays the following items:

> **Tip**
>
> The **View Step** dialog box is read only. You cannot change the settings here.

Step

Shows the definition information of the step.

ID text box

Shows the ID of the step.

Name text box

Shows the name of the step.

Description text box

Shows a brief description of the step.

Plug-in

Click this to display the definition information of the plug-in.

Plug-in

Shows the definition information of the plug-in.

Name

Shows the name of the plug-in.

Version

Shows the version of the plug-in.

Vendor Name

Shows the name of the plug-in's vendor.

Description

Shows a brief description of the plug-in.

ID

Shows the ID of the plug-in.

Vendor ID

Shows the ID of the plug-in's vendor.

Subsequent Step Conditions

Click this to display the condition for executing the subsequent steps.

Subsequent Step Conditions

Shows the condition for executing the subsequent steps.

Condition list box

Shows the condition for executing the subsequent steps.

- **When the return value of the plug-in is judgment level or less, execute subsequent steps**

- **Always execute subsequent steps**

- **Never execute subsequent steps**

Judgment Level text box

Shows the judgment level. This value and the return value of the plug-in are used to judge whether the condition for executing the subsequent steps is satisfied. The **Judgment Level** text box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Warning Setting check box

If this check box is selected, the step's status changes to the warning status when the return value of the plug-in is equal to or higher than the warning level and equal to or less than the judgment level. The **Warning Setting** check box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Warning Level text box

Shows the warning level. This value and the return value of the plug-in are used to judge whether the condition for executing the subsequent steps is satisfied. The **Warning Level** text box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Specify Plug-in Input Properties for Mapping

Click this to display a list of input properties.

Input Properties

Displays a list of input properties. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–16: Items displayed in **Input Properties** (**View Step** dialog box)

Display item	Description
Input warning icon	If no mapping parameter value has been input for an input property that requires the mapping parameter setting, ⚠ is displayed.
Key	Displays the property key for the input property.
Name	Displays the name of the input property.
Description	Displays a brief description of the input property.

Display item	Description
Mapping Parameter	Displays the mapping parameter for the input property.

Specify Plug-in Output Properties for Mapping

Click this to display a list of output properties.

Output Properties

Displays a list of output properties. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–17: Items displayed in **Output Properties** (**View Step** dialog box)

Display item	Description
Key	Displays the property key of each output property.
Name	Displays the name of each output property.
Description	Displays a brief description of each output property.
Mapping Parameter	Displays the mapping parameter for each output property.

Close button

Click this button to close the **View Step** dialog.

7.4 Service template editing view

Use the service template editing view to edit existing service templates, or to create new service templates.

The service template editing view is displayed in the right pane of the **Editor** window when one of the following operations is performed:

- In the **Service Template List** dialog box, click the **Edit** button.
- In the **Create Service Template** or **Copy Service Template** dialog box, click the **Save** button.
- In the service template debugging view, click the **End Debug** button.

Figure 7–30: Service template editing view
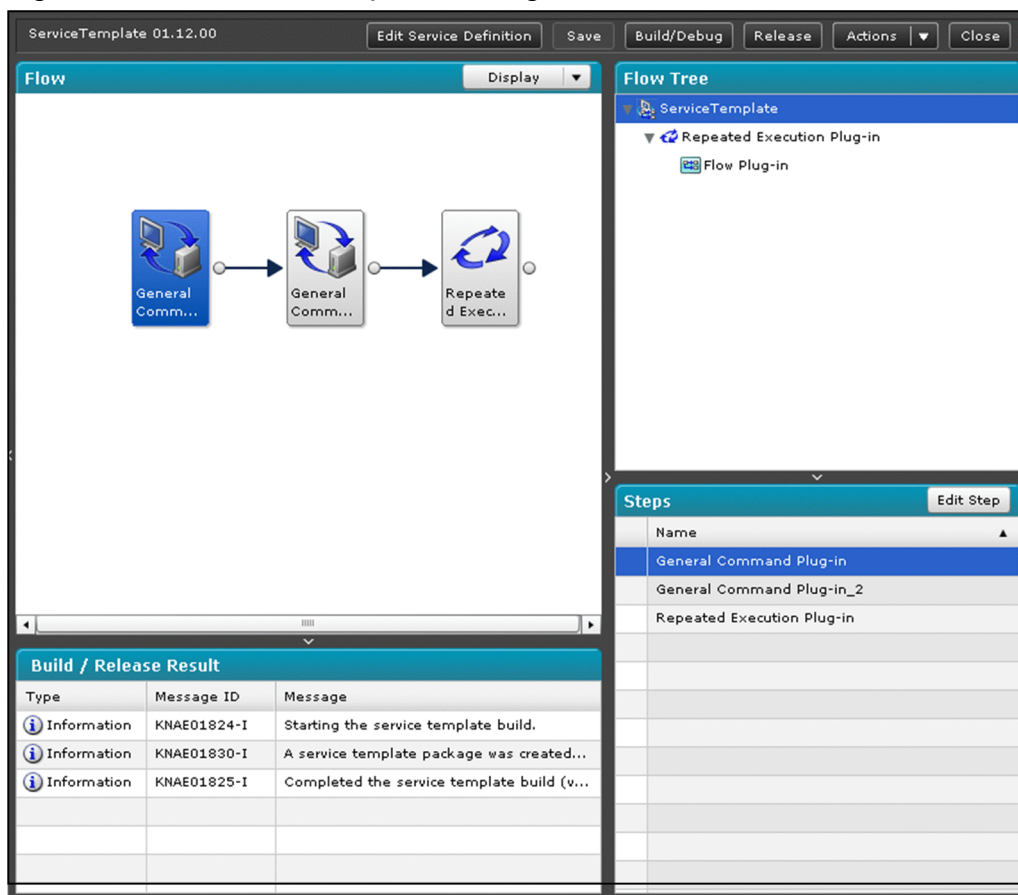
This view displays the following items:

Edit Service Definition button

Click this button to edit the definition information of a service. The **Edit Service Definition** dialog box appears.

Save button

Click this button to apply the changes.

Build/Debug button

Click this button to build or debug a service template. A message dialog box appears confirming whether you want to build the service template. If you click the **OK** button, the build processing starts. The execution results of the build processing are displayed in the **Build / Release Result** dialog box and in the **Build / Release Result** view.

Release button

Click this button to release the service template. A confirmation dialog box appears. If you click the **OK** button, release processing starts. The results of the release processing are displayed in the **Build / Release Result** dialog box and in the **Build / Release Result** view.

Actions list box

Specify an operation you want to perform on the service template.

- **View**

Select this option to view the definition information of another service template. The **Service Template List** dialog box appears.

- **Set Resources**

Select this option to set a service resource file. The **Set the Service Resources** dialog box appears.

Close button

Click this button to return to the **Service Template Editor Home** view.

Flow view

Shows the step execution order. If you drag and drop a plug-in from the **Plug-in** view, the **Create Step** dialog box appears. You can use this dialog box to add steps. If you double-click a step that uses a **flow plug-in** or a **repeated execution plug-in**, the underlying flow is displayed. If you double-click another type of step icon, the **Edit Step** dialog box appears. You can select multiple step icons. If there is a step for which no mapping parameter value has been input for an input property that requires a mapping parameter setting, ⚠ is displayed on the corresponding step icon.

Display list box

Select the display magnification of the **Flow** view (**25%**, **50%**, **75%**, or **100%**).

If you right-click a step icon, you can select one of the following operations:

- **Edit**

Displays the **Edit Step** dialog box.

- **Cut**

Cuts the selected step and relational line.

- **Copy**

Copies the selected step and relational line.

- **Delete**

Deletes the selected step and relational line.

If you right-click any place other than step icons, you can select either of the following operations:

- **Paste**

Pastes the step and relational line that you cut or copied.

- **Select All**

Selects all the displayed steps and relational lines. If there is a step that uses a **flow plug-in** or a **repeated execution plug-in**, the underlying steps and relational lines are also selected.

Flow Tree view

Displays a hierarchical view of the flow names of the service template. If you click a flow name, the underlying flows are displayed in the **Flow** view. If a flow contains a step for which no mapping parameter value has been input for an input property that requires a mapping parameter setting, ⚠ is displayed on the corresponding icon.

Build / Release Result view

Displays a list of messages output when you built or released the service template.

Table 7–18: Items displayed in the **Build / Release Result** view (service template editing view)

Display item	Description

Type	Displays the type of each message.
	• Error
	  Indicates that an error message was output when you built or released the service template.
	• Warning
	  Indicates that a warning message was output when you built or released the service template.
	• Information
	  Indicates that an information message was output when you built or released the service template.

Message ID	Displays the ID of each message.
Message	Displays the contents of each message.

Steps view

Lists the steps of the service template. If you select a step, the corresponding step icon in the **Flow** view is also selected. You can select multiple steps. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Edit Step button

Click this button edit the selected step. The **Edit Step** dialog box appears.

Table 7–19: Items displayed in the **Steps** view (service template editing view)

Display item	Description
Input warning icon	If no mapping parameter value has been input for an input property that requires a mapping parameter setting, ⚠ is displayed.
Name	Displays the name of each step.

7.4.1 Set the Service Resources dialog box

Use the **Set the Service Resources** dialog box to upload or download service resource files. To display the **Set the Service Resources** dialog box, in the service template editing view, select **Set Resources** in the **Actions** list box.

Figure 7–31: **Set the Service Resources** dialog box
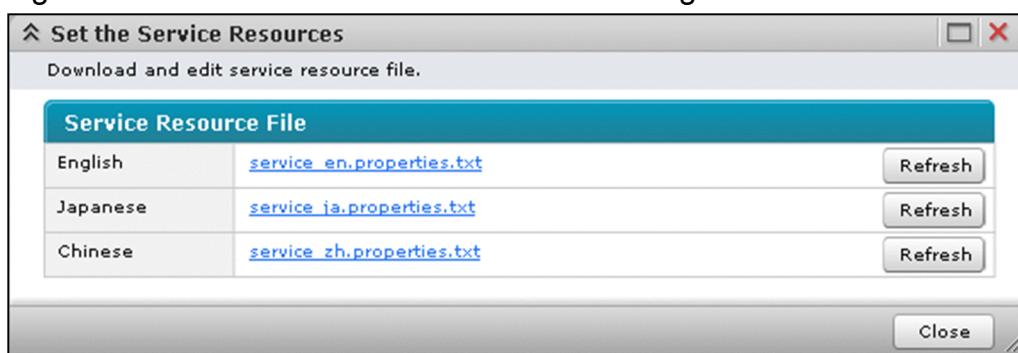
This dialog box displays the following items:

Service Resource File

The service resource file is displayed and applied when the service template is displayed for each language environment.

Japanese

The name of the service resource file is displayed and applied when the service template is displayed in a Japanese environment. The file can be downloaded by clicking the file name.

English

The name of the service resource file is displayed and applied when the service template is displayed in an English environment. The file can be downloaded by clicking the file name.

Chinese

The name of the service resource file is displayed and applied when the service template is displayed in a Chinese environment. The file can be downloaded by clicking the file name.

Refresh button

If you click this button, a dialog box used to upload the edited service resource file is displayed. If you select a file and then click **Open**, a message dialog box is displayed confirming whether you want to update the file. If you click **OK**, the file is updated. The only name that can be registered for the service resource file is "`service_ja.properties.txt`" in a Japanese environment, "`service_en.properties.txt`" in an English environment, or "`service_zh.properties.txt`" in a Chinese environment.

Close button

Click this button to close the **Set the Service Resources** dialog box.

7.4.2 Build / Release Result dialog box

Use the **Build / Release Result** dialog box to check the result or progress of the build or release processing for a service template.

The **Build / Release Result** dialog box is displayed when one of the following operations is performed:

- In the service template editing view, click the **Build/Debug** or **Release** button, and then, in the confirmation message dialog box that appears, click the **OK** button.

- In the service template debugging view, click the **Release** button, and then, in the confirmation message dialog box that appears, click the **OK** button.

Figure 7–32: **Build / Release Result** dialog box (displayed by clicking the **Build/Debug** button in the service template editing view)
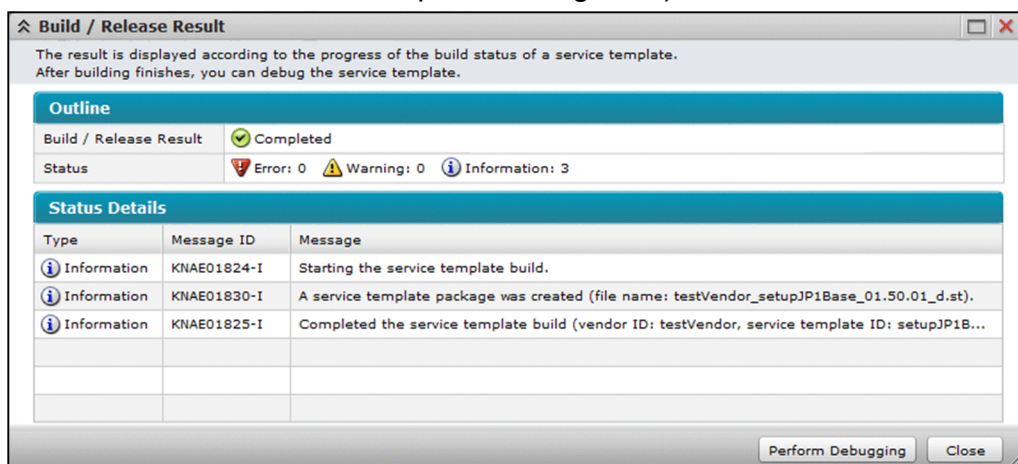
This dialog box displays the following items:

Outline

This section displays the result or progress of the build or release processing. It also shows the number of messages output when the processing was executed.

Build / Release Result

Shows the result or progress of the build or release processing.

Status

Shows the number of messages output when you built or released the service template.

Status Details

Displays a list of messages that were output when you built or released the service template. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–20: Items displayed in **Status Details** (**Build / Release Result** dialog box)

Display item	Description

Type	Displays the type of each message.
	• Error
	  Indicates that an error message was output when you built or released the service template.
	• Warning
	  Indicates that a warning message was output when you built or released the service template.
	• Information
	  Indicates that an information message was output when you built or released the service template.

Message ID	Displays the ID of each message.
Message	Displays the contents of each message.

Perform Debugging button

You can start debugging a service template. Clicking this button displays the **Perform Debugging** dialog box. This button is not displayed when the **Release** button is clicked in the service template editing view, or when the **Release** button is clicked in the service template debugging view.

Close button

Click this button to close the **Build / Release Result** dialog box.

7.4.3 Perform Debugging dialog box

Use the **Perform Debugging** dialog box to start debugging a service template. The **Perform Debugging** dialog box is displayed when one of the following operations is performed:

- In the **Build / Release Result** dialog box, click the **Perform Debugging** button.
- In the service template debugging view, click the **Perform Debugging** button.

Figure 7–33: **Perform Debugging** dialog box (when a property group is set)

This dialog box displays the following items:

Debugging Settings

The settings for starting debugging a development service template are displayed here.

Interruption Settings list box

Select whether to stop the processing of the debug task for each step.

- **Interrupt After Each Step**

Select this item to stop the debug processing for each step.

- **Do Not Break**

Select this item to not stop the debug processing for each step.

Service Name text box

Displays the debug service name. You can change the service name. The name can have a maximum of 64 characters. The default name that is displayed is [DEBUG]*service-template-name*.

Category text box

Displays the category name of the debug service. You can change the category name. The name can have a maximum of 256 characters. You can specify a hierarchical structure of categories by using a slash (/) to separate categories in a parent and child relationship. The hierarchical structure can have a maximum of 10 levels. You can specify multiple categories by using a comma (,) to separate each category. The category name at each hierarchical level must not be a blank.

Task Name text box

Displays the name of the debug task. You can change the task name. The name can have a maximum of 128 characters. The default name that is displayed is [DEBUG]*service-template-name_YYYYMMDDhhmmss*. (*YYYYMMDDhhmmss*: Date and time that the debug task was executed)

Task Description text box

Enter a brief description of the debug task. The description can have a maximum of 256 characters.

Resource Group list box

Select the resource group. By default, **All Resources** is selected.

Task Log Level list box

Select the logging level of the task log. You can select **0**, **10**, **20**, **30**, or **40**. The default is **40**.

Property

The property information of the service is displayed in list format. If you click the column title of a display item, the data will be sorted in ascending or descending order. You can set property values as needed to debug the service template.

property-group

Clicking the name of a property group shows a list of properties in the property group. This item is displayed only if property groups have been set for the service template.

Table 7–21: Items displayed in Property (**Perform Debugging** dialog box)

Display item	Description
Name	Displays the name of each property.
Key	Displays the property key of each property.
Value	Enter the property value as needed to debug the service template. By default, the default value of the service property is displayed. If you enter a value of the **password** data type, dots (●) appear, instead of the entered string.
Description	Displays a brief description of each property.
Scope	Displays the scope of each property.

Run button

Click this button when you start debugging the service template. Clicking this button closes the **Perform Debugging** dialog box, and displays the **Debug** view (left pane) and the service template debugging view (right pane) in the **Editor** window.

Cancel button

Clicking this button closes the **Perform Debugging** dialog box.

7.4.4 Edit Service Definition dialog box

Use the **Edit Service Definition** dialog box to edit the definition information of a service. To display the **Edit Service Definition** dialog box, click the **Edit Service Definition** button in the service template editing view.

Figure 7–34: **Edit Service Definition** dialog box (1/2)

Figure 7–35: **Edit Service Definition** dialog box (2/2)

This dialog box displays the following items:

Service

Use this section to specify the definition information of the service you are editing.

ID

Shows the ID of the service template.

Version

Shows the version of the service template.

Vendor ID

Shows the ID of the service template's vendor.

Name text box

Enter the name of the service template. The text box allows a maximum of 64 characters.

Vendor Name text box

Enter the name of the service template's vendor. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the service template. The text box allows a maximum of 256 characters.

Category text box

Enter the category name of the service template. The text box allows a maximum of 256 characters. If you use a hierarchical category name, delimit individual layers with a slash (/). You can use a maximum of 10 layers for a category name. If you want to set a service template in multiple categories, delimit the category names with a comma (,). Make sure that you enter values for all layers of a category name.

Custom Files

Shows the custom file set for the service template. Click the file name to download the file.

Select button

Click this button to select a custom file. A dialog box appears that is used to select a folder. Specify a custom file name with no more than 64 characters. (If you specify a zip file, the relative path to the custom file in the zip file must have no more than 64 characters.) Also, the total number of characters entered in the **ID**, **Vendor ID**, and **Name** text boxes must be no more than 131. (If you specify a zip file, the relative path to the custom file in the zip file must be assumed as the file name. Then the total must be no more than 131 characters.)

Delete button

Click this button to clear the specified custom file.

Custom File Name for Service Details Dialog text box

Specify the relative path to the Service Details window file in the zip file. Specify a custom file name so that the relative path has no more than 64 characters and the total number of characters entered in the **ID**, **Vendor ID**, and **Name** text boxes is no more than 131. The **Custom File Name for Service Details Dialog** text box is displayed when you specify a zip file as the custom file.

Property Groups

Click this to display a list of property groups.

Property Groups

Displays a list of property groups.

Table 7–22: Items displayed in **Property Groups** (**Edit Service Definition** dialog box)

Display item	Description
ID	Displays the ID of each property group.
Name	Displays the name of each property group.
Description	Displays a brief description of each property group.
Initial Status	Displays the initial display status of each property group.

Add button

Click this button to create a property group. The **Create Property Group** dialog box appears.

Edit button

Click this button to edit the selected property group. The **Edit Property Group** dialog box is displayed.

Remove button

Click this button to remove the selected property group. A confirmation dialog box appears. If you click the **OK** button, the property group is deleted.

Input Properties

Click this to display a list of input properties.

Input Properties

Displays a list of input properties.

Table 7–23: Items displayed in **Input Properties** (**Edit Service Definition** dialog box)

Display item	Description
Key	Displays the property key of each input property.
Name	Displays the name of each input property.
Description	Displays a brief description of each input property.
Property Group Name	Displays the property group name for each input property.

Select Service Share Property button

Click this button to add a service share property to input properties. The **Select Service Share Property** dialog box appears.

Add button

Click this button to create an input property. The **Create Input Property for Service** dialog box appears.

Edit button

Click this button to edit the selected input property. The **Edit Input Property for Service** dialog box appears.

Remove button

Click this button to remove the selected input property. A confirmation dialog box appears. If you click the **OK** button, the input property is deleted.

Output Properties

Click this to display a list of output properties.

Output Properties

Displays a list of output properties.

Table 7–24: Items displayed in **Output Properties** (**Edit Service Definition** dialog box)

Display item	Description
Key	Displays the property key of each output property.
Name	Displays the name of each output property.
Description	Displays a brief description of each output property.

Add button

Click this button to create an output property. The **Create Output Property for Service** dialog box appears.

Edit button

Click this button to edit the selected output property. The **Edit Output Property for Service** dialog box appears.

Remove button

Click this button to remove the selected output property. A confirmation dialog box appears. If you click the **OK** button, the output property is deleted.

Variables

Click this to display a list of variables.

Variables

Displays a list of variables.

Table 7–25: Items displayed in **Variables** (**Edit Service Definition** dialog box)

Display item	Description
Key	Displays the property key of each variable.
Name	Displays the name of each variable.
Description	Displays a brief description of each variable.

Add button

Click this button to create a variable. The **Create Variable** dialog box appears.

Edit button

Click this button to edit the selected variable. The **Edit Variable** dialog box appears.

Remove button

Click this button to remove the selected variable. A confirmation dialog box appears. If you click the **OK** button, the variable is deleted.

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Service Definition** dialog box.

7.4.5 Create Property Group dialog box

Use the **Create Property Group** dialog box to create a property group. To display the **Create Property Group** dialog box, in the **Edit Service Definition** dialog box, click the **Add** button in the **Property Groups** section.

Figure 7–36: **Create Property Group** dialog box

This dialog box displays the following items:

ID text box

    Enter the ID of the property group. The text box allows a maximum of 32 characters.

Name text box

    Enter the name of the property group. The text box allows a maximum of 64 characters.

Description text box

    Enter a brief description of the property group. The text box allows a maximum of 256 characters.

Initial Status radio button

    Select the initial display status of the property group in the **Service Definition** dialog box and in the **Submit Service** dialog box.

- **Close**

    If you select this option, only the name of the property group is displayed, and the properties belonging to the property group are not displayed.

- **Open**

    If you select this option, the name of the property group and the properties belonging to the property group are displayed.

OK button

    Click this button to add the property group.
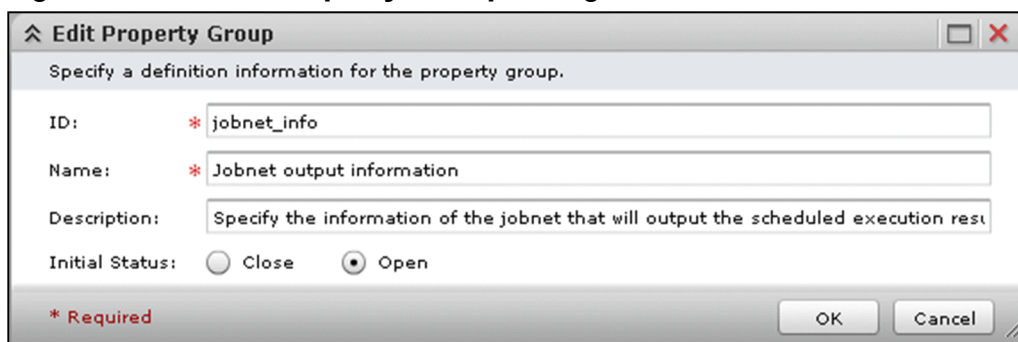
Cancel button

    Click this button to close the **Create Property Group** dialog box.

7.4.6 Edit Property Group dialog box

Use the **Edit Property Group** dialog box to edit the definition information of a property group. To display the **Edit Property Group** dialog box, in the **Edit Service Definition** dialog box, click the **Edit** button in the **Property Groups** section.

Figure 7–37: **Edit Property Group** dialog box

This dialog box displays the following items:

ID text box

    Enter the ID of the property group. The text box allows a maximum of 32 characters.

Name text box

Enter the name of the property group. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the property group. The text box allows a maximum of 256 characters.

Initial Status radio button

Select the initial display status of the property group in the **Service Definition** dialog box and in the **Submit Service** dialog box.

- **Close**

    If you select this option, only the name of the property group is displayed, and the properties belonging to the property group are not displayed.

- **Open**

    If you select this option, the name of the property group and the properties belonging to the property group are displayed.

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Property Group** dialog box.

7.4.7 Select Service Share Property dialog box

Use the **Select Service Share Property** dialog box to set service share properties as input properties for a service. To display the **Select Service Share Property** dialog box, click the **Select Service Share Property** button in the **Edit Service Definition** dialog box or in the **Specify Plug-in Input Properties for Mapping** dialog box.

Figure 7–38: **Select Service Share Property** dialog box
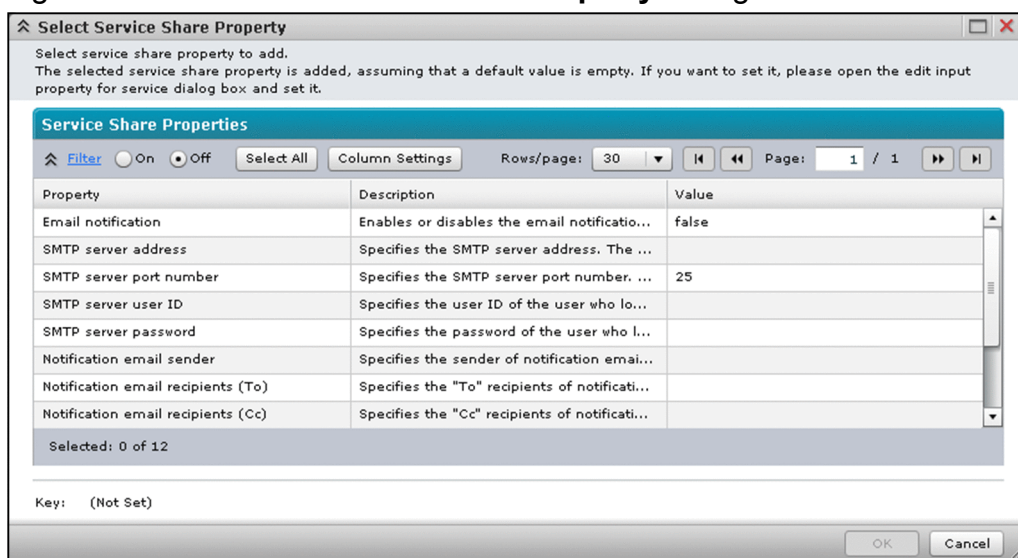
This dialog box displays the following items:

Service Share Properties

Displays a list of service share properties. Select service share properties you want to set as input properties for the service. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–26: Items displayed in **Service Share Properties** (**Select Service Share Property** dialog box)

Display item	Displayed by default	Description
Property	Yes	Displays the name of each service share property.
Description	Yes	Displays a brief description of each service share property.
Value	Yes	Displays the value of each service share property.
Key	No	Displays the property key for each service share property.
#	No	Displays the serial number of each service share property.

Legend:

Yes: Displayed by default, No: Hidden by default

Key

Shows the property key of the selected service share property.

Property Group list box

Select the property group that you want the selected service share property to belong to. In this list box, the names of the property groups defined in the **Edit Service Definition** dialog box are displayed as options.

OK button

Click this button to add the selected service share property to the input properties for the service.

Cancel button

Click this button to close the **Select Service Share Property** dialog box.

7.4.8 Create Input Property for Service dialog box

Use the **Create Input Property for Service** dialog box to add an input property for the service. To display the **Create Input Property for Service** dialog box, in the **Edit Service Definition** dialog box, click the **Add** button in the **Input Properties** section, or in the **Specify Plug-in Input Properties for Mapping** dialog box, click the **Add Input Property** button.

Figure 7–39: **Create Input Property for Service** dialog box (when **string** is set for **Data Type**)

This dialog box displays the following items:

Key text box

Enter the property key. The text box allows a maximum of 128 characters.

Name text box

Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box

Enter a brief description of the property. The text box allows a maximum of 256 characters.

Property Group list box

Select the property group that you want the property to belong to. The names of the property groups defined in the **Edit Service Definition** dialog box are displayed as options.

Visibility radio button

Select the visibility of the input property.

- **exec**

    If you select this option, you will be able to set the value for the property when you edit or submit the service.

- **config**

    If you select this option, you will be able to set the value for the property when you edit the service.

Scope check box

Set the scope of the input property. If you select this check box, the input property is set to be a service share property.

Required check box

Set whether a value must be entered for the property. If this check box is selected, a value must be entered for the property.

Data Type list box

Select the data type of the input property.

- **string**

  Select this option to set the data type to string.

- **boolean**

  Select this option to set the data type to boolean.

- **integer**

  Select this option to set the data type to integer.

- **double**

  Select this option to set the data type to double.

- **date**

  Select this option to set the data type to date.

- **password**

  Select this option to set the data type to password.

- **list**

  Select this option to set the data type to list.

Default Value

Enter the default value of the input property. Specifiable values depend on the data type.

- When the data type is string:

  Enter a character string in the text box. The text box allows a maximum of 1,024 characters.

- When the data type is boolean:

  Select the default value from the list box (blank, **true**, or **false**).

- When the data type is integer:

  Enter an integer in the range from -2147483648 to 2147483647 in the text box.

- When the data type is double:

  Enter an integer or a real number in the range from -999999999999999 to 999999999999999 in the text box. The text box allows a maximum of 17 characters.

- When the data type is date:

  Click the calendar button, and then select a date from the displayed calendar. You can specify a date in the range from January 1 in 1900 to December 31 in 2100. If you click the **Clear** button, the selection is cleared.

- When the data type is password:

  Enter a character string in the text box. The text box allows a maximum of 1,024 characters. Each of the entered characters is displayed as ● .

- When the data type is list:

  Select an item among the items entered in the **Specify List Items** text box as the default value. The text box allows a maximum of 1,024 characters. You do not have to use escape characters even if the character string contains commas (,) or backslashes (\).

Minimum Length text box

Specify the minimum length of the input character string. Enter an integer in the range from 0 to 1024. The **Minimum Length** text box is displayed when you specify **string** or **password** for the data type.

Maximum Length text box

Specify the maximum length of the input character string. Enter an integer in the range from 1 to 1024. The **Maximum Length** text box is displayed when you specify **string** or **password** for the data type.

Restricted Character text box

Specify the restrictions on the characters that can be entered using a regular expression that conforms to PCRE. The text box allows a maximum of 1,024 characters. The **Restricted Character** text box is displayed when you specify **string** or **password** for the data type.

Minimum Value text box

Specify the minimum value of the input property. The **Minimum Value** text box is displayed when you specify **integer**, **double**, or **date** for the data type. Specifiable values depend on the data type.

- When the data type is integer:

  Enter an integer in the range from -2147483648 to 2147483647 in the text box.

- When the data type is double:

  Enter an integer or a real number in the range from -999999999999999 to 999999999999999 in the text box. The text box allows a maximum of 17 characters.

- When the data type is date:

  Click the calendar button, and then select a date from the displayed calendar. You can specify a date in the range from January 1 in 1900 to December 31 in 2100. If you click the **Clear** button, the selection is cleared.

Maximum Value text box

Specify the maximum value of the input property. The **Maximum Value** text box is displayed when you specify **integer**, **double**, or **date** for the data type. Specifiable values depend on the data type.

- When the data type is integer:

  Enter an integer in the range from -2147483648 to 2147483647 in the text box.

- When the data type is double:

  Enter an integer or a real number in the range from -999999999999999 to 999999999999999 in the text box. The text box allows a maximum of 17 characters.

- When the data type is date:

  Click the calendar button, and then select a date from the displayed calendar. You can specify a date in the range from January 1 in 1900 to December 31 in 2100. If you click the **Clear** button, the selection is cleared.

Specify List Items text box

Specify the items you want to display in the list box as options. Enter display items that are delimited by a comma (,). If you want to specify a comma (,) or a backslash (\) as a value, escape the target character with a backslash (\). The text box allows a maximum of 1,024 characters. The **Specify List Items** text box is displayed when you specify **list** for the data type.

OK button

Click this button to add the input property.

Cancel button

Click this button to close the **Create Input Property for Service** dialog box.

7.4.9 Edit Input Property for Service dialog box

Use the **Edit Input Property for Service** dialog box to edit an input property for a service. To display the **Edit Input Property for Service** dialog box, in the **Edit Service Definition** dialog box, click the **Edit** button in the **Input Properties** section.

Figure 7–40: **Edit Input Property for Service** dialog box (when **string** is selected for **Data Type**)

This dialog box displays the items below. Note that, if the property you are editing is a shared built-in service property, you can edit only the **Name** text box, the **Description** text box, and the **Property Group** list box.

Key text box

    Enter the property key. The text box allows a maximum of 128 characters.

Name text box

    Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box

    Enter a brief description of the property. The text box allows a maximum of 256 characters.

Property Group list box

    Select the property group that you want the property to belong to. The names of the property groups defined in the **Edit Service Definition** dialog box are displayed as options.

Visibility radio button

    Select the visibility of the input property.

- **exec**

    If you select this option, you can set the property value when you edit or submit the service.

- **config**

    If you select this option, you can set the property value when you edit the service.

Scope check box

Set the scope of the input property. If you select this check box, the input property is set to be a service share property.

Required check box

Set whether a value must be entered for the property. If this check box is selected, a value must be entered for the property.

Data Type list box

Select the data type of the input property.

- **string**

  Select this option to set the data type to string.

- **boolean**

  Select this option to set the data type to boolean.

- **integer**

  Select this option to set the data type to integer.

- **double**

  Select this option to set the data type to double.

- **date**

  Select this option to set the data type to date.

- **password**

  Select this option to set the data type to password.

- **list**

  Select this option to set the data type to list.

Default Value

Enter the default value of the input property. Specifiable values depend on the data type.

- When the data type is string:

  Enter a character string in the text box. The text box allows a maximum of 1,024 characters.

- When the data type is boolean:

  Select the default value from the list box (blank, **true**, or **false**).

- When the data type is integer:

  Enter an integer in the range from -2147483648 to 2147483647 in the text box.

- When the data type is double:

  Enter an integer or a real number in the range from -999999999999999 to 999999999999999 in the text box. The text box allows a maximum of 17 characters.

- When the data type is date:

  Click the calendar button, and then select a date from the displayed calendar. You can specify a date in the range from January 1 in 1900 to December 31 in 2100. If you click the **Clear** button, the selection is cleared.

- When the data type is password:

  Enter a character string in the text box. The text box allows a maximum of 1,024 characters. Each of the entered characters is displayed as ● .

- When the data type is list:

Select an item among the items entered in the **Specify List Items** text box as the default value. The text box allows a maximum of 1,024 characters. You do not have to use escape characters even if the character string contains commas (,) or backslashes (\).

Minimum Length text box

Specify the minimum length of the input character string. Enter an integer in the range from 0 to 1024. The **Minimum Length** text box is displayed when you specify **string** or **password** for the data type.

Maximum Length text box

Specify the maximum length of the input character sting. Enter an integer in the range from 1 to 1024. The **Maximum Length** text box is displayed when you specify **string** or **password** for the data type.

Restricted Character text box

Specify the restrictions on the characters that can be entered, using a regular expression that conforms to PCRE. The text box allows a maximum of 1,024 characters. The **Restricted Character** text box is displayed when you specify **string** or **password** for the data type.

Minimum Value text box

Enter the minimum value of the input property. The **Minimum Value** text box is displayed when you specify **integer**, **double**, or **date** for the data type. Specifiable values depend on the data type.

- When the data type is integer:

  Enter an integer in the range from -2147483648 to 2147483647 in the text box.

- When the data type is double:

  Enter an integer or a real number in the range from -999999999999999 to 999999999999999 in the text box. The text box allows a maximum of 17 characters.

- When the data type is date:

  Click the calendar button, and then select a date from the displayed calendar. You can specify a date in the range from January 1 in 1900 to December 31 in 2100. If you click the **Clear** button, the selection is cleared.

Maximum Value text box

Specify the maximum value of the input property. The **Maximum Value** text box is displayed when you specify **integer**, **double**, or **date** for the data type. Specifiable values depend on the data type.

- When the data type is integer:

  Enter an integer in the range from -2147483648 to 2147483647 in the text box.

- When the data type is double:

  Enter an integer or a real number in the range from -999999999999999 to 999999999999999 in the text box. The text box allows a maximum of 17 characters.

- When the data type is date:

  Click the calendar button, and then select a date from the displayed calendar. You can specify a date in the range from January 1 in 1900 to December 31 in 2100. If you click the **Clear** button, the selection is cleared.

Specify List Items text box

Specify the items you want to display in the list box as options. Enter display items that are delimited by a comma (,). If you want to specify a comma (,) or a backslash (\) as a value, escape the target character with a backslash (\). The text box allows a maximum of 1,024 characters. The **Specify List Items** text box is displayed when you specify **list** for the data type.

OK button

Click this button to apply the changes.

Cancel button

    Click this button to close the **Edit Input Property for Service** dialog box.

7.4.10 Create Output Property for Service dialog box

Use the **Create Output Property for Service** dialog box to add an output property of a service. To display the **Create Output Property for Service** dialog box, in the **Edit Service Definition** dialog box, click the **Add** button in the **Output Properties** section, or in the **Specify Plug-in Output Properties for Mapping** dialog box, click the **Add Output Property** button.

Figure 7–41: **Create Output Property for Service** dialog box (when **string** is selected for **Data Type**)

This dialog box displays the following items:

Key text box

    Enter the property key. The text box allows a maximum of 128 characters.

Name text box

    Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box

    Enter a brief description of the property. The text box allows a maximum of 256 characters.

Data Type list box

    Select the data type of the output property.

      • **string**

      Select this option to set the data type to string.

      • **password**

      Select this option to set the data type to password.

Default Value

    Enter the default value of the output property. The text box allows a maximum of 1,024 characters. If you specify **password** for the data type, each of the entered characters is displayed as ● .

OK button

    Click this button to add the output property.

Cancel button

Click this button to close the **Create Output Property for Service** dialog box.

7.4.11 Edit Output Property for Service dialog box

Use the **Edit Output Property for Service** dialog box to edit an output property for a service. To display the **Edit Output Property for Service** dialog box, in the **Edit Service Definition** dialog box, click the **Edit** button in the **Output Properties** section.

Figure 7–42: **Edit Output Property for Service** dialog box (when **string** is selected for **Data Type**)

This dialog box displays the following items:

Key text box

Enter the property key. The text box allows a maximum of 128 characters.

Name text box

Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box

Enter a brief description of the property. The text box allows a maximum of 256 characters.

Data Type list box

Select the data type of the output property.

- **string**
  Select this option to set the data type to string.

- **password**
  Select this option to set the data type to password.

Default Value

Enter the default value of the output property. The text box allows a maximum of 1,024 characters. If you specify **password** for the data type, each of the entered characters is displayed as ● .

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Output Property for Service** dialog box.

7.4.12 Create Variable dialog box

Use the **Create Variable** dialog box to add a variable for a service. To display the **Create Variable** dialog box, in the **Edit Service Definition** dialog box, click the **Add** button in the **Variables** section, or in the **Specify Plug-in Input Properties for Mapping** dialog box or in the **Specify Plug-in Output Properties for Mapping** dialog box, click the **Add Variable** button.

Figure 7–43: **Create Variable** dialog box (when **string** is selected for **Data Type**)

This dialog box displays the following items:

Key text box
> Enter the property key. The text box allows a maximum of 128 characters.

Name text box
> Enter the name of the property. The text box allows a maximum of 128 characters.

Description text box
> Enter a brief description of the property. The text box allows a maximum of 256 characters.

Data Type list box
> Select the data type of the variable.
> - **string**
>   Select this option to set the data type to string.
> - **password**
>   Select this option to set the data type to password.

Default Value
> Enter the default value of the variable. The text box allows a maximum of 1,024 characters. If you specify **password** for the data type, each of the entered characters is displayed as ● .

OK button
> Click this button to add the variable.
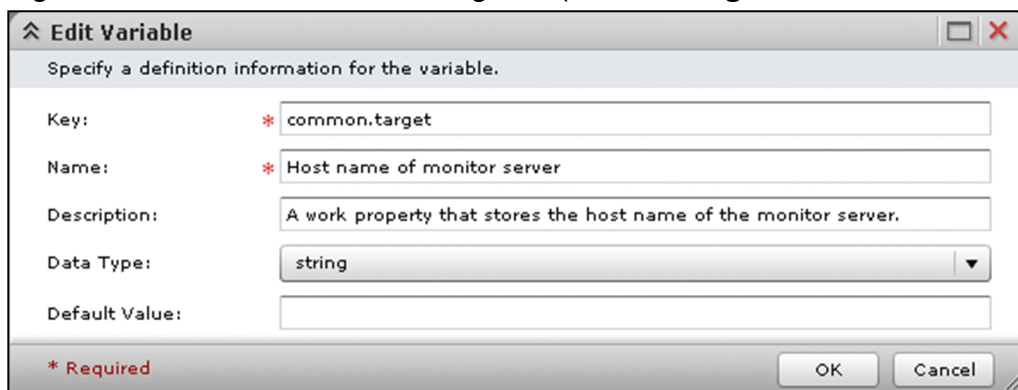
Cancel button
> Click this button to close the **Create Variable** dialog box.

7.4.13 Edit Variable dialog box

Use the **Edit Variable** dialog box to edit a variable for a service. To display the **Edit Variable** dialog box, in the **Edit Service Definition** dialog box, click the **Edit** button in the **Variables** section.

Figure 7–44: **Edit Variable** dialog box (when **string** is selected for **Data Type**)

This dialog box displays the following items:

Key text box

Enter the property key. The text box allows a maximum of 128 characters.

Name text box

Enter the property name of the variable. The text box allows a maximum of 128 characters.

Description text box

Enter a brief description of the variable. The text box allows a maximum of 256 characters.

Data Type list box

Select the data type of the variable.

- **string**

  Select this option to set the data type to string.

- **password**

  Select this option to set the data type to password.

Default Value

Enter the default value of the variable. The text box allows a maximum of 1,024 characters. If you specify **password** for the data type, each of the entered characters is displayed as ● .

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Variable** dialog box.

7.4.14 Create Step dialog box

Use the **Create Step** dialog box to add a step to a service template. The **Create Step** dialog box is displayed when you select a plug-in in the **Plug-in** view and drag and drop the plug-in into the **Flow** view of the service template editing view.

Figure 7–45: **Create Step** dialog box (1/2)

Figure 7–46: **Create Step** dialog box (2/2)

This dialog box displays the following items:

Step

Specify the definition information of a step.

ID text box

Enter the ID of the step. The text box allows a maximum of 30 characters.

Name text box

Enter the name of the step. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the step. The text box allows a maximum of 256 characters.

Plug-in

Click this to display the definition information of the plug-in.

Plug-in

Shows the definition information of the plug-in.

Name

Shows the name of the plug-in.

Version

Shows the version number of the plug-in. If the plug-in has multiple versions, a list box is displayed. In this list box, you can select a version you want.

Vendor Name

Shows the name of the plug-in's vendor.

Description

Shows a brief description of the plug-in.

ID

Shows the ID of the plug-in.

Vendor ID

Shows the ID of the plug-in's vendor.

Subsequent Step Conditions

Click this to display the condition for executing the subsequent steps.

Subsequent Step Conditions

Specify the condition for executing the subsequent steps.

Condition list box

Select the condition for executing the subsequent steps.

- **When the return value of the plug-in is judgment level or less, execute subsequent steps**

- **Always execute subsequent steps**

- **Never execute subsequent steps**

Judgment Level text box

If you want to use the return value of the plug-in to judge whether the condition for executing the subsequent steps is satisfied, enter the judgment level. You can enter a number from 0 to 255. The **Judgment Level** text box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Warning Setting check box

If you select this check box, the step's status will change to the warning status when the return value of the plug-in is equal to or higher than the warning level and equal to or less than the judgment level. The **Warning Setting** check box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Warning Level text box

Enter the warning level. This value and the return value of the plug-in are used to judge whether the condition for executing the subsequent steps is satisfied. You can enter a number from 1 to 255. The **Warning Level** text box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Specify Plug-in Input Properties for Mapping

Click this to display a list of input properties.

Input Properties

Displays a list of input properties. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–27: Items displayed in **Input Properties** (**Create Step** dialog box)

Display item	Description
Input warning icon	If no mapping parameter value has been input for an input property that requires a mapping parameter setting, ⚠ is displayed.
Key	Displays the property key of each input property.
Name	Displays the name of each input property.
Description	Displays a brief description of each input property.
Mapping Parameter	Displays the mapping parameter for each input property.

Clear button

Click this button to delete the mapping parameter set for the input property.

Edit button

Click this button to edit the selected input property. The **Specify Plug-in Input Properties for Mapping** dialog box appears.

Specify Plug-in Output Properties for Mapping

Click this to display a list of output properties.

Output Properties

Displays a list of output properties. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–28: Items displayed in **Output Properties** (**Create Step** dialog box)

Display item	Description
Key	Displays the property key of each output property.
Name	Displays the name of each output property.
Description	Displays a brief description of each output property.
Mapping Parameter	Displays the mapping parameter for each output property.

Clear button

Click this button to delete the mapping parameter set for the output property.

Edit button

Click this button to edit the selected output property. The **Specify Plug-in Output Properties for Mapping** dialog box appears.

OK button

Click this button to add the step.

Cancel button

Click this button to close the **Create Step** dialog box.

7.4.15 Edit Step dialog box

Use the **Edit Step** dialog box to edit a step for a service template. Do one of the following to display the **Edit Step** dialog box:

- In the **service template editing view**, click the **Edit Step** button in the **Steps** view.
- In the **service template editing view**, right-click a step icon displayed in the **Flow** view, and then select **Edit**.
- In the **service template editing view**, double-click a step icon displayed in the **Flow** view.

Figure 7–47: **Edit Step** dialog box (1/2)

Figure 7–48: **Edit Step** dialog box (2/2)

This dialog box displays the following items:

Step

Specify the definition information of a step.

ID text box

Enter the ID of the step. The text box allows a maximum of 30 characters.

Name text box

Enter the name of the step. The text box allows a maximum of 64 characters.

Description text box

Enter a brief description of the step. The text box allows a maximum of 256 characters.

Plug-in

Click this to display the definition information of the plug-in.

Plug-in

Shows the definition information of the plug-in.

Name

Shows the name of the plug-in.

Version

Shows the version of the plug-in.

Vendor Name

Shows the name of the plug-in's vendor.

Description

Shows a brief description of the plug-in.

ID

Shows the ID of the plug-in.

Vendor ID

Shows the ID of the plug-in's vendor.

Subsequent Step Conditions

Click this to display the condition for executing the subsequent steps.

Subsequent Step Conditions

Specify the condition for executing the subsequent steps.

Condition list box

Select the condition for executing the subsequent steps.

- **When the return value of the plug-in is judgment level or less, execute subsequent steps**
- **Always execute subsequent steps**
- **Never execute subsequent steps**

Judgment Level text box

If you want to use the return value of the plug-in to judge whether the condition for executing the subsequent steps is satisfied, enter the judgment level. You can enter a number from 0 to 255. The **Judgment Level** text box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Warning Setting check box

If you select this check box, the step's status will change to the warning status when the return value of the plug-in is equal to or higher than the warning level and equal to or less than the judgment level. The **Warning Setting** check box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Warning Level text box

Enter the warning level. This value and the return value of the plug-in are used to judge whether the condition for executing the subsequent steps is satisfied. You can enter a number from 1 to 255. The **Warning Level** text box is displayed when you select **When the return value of the plug-in is judgment level or less, execute subsequent steps** in the **Condition** list box.

Specify Plug-in Input Properties for Mapping

Click this to display a list of input properties.

Input Properties

Displays a list of input properties. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–29: Items displayed in **Input Properties** (**Edit Step** dialog box)

Display item	Description
Input warning icon	If no mapping parameter value has been input for an input property that requires a mapping parameter setting, ⚠ is displayed.
Key	Displays the property key of each input property.
Name	Displays the name of each input property.
Description	Displays a brief description of each input property.
Mapping Parameter	Displays the mapping parameter for each input property.

Clear button

Click this button to delete the mapping parameter set for the input property.

Edit button

> Click this button to edit the selected input property. The **Specify Plug-in Input Properties for Mapping** dialog box appears.

Specify Plug-in Output Properties for Mapping

> Click this to display a list of output properties.

Output Properties

> Displays a list of output properties. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–30: Items displayed in Output Properties (**Edit Step** dialog box)

Display item	Description
Key	Displays the property key for each output property.
Name	Displays the name of each output property.
Description	Displays a brief description of each output property.
Mapping Parameter	Displays the mapping parameter for each output property.

Clear button

> Click this button to delete the mapping parameter set for the output property.

Edit button

> Click this button to edit the selected output property. The **Specify Plug-in Output Properties for Mapping** dialog box appears.

OK button

Click this button to apply the changes.

Cancel button

Click this button to close the **Edit Step** dialog box.

7.4.16 Specify Plug-in Input Properties for Mapping dialog box

Use the **Specify Plug-in Input Properties for Mapping** dialog box to set a mapping parameter for an input property. To display the **Specify Plug-in Input Properties for Mapping** dialog box, in the **Create Step** dialog box or in the **Edit Step** dialog box, click the **Edit** button in the **Input Properties** section.

Figure 7–49: **Specify Plug-in Input Properties for Mapping** dialog box

This dialog box displays the following items:

Key
Shows the property key of the input property.

Name
Shows the name of the input property.

Description
Shows a brief description of the input property.

Input Method radio button
Select how to specify the mapping parameter. The **Input Method** radio button might not be displayed depending on the property you are editing.

- **Select a Property from Service Properties**

  Select this option to select a service property you want to set as the mapping parameter from a list. **Service Properties** is displayed.

- **Direct Input**

  Select this option to directly enter the value for the input property. The **Mapping Parameter** text box is displayed.

Mapping Parameter
How you specify the mapping parameter depends on the display status of this dialog box as follows:

- When **Service Properties** is displayed:

  Select a service property you want to set as the mapping parameter from **Service Properties**. The property key of the selected service property is displayed.

- When the **Mapping Parameter** text box is displayed (when the **Input Method** radio button is displayed):

  Directly enter the mapping parameter. The text box allows a maximum of 1,024 characters.

- When the **Mapping Parameter** text box is displayed (when the **Input Method** radio button is not displayed):

  Directly enter the mapping parameter. Enter an integer in the range from the minimum value to the maximum value set for the input property.

- When the **Mapping Parameter** list box is not displayed:

  Select the mapping parameter from the list box.

Service Properties

Displays a list of service properties that can be used for mapping to the input property. If you click a service property, it is displayed as a mapping parameter. **Service Properties** is displayed when you select **Select a Property from Service Properties** for the **Input Method** radio button. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–31: Items displayed in Service Properties (**Specify Plug-in Input Properties for Mapping** dialog box)

Display item	Description
Key	Displays the property key of each property.
Name	Displays the name of each property.
Description	Displays a brief description of each property.

Select Service Share Property button

Click this button to add a service share property as an input property. The **Select Service Share Property** dialog box appears.

Add Input Property button

Click this button to add an input property. The **Create Input Property for Service** dialog box appears.

Add Variable button

Click this button to add a variable. The **Create Variable** dialog box appears.

OK button

Click this button to set the mapping parameter for the input property.

Cancel button

Click this button to close the **Specify Plug-in Input Properties for Mapping** dialog box.

7.4.17 Specify Plug-in Output Properties for Mapping dialog box

Use the **Specify Plug-in Output Properties for Mapping** dialog box to set a mapping parameter for an output property. To display the **Specify Plug-in Output Properties for Mapping** dialog box, in the **Create Step** dialog box or in the **Edit Step** dialog box, click the **Edit** button in the **Output Properties** section.

Figure 7–50: **Specify Plug-in Output Properties for Mapping** dialog box
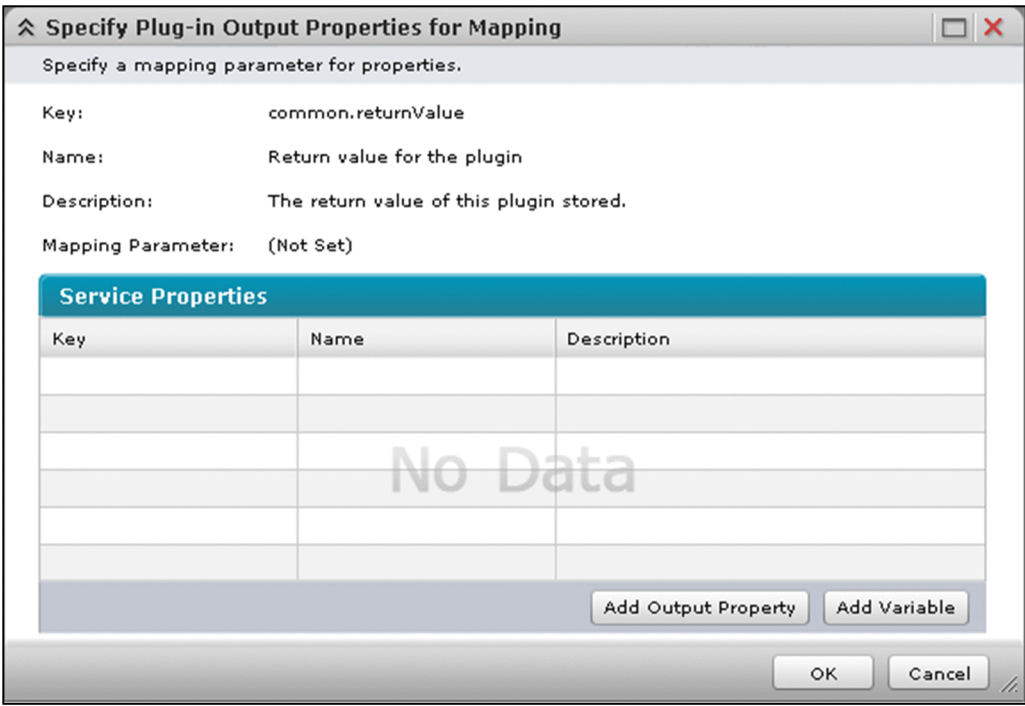
This dialog box displays the following items:

Key

Shows the property key of the output property.

Name

Shows the name of the output property.

Description

Shows a brief description of the output property.

Mapping Parameter

Shows the service property key that has been mapped.

Service Properties

Displays a list of service properties that can be used for mapping to the output property. If you click a service property, it is displayed as a mapping parameter. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–32: Items displayed in Service Properties (**Specify Plug-in Output Properties for Mapping** dialog box)

Display item	Description
Key	Displays the property key of each property.
Name	Displays the name of each property.
Description	Displays a brief description of each property.

Add Output Property button

Click this button to add an output property. The **Create Output Property for Service** dialog box appears.

Add Variable button

Click this button to add a variable. The **Create Variable** dialog box appears.

OK button

Click this button to set the mapping parameter for the output property.

Cancel button

Click this button to close the **Specify Plug-in Output Properties for Mapping** dialog box.

7.5 Debug view

Use the **Debug** view to manage debug tasks or to set the step-by-step execution method. To display the **Debug** view, click the **Run** button in the **Perform Debugging** dialog box. That view is displayed in the left pane of the **Editor** window.

Figure 7–51: **Debug** view

This view displays the following items:

(**Enter Response** button)

Clicking this button displays the **Respond** dialog box. If there are multiple steps that are waiting for a response in the task, the corresponding **Respond** dialog boxes are displayed in the order in which those steps began to wait.

(**Retry** list box)

Select how to retry a failed task.

- **Retry the Task From the Failed Step**

  If you select this item, a dialog box asking you whether to resume processing of the task from the failed step appears. Clicking the **OK** button resumes processing of the task from the failed step.

- **Retry the Task From the Step After the Failed Step**

  If you select this item, a dialog box asking you whether to resume processing of the task from the step after the failed step appears. Clicking the **OK** button resumes processing of the task from the step after the failed step.

(**Forcibly Stop Tasks** button)

If you click this button, a dialog box asking you whether you really want to forcibly stop the task appears. Clicking the **OK** button causes the debug task to enter a *Terminated* state, and then a *Failed* state.

(**Rerun** button)

Click this button to resume from the step that is in the *Interrupted* state. This button is enabled when the step selected in the flow view of the service template debugging view is in the *Interrupted* or *Interrupted (After Execution)* state.

Task

Information about the task is displayed here.

Task Status

Displays the status of the debug task.

Step

Information about the step selected in the **Flow** view in the service template debugging view is displayed here.

Step ID

Displays the step ID.

Step Name

Displays the name of the step.

Step Status

Displays the status of the step.

Execution Settings list box

Select whether to resume the plug-in processing of the step that is in the *Interrupted* state. This item can be used only when the step is in the *Interrupted* state.

- **Execute the plug-in processing**

  Select this item to execute the plug-in processing.

- **Do not execute the plug-in processing**

  Select this item to skip execution of the plug-in processing.

Interrupt after the plug-in processing check box

If this check box is selected, the step enters the *Interrupted* state after the plug-in processing is completed. If this check box is cleared, the next step starts when the plug-in processing is completed. This item can be used

only if **Execute the plug-in processing** is selected from the **Execution Settings** list box when the step is in the *Interrupted* state.

Return Value text box

Displays the return code of the plug-in or step. Whether the displayed value is the return code of the plug-in or step differs depending on the timing.

- When the step is completed

    The return code of the step is displayed.

- When the step is in the Interrupted state

    The return code of the plug-in is displayed. If **Do not execute the plug-in processing** is selected from the **Execution Settings** list box, or if the step is in the *Interrupted (After Execution)* state, you can specify the return code that is assumed to be returned. In this case, you can specify a number from 0 to 127.

Linefeed Code area (radio buttons)

Select the type of line break code to be used in the property values of the plug-in. This area can be used only if the step is in the *Interrupted* or *Interrupted (After Execution)* state.

- **CR+LF**

    Select this item to use CRLF (0x0d0a) as the line break code.

- **CR**

    Select this item to use CR (0x0d) as the line break code.

- **LF**

    Select this item to use LF (0x0a) as the line break code.

List of properties

The plug-in properties that have been added to the step are listed in table format. If you click the column title of a display item, the data will be sorted in ascending or descending order. You can also set property values as needed for debugging.

Table 7–33: Items displayed in the **list of properties** (**Debug** view)

Display item	Description
Icon indicating the type of property	The type of property is indicated by an icon. • This icon is displayed for input properties. • This icon is displayed for output properties.
Property Key	Lists property keys.
Mapping Parameter	Lists mapping parameters.
Property Value	Displays the property value to be input to the plug-in or the property value that was output from the plug-in. If a service property is mapped, the value of the service property at the time when execution of the step interrupted is displayed. For **password** data type property values, dots (●) appear, instead of the entered string. You can edit the values of input properties when the step is in the *Interrupted* state if **Execute the plug-in processing** is selected from the **Execution Settings** list box. You can edit the values of output properties when the step is in the *Interrupted* state if **Do not execute the plug-in processing** is selected from the **Execution Settings** list box. You can also edit the values of output properties when the step is in the *Interrupted (After Execution)* state. Each property value can have no more than 1,024 characters.

Related topics

- Topic *Task statuses and status transitions* in the *Job Management Partner 1/Automatic Operation Administration Guide*

- Topic *Step statuses* in the *Job Management Partner 1/Automatic Operation Administration Guide*

- Topic *Relationship of command and script return values to the return values of plug-ins and steps* in the *Job Management Partner 1/Automatic Operation Service Template Developer's Guide*

- Topic *Example of mapping parameter definition and flow of data* in the *Job Management Partner 1/Automatic Operation Service Template Developer's Guide*

7.6 Service template debugging view

Use the service template debugging view to debug a service template. The service template debugging view appears in the right pane of the **Editor** window when you click the **Run** button in the **Perform Debugging** dialog box.

Figure 7–52: Service template debugging view
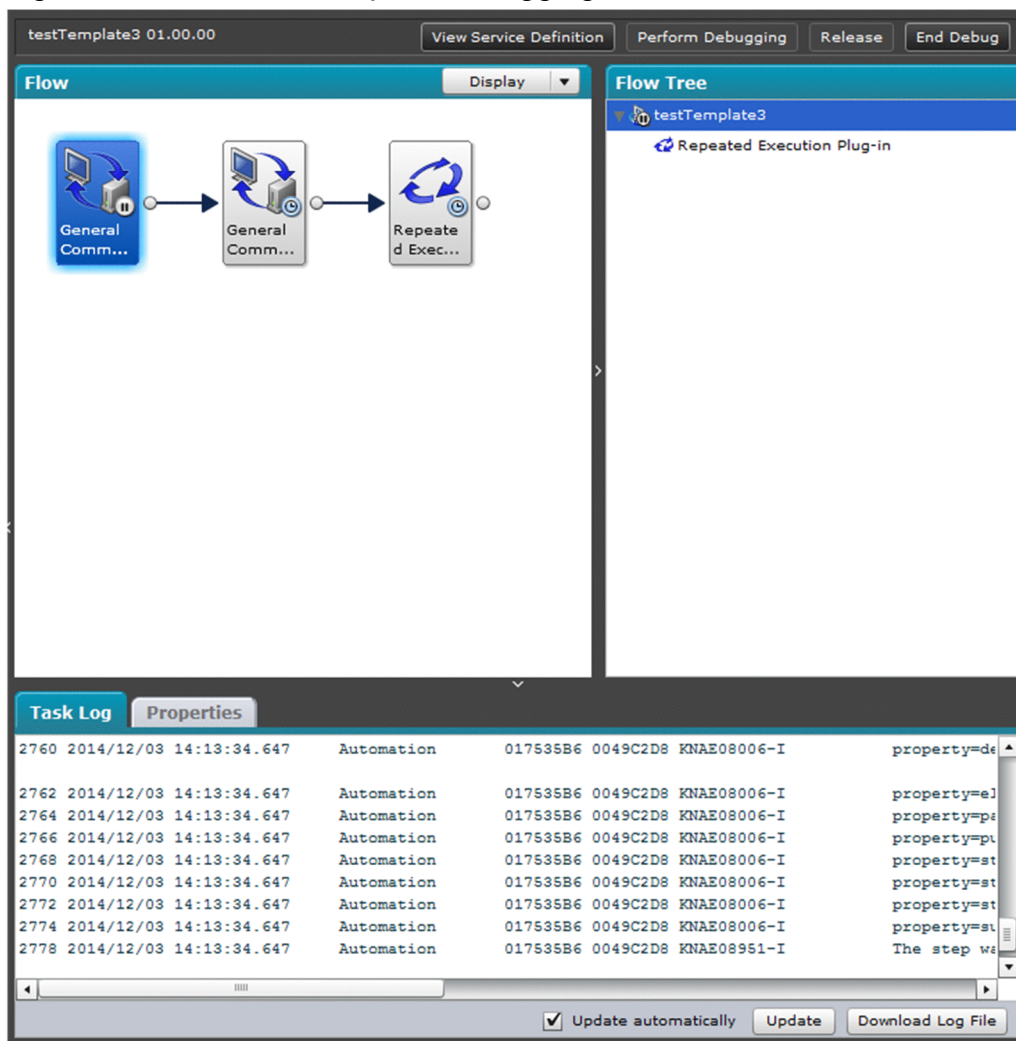
This view displays the following items:

View Service Definitions button

Click this button to view service definition information. Clicking this button displays the **View Service Definitions** dialog box.

Perform Debugging button

Click this button to restart a debug task after the service template has been debugged. Clicking this button displays the **Perform Debugging** dialog box.

Release button

Click this button to release the service template. Clicking this button displays a message dialog box asking whether you really want to release the service template. Click the **OK** button to start releasing the service template. The release result is displayed in the **Build/Release Result** dialog box.

End Debug button

Clicking this button displays the **Plug-in** view in the left pane and the service template editing view in the right pane.

Flow view

Displays the step execution order. The icons indicating steps change according to the state. You cannot select multiple step icons at the same time.

If you double-click the icon of a step that uses a **flow plug-in**, the flow of substeps is displayed.

If you double-click the icon of a step that uses a **repeated-execution plug-in**, as many *repeated-execution flows* as the number of times the plug-in is repeated are displayed. These flows are displayed after the relevant repeated-execution plug-in has started (alternatively, while the plug-in is being executed or after the plug-in is completed). The name of each flow is displayed in the *repeat-number_value-entered-for-repeated-execution (reserved.loop.input)* format.

If you double-click a step icon that is not for a **flow plug-in**, **repeated-execution plug-in**, or a repeated-execution flow, the **View Step** dialog box appears.

The icon of a step in the *Interrupted* or *Interrupted (After Execution)* state is emphasized with a blue frame. The icon of a step that uses a plug-in whose execution cannot pause before the end of the step is displayed with a dark background color. Similarly, the icons of substeps for a **repeated-execution plug-in** are displayed with a dark background color before the plug-in is executed.

Display list box

Use this list box to select the magnification of the **Flow** view. You can select **25%**, **50%**, **75%**, or **100%**.

When you right-click a step icon, you can select the following items:

- **View**

  If you select this item, the **View Step** dialog box appears. You can select this item if the step icon you right-clicked is not for a repeated-execution flow.

- **Resume**

  Select this item to resume step execution. You can select this item if the step you right-clicked is in the *Interrupted* or *Interrupted (After Execution)* state.

Flow Tree view

Displays the names of flows of the service template in tree format. For a level at which a step has interrupted, the icon indicating the *Interrupted* state is displayed. When you click the name of a flow, the subordinate flows are displayed in the **Flow** view.

If you click a **repeated-execution plug-in**, as many repeated-execution flows as the number of times the plug-in is repeated are displayed in the **Flow** view. Repeated-execution flows are displayed in the flow tree after the relevant repeated-execution plug-in has started (alternatively, while the plug-in is being executed or after the plug-in is completed). In the flow tree, the name of each flow is displayed in the *repeat-number_value-entered-for-repeated-execution (reserved.loop.input)* format.

Task Log tab

The task log for debug tasks is displayed in this tab.

Log entry display area

Displays the contents of the task log. The maximum size of log data that can be displayed can be set by using the client.debugger.tasklog.maxfilesize key in the property file (config_user.properties).

Update automatically check box

If this check box is selected, the log entry display area is automatically refreshed to display the most recent task log entries regardless of the task status. If this check box is cleared, the log entry display area is not refreshed automatically.

Update button

> When this button is clicked, the contents of the log entry display area are immediately refreshed to display the most recent task log entries.

Download Log File button

> Clicking this button displays a dialog box for downloading a task log to a file. The default task log file name is task_*task-ID*_1.log. You can change the default file name.

Properties tab

> A list of properties for the debugged service template is displayed in this tab. If you click the column title of a display item, the data will be sorted in ascending or descending order.

Table 7–34: Items displayed in the **Properties** tab (service template debugging view)

Display item	Description

Icon indicating the type of property	The type of property is indicated by an icon.
	
	•
	
	  This icon is displayed for input properties.
	
	•
	
	  This icon is displayed for output properties.
	
	•
	
	  This icon is displayed for variables.

Property key	Lists property keys.
Property name	Lists the names of properties or variables.
Property value	Lists the values of properties or variables. For **password** data type values, dots (●) appear, instead of the entered string.

Related topics

- A.2(2) Step status icons

- Topic *Property file (config_user.properties)* in the *Job Management Partner 1/Automatic Operation Configuration Guide*

8

Commands

This chapter describes the commands available in JP1/AO.

8.1 List of commands

The following tables list the commands available in JP1/AO.

Table 8–1: Configuration-related commands

Command name	Function	See:
encryptpassword (creating a password file)	Creates a password file that you can specify as an argument in a command.	8.5.1 encryptpassword (creating a password file)
hcmdscheckauth (verifying the connection with the external authentication server)	Verifies the settings in the configuration file for external authentication server linkage and the connection with an external authentication server when JP1/AO links with the external authentication server.	8.5.2 hcmdscheckauth (verifying the connection with the external authentication server)
hcmdsfwcancel (adding an exception to the Windows Firewall exceptions list)	Adds an exception so that Windows Firewall does not block communication between the JP1/AO server and a Web browser. You use this command to change the port number on the JP1/AO server to which the Web browser connects.	8.5.3 hcmdsfwcancel (adding an exception to the Windows Firewall exceptions list)
hcmdsintg (deleting or checking authentication data)	Deletes authentication data stored in the repository on the server that manages user accounts. This command can also display the address of the server that stores authentication data. You use this command to delete authentication data if you failed to delete those data during the uninstallation of JP1/AO.	8.5.4 hcmdsintg (deleting or checking authentication data)
hcmdsldapuser (registering and deleting users for LDAP search)	Registers the user information required for Active Directory registration information search when JP1/AO links with Active Directory. This command can also be used to delete registered user information.	8.5.5 hcmdsldapuser (registering and deleting users for LDAP search)
hcmdsssltool (creating private key and self-signed certificate)	Creates the private key, CSR, self-signed certificate, and self-signed certificate content file required for SSL connection.	8.5.6 hcmdsssltool (creating a private key and self-signed certificate)
setupcluster (configuring a cluster environment)	Configures a JP1/AO cluster environment.	8.5.7 setupcluster (configuring a cluster environment)
stopcluster (preparing to stop a service in a cluster environment)	Prepares for stopping a JP1/AO service in a cluster environment. Execute this command before stopping a JP1/AO service in a cluster environment.	8.5.8 stopcluster (preparing to stop a service in a cluster environment)

Table 8–2: Operation-related commands

Command name	Description	See:
deleteservicetemplate (deleting a service template)	Deletes a service template stored in JP1/AO.	8.6.1 deleteservicetemplate (deleting a service template)
hcmdschgurl (updating URL information)	Updates access (URL) information that is stored in the repository for Common Component and used for starting an application. You use this command if the system configuration change is made after operation of JP1/AO started.	8.6.2 hcmdschgurl (updating URL information)
hcmdssrv (starting and stopping JP1/AO, and displaying the status of JP1/AO)	Starts and stops the services and databases of JP1/AO. This command can also display the status of the JP1/AO services.	8.6.3 hcmdssrv (starting and stopping JP1/AO, and displaying the status of JP1/AO)
hcmdsunlockaccount (unlocking a user account)	Unlocks a user account. You use this command when all the user accounts are locked and the users cannot log in to JP1/AO.	8.6.4 hcmdsunlockaccount (unlocking a user account)

Command name	Description	See:
importservicetemplate (importing one or more service templates)	Adds one or more service templates to JP1/AO.	8.6.5 importservicetemplate (importing one or more service templates)
listservices (outputting the list of services or service templates)	Outputs the CSV-formatted list of the services or service templates registered in JP1/AO.	8.6.6 listservices (outputting the list of services or service templates)
listtasks (outputting the list of tasks and the detailed task information)	Outputs the CSV-formatted list of the tasks or histories. Outputs the detailed task information to a specified folder.	8.6.7 listtasks (outputting the list of tasks and the detailed task information)
stoptask (stopping a task)	Stops execution of a task by specifying the ID of the task.	8.6.8 stoptask (stopping a task)
submittask (executing a service and re-registering the tasks in a batch)	Performs a service by specifying the name of the service to be performed and the property values. Re-registers the scheduled tasks and recurring tasks in a batch, based on the detailed task information output by the listtasks command.	8.6.9 submittask (executing a service and re-registering the tasks in a batch)

Table 8–3: Maintenance related commands

Command name	Description	See:
backupsystem (backing up the JP1/AO system)	Backs up the configuration and database information of JP1/AO to store the data in the specified folder.	8.7.1 backupsystem (backing up the JP1/AO system)
hcmdsdbrepair (re-creating the databases)	Forces the databases to be deleted, re-creates them, and then recovers them using the backup data. You use this command if any of the databases is corrupted, and if using the restoresystem command and the hcmdsdbtrans command with the /import option specified cannot restore the database.	8.7.2 hcmdsdbrepair (re-creating the database)
hcmdsdbsrv (starting and stopping the databases)	Starts and stops the databases of JP1/AO. You use this command when maintaining the databases.	8.7.3 hcmdsdbsrv (starting and stopping the databases)
hcmdsdbtrans (backing up and restoring the databases)	Backs up and restores the databases of JP1/AO. You use this command when re-organizing the databases of JP1/AO.	8.7.4 hcmdsdbtrans (backing up and restoring the databases)
hcmdsgetlogs (collecting log information)	Collects log information recorded during JP1/AO operation to output the information to the archive file.	8.7.5 hcmdsgetlogs (collecting log information)
restoresystem (restoring the JP1/AO system)	Restores the backup data, such as the configuration and database information of JP1/AO, obtained by the backupsystem command.	8.7.6 restoresystem (restoring the JP1/AO system)

8.2 Notes on using the commands

This section provides a list of notes when you use the commands.

- You must open a command prompt as an administrator if you want to execute any command that requires Administrator permissions on a Windows Server 2008 host. You can open a command prompt as an administrator by right-clicking **Command Prompt** in the **Start** menu of Windows and then selecting **Run as administrator**. However, if the User Account Control (UAC) feature is disabled, you do not have to open a command prompt as the administrator.

- If you enable the QuickEdit mode in the command prompt window, clicking the command prompt window suspends the window output until you resume the output. For this reason, we recommend that you do not use the QuickEdit mode.

- If you want to use a command in a cluster environment, run the command in the executing host.

- If you want to suspend the execution of a command, press the **Ctrl** + **C** keys. After the command is suspended, check the suspension message for any problem. If you want to resume the command, then execute it again.

- Do not press the **Ctrl** + **S** keys while a command is being executed. If you do so, the command output is stopped.

- You cannot execute any commands other than the `stoptask`, `submittask`, and `stopcluster` commands with other JP1/AO commands at the same time.

- You might get a return value other than 2 (The command execution has been interrupted) depending on the type of the command when you interrupt the command immediately after its execution.

- You can execute a maximum of 10 instances respectively for the `stoptask` and `submittask` command at the same time. If you attempt to execute the 11th instance, the following message appears and the task is not executed:

  KNAE03236-E No more commands can be executed at the moment. Wait until one or more currently executing commands end, and then try again.

- When you execute the following commands, you can change the subject identification information that will be output to the audit log by changing the property file settings:
  - `deleteservicetemplate` command
  - `importservicetemplate` command
  - `listservices` command
  - `listtasks` command
  - `stoptask` command
  - `submittask` command

Related topic

- Topic *Properties file (config_user.properties)* in the *Job Management Partner 1/Automatic Operation Configuration Guide*

8.3 Valid characters for arguments in a command

This section describes the valid characters for arguments in a command.

- You can specify arguments in a command according to the specification of the Windows command prompt. Based on the specification, you must enclose an argument in double quotation marks (**"**) if the argument contains any space or special characters.

- The following characters are available when you specify a path argument in each command:
  Half-width alphanumeric characters, _, ., -, (space), (,), #, @, :, \

- : can only be used to separate a drive letter.

- \ can only be used to separate folders.

- You cannot specify a path in the UNC format when specifying the path as an argument.

- You cannot use a path whose folder name is preceded or followed by a space character when specifying the path as an argument. Also, you cannot use a folder name that only has the space characters.

- You cannot use a path whose folder name is preceded or followed by a period (.) when specifying the path as an argument. Also, you cannot use a folder name that only has the periods.

- Unless otherwise specified, you can use 1-230 characters for the absolute path.

- Unless otherwise specified, arguments for each command are case sensitive.

- The names shown below are reserved keywords in the OS. Do not use them for file and folder 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

8.4 Command description format

This section explains the format of command descriptions.

Each command description has the following information. However, some commands do not have all of the information.

Description
    Describes the functionality of the command.

Syntax
    Describes the command syntax as follows:

    command-name`[[`*/option*`[`*value*`]]...]`

    The combination of */option* and *value* is referred to as an *option*. The term *arguments* is also used as a generic term for *options*.

Arguments
    Describes the arguments of the command.

Located in
    Shows the directory where the command is located.

Execute permission
    Describes user permission required to execute the command.

Remarks
    Contains what you have to be aware of when you use the command.

Return code
    Lists the return codes from the command.

    For details about the messages shown when the command is executed, see the manual *Job Management Partner 1/ Automatic Operation Messages*.

    Some commands output audit logs. For details about the commands that output audit logs, actions to be audited, and IDs of the messages to be output, see the topic *Event types output to audit log* in the manual *Job Management Partner 1/Automatic Operation Administration Guide*.

Example
    Shows sample usage of the command.

8.5 Configuration-related commands

8.5.1 encryptpassword (creating a password file)

Description

This command creates a password file that you can specify as an argument in a JP1/AO command.

You can execute the command with the user ID and password of a user registered in JP1/AO and the path to the password file to be created for that user to create an encrypted password file.

By specifying the created password file instead of the password when each command is executed, specifying the password is no longer needed.

Syntax

```
encryptpassword
     /user user-ID
     /password password
     /passwordfile password-file-path
```

Arguments

/user *user-ID*

This option specifies the user ID of a JP1/AO user for which you want to create a password file.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, -, ., =, @, \, ^, _, and |.

This option is not case sensitive.

/password *password*

This option specifies the password of the user indicated by the /user option.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are the same as those for the /user option.

/passwordfile *password-file-path*

This option specifies the absolute or relative path to the password file to be created. An error occurs if the specified path exists.

Located in

JP1/AO-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
4	An exclusive error occurred.
5	Communication failed.
6	Authentication failed. (The specified value is invalid.)
7	An invalid path is specified.
8	The output path already exists.
9	The specified path does not exist.
10	The specified path is not accessible.
14	You do not have permission to execute the command.
200	Creating the password file failed.
255	The command execution has been interrupted due to an error other than the above.

Example

The following command shows an example of how to create a password file for the specified user:

```
encryptpassword /user user01 /password pass01 /passwordfile passfile
```

Related topic

- 8.3 Valid characters for arguments in a command

8.5.2 hcmdscheckauth (verifying the connection with the external authentication server)

Description

This command verifies the settings in the configuration file for external authentication server linkage and the connection with an external authentication server when JP1/AO links with the external authentication server.

As an external authentication server, JP1/AO can link with JP1/Base or Active Directory.

This command checks whether:

- The values of the keys in the configuration file for external authentication server linkage (`exauth.properties`) that are commonly used when JP1/AO links with an external authentication server.

- The `auth.server.type` key in the configuration file for external authentication server linkage (`exauth.properties`) has a valid value specified.

  When JP1/AO links with the authentication function in JP1/Base, set the `auth.server.type` key to jp1base. When JP1/AO links with Active Directory, set the key to ldap. The key is case sensitive. If the default value for

the `auth.server.type` key (that is, internal) is specified, an error message appears indicating the setting for using the external authentication server is not enabled.

- If JP1/AO links with the authentication function in JP1/Base, this command checks whether:
  - The same host has JP1/Base and Common Component.
  - JP1/AO supports the current version of JP1/Base.
  - Users of JP1/Base can be properly authenticated.
- If JP1/AO links with Active Directory, this command checks whether:
  - The values of the keys, used for Active Directory linkage, in the configuration file for external authentication server linkage (`exauth.properties`).
  - JP1/AO can connect to Active Directory.
  - A group search can be performed if JP1/AO can connect to Active Directory.

Syntax

```
hcmdscheckauth
      /user user-name
      /pass password
      [/summary]
```

Arguments

`/user user-name`

This option specifies the user name which has already been registered in the external authentication server. Note that, if JP1/AO links with the authentication function in JP1/Base, you must specify a user name that does not match the user name that has been registered in the JP1/AO.

`/pass password`

This option specifies the password for the user name which has already been registered in the external authentication server.

`/summary`

This option simplifies the confirmation message that appears when the command is executed. If this option is specified, the messages to be displayed are limited to messages indicating whether each processing phase is successful or failed, error messages, and messages indicating the results. However, if an error message similar to the message indicating the results is to appear, the former error message is omitted and only the latter resulting message is displayed.

Located in

`Common-Component-installation-folder\bin`

Execute permission

Execute the command as a user with Administrator permissions.

Return code

Return code	Description
0	The command succeeded.
1-99	This code indicates the total number of syntax errors.
100	This is the return code when the number of syntax errors exceeds 100 lines.

Return code	Description
101-199	A connection or authentication error occurred. Unit's place: Number of connection errors Ten's place: Number of authentication errors The maximum number of each place is nine. If more than nine errors occur, each place displays nine.
247	The user ID specified in the /user option cannot be authenticated because the user ID matches the user ID which has already been registered in JP1/AO. Specify a user ID that does not match a JP1/AO user ID.
248	JP1/Base is not installed on the same host as the one on which this command is executed.
249	The unsupported version of JP1/Base is used.
250	The command is executed on the secondary server.
252	The common item setting in the definition file is incorrect.
253	External authentication linkage is not set.
254	The argument is invalid.
255	The command terminated abnormally.

Example

The following command shows an example of how to verify the connection with the external authentication server:

```
hcmdscheckauth /user test01 /pass TTdate00 /summary
```

Related topic

- 8.3 Valid characters for arguments in a command

8.5.3 hcmdsfwcancel (adding an exception to the Windows Firewall exceptions list)

Description

This command adds an exception so that Windows Firewall does not block communication between the JP1/AO server and a Web browser. You use this command when you change the port number on the JP1/AO server to which the Web browser connects from the default value.

Syntax

```
hcmdsfwcancel
```

Located in

Common-Component-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions.

Return code

This command has no return code. For this reason, to confirm that the processing is successful, open the Windows Firewall settings to see that your exception is properly added to the exceptions list.

To check the Windows Firewall settings, in Windows **Control Panel**, open **Windows Firewall**.

8.5.4 hcmdsintg (deleting or checking authentication data)

Syntax

This command deletes authentication data stored in the repository on the server that manages user accounts. This command can also display the address of the server that stores authentication data.

You use this command to delete authentication data if you failed to delete those data during the uninstallation of JP1/AO.

Syntax

```
hcmdsintg
      {/delete /type Automation | /print | /primary }
       /user user-ID
       /pass password
```

Arguments

`/delete`

    This option causes the command to delete authentication data.

`/type Automation`

    This option specifies `Automation` as the product name of the server that stores authentication data.

`/print`

    This option causes the command to display the name of the program with which authentication data is registered.

`/primary`

    This option causes the command to display the host name or IP address of the server that stores authentication data.

`/user user-ID`

    This option specifies the user ID for connecting the server that stores authentication data. You specify the user ID of the account with User Management permission.

`/pass password`

    This option specifies the password of the account with User Management permission.

Located in

`Common-Component-installation-folder`\bin

Execute permission

Execute the command as a user with Administrator permissions.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	Authentication data has already been deleted.
2	Authentication data is stored on the server on which the command is executed.
3	Authentication data is not stored on the server on which the command is executed.
4	Authentication data is not stored on the server on which the command is executed. Also, an authentication error occurred on the server that stores authentication data.
253	An authentication error occurred on the server that stores authentication data.
254	Communication with the server that stores authentication data failed.
255	The command terminated abnormally.

Example

The following command shows an example of how to delete authentication data from the server that manages user accounts:

```
hcmdsintg /delete /type Automation /user user1 /pass pass1
```

Related topic

- 8.3 Valid characters for arguments in a command

8.5.5 hcmdsldapuser (registering and deleting users for LDAP search)

Description

This command registers the user information required for Active Directory registration information search when JP1/AO links with Active Directory. This command can also be used to delete registered user information.

After you use this command to register the user information, execute the hcmdscheckauth command to verify that the information can be properly authenticated.

Syntax

```
hcmdsldapuser
    {/set /dn user-identifier /pass password | /delete}
    /name {server-identifier | domain-name}
    | /list
```

Arguments

/set

This option causes the command to register the user information.

/dn user-identifier

This option specifies the user identifier of the user to be registered. Follow RFC 4514 for the possible characters.

The characters &, |, ^, (,), <, and > must be enclosed by double quotation marks (") or escaped with a caret (^).

If you want to specify a value that ends with \, escape it with \.

`/pass` *password*

This option specifies the password for the user that is specified with the `/dn` option.

`/delete`

This option causes the command to delete the registered user information. The information of the user which includes the server identifier or domain name specified by the `/name` option is deleted.

`/name {`*server-identifier* `|` *domain-name*`}`

When registering the user information, specify the server identifier or domain name to which the user is registered.

When deleting the user information, specify the server identifier or domain name of the server in which the user to be deleted is registered.

However, you cannot specify the domain name if group linkage with Active Directory is disabled and a user for LDAP search is registered. In that case, specify the server identifier.

`/list`

This option causes the command to display the list of server identifiers and domain names contained in the registered user information.

Located in

Common-Component-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The argument includes a character that cannot be specified.
3	The registered information cannot be found.
255	The command execution has been interrupted due to an error other than the above.

Example

- Registering the user information

  To register the user information with the user name smith, belonging in the group Users, in the server with the domain name example.com, with the password qweasd00:

  ```
  hcmdsldapuser /set /dn "CN=smith,CN=Users,DC=Example,DC=com" /pass
  qweasd00 /name example.com
  ```

- Deleting the user information:

  To delete the user information with the server name chicago:

  ```
  hcmdsldapuser /delete /name chicago
  ```

- To display the list of registered server identifiers and domain names:

  ```
  hcdmsldapuser /list
  ```

Output example

The following shows an example of when the list of registered server identifiers and domain names are output:

```
[ServerName]
chicago
washington
newyork
```

Related topic

- 8.3 Valid characters for arguments in a command

8.5.6 hcmdsssltool (creating a private key and self-signed certificate)

Description

This command creates a private key, CSR, self-signed certificate, and the self-signed certificate content file that are required for SSL connection. The created files are used for the following purposes:

- The CSR is submitted to CA to obtain the SSL server certificate. You can build an SSL connection environment by combining the obtained SSL server certificate with the private key.

- You can build an SSL connection environment by combining the self-signed certificate and the private key. However, we recommend that you use this environment for test purposes because the security level is low.

- You can check the information registered in the self-signed certificate by viewing the self-signed certificate content file.

Syntax

```
hcmdsssltool
     /key private-key-file-name
     /csr CSR-file-name
     /cert self-signed-certificate-file-name
     /certtext self-signed-certificate-content-file-name
     [/validity self-signed certificate-expiry-date /dname identification-
name-(DN) /sigalg signing-algorithm]
```

Arguments

/key *private-key-file-name*

This option specifies the absolute path to the folder that stores the private key. The absolute path must include the file name of the private key.

/csr *CSR-file-name*

This option specifies the absolute path to the folder that stores the CSR. The absolute path must include the file name of the CSR.

/cert *self-signed-certificate-file-name*

This option specifies the absolute path to the folder that stores the self-signed certificate. The absolute path must include the file name of the self-signed certificate.

`/certtext` *self-signed-certificate-content-file-name*

This option causes the command to output the content of the self-signed certificate in the text format. Specify the absolute path to the folder that stores the file. The absolute path must include the name of the text file.

`/validity` *self-signed-certificate-expiry-date*

This option specifies the expiry date of the self-signed certificate in the number of days. If this option is omitted, the expiry date becomes 3,650 days. A specifiable value is a number of days until December 31, 9999.

`/dname` *identification-name-(DN)*

This option specifies identification name (DN) written in the SSL server certificate in the *attribute-type=attribute-value* format. You can specify a value with multiple attribute types by separating with a comma (`,`). The *attribute-type* is case insensitive. The *attribute-value* cannot include a double quotation mark (") or backslash (\).

Follow RFC 2253 for character escapes.

Escape the following characters with a backslash (\).

- `+,;<=>`

- A space at the top of the character string

- A space at the end of the character string

- A hash mark (#) at the top of the character string

If you omit this option, you will input the attribute values by response input according to the prompt displayed when you execute the command.

The following table describes attribute types that can be specified in this option.

Table 8–4: List of attribute types that can be specified in the identification name (DN)

Attribute type	Description of the attribute type	Prompt displayed for response input	Attribute value
CN	Common Name	Server Name	Identification name of the JP1/AO server such as a host name, IP address, and domain name[#]
OU	Organizational Unit Name	Organizational Unit	Organization name of a small unit such as a department or division name
O	Organization Name	Organization Name	Organization name of the company or organization[#]
L	Locality Name	City or Locality	Name of the city or locality (town name in Japan)
ST	State or Province Name	State or Province	Name of the state or province (prefecture in Japan)
C	Country Name	two-character country-code	Country code (`JP` in Japan)

#

   This item is required when you use a response input.

The following shows an example of a response input.

```
Enter Server Name [default=MyHostname]:example.com
Enter Organizational Unit:Device Manager Administration
Enter Organization Name [default=MyHostname]:HITACHI
Enter your City or Locality:Sanfrancisco
Enter your State or Province:California
Enter your two-character country-code:JP
Is CN=example.com,OU=Device Manager
Administration,O=HITACHI,L=Sanfrancisco,ST=California,C=JP correct? (y/n)
[default=n]:y
```

If you made a mistake when inputting a value, enter `n` at the confirmation to perform the response input again.

`/sigalg` *signing-algorithm*

Select one of the signing algorithms below. If this option is omitted, SHA256withRSA is assumed.

- MD5withRSA
- SHA1withRSA
- SHA256withRSA

Located in

Common-Component-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions.

Remarks

If the attribute type `CN` of the SSL server certificate does not match the host name, IP address or domain name specified as the connection target from the Web browser to the JP1/AO server, a server name mismatch warning or error occurs.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
250	Deleting the key store failed.
251	Creating the private key failed.
252	Creating the self-signed certificate failed.
253	Creating the CSR failed.
254	Creating the self-signed certificate content file failed.
255	The command terminated abnormally.

Related topic

- 8.3 Valid characters for arguments in a command

8.5.7 setupcluster (configuring a cluster environment)

Description

This command configures a JP1/AO cluster environment. You need to execute the command on both executing and standby hosts.

You can execute the command with the path on the shared disk to which the databases and data are backed up to configure the cluster environment.

After the command is executed, a message appears indicating ongoing processes.

Syntax

```
setupcluster
      /exportpath path-to-which-the-databases-and-data-are-backed-up
      /jp1user JP1-user-name
```

Arguments

/exportpath *path-to-which-the-databases-and-data-are-backed-up*

This option specifies the absolute or relative path to the folder to which the databases and data on which this command is executed are backed up. You must specify the folder on the shared disk that has sufficient free space. The maximum length of the path name is 49 characters.

/jp1user *JP1-user-name*

This option specifies the JP1 user name.

Located in

JP1/AO-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
4	One of the other commands is running.
5	Communication failed.
7	An invalid path is specified.
9	The specified path does not exist.
10	The specified path is not accessible.
11	The specified folder is not empty.
14	You do not have permission to execute the command.
120	Setting up the cluster failed.
121	The specified JP1 user does not have permission to set up the task-processing engine.
255	The command execution has been interrupted due to an error other than the above.

Example

The following command shows an example of how to configure a cluster environment. In this example, the databases are re-created and the data is backed up in the path on the shared folder specified on the executing host (in the case of the standby host, the same command is used).

```
setupcluster /exportpath Z:\share /jp1user JP1_AO_Admin
```

Related topic

- 8.3 Valid characters for arguments in a command

8.5.8 stopcluster (preparing to stop a service in a cluster environment)

Description

This command prepares for stopping a JP1/AO service in a cluster environment. Execute this command before stopping a JP1/AO service in a cluster environment.

Syntax

```
stopcluster /prepare
```

Arguments

`/prepare`

This option causes the command to start preparation to stop a JP1/AO service in a cluster environment.

Located in

JP1/AO-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions for the OS. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Remarks

Do not use this command for any purposes other than to prepare for stopping a JP1/AO service in a cluster environment.

For information about detailed contents to be specified using a cluster software when building a cluster environment, see the topic *Setting up a cluster system* in the *Job Management Partner 1/Automatic Operation Configuration Guide*.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
4	One of the other commands is running.

Return code	Description
210	Preparing to stop a service in a cluster environment failed.
255	The command execution has been interrupted due to an error other than the above.

Example

The following command shows an example of preparing to stop a JP1/AO service in a cluster environment.

```
stopcluster /prepare
```

Related topic

- Topic *Setting up a cluster system* in the *Job Management Partner 1/Automatic Operation Configuration Guide*

8.6 Operation-related commands

8.6.1 deleteservicetemplate (deleting a service template)

Description

This command deletes a service template stored in JP1/AO.

You can execute the command with the service template ID, vendor ID, and version number of a service template that you want to delete to delete the specified service template.

Syntax

```
deleteservicetemplate
      /name service-template-ID
      /vendor vendor-ID-of-the-service-template
      /version version-number-of-the-service-template
      /user user-ID
      {/password password | /passwordfile password-file-path}
```

Arguments

/name *service-template-ID*

> This option specifies the service template ID of the service template that you want to delete.
>
> This option is not case sensitive.
>
> The number of possible characters is in the range from 1 to 64 characters.
>
> The possible characters are half-width alphanumeric characters, -, _, and ..

/vendor *vendor-ID-of-the-service-template*

> This option specifies the vendor ID of the service template that you want to delete.
>
> This option is not case sensitive.
>
> The number of possible characters is in the range from 1 to 64 characters.
>
> The possible characters are half-width alphanumeric characters, -, _, and ..

/version *version-number-of-the-service-template*

> This option specifies the version number of the service template that you want to delete in $XX.YY.ZZ$ format.
>
> The possible characters for *XX*, *YY*, and *ZZ* are two-digit half-width numeric characters, which are from 00 through 99.
>
> - *XX*: Major version number
> - *YY*: Minor version number
> - *ZZ*: Revision number

/user *user-ID*

> This option specifies the user ID for JP1/AO.
>
> The number of possible characters is in the range from 1 to 256 characters.
>
> The possible characters are half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, -, ., =, @, \, ^, _, and |.
>
> This option is not case sensitive.

`/password password`

> This option specifies the password of the user indicated by the `/user` option.
>
> You must specify either this option or the `/passwordfile` option. If both options are specified, or if neither are specified, then you will get an error.
>
> The number of possible characters is in the range from 1 to 256 characters.
>
> The possible characters are the same as those for the `/user` option.

`/passwordfile password-file-path`

> This option specifies the absolute or relative path to the password file for the user specified in the `/user` option. You can create a password file by using the `encryptpassword` command.
>
> You must specify either this option or the `/password` option. If both options are specified, or if neither are specified, then you will get an error.

Located in

`JP1/AO-installation-folder\bin`

Execute permission

Execute the command as a user with both Administrator permissions for the OS and the Admin (or Develop) role for JP1/AO. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Remarks

Use this command to delete a release service template. Note that you need to use the **Editor** window to delete a development service template.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
4	One of the other commands is running.
5	Communication failed.
6	Authentication failed.
7	An invalid path is specified.
9	The specified path does not exist.
14	You do not have permission to execute the command.
190	Deleting the service template failed.
255	The command execution has been interrupted due to an error other than the above.

Example

The following command shows an example of how to delete the specified service template:

```
deleteservicetemplate /name nameA /vendor vendorB /version 01.00.00 /user
user01 /password pass01
```

Related topic

- 8.3 Valid characters for arguments in a command
- Topic *Procedure for deleting development service templates* in the *Job Management Partner 1/Automatic Operation Service Template Developer's Guide*

8.6.2 hcmdschgurl (updating URL information)

Description

This command updates access (URL) information that is stored in the repository for Common Component and used for starting an application.

You use this command if either of the following configuration changes is made after operation of JP1/AO started:

- If the port used by a host that has Common Components installed is changed
- If the host name or IP address of a host that has Common Components installed is changed

Syntax

```
hcmdschgurl
      {/list |
       /change URL-before-change URL-after-change |
       /change URL-after-change /type Automation}
```

Arguments

/list

   This option causes the command to display the list of URLs and product names currently set up.

/change *URL-before-change URL-after-change*

   This option causes the command to overwrite the URL related information currently registered with the new URL related information.

   You specify both the URL that is currently registered and the new URL. If you use the option together with the /type option, you only specify the new URL.

   If you specify a URL with an IPv6 address, enclose the IP address in [ ].

/type Automation

   This option specifies Automation as the name of the product whose URL is to be changed.

Located in

Common-Component-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The URL cannot be found.
253	Restoring the repository failed.
254	Backing up the repository failed.
255	The command terminated abnormally.

Example

The following commands show examples of how to use the command for each case.

- To display the list of URLs and product names currently set up:

  `hcmdschgurl /list`

- To overwrite the URL related information currently registered with the new URL related information:

  `hcmdschgurl /change "http://192.168.11.33:23015" "http://192.168.11.55:23015"`

Related topic

- 8.3 Valid characters for arguments in a command

8.6.3 hcmdssrv (starting and stopping JP1/AO, and displaying the status of JP1/AO)

Description

This command starts and stops the services and databases of JP1/AO. This command can also display the status of the JP1/AO services or change how to start the services.

Note that if you execute this command by specifying `AutomationWebService` for the `/server` option, you can start, stop, or display the status of, the services listed in the table below. Note that this command can also be used to start JP1/Base services `JP1/Base` and `JP1/Base Event`.

Table 8–5: List of services that can be targets of this command

Service display name and process	Starting	Stopping	Displaying status
HAutomation Engine Web Service	Y	Y	Y
HBase Storage Mgmt Common Service	Y	Y [1]	Y
HBase Storage Mgmt Web Service	Y	Y [1]	Y
HBase Storage Mgmt Web SSO Service	Y	Y [1]	Y
HAutomation Engine	Y	Y	N
HAutomation Engine Database _JF0	Y	Y	N
JP1/Base	Y	N	N
JP1/Base Event	Y	N	N

Service display name and process	Starting	Stopping	Displaying status
Database process[2]	Y	Y [1]	Y

Legend:

Y: The command works. N: The command does not work.

#1:

The service does not stop while a service from the Hitachi Command Suite products is running.

#2:

These are the JP1/AO internal processes. The `hcmdssrv` command does not start and stop `HiRDB/EmbeddedEdition _HD0` that represents the database service.

Syntax

```
hcmdssrv
     {/start | /stop | /check| /status}
     [/server service-name]
```

To see the status of services from JP1/AO and all the Hitachi Command Suite products:

```
hcmdssrv
     /statusall
```

To change how to start a service or services:

```
hcmdssrv
     /starttype {auto | manual}
     {/server service-name | /all}
```

Arguments

/start

This option causes the command to start the service and database specified in the /server option.

/stop

This option causes the command to stop the service and database specified in the /server option.

/check

This option causes the command to display the status of the service and database specified in the /server option.

/status

This option causes the command to display the status of the service and database specified in the /server option.

/server service-name

If you want to start and stop only the service, or display its status, of the JP1/AO product, specify AutomationWebService for service-name. If this option is omitted, the command has an effect on the services from JP1/AO and all Hitachi Command Suite products that are installed.

/statusall

This option causes the command to display the status of the services and databases, and of the services from the Hitachi Command Suite products that are registered with Common Component.

/starttype {auto | manual}

This option specifies the start type of the service specified in the /server option.

To start the service automatically, use `auto`. To start the service manually, use `manual`.

`/all`

If this option is specified, the command has an effect on the services from JP1/AO and all Hitachi Command Suite products that are installed.

Located in

`Common-Component-installation-folder\bin`

Execute permission

Execute the command as a user with Administrator permissions.

Remarks

- When you start and stop the services for JP1/AO in day-to-day operations, start and stop all the services without specifying the `/server` option. If you want to start only the services from the JP1/AO products with `/server` option, use `HBase` for the `/server` option to start the services from Common Component because these services must be started beforehand.

- Executing the command with the `/stop` option while a task is being processed terminates any processing running on the connection destination. For this reason, if any task is in execution status (In Progress, Waiting for Response, Abnormal Detection, or Terminated), you need to wait the status transition of the task to one of the ended status (Completed, Failed, or Canceled) or stop the execution of all the tasks, and then use the command with the option.

- If the service does not stop within three minutes after the command with the `/stop` option, the command terminates abnormally with a message indicating a timeout. In this case, wait a little while and then execute the command with the `/stop` option again.

Return code

The following table lists the return codes from the command with the `/start` or `/stop` option.

Return code	Description
0	The command succeeded.
1	The service has already started (with the `/start` option). The service has already stopped (with the `/stop` option).
255	The command execution failed.

The following table lists the return codes from the command with the `/check`, `/status`, or `/statusall` option.

Return code	Description
0	The service is not running.
1	The service is running.
255	The command execution failed.

The following table lists the return codes from the command with the `/starttype` option.

Return code	Description
0	The command succeeded.
255	The command execution failed.

Example

The following commands show examples of how to use the command for each case.

- To start the service from the JP1/AO products:
  ```
  hcmdssrv /start /server AutomationWebService
  ```
- To stop the service from the JP1/AO products:
  ```
  hcmdssrv /stop /server AutomationWebService
  ```
- To check the status of the service from the JP1/AO products:
  ```
  hcmdssrv /status /server AutomationWebService
  ```

Related topic

- 8.3 Valid characters for arguments in a command

8.6.4 hcmdsunlockaccount (unlocking a user account)

Description

This command unlocks a user account. You use this command when all the user accounts are locked and the users cannot log in to JP1/AO.

Syntax

```
hcmdsunlockaccount
     /user user-ID
     /pass password
```

Arguments

/user *user-ID*

This option specifies the user ID of the user account that you want to unlock. You must specify the user ID with User Management permission.

/pass *password*

This option specifies the password of the user account that you want to unlock.

Located in

Common-Component-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions.

Remarks

- Only a user account with User Management permission has the ability to unlock user accounts by using the `hcmdsunlockaccount` command.
- If the user name or password specified in the options includes characters, &, |, or ^, enclose the character with double quotation marks (") or escape the character with a caret (^). For example, if the password is ^a^b^c^, the command can be written as `hcmdsunlockaccount /user system /pass "^"a"^"b"^"c"^"` or `hcmdsunlockaccount /user system /pass ^^a^^b^^c^^`.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
251	An authentication error occurred due to login failure.
252	An authentication error occurred due to a lack of User Management permission.
253	The communication with the authentication server failed.
254	The command is executed on the secondary server.
255	The command terminated abnormally.

Example

The following command shows an example of how to unlock a user account:

```
hcmdsunlockaccount /user test01 /pass TTdate00
```

Related topic

- 8.3 Valid characters for arguments in a command

8.6.5 importservicetemplate (importing one or more service templates)

Description

This command adds one or more service templates to JP1/AO. Adding service templates to JP1/AO is called *importing of service templates*.

You can execute the command with a single service template package or a zip file in which multiple service template packages are archived to import the specified service template package into JP1/AO.

Syntax

```
importservicetemplate
    /file service-template-package-or-zip-file-in-which-multiple-service-
template-packages-are-archived
    /user user-ID
    {/password password | /passwordfile password-file-path}
```

Arguments

/file *service-template-package-or-zip-file-in-which-multiple-service-template-packages-are-archived*

    This option specifies the absolute or relative path to the service template package to be imported or zip file in which multiple service template packages are archived.

/user *user-ID*

    This option specifies the user ID for JP1/AO.

    The number of possible characters is in the range from 1 to 256 characters.

The possible characters are half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, -, ., ., =, @, \, ^, _, and
|.

This option is not case sensitive.

`/password password`

This option specifies the password of the user indicated by the `/user` option.

You must specify either this option or the `/passwordfile` option. If both options are specified, or if neither are specified, then you will get an error.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are the same as those for the `/user` option.

`/passwordfile password-file-path`

This option specifies the absolute or relative path to the file that stores the password of the user specified in the `/user` option.

You must specify either this option or the `/password` option. If both options are specified, or if neither are specified, then you will get an error.

Located in

`JP1/AO-installation-folder\bin`

Execute permission

Execute the command as a user with both Admin (or Develop) role and Administrator permissions for the OS. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Remarks

When the command imports a zip file in which multiple service template packages are archived, the command continues processing even if some of the service template packages cannot be imported. Messages inform you of the service template packages that could not be imported. If such messages are displayed, check the messages, correct the causes of the failures, and then re-import the relevant service template packages.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
4	One of the other commands is running.
5	Communication failed.
6	Authentication failed.
7	An invalid path is specified.
9	The specified path does not exist.
14	You do not have permission to execute the command.
180	Importing the service template failed.

Return code	Description
255	The command terminated abnormally.

Example

The following commands show examples of how to use the command for each case.

- To import the specified service template package into JP1/AO:

  ```
  importservicetemplate /file C:\temp\aaa.st /user user1 /password pass1
  ```

- To import a zip file in which the specified multiple service template packages are archived into JP1/AO:

  ```
  importservicetemplate /file C:\temp\bbb.zip /user user1 /password pass1
  ```

Related topic

- 8.3 Valid characters for arguments in a command
- Topic *Notes on defining Service Share Properties* in the *Job Management Partner 1/Automatic Operation Developer's Guide*

8.6.6 listservices (outputting the list of services or service templates)

Description

This command outputs the CSV-formatted list of the services or service templates registered in JP1/AO.

You can output the list of the services, including the vendor name and version number, or of the service templates. Note that debug services are not output.

Syntax

```
listservices
    /output {services | servicetemplates}
    /file output-file-path
    [/encoding {UTF-8 | Shift_JIS}]
    /user user-ID
    {/password password | /passwordfile password-file-path}
```

Arguments

`/output {services | servicetemplates}`

This option specifies which information is output in the list.

- `services`

  Outputs the list of services.

- `servicetemplates`

  Outputs the list of service templates.

`/file output-file-path`

This option specifies the absolute or relative path to the output file. An error occurs if the specified file exists.

`/encoding {UTF-8 | Shift_JIS}`

This option specifies the encoding of the output file. If this option is omitted, the default encoding of the OS is used.

```
/user user-ID
```
This option specifies the user ID for JP1/AO.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, -, ., =, @, \, ^, _, and |.

This option is not case sensitive.

```
/password password
```
This option specifies the password of the user indicated by the `/user` option.

You must specify either this option or the `/passwordfile` option. If both options are specified, or if neither are specified, then you will get an error.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are the same as those for the `/user` option.

```
/passwordfile password-file-path
```
This option specifies the absolute or relative path to the password file for the user specified in the `/user` option. You can create a password file by using the `encryptpassword` command.

You must specify either this option or the `/password` option. If both options are specified, or if neither are specified, then you will get an error.

Output format

The output items are output in CSV format in a single line per service or service template.

The values for each output item are enclosed in double quotation marks (**"**). Any double quotation mark (**"**) contained in the value is escaped with another one added in front of the mark.

Table 8–6: Output format of the lists of services and service templates

Type of output information	Output item	Description
List of services	Name	Service name
	Description	Description
	Category	Category name
	Resource Group	Resource group
	Service Template	Service template name
	Vendor	Vendor name
	Version	Service version
	Configuration Type[#]	Configuration type
List of service templates	Name	Service template name
	Service ID	Service template ID
	Description	Description
	Version	Service template version
	Category	Category name
	Vendor	Vendor name
	Vendor ID	Vendor ID

Type of output information	Output item	Description
List of service templates	Configuration Type[#]	Configuration type

#

The configuration type is output only if the Admin or Develop role for the target resource groups has been set from the user group that the user belongs to.

The following list shows some examples of file outputs.

- For the list of services

```
"Name","Description","Category","Resource Group","Service
Template","Vendor","Version"
"Remote command execution","The service executes the commands on the
remote target server.","OS_Operations/Basic","All Resources","Remote
command execution","Hitachi, Ltd","01.00.00"
"Virtual server migration","The service migrates multiple virtual servers
on a VMware vSphere environment.","VM_Operations/Management","All
Resources","Virtual server migration","Hitachi, Ltd","01.00.00"
```

- For the list of service templates

```
"Name","Service ID","Description","Version","Category","Vendor","Vendor
ID"
"JP1/AJS jobnet execution registration","JP1AJSJobnetEntry","The template
performs execution registration of JP1/AJS
jobnet.","01.00.00","JP1_Operations/Management","Hitachi,
Ltd","com.hitachi.software.dna.cts.jp1"
"JP1/AJS and JP1/Base logging","getJP1AJSandJP1BaseLog","The template
obtains JP1/AJS and JP1/Base logs.","01.00.00","JP1_Operations/
Troubleshoot","Hitachi, Ltd","com.hitachi.software.dna.cts.jp1"
```

Located in

JP1/AO-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions for the OS.

To output a list of services, the Admin, Develop, Modify, or Submit role must be set for the target resource groups from the user group that the user who executes the command belongs to. The command does not output a list of services for any resource groups for which none of these roles are set.

To output a list of service templates, the Admin, Develop, or Modify role must be set for the target resource groups from the user group that the user who executes the command belongs to.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.

Return code	Description
3	The service status is invalid.
4	One of the other commands is running.
5	Communication failed.
6	Authentication failed.
7	An invalid path is specified.
8	The file with the same name already exists in the output path.
9	The specified path does not exist.
10	The specified path is not accessible.
12	An invalid encoding is specified.
13	Outputting the file failed.
14	You do not have permission to execute the command.
160	Obtaining the list of services failed.
161	Obtaining the list of service templates failed.
255	The command execution has been interrupted due to an error other than the above.

Example

The following commands show examples of how to use the command for each case.

- To output the list of registered services to a file in default encoding of the OS:
  ```
  listservices /output services /file list01 /user user01 /password pass01
  ```

- To output the list of registered service templates to a file in UTF-8 encoding:
  ```
  listservices /output servicetemplates /file list02 /encoding UTF-8 /user
  user02 /password pass02
  ```

Related topic

- 8.3 Valid characters for arguments in a command

8.6.7 listtasks (outputting the list of tasks and the detailed task information)

Description

Outputting the list of tasks or task histories

If you execute the listtasks command by specifying tasks for the /output option, you can output the task information displayed in the **Tasks** view in a CSV-formatted file. Alternatively, if you execute the command by specifying histories for the /output option, you can output the task information displayed in the **Task Histories** view in a CSV-formatted file. Note that debug tasks are not output to either of the CSV files.

In addition, you can specify a period to filter the task information to be output.

Outputting the detailed task information

If you execute the `listtasks` command by specifying `taskdetails` for the `/output` option, the detailed task information including input property and output property values is output to the detailed task information storage folder. Note that the detailed information on the debug tasks is not output.

If you execute the `submittask` command based on the detailed task information[#] output by the `listtasks` command, you can re-register the scheduled tasks and recurring tasks with the same setting in a batch.

\#

    This detailed task information does not include the definition information (service, service template, user, user group, resource group, connection destinations, service share properties) and the definition file. Use the `backupsystem` command to back up those pieces of information.

Figure 8–1: Output and input of the detailed task information
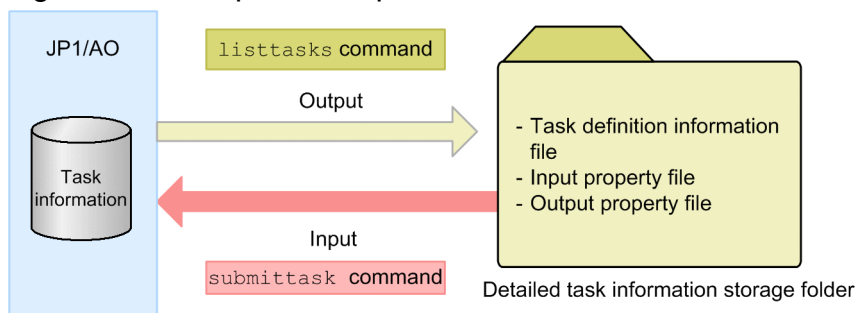
Syntax

```
listtasks
     [/startrange {yyyy-mm-dd|,yyyy-mm-dd|yyyy-mm-dd,yyyy-mm-dd}]
     /output {tasks | histories | taskdetails}
      {/fileoutput-file-path |/taskdetaildir detailed-task-information-
storage-folder-path}
     [/encoding {UTF-8 | Shift_JIS}]
     /user user-ID
     {/password password | /passwordfile password-file-path}
```

Arguments

`/startrange {yyyy-mm-dd|,yyyy-mm-dd|yyyy-mm-dd,yyyy-mm-dd}`

    This option specifies the start date or scheduled start date of tasks to filter the tasks to be output.

    yyyy must have a four-digit year in half-width numeric characters. *mm* must have a month from 1 (or 01) to 12 in half-width numeric characters. *dd* must have a day from 1 (or 01) to 31 in half-width numeric characters.

- *yyyy-mm-dd*

   This option causes the command to output the tasks that started or are scheduled to start on and after the specified date.

- *,yyyy-mm-dd*

   This option causes the command to output the tasks that started or are scheduled to start on and before the specified date.

- *yyyy-mm-dd,yyyy-mm-dd*

   This option causes the command to output the tasks that started or are scheduled to start within the specified period. The date on the right side of **,** can accept any date on and after the date specified on the left side.

For recurring tasks, tasks scheduled to start up to the next time are output, and any tasks scheduled to start subsequently are not output.

If you want to output waiting tasks, specify a scheduled date and time instead of a start data and time if the tasks are recurring and scheduled tasks. If they are immediate tasks, specify a submitted data and time. You can see the submitted date and time in the **Task Details** dialog box.

If this option is omitted, all the tasks viewable to users are output.

Note that an error occurs if you specify the /startrange option when taskdetails is specified for the /output option.

/output {tasks | histories | taskdetails}

This option specifies which one of the following information is output in the list:

- tasks

Outputs the list of the tasks from the **Tasks** view.

- histories

Outputs the list of the histories from the **Task Histories** view.

- taskdetails

Outputs the detailed task information including the input property and output property values.

{/file *output-file-path* |/taskdetaildir *detailed-task-information-storage-folder-path*}

- /file *output-file-path*

This option specifies the absolute or relative path to the file in which the list is output. An error occurs if the specified file exists.

This option is required if tasks or histories is specified for the /output option. An error occurs if this option is specified when taskdetails is specified for the /output option.

- /taskdetaildir *detailed-task-information-storage-folder-path*

This option specifies the absolute or relative path to an empty folder to which the detailed task information is output. Note that only a folder on the local disk can be specified. The number of characters that can be specified is no more than 190 characters for the absolute path. If the relative path is used, the path being converted to the absolute path must be no more than 190 characters.

An error occurs if the specified folder does not exist, or the specified folder already contains a file or folder.

This option is required if taskdetails is specified for the /output option. An error occurs if this option is specified when tasks or histories is specified for the /output option.

/encoding {UTF-8 | Shift_JIS}

This option specifies the encoding of the output file. If this option is omitted, the default encoding of the OS is used.

If taskdetails is specified for the /output option, this option is applied only to the task list file located directly under the detailed task information storage folder (listtasks.csv). The detailed task information and the property files are always output in UTF-8.

/user *user-ID*

This option specifies the user ID for JP1/AO.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, -, ., =, @, \, ^, _, and |.

This option is not case sensitive.

/password *password*

This option specifies the password of the user indicated by the /user option.

You must specify either this option or the `/passwordfile` option. If both options are specified, or if neither are specified, then you will get an error.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are the same as those for the `/user` option.

`/passwordfile` *password-file-path*

This option specifies the absolute or relative path to the password file for the user specified in the `/user` option. You can create a password file by using the `encryptpassword` command.

You must specify either this option or the `/password` option. If both options are specified, or if neither are specified, then you will get an error.

Output format

When outputting the list from the Tasks and Task Histories views (when `tasks` or `histories` is specified for the `/output` option)

The output items are output in a single line per task in CSV format.

The values for each output item are enclosed in double quotation marks (`"`). Any double quotation mark (`"`) contained in the value is escaped with another one added in front of the mark.

Table 8–7: Output items in the list of tasks

Output item	Description
Task	Task name
Status	Status
Scheduled Time	Scheduled start date and time
Start Time	Start date and time
End Time	End date and time
Type	Task type
ID	Task ID
Description	Task description
Service	Service name
Resource Group	Resource group
Category	Service category
Submitted By	User who executed the task
Submitted At	Submitted date and time
Recurrence Pattern	Recurrence pattern
Recurrence Time	Recurrence time
Recurrence Start	Start date of recurrence
Configuration Type[#]	Configuration type

\#

The configuration type is output only if the Admin or Develop role has been set for the target resource groups from the user group that the user belongs to.

The following list shows some examples of file outputs.

```
"Task","Status","Scheduled Time","Start Time","End
Time","Type","ID","Description","Service","Resource
Group","Category","Submitted By","Submitted At","Recurrence
Pattern","Recurrence Time","Recurrence Start","Configuration Type"
"Remote command execution_20131031190605","Waiting","2013-11-01
00:00:00","","","Recurring task","3327","","Remote command execution","All
Resources","OS_Operations/Basic","user","2013-10-31 19:06:37","Weekly
Monday,Wednesday,Friday","00:00:00","2013-10-31","Release"
"Remote command execution_20131031194429","Waiting","2013-11-01
09:00:00","","","Scheduled task","3355","","Remote command execution","All
Resources","OS_Operations/Basic","user","2013-10-31
19:44:52","","","","Release"
"Get list of OS users_20131031194524","Waiting","2013-11-01
20:00:00","","","Recurring task","3385","","Get list of OS users","All
Resources","OS_Operations/Management","user","2013-10-31
19:45:44","Daily","20:00:00","2013-10-31","Release"
"Remote command execution_20131031194500","Waiting","2013-11-30
00:00:00","","","Scheduled task","3361","","Remote command execution","All
Resources","OS_Operations/Basic","user","2013-10-31
19:45:17","","","","Release"
"Get list of OS users_20131031194524","Completed","2013-10-31
20:00:00","2013-10-31 20:00:00","2013-10-31 20:00:19","Recurring
task","3375","","Get list of OS users","All Resources","OS_Operations/
Management","user","2013-10-31
19:45:44","Daily","20:00:00","2013-10-31","Release"
```

When outputting the detailed task information (when `taskdetails` is specified for the `/output` option)

The following shows the data that is output to the detailed task information storage folder.

Figure 8–2: Structure of the detailed task information storage folder
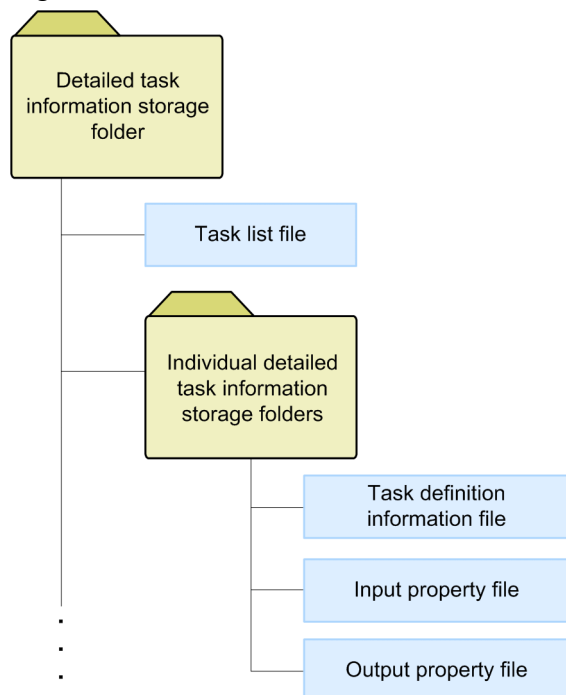
The following lists the contents of the detailed task information storage folder:

- Detailed task information storage folder

  Folder name: Arbitrary name

  The folder you specify in the `/taskdetaildir` option.

- Task list file

  File name: listtasks.csv

  The file you can use to check the list of tasks contained in the detailed task information, and the tasks in that list to be re-registered by the `submittask` command.

  A flag is added at the end of each line of the task list that is output by specifying `tasks` for the `/output` option to indicate whether the task is to be re-registered by the `submittask` in a batch.

  The following shows an output example of the task list.

  Figure 8–3: Output example of the task list
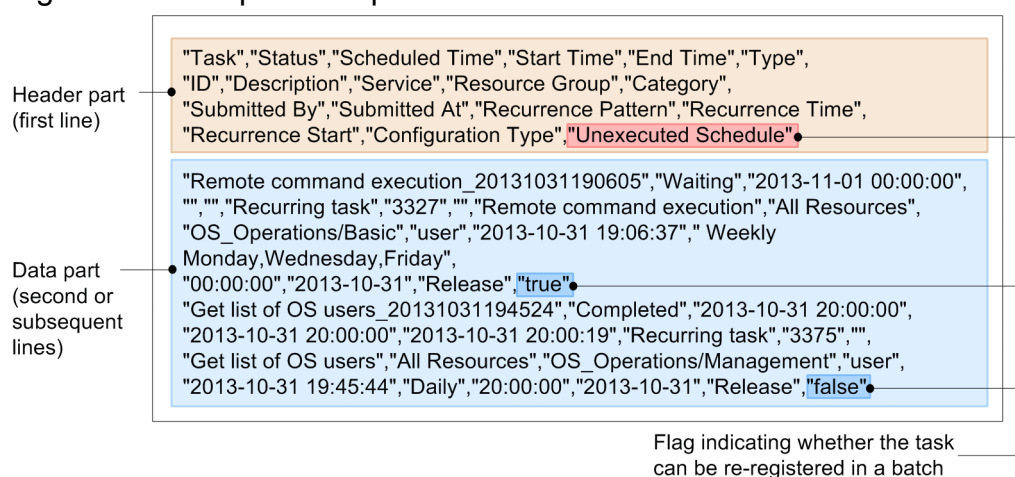
  The following describes the contents of the header part and data part:

  Header part (first line)

  ```
  Unexecuted Schedule
  ```

  Data part (second or subsequent lines)

  `true`: The task is to be re-registered in a batch.

  `false`: The task is not to be re-registered in a batch.

  A flag in the data part (second line or subsequent lines) becomes `true` if the task is a planned task (scheduled task or recurring task) and has not been executed yet, including the following:

  - A scheduled task of which execution has not been started when the `listtasks` command is executed

  - A recurring task that has not been canceled when the `listtasks` command is executed

  - A scheduled task and recurring task that are being held when the `listtasks` command is executed

  Note that the task list file is used for checking the tasks to be re-registered by the `submittask` in a batch. Do not edit this file.

- Individual detailed task information storage folders

  Folder name: *task-ID*

  This folder stores the definition information and the property files for individual tasks. The task ID becomes the folder name, and the number of folders that matches the number of output tasks are generated.

- Task definition information file

File name: taskdef.xml

The file in which task definition information is output in XML. Do not edit this file.

- Input property file

  File name: input.properties

  The input property information set for the task is output. The data format is the same as the property file specified in the /propertyfile option of the submittask command. For details on the file format, see the description on the /propertyfile option in 8.6.9 submittask (executing a service and re-registering the tasks in a batch). Note that only the input property with its visibility set to exec is output. If no such input property exists, an empty file is created.

  When you perform batch re-registration of the tasks, do not edit the input property file before executing the submittask command. If the file is edited, the command execution result is not supported by this product. However, if you want to register with settings different from the original settings, create a copy of this file and use the copy. After copying the file, specify items such as the scheduled date and time and task name that can be specified when executing the service, and then execute the service separately. If you want to change the input property value, edit the copied file as required, and execute the submittask command with that file specified for the /propertyfile option.

  Note that the information is output without processing even if the input property values include information such as the host name, IP address, user name, and password.

- Output property file

  File name: output.properties

  The output property information set for the task is output. The data format is the same as the input property file. For details on the file format, see the description of the /propertyfile option in 8.6.9 submittask (executing a service and re-registering the tasks in a batch). If no applicable input property exists, an empty file is created.

  Note that the information is output without processing even if the output property values include information such as the host name, IP address, user name, and password.

Located in

JP1/AO-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions for the OS. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Permission required for the user specified for the /user option depends on the argument specified for the /output option.

When tasks or histories is specified for the /output option (when outputting the list of tasks or histories)

The Admin, Develop, Modify, or Submit role must be set for the target resource group from the user group that the user specified for the /user option belongs to. The command does not output a list of tasks for any resource groups for which none of these roles are set.

When taskdetails is specified for the /output option (when outputting the detailed task information)

Specify the user who has the Admin role for the /user option. The Admin role which allows access to the entire resource is required because the information on the entire tasks registered in JP1/AO are output, and the information is output without processing even if the input property or output property values include information such as the host name, IP address, user name, and password. Store the output detailed task information in a properly access-controlled location.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
4	One of the other commands is running.
5	Communication failed.
6	Authentication failed.
7	An invalid path is specified.
8	The file with the same name already exists in the output path.
9	The specified path does not exist.
10	The specified path is not accessible.
11	The specified folder is not empty.
12	An invalid encoding is specified.
13	Outputting the file failed.
14	You do not have permission to execute the command.
150	Obtaining the list of tasks failed.
151	Obtaining the list of histories failed.
152	Obtaining the detailed task information failed.
255	The command execution has been interrupted due to an error other than the above.

Example

The following commands show examples of how to use the command for each case.

- To output the list of registered tasks to a file in default encoding of the OS:
  ```
  listtasks /output tasks /file list01.csv /user user01 /password pass01
  ```

- To output the tasks in the **Task Histories** view that started or are scheduled to start from January 1, 2012 to March 31, 2012 to a file in UTF-8 encoding:
  ```
  listtasks /startrange 2012-01-01,2012-03-31 /output histories /file
  list02.csv /encoding UTF-8 /user user02 /password pass02
  ```

- To output the detailed task information:
  ```
  listtasks /output taskdetails /taskdetaildir "C:\data\taskdetail" /user
  user03 /password pass03
  ```

Related topic

- 8.3 Valid characters for arguments in a command
- 8.6.9 submittask (executing a service and re-registering the tasks in a batch)
- 8.7.1 backupsystem (backing up the JP1/AO system)

8.6.8 stoptask (stopping a task)

Description

This command stops execution of a task by specifying the ID of the task. However, execution of a debug task cannot be stopped.

Note that this command cannot forcibly stop execution of a task.

Syntax

```
stoptask
      /taskid task-ID
      /user user-ID
      {/password password | /passwordfile password-file-path}
```

Arguments

`/taskid task-ID`

    This option specifies the task ID of the task of which you want to stop execution.

    The possible values are half-width numeric characters (in decimal number) in 16 or fewer digits.

`/user user-ID`

    This option specifies the user ID for JP1/AO.

    The number of possible characters is in the range from 1 to 256 characters.

    The possible characters are half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, -, ., =, @, \, ^, _, and |.

    This option is not case sensitive.

`/password password`

    This option specifies the password of the user indicated by the `/user` option.

    You must specify either this option or the `/passwordfile` option. If both options are specified, or if neither are specified, then you will get an error.

    The number of possible characters is in the range from 1 to 256 characters.

    The possible characters are the same as those for the `/user` option.

`/passwordfile password-file-path`

    This option specifies the absolute or relative path to the password file for the user specified in the `/user` option. You can create a password file by using the `encryptpassword` command.

    You must specify either this option or the `/password` option. If both options are specified, or if neither are specified, then you will get an error.

Located in

`JP1/AO-installation-folder\bin`

Execute permission

Execute the command as a user with Administrator permissions for the OS. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

The Admin, Develop, Modify, or Submit role must be set for the resource group of the target task from the user group that the user who executes the command belongs to. The command does not stop any tasks in a resource group for which none of these roles are set.

Remarks

Execute this command when the task, which you want to stop execution of, is either in In Progress, Waiting for Response, or Abnormal Detection status. If you execute this command in any other status, the command fails with the return code 140.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
5	Communication failed.
6	Authentication failed.
7	An invalid path is specified.
9	The specified path does not exist.
14	You do not have permission to execute the command.
140	Stopping the execution of the task failed.
255	The command execution has been interrupted due to an error other than the above.

Example

The following command shows an example of how to stop execution of the task with the specified task ID:

```
stoptask /taskid 1 /user user01 /password pass01
```

Related topic

- 8.3 Valid characters for arguments in a command
- Topic *Stopping tasks (execution stop)* in the *Job Management Partner 1/Automatic OperationAdministration Guide*
- Topic *Stopping tasks (forced stop)* in the *Job Management Partner 1/Automatic OperationAdministration Guide*

8.6.9 submittask (executing a service and re-registering the tasks in a batch)

Description

Executing a service

This command executes a specified service based on user-specified information such as the service name, resource group name, and property values. When the task is executed normally, a message reporting the task ID is output. This

command cannot execute debug services. By specifying the options, you can execute a service recursively or at a specified execution date and time. If you do not specify any options, the command executes the service immediately.

Re-registering the tasks in a batch

This command re-registers the scheduled tasks and recurring tasks in a batch based on the contents of the detailed task information output by the `listtasks` command. The re-registered task inherits the settings and conditions from the original task. This command is a functionality for executing a scheduled or recurring service with the same settings by referring to the information stored in the detailed task information storage folder. Note that this command is not a functionality for restoring the same task. The re-registered task is, therefore, a task different from the original task and has a different task ID. Debug tasks cannot be re-registered.

Procedures before re-registering the tasks in a batch

Perform the following before re-registering the tasks in a batch:

- The detailed task information storage folder must be the folder output by JP1/AO whose version and revision is the same as those of JP1/AO you use to re-register the tasks in a batch. Batch re-registration of tasks fails if the detailed task information storage folder output by JP1/AO whose version or revision is different is specified.

- Check that the detailed task information storage folder output by the `listtasks` command exists.

- Set up the definition information (service, service template, user, user group, resource group, connection destinations, and service share properties) and definition file separately. Restore those settings by using the `backupsystem` and `restoresystem` commands if necessary. Do not change those settings or delete any service after outputting the detailed task information storage folder by the `listtasks` command. If the service settings have been changed, batch re-registration is performed according to the changed settings. If the service settings have been deleted, re-registration of the corresponding task fails.

- For a scheduled task, confirm that the specified time has not been passed at the time of task re-registration. An error occurs if the specified time has passed, and you cannot directly re-register the task.

Condition of the tasks that are re-registered in a batch

The tasks that are re-registered in a batch are the unexecuted scheduled tasks and recurring tasks that are in the task list (listtasks.csv) in the detailed task information storage folder. In the task list, the `Unexecuted Schedule` column of the unexecuted scheduled tasks and recurring tasks is `true`.

Re-registering a scheduled task of which scheduled time has passed

You cannot directly re-register a task of which scheduled time has passed. If you re-register the task in a batch, re-registration fails with a message indicating that the specified date and time has passed. To check the settings of the tasks of which re-registration failed, refer to the task list file (listtasks.csv) in the detailed task information storage folder and the property files in the individual detailed task information storage folders. If you want to register a task of which scheduled time has passed, check the original date and time in the task list (listtasks.csv) in the detailed task information storage folder, and then execute each service by specifying a new date and time using the **Service** window or the `submittask` command of JP1/AO. Note that the start time must be equal to or after the current date and time.

Measures to take when there is a task of which re-registration failed

If batch re-registration of tasks fails, a message indicating that task registration failed, and task IDs of the tasks of which registration failed are displayed. These task IDs are the ones output by the `listtasks` command. If some tasks are successfully re-registered, move the individual detailed task information storage folder for the relevant tasks to another location. Then eliminate the causes of the failure, and execute the command again. Moving the folders is to prevent duplicate registration of the successful tasks. If the same error occurs after taking the above measures, contact the system administrator.

Syntax

When executing a service immediately

```
submittask
      /servicename service-name
      [/resourcegroup resource-group-name]
      [/taskname task-name]
      [/taskdescription task-description]
      [/property property-key property-value |
       /propertyfile property-file-path]
       /user user-ID
       {/password password | /passwordfile password-file-path}
      [/wait]
```

When executing a service at a specified date and time

```
submittask
      /servicename service-name
      [/resourcegroup resource-group-name]
      [/taskname task-name]
      [/taskdescription task-description]
      [/property property-key property-value |
       /propertyfile property-file-path]
       /user user-ID
       {/password password | /passwordfile password-file-path}
       /scheduledate yyyy-mm-dd /scheduletime hh:mm
```

When executing a service recursively

```
submittask
       /servicename service-name
      [/resourcegroup resource-group-name]
      [/taskname task-name]
      [/taskdescription task-description]
      [/property property-key property-value |
       /propertyfile property-file-path]
       /user user-ID
       {/password password | /passwordfile password-file-path}
       /recurrencepattern {daily | weekly:sun,mon,...,sat | monthly:
{dd,dd,...,dd | endofmonth}}
       /recurrencetime hh:mm /recurrencestart yyyy-mm-dd
```

When re-registering the tasks in a batch

```
submittask
      /reregister
      /taskdetaildir detailed-task-information-storage-folder
      [/setoriginalsubmitter]
      /user user-ID
      {/password password | /passwordfile password-file-path}
```

Arguments

`/servicename` *service-name*

    This option specifies the name of the service to be performed.

    The number of possible characters is in the range from 1 to 64 characters.

`/resourcegroup` *resource-group-name*

    This option specifies the name of the resource group that the service to be performed belongs to.

    If this option is omitted, the resource group associated with the user specified in the argument is used. However, if more than one resource group is associated with that user, an error occurs.

    The number of possible characters is in the range from 1 to 63 characters. The possible characters are half-width alphanumeric characters and `_`.

    However, a space character is allowed only if you specify the built-in resource group `All Resources`.

`/taskname` *task-name*

    This option specifies the name of the task.

    If this option is omitted, the system uses *service-name_YYYYMMDDhhmmss* (where *YYYYMMDDhhmmss* is the time when the service is performed) as a default name.

    The number of possible characters is in the range from 1 to 128 characters. The possible characters are any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F).

`/taskdescription` *task-description*

    This option specifies the description of the task.

    If this option is omitted, the value is not set.

    The number of possible characters is in the range from 1 to 256 characters. The possible characters are any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F).

`/property` *property-key property-value*

    This option specifies the property key and value that the service to be performed uses. The system verifies whether the specified property value is valid according to the service template specifications.

    For property keys that are not set by this option, the values specified in the **Service Definition** dialog box will be used. If values for required properties are specified in neither the **Service Definition** dialog box nor by this option, an error occurs.

    You can use multiple instances of this option to specify multiple property key and value combinations (format: `/property` *key-1 value-1* `/property` *key-2 value-2*...). You can specify a maximum of 100 instances of this option.

- *property-key*

  This option specifies the property key for the service.

  The number of possible characters is in the range from 1 to 128 characters. The possible characters are half-width alphanumeric characters, `-`, `_`, and `.`.

  If the same property key is specified more than once, then an error occurs.

- *property-value*

  This option specifies the property value for the property key.

  Any value containing a space or special character must be enclosed in double quotation marks (`"`).

`/propertyfile` *property-file-path*

    This option specifies the absolute or relative path to the property file, which defines the input property settings that the service to be performed uses.

For property keys that are not set in the property file specified by this option, the values specified in the **Service Definition** dialog box will be used. If values for required properties are specified in neither the **Service Definition** dialog box nor in the file specified by this option, an error occurs.

The following table shows the format of the property file.

Table 8–8: Property file format

Item	Rule
Location	Anywhere (However, the user who executes the command must be able to access it.)
File name	Any file name
Definition format	*property-key=property-value* *property-key=property-value* ... (Each entry must be specified on a separate line.)

Definition example #	`common.targetHost=ajsagthost`
	 `jp1base.jp1BaseLHostName=lohost`
	 `common.foreachIPaddress=192.168.1.`*xx*`,192.168.1.`*yy*

\#

The property value delimiter varies depending on the service template to be used. The above examples use `,` as their delimiter.

The property keys and values must be defined in a single line per property key. The maximum number of definable combinations of property keys and values is 100 pairs.

The string until the first appearance of = is considered as a property key. The string from the character subsequent to the first = to the line break code (CR+LF) at the end of a line is considered as a property value. It is not considered whether the property file has a line break code at the end of the file.

`/reregister`

Specify this option if you re-register the tasks in a batch. Make sure that you also specify the `/taskdetaildir` option when you specify the `/reregister` option.

`/taskdetaildir` *detailed-task-information-storage-folder*

This option is required if the `/reregister` option is specified. This option specifies the absolute or relative path to the detailed task information storage folder that stores the scheduled or recurring task information you want to re-register. Note that only a folder on the local disk can be specified. The number of characters that can be specified for the absolute path is no more than 190 characters.

`/setoriginalsubmitter`

If you specify this option when re-registering the tasks in a batch, the task submitter after re-registration displays the name of the user who submitted the original task, not the user who re-registered the task. The user who submitted the original task is the user who was executing the task at the time when the `listtasks` command was used to output the detailed task information. You can check the task submitter after re-registration from the user ID displayed in the **Submitted By** column in the **Tasks** window. You can check the user who was executing the task at the time when the `listtasks` command was used to output the detailed task information in the `Submitted By` column in the `listtasks.csv` file that is output in the detailed task information storage folder.

If you omit this option, the user ID specified for the `/user` option of the `submittask` command becomes the task submitter after re-registration.

Note that an error does not occur even if "the user who was executing the task at the time when the `listtasks` command is used to output the detailed task information" does not exist when re-registering the task. In this case, the task submitter becomes "the user who is executing the task at the time when the `listtasks` command is used to output the detailed task information".

/user *user-ID*

This option specifies the user ID for JP1/AO. Make sure that you specify the ID of a user that is associated with a resource group that the service specified by the `/servicename` option belongs to.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, -, ., =, @, \, ^, _, and |.

This option is not case sensitive.

/password *password*

This option specifies the password of the user indicated by the `/user` option.

The number of possible characters is in the range from 1 to 256 characters.

The possible characters are the same as those for the `/user` option.

/passwordfile *password-file-path*

This option specifies the absolute or relative path to the password file for the user specified in the `/user` option. You can create a password file by using the `encryptpassword` command.

/wait

If this option is specified, the command outputs the task execution result (Completed or Failed), and then terminates. If the `/wait` option is not specified, the command terminates without waiting for the task to terminate. In this case, a message reporting the task ID is output only when the task execution has started normally. Do not specify the `/wait` option together with the `/scheduledate` and `/scheduletime` options. If you do so, command execution will fail.

/scheduledate

If you want to execute the service according to a schedule, specify the date (year, month, and day) that the service will be executed in the *YYYY-MM-DD* format. In *YYYY*, specify a four-digit year. In *MM*, specify a month number from 1 (or 01) to 12. In *DD*, specify a day number from 1 (or 01) to 31. Note that when you specify the `/scheduledate` option, you must also specify the `/scheduletime` option. The command execution will fail if:

- The combination of arguments is invalid.
  For details on the combination of arguments, see Table 8–9: Argument combination of the `submittask` command.

- The date is specified in an incorrect format.

- The execution time determined by the combination of this option and the `/scheduletime` option is earlier than the current time.

- The specified date is not within the range from 1994-01-01 to 2036-12-31.

/scheduletime

If you want to execute the service according to a schedule, specify the time (hour and minute) in the *hh:mm* format. In *hh*, specify the hour from 00 to 23. In *mm*, specify the minute from 00 to 59. When you specify the `/scheduletime` option, you must also specify the `/scheduledate` option. The command execution will fail if:

- The combination of arguments is invalid.
  For details on the combination of arguments, see Table 8–9: Argument combination of the `submittask` command.

- The time is specified in an incorrect format.

- The execution time determined by the combination of this option and the `/scheduledate` option is earlier than the current time.

`/recurrencepattern {daily | weekly:`*sun,mon,...,sat*` | monthly:{`*dd,dd,...,dd*` | endofmonth}}`

This option specifies the recurrence pattern of the service execution. When you specify the `/recurrencepattern` option, you must also specify the `/recurrencetime` and `/recurrencestart` options. Note that the command execution fails if either of the following conditions applies:

- The combination of arguments is invalid.

    For details on the combination of arguments, see Table 8–9: Argument combination of the `submittask` command.

- The specified recurrence pattern is in an invalid format.

There are three types of recurrence pattern: daily, weekly, and monthly. The format of the recurrence pattern differs by the recurrence pattern type.

Daily

Specify `daily`.

Weekly

Specify the pattern in the `weekly:sun,mon,...,sat` format.

Preceded by `weekly:`, specify one or more days on which you want to execute the service, delimiting them by a comma (,). To specify days in the abbreviated form, use `sun`, `mon`, `tue`, `wed`, `thu`, `fri`, and `sat`. The order of the specified days does not matter. An invalid argument error occurs if the same day is specified for multiple times.

Monthly

Specify the pattern in the `monthly:{dd,dd,...,dd | endofmonth}` format.

Preceded by `monthly:`, specify one or more dates on which you want to execute the service, delimiting them by a comma (,). To execute the service at the end of the month, specify just `endofmonth`, without specifying any dates. The order of the specified dates does not matter. The specifiable dates are from 1 (or 01) to 31. An invalid argument error occurs if the same date is specified multiple times or for a nonexistent date, such as 0 or below, or 32 or above. Note that the command skips execution of a recurring task on a date that is specified but does not exist in a particular month. For example, if the task is scheduled to be executed on 30th or 31th every month, recursive execution is skipped in February.

`/recurrencetime` *hh:mm*

This option specifies the time (hour and minute) at which to execute the service in *hh:mm*. For *hh*, specify the hour from 00 to 23. For *mm*, specify the minute from 00 to 59. When you specify the `/recurrencetime` option, you must also specify the `/recurrencepattern` and `/recurrencestart` options. Note that the command execution fails if either of the following conditions applies:

- The combination of arguments is invalid.

    For details on the combination of arguments, see Table 8–9: Argument combination of the `submittask` command.

- The specified time is in an invalid format.

`/recurrencestart` *yyyy-mm-dd*

This option specifies the date on which to start executing the recurring service in *yyyy-mm-dd*. For *yyyy*, specify the year in four digits. For *mm*, specify the month from 1 (or 01) to 12. For *dd*, specify the date from 1 (or 01) to 31. When you specify the `/recurrencestart` option, you must also specify the `/recurrencepattern` and `/recurrencetime` options. Note that the command execution fails if one of the following conditions applies:

- The combination of arguments is invalid.

    For details on the combination of arguments, see Table 8–9: Argument combination of the `submittask` command.

- The specified date is in an invalid format.
- The specified date is out of the following range: from 1/1/1994 to 12/31/2036.

Argument combination of the `submittask` command

Table 8–9: Argument combination of the `submittask` command

Option	Immediate execution of the service	Scheduled execution of the service	Recurring execution of the service	Re-registration of the scheduled tasks in a batch
/servicename	Required	Required	Required	--
/resourcegroup	Optional	Optional	Optional	--
/taskname	Optional	Optional	Optional	--
/taskdescription	Optional	Optional	Optional	--
/property[#1]	Optional	Optional	Optional	--
/propertyfile[#1]	Optional	Optional	Optional	--
/reregister	--	--	--	Required
/taskdetaildir	--	--	--	Required
/setoriginalsubmitter	--	--	--	Optional
/user	Required	Required	Required	Required
/password[#2]	Required	Required	Required	Required
/passwordfile[#2]	Required	Required	Required	Required
/wait	Optional	--	--	--
/scheduledate	--	Required	--	--
/scheduletime	--	Required	--	--
/recurrencepattern	--	--	Required	--
/recurrencetime	--	--	Required	--
/recurrencestart	--	--	Required	--

Legend:

Required: Required. An argument error occurs if omitted.

Optional: Can be omitted.

--: Cannot be specified. An argument error occurs if specified.

#1

Specify either the /property option or /propertyfile option. An error occurs if you specify both options at the same time.

#2

Specify either the /password option or /passwordfile option. An error occurs if you specify both options at the same time.

Located in

JP1/AO-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions for the OS. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Before the service can be executed, make sure that the Admin, Develop, Modify, or Submit role is set for the resource group of that service from the user group that the user who executes the command belongs to. The command cannot execute a service in a resource group for which none of these roles are set.

The following describes the permission required for the user specified for the /user option.

When executing a service

The Admin, Develop, Modify, or Submit role must be set for the target resource group from the user group that the user specified for the /user option belongs to. The user can only execute a service for which he or she has the execute permission.

When re-registering a task in a batch

The Admin role must be set for the user specified for the /user option.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
5	Communication failed.
6	Authentication failed.
7	An invalid path is specified.
9	The specified path does not exist.
10	The specified path is not accessible.
14	You do not have permission to execute the command.
130	Starting the service failed.
131	The property file does not exist.
132	The property file has an invalid format.
133	The status of the task could not be obtained (when the /wait option is specified).
134	The task could not be executed (when the /wait option is specified).
136	The data format of the detailed task information storage folder is invalid.
137	Re-registering the planned tasks in a batch partially failed.
138	Re-registering the planned tasks in a batch failed entirely.
139	The version or revision of JP1/AO that was used to output the detailed task information storage folder is different from the currently installed JP1/AO.

Return code	Description
255	The command execution has been interrupted due to an error other than the above.

Example

The following commands show examples of how to use the command for each case.

- To execute a service specified by the service name with the property keys and values:

```
submittask /servicename service01 /user user01 /password pass01 /property
keyA valueA /property keyB "value B" /property keyC valueC,valueD
```

- To execute a service specified by the resource group and the service name, with the task name, task description, and property file:

```
submittask /servicename service02 /resourcegroup resourceA /taskname
task02 /taskdescription testtask /propertyfile C:\properties.txt /user
user02 /password pass02
```

- To output the task execution result before the command terminates:

```
submittask /servicename service03 /user user03 /password pass03 /wait
```

- To execute a service at the specified time:

```
submittask /servicename service04 /user user04 /password pass04 /
scheduledate 2014-01-01 /scheduletime 15:30
```

- To execute a service recursively:

```
submittask /servicename service05 /user user05 /password pass05 /
recurrencepattern weekly:sun,mon,fri /recurrencetime 15:30 /recurrencestart
2013-06-17
```

- To re-register planned tasks in a batch:

```
submittask /reregister /taskdetaildir "C:\data\taskdetail" /user user06 /
password pass06
```

Related topic

- 8.6.7 listtasks (outputting the list of tasks and the detailed task information)
- 8.3 Valid characters for arguments in a command

8.7 Maintenance-related commands

8.7.1 backupsystem (backing up the JP1/AO system)

Description

This command backs up the configuration and database information of JP1/AO to store the data in the specified folder.

Syntax

```
backupsystem
    /dir backup-data-path
    [/auto]
```

Arguments

/dir *backup-data-path*

This option specifies the absolute or relative path to an empty folder in which backup data is collected and stored. A folder in the local disk drive can only be specified. We recommend that you use a path that has 50 or fewer characters.

/auto

This option causes the command to automatically start and stop the services and databases of JP1/AO and the Hitachi Command Suite products. If this option is omitted, the services and databases of JP1/AO and the Hitachi Command Suite products are not automatically started and stopped.

If you want to use this option in a cluster environment, services registered with the cluster software must be offline.

Located in

JP1/AO-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Remarks

- Make sure that the folder in which backup files are stored has a sufficient free space. The required free space is as follows:

  Total size of the files to be backed up + 20 MB

- Back up the data of JP1/Base before performing the backup with this command.

- This command does not back up the following files (manual backup, as necessary, is required).

  - SSL server certificate file for HTTPS connection

  - Private key file for HTTPS connection

  - Private key file for public key authentication

- If you do not specify the /auto option, then make sure that the JP1/AO services are not running before executing this command.

  If the services are still running, execute the hcmdssrv command with the /stop option to stop the services.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
4	One of the other commands is running.
7	An invalid path is specified.
9	The specified path does not exist.
10	The specified path is not accessible.
11	The specified folder is not empty.
14	You do not have permission to execute the command.
100	Performing the backup failed.
101	Starting or stopping the service failed.
103	An access to the scheduler database failed.
255	The command execution has been interrupted due to an error other than the above.

Example

The following command shows an example of how to back up data in the specified backup folder:

```
backupsystem /dir "C:\Users\Backup" /auto
```

Related topics

- Topic *Backup and recovery* in the manual *Job Management Partner 1/Base User's Guide*
- 8.3 Valid characters for arguments in a command
- Topic *Property file (config_user.properties)* in the *Job Management Partner 1/Automatic Operation Configuration Guide*

8.7.2 hcmdsdbrepair (re-creating the database)

Description

This command forces all the databases to be deleted, re-creates them, and then recovers them using the backup data obtained by the hcmdsdbtrans command. You use this command if any of the databases is corrupted and using the restoresystem command and the hcmdsdbtrans command with the /import option specified cannot restore the database.

Syntax

```
hcmdsdbrepair
     /trans backup-data
```

Arguments

`/trans` *`backup-data`*

This option specifies the backup data obtained using the `hcmdsdbtrans` command. Make sure that you specify the path specified in the `/workpath` or `/file` option of the `hcmdsdbtrans` command.

Located in

`Common-Component-installation-folder``\bin`

Execute permission

Execute the command as a user with Administrator permissions.

Remarks

- Stop the JP1/AO system before executing the `hcmdsdbrepair` command.

- Start the JP1/AO system after executing the `hcmdsdbrepair` command.

- The command uses the *`Common-Component-installation-folder`*`\tmp hcmdsdbrepair` folder to extract the backup data. Make sure that the hard drive has enough space to extract the backup data depending on the size of the data.

- After the command execution, the password of the built-in account (System account) is initialized. Change the password if necessary.

- In a cluster system, execute this command on the executing host. This command cannot be executed on the standby host.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
245	Importing the database failed.
246	The definition file is invalid.
247	An attempt to undo setup of the database failed.
248	Stopping a service or database failed.
249	The command cannot be executed on the standby node.
250	The backup data is invalid. (Some files are missing or extracting the archive file failed.)
251	The command has been interrupted due to inconsistency in the product or product version.
252	Setting up the database failed.
253	Starting the service for database failed.
254	The database cannot be re-created due to its incomplete setup.
255	The command terminated abnormally.

Example

The following command shows an example of how to force all the databases to be deleted, re-create them, and then recover them using backed up data:

```
hcmdsdbrepair /trans C:\bkfile1
```

Related topics

- 8.3 Valid characters for arguments in a command
- Topic *Starting a JP1/AO system (non-cluster configuration)* in the *Job Management Partner 1/Automatic Operation Administration Guide*
- Topic *Starting a JP1/AO system (cluster configuration)* in the *Job Management Partner 1/Automatic Operation Administration Guide*
- Topic *Stopping a JP1/AO system (non-cluster configuration)* in the *Job Management Partner 1/Automatic Operation Administration Guide*
- Topic *Stopping a JP1/AO system (cluster configuration)* in the *Job Management Partner 1/Automatic Operation Administration Guide*
- 8.6.3 hcmdssrv (starting and stopping JP1/AO, and displaying the status of JP1/AO)

8.7.3 hcmdsdbsrv (starting and stopping the databases)

Description

This command starts and stops the databases of JP1/AO. You use this command when maintaining the databases.

Syntax

```
hcmdsdbsrv
     {/start | /stop}
```

Arguments

`/start`

    This option causes the command to start the databases.

`/stop`

    This option causes the command to stop the databases.

Located in

Common-Component-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions.

Remarks

This command is restricted for database maintenance procedures.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The system accepted the start or stop request.
254	The databases are not initialized.
255	The command execution failed.

Example

The following commands show examples of how to use the command for each case.

- To start the databases of JP1/AO:

  `hcmdsdbsrv /start`

- To stop the databases of JP1/AO:

  `hcmdsdbsrv /stop`

Related topic

- 8.3 Valid characters for arguments in a command

8.7.4 hcmdsdbtrans (backing up and restoring the databases)

Description

This command backs up (exports) or restores (imports) the databases of JP1/AO. You use this command when re-organizing the databases of JP1/AO.

Syntax

To back up (export) the databases of JP1/AO:

```
hcmdsdbtrans
    /export
    /workpath working-folder-path
    /file archive-file-path
    [/auto]
```

To restore (import) the databases of JP1/AO:

```
hcmdsdbtrans
    /import
    /type Automation
    /workpath working-folder-path
    [/file archive-file-path]
    [/auto]
```

Arguments

`/export`

This option causes the command to export the databases.

`/workpath working-folder-path`

This option specifies the absolute path to a working folder that is temporarily used for exporting or importing. A folder on the local disk drive can only be specified.

Use an empty folder for the working folder when you specify the `/file` option for exporting or importing.

`/file archive-file-path`

This option specifies the absolute path to the archive file to which the data is exported or from which the data is imported. This option is required if the `/export` option is specified.

The archive file is not created if the output file size exceeds 2 GB, or if the amount of disk space for a location in which the archive file is created is insufficient.

`/auto`

This option causes the command to automatically start and stop the services and databases of JP1/AO and the Hitachi Command Suite products. If this option is omitted, the services and databases of JP1/AO and the Hitachi Command Suite products are not automatically started and stopped.

`/import`

This option causes the command to import the databases. All the exiting authentication data is deleted before the data is imported.

`/type Automation`

This option specifies `Automation` as the name of the product whose database is to be imported.

Located in

`Common-Component-installation-folder\bin`

Execute permission

Execute the command as a user with Administrator permissions.

Remarks

- If the return code 3 or 5 is output by an export operation, the database information remains in the directory specified for the `/workpath` option.

  To import this information, set the directory that you specified for the `/workpath` option at the time of the export operation for the `/workpath` option for the import operation. At this time, do not change the folder structure in the directory you specified for the `/workpath` option at the time of the export operation. In addition, do not specify any value for the `/file` option when performing the import operation.

- In the following cases, the directory specified for the `/workpath` option becomes empty, and the command is completed.

  - When the return code 1, 2, 233, 234, 235, 237, 238, 239, 240, or 255 is output by an export operation

  - When the return code 3 is output by an import operation

Return code

The following table lists the return codes from the command with the `/export` option.

Return code	Description
0	The command succeeded.
1	Obtaining the product version failed.
2	The databases are not running.
3	Archiving the databases failed.
4	The working folder is not empty.
5	Archiving the databases failed due to their total size being larger than 2 GB.

Return code	Description
233	Restarting the databases is being interrupted.
234	The database services are stopped or do not exist.
235	The databases are not initialized.
237	Starting the Hitachi Command Suite products or databases failed.
238	Stopping the Hitachi Command Suite products or databases failed.
239	Starting the databases failed.
240	Stopping the databases failed.
255	The command terminated abnormally.

The following table lists the return codes from the command with the /import option.

Return code	Description
0	The command succeeded.
1	Obtaining the product version failed.
2	The databases are not running.
3	Extracting the archive file failed.
4	The working folder is not empty.
5	The specified product is not included in the archive file.
6	The specified product is not installed.
7	A version of the product that cannot be imported is found.
8	The working folder has no data to be imported, or the data for importing has an invalid format.
9	You attempted to import the data on the secondary server into the primary server.
10	You attempted to import the data on the primary server into the secondary server.
11	You attempted to import the data into the database in use.
233	Restarting the databases is being interrupted.
234	The database services are stopped or do not exist.
235	The databases are not initialized.
237	Starting the Hitachi Command Suite products or databases failed.
238	Stopping the Hitachi Command Suite products or databases failed.
239	Starting the databases failed.
240	Stopping the databases failed.
255	The command terminated abnormally.

Example

The following commands show examples of how to use the command for each case.

- To back up the databases of JP1/AO:

```
hcmdsdbtrans /export /workpath "C:\Users\workfolder" /file "C:\backup
\arcfile01" /auto
```

- To restore the databases of JP1/AO:

```
hcmdsdbtrans /import /type Automation /workpath "C:\Users\workfolder" /file
"C:\backup\arcfile01" /auto
```

Related topic

- 8.3 Valid characters for arguments in a command

8.7.5 hcmdsgetlogs (collecting log information)

Description

This command collects log information recorded during JP1/AO operation to output the information to the archive file.

Syntax

```
hcmdsgetlogs
     /dir output-folder-path
     [/types Automation]
     [/arc archive-file-name]
    [/logtypes {log | db | csv}]
```

Arguments

`/dir output-folder-path`

This option specifies the path to the folder in which the archive file is output. A folder on the local disk drive can only be specified.

You must specify the absolute or relative path to an empty folder for *output-folder-path*. If the specified folder path does not exist, then that folder is newly created.

The maximum length of the path name is 100 characters. The system grants write permission to the folder specified by this option.

`/types Automation`

This option specifies `Automation` as the name of the product whose log information is to be collected. This option is not case sensitive. If this option is omitted, the command has an effect on JP1/AO and all the installed Hitachi Command Suite products. In this case, it might take longer to collect log information.

`/arc archive-file-name`

This option specifies the name of the archive file created as a result of execution of the data collection tool for Common Component. If this option is not specified, the file is named in the format of `HiCommand_log-file-type.jar`.

The archive file is output under the folder specified in the `/dir` option.

The possible characters for the archive file name are printable ASCII characters (ranged from 0x20 to 0x7E in the ASCII code) except for some of the special characters (\, /, :, ,, ;, *, ?, ", <, >, |, $, %, &, ', and `). The extension is not necessary.

`/logtypes {log | db | csv}`

This option specifies the type of a log file for Common Component that you want to collect. The following table lists the relationship between the log file type and the log files that can be collected.

Table 8–10: Log file type and log files that can be collected

Log file type	Log file that can be collected
log	• *archive-file-name-specified-in-the-/arc-option*.jar • *archive-file-name-specified-in-the-/arc-option*.hdb.jar
db	*archive-file-name-specified-in-the-/arc-option*.db.jar
csv	*archive-file-name-specified-in-the-/arc-option*.csv.jar

If this option is omitted, the system collects all the log files for Common Component. Because of this, we recommend that you execute the command without this option.

You can specify multiple log file types by entering them separated by half-width space characters such as `/logtypes log db csv`. If you use the `/types` and `/logtypes` options at the same time, you must specify `log` for the `/logtypes` option.

Output format

The following table shows the list of data collected by the command. The `hcmdsgetlogs` command outputs its log file to *output-folder-specified-in-the-/dir-option*\RAS_SCRIPT.log.

Table 8–11: List of collected data

Archive file	Output result	Description
output-folder-specified-in-the-/dir-option\Automation_1st_log.jar	• All files directly under *JP1/AO-installation-folder*\logs (sub folders are not included) • All files under *JP1/AO-installation-folder*\data\task	All public log files
output-folder-specified-in-the-/dir-option\Automation_log.jar	• FILELIST.txt • All files under *JP1/AO-installation-folder*\conf • All files under *JP1/AO-installation-folder*\data • All files under *JP1/AO-installation-folder*\logs • All files under *JP1/AO-installation-folder*\system\AJS3CD • All files under *JP1/AO-installation-folder*\work • All files under *Windows-folder*[#1]\Temp\HITACHI_JP1_INST_LOG • All files under *Windows-folder*[#1]\Temp\jp1common • *ProgramFiles(x86)-folder*[#2]\InstallShield Installation Information\{C4F6D00E-A9A2-4E57-A21A-B78B63FF1C54}\setup.ini • *ProgramFiles(x86)-folder*[#2]\InstallShield Installation Information\{C4F6D00E-A9A2-4E57-A21A-B78B63FF1C54}\setup.ilg • REGDATA.DAT	The contents and output formats of the files are not made public.
output-folder-specified-in-the-/dir-option\AJS_log.jar	Results of the data collection tool for the task-processing engine	
output-folder-specified-in-the-/dir-option\archive-file-name-specified-in-the-/arc-option.jar	Results of the data collection tool for Common Component (hcmdsgetlogs and hcmdsras)	

Archive file	Output result	Description
output-folder-specified-in-the-/dir-option*archive-file-name-specified-in-the-/arc-option*`.hdb.jar`	Results of the data collection tool for Common Component (`hcmdsgetlogs`)	The contents and output formats of the files are not made public.
output-folder-specified-in-the-/dir-option*archive-file-name-specified-in-the-/arc-option*`.db.jar`	Results of the data collection tool for Common Component (`hcmdsgetlogs`)	
output-folder-specified-in-the-/dir-option*archive-file-name-specified-in-the-/arc-option*`.csv.jar`	Results of the data collection tool for Common Component (`hcmdsgetlogs`)	

#1:

The *Windows-folder* is defaulted to `C:\WINDOWS`.

#2:

The *ProgramFiles(x86)-folder* is defaulted to `C:\Program Files (x86)`.

Located in

`Common-Component-installation-folder`\bin

Execute permission

Execute the command as a user with Administrator permissions.

Remarks

- Do not interrupt this command while it is running.
- If the `hcmdsgetlogs` command is interrupted, this command has terminated before this command completed due to insufficient free space in the folder specified in the `/dir` option. In this case, make sure that the folder has enough free space, and then execute this command again.
- Do not execute more than one `hcmdsgetlogs` command at the same time.
- When JP1/AO is running in a cluster configuration, execute this command on both the active host and standby host.
- If the same option is specified more than once, only the first option is effective.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command terminated abnormally.

Example

The following command shows an example of how to collect log information in the specified folder:

```
hcmdsgetlogs /dir "C:\Users\folder01" /types Automation /arc AO_log
```

Related topic

8.7.6 restoresystem (restoring the JP1/AO system)

Description

This command restores the backup data, such as the configuration and database information of JP1/AO, obtained by the `backupsystem` command.

The following list shows the data restored when the command is executed:

- Tasks[#]
- Debug tasks[#]
- Task histories
- Services
- Debug services
- Service templates
- Users
- User groups
- Resource groups
- Connection destination definitions
- Shared service properties
- Various definition files

[#]

In restored tasks and debug tasks, some of the detailed information, such as the progress and list of steps, is deleted. In addition, the status of those tasks is changed after restoration as follows.

Table 8–12: Status of tasks and debug tasks at backup time and after restoration

Status of tasks and debug tasks at backup time	Status of tasks and debug tasks after restoration
Waiting	Canceled (The end date and time of the tasks and debug tasks are set to the date and time of restoration.)
Holding	
In Progress	Failed
Waiting for Response	
Abnormal Detection	
Terminated	
Completed	Completed
Failed	Failed

Status of tasks and debug tasks at backup time	Status of tasks and debug tasks after restoration
Canceled	Canceled

Syntax

```
restoresystem
    /dir backup-data-path
    /jp1user JP1-user-name
    [/auto]
```

Arguments

/dir backup-data-path

This option specifies the absolute or relative path to the backup folder that stores the backup data specified in the `backupsystem` command.

/jp1user JP1-user-name

This option specifies the JP1 user name that had already been registered when the data was backed up.

/auto

This option causes the command to automatically start and stop the services and databases of JP1/AO and the Hitachi Command Suite products. If this option is omitted, the services and databases of JP1/AO and the Hitachi Command Suite products are not automatically started and stopped.

If you want to use this option in a cluster environment, services registered with the cluster software must be offline.

Located in

JP1/AO-installation-folder\bin

Execute permission

Execute the command as a user with Administrator permissions. If a user without Administrator permissions executes the command, a message appears asking the user to elevate the permission level.

Remarks

- Executing this command creates a temporary file. For this reason, make sure that the folder in which backup files are stored has a sufficient free space. The required free space is as follows:

  Total size of the files to be backed up + 20 MB

- Restore the data of JP1/Base before performing the restoration with this command.

- This command does not restore the files below. Manually set the following files again if necessary:

  - SSL server certificate file for HTTPS connection

  - Private key file for HTTPS connection

  - Private key file for public key authentication

  Place the files for HTTPS connection in a location defined in the httpsd.conf file, and place the file for public key authentication in a location defined in the property file (config_user.peroperties).

- If you do not specify the `/auto` option, then make sure that JP1/AO services are not running before executing this command.

  If these services are still running, execute the `hcmdssrv` command with the `/stop` option to stop the services.

- If a JP1 user name other than the user name already registered when the data was backed up is specified for the /jp1user option, set the specified JP1 user after restoration. You can do this by changing the values for **JP1 user name** and **JP1 user password** in the **Service Share Properties** view to those of the JP1 user specified in the command.

- Be careful if the JP1/AO installation path includes half-width space characters. If there is a file or folder whose path is the same as the string before the first space character in that path, the restoresystem command will fail with return code 114. If this happens, move that file or folder to a different path, re-install JP1/AO, and then execute the restoresystem command again.

  For example, assume that JP1/AO is installed in C:\Program Files (x86)\HITACHI\JP1AO. In this case, the restoresystem command will fail if there is a file or folder whose path is C:\Program.

- In the restored tasks and debug tasks, the following operations cannot be selected:
  - Retry the Task From the Failed Step
  - Retry the Task From the Step After the Failed Step

- In the restored tasks and debug tasks, the progress and status of the step are not displayed.

Return code

The following table lists the return codes from the command.

Return code	Description
0	The command succeeded.
1	The argument is invalid.
2	The command execution has been interrupted.
3	The service status is invalid.
4	One of the other commands is running.
7	An invalid path is specified.
9	The specified path does not exist.
10	The specified path is not accessible.
14	You do not have permission to execute the command.
110	Performing the restoration failed.
111	Starting or stopping the service failed.
113	The backup file is invalid.
114	An access to the scheduler database failed.
116	The specified JP1 user does not have permission to set up the task-processing engine.
255	The command execution has been interrupted due to an error other than the above.

Example

The following command shows an example of how to restore data in the specified backup folder:

```
restoresystem /dir C:\Users\Backup /jp1user JP1_AO_Admin /auto
```

Related topics

- 8.7.1 backupsystem (backing up the JP1/AO system)

- Topic *Backup and recovery* in the *Job Management Partner 1/Base User's Guide*

- 8.3 Valid characters for arguments in a command

- Topic *Properties file (config_user.properties)* in the *Job Management Partner 1/Automatic Operation Configuration Guide*

9

APIs

This chapter describes the APIs provided by JP1/AO. The HTTP or HTTPS protocol can be used to communicate with an API.

9.1 List of APIs

The following tables list and describe the APIs that can be used for JP1/AO.

Table 9–1: List of APIs for service functionality

API name	Function	See
Acquisition of a list of services	Acquires a list of services registered in JP1/AO.	9.4.1 Acquisition of a list of services
Acquisition of service information	Acquires information about the specified service.	9.4.2 Acquisition of service information
Acquisition of a list of operations for a service	Acquires a list of operations that can be executed for the specified service.	9.4.3 Acquisition of a list of operations for a service
Acquisition of information necessary for executing a service	Acquires information necessary for executing the specified service.	9.4.4 Acquisition of information necessary for executing a service
Execution of a service	Executes the specified service.	9.4.5 Execution of a service

Table 9–2: List of APIs for schedule functionality

API name	Function	See
Acquisition of a list of schedules	Acquires a list of schedules set for a task.	9.5.1 Acquisition of a list of schedules
Acquisition of schedule information	Acquires information about the specified schedule.	9.5.2 Acquisition of schedule information
Acquisition of a list of operations for a schedule	Acquires a list of operations that can be executed for the specified schedule.	9.5.3 Acquisition of a list of operations for a schedule
Acquisition of information necessary for canceling a schedule	Acquires information necessary for canceling the specified schedule.	9.5.4 Acquisition of information necessary for canceling a schedule
Cancellation of a schedule	Cancels the specified schedule.	9.5.5 Cancellation of a schedule
Acquisition of information necessary for pausing a schedule	Acquires information necessary for pausing the specified schedule.	9.5.6 Acquisition of information necessary for pausing a schedule
Pause of a schedule	Pauses the specified schedule.	9.5.7 Pause of a schedule
Acquisition of information necessary for resuming a schedule	Acquires information necessary for resuming the specified schedule.	9.5.8 Acquisition of information necessary for resuming a schedule
Resume of a schedule	Resumes the specified schedule.	9.5.9 Resume of a schedule

Table 9–3: List of APIs for task functionality

API name	Function	See
Acquisition of a list of tasks	Acquires a list of tasks.	9.6.1 Acquisition of a list of tasks
Acquisition of task information	Acquires information about the specified task.	9.6.2 Acquisition of task information
Acquisition of a list of task operations	Acquires a list of operations that can be executed for the specified task.	9.6.3 Acquisition of a list of task operations

API name	Function	See
Acquisition of information necessary for stopping task execution	Acquires information necessary for stopping execution of the specified task.	9.6.4 Acquisition of information necessary for stopping task execution
Stoppage of task execution	Stops execution of the specified task.	9.6.5 Stoppage of task execution
Acquisition of information necessary for re-executing a task	Acquires information necessary for re-executing the specified task.	9.6.6 Acquisition of information necessary for re-executing a task
Re-execution of a task	Re-executes the specified task.	9.6.7 Re-execution of a task
Acquisition of information necessary for retrying a task (retry from the failed step)	Specifies a task, and acquires information necessary for retrying the task from the failed step.	9.6.8 Acquisition of information necessary for retrying a task (retry from the failed step)
Retry from the failed step	Specifies a task, and retries the task from the failed step.	9.6.9 Retry from the failed step
Acquisition of information necessary for retrying a task (retry from the step after the failed step)	Specifies a task, and acquires information necessary for retrying the task from the step after the failed step.	9.6.10 Acquisition of information necessary for retrying a task (retry from the step after the failed step)
Retry from the step after the failed step	Specifies a task, and retries the task from the step after the failed step.	9.6.11 Retry from the step after the failed step
Acquisition of a list of steps	Acquires a list of steps (displayed in the **Task Details** dialog box) among the steps included in the specified task.	9.6.12 Acquisition of a list of steps
Acquisition of task logs	Acquires the task logs for the specified task.	9.6.13 Acquisition of task logs

Table 9–4: List of property-related APIs

API name	Function	See
Acquisition of a list of property definitions	Acquires a list of property definitions.	9.7.1 Acquisition of a list of property definitions
Acquisition of property definition information	Acquires information about the specified property definition.	9.7.2 Acquisition of property definition information
Acquisition of a list of operations for a property definition	Acquires a list of operations that can be executed for the specified property definition.	9.7.3 Acquisition of a list of operations for a property definition
Acquisition of a list of property values	Acquires a list of values for the following properties: • Service share properties • Properties related to specific services • Properties related to specific schedules • Properties related to specific tasks	9.7.4 Acquisition of a list of property values
Acquisition of a property value	Acquires information about the specified property value.	9.7.5 Acquisition of a property value
Acquisition of a list of operations for a property value	Acquires a list of operations for the specified property value.	9.7.6 Acquisition of a list of operations for a property value

Table 9–5: List of APIs for information management

API name	Function	See
Acquisition of user information	Acquires information about the user who executed the API.	9.8.1 Acquisition of user information
Acquisition of version information	Acquires the JP1/AO and API versions.	9.8.2 Acquisition of version information

9.2 Specifications common to APIs

The following shows the specifications common to all APIs.

This section describes the specifications that are specific to JP1/AO. The specifications conform to HTTP1.1 unless otherwise described.

Note that *API* in this section refers to the *API provided by JP1/AO*, and user programs that use APIs (such as a portal program) are generally called *API clients*.

9.2.1 Communication protocol

The following shows the communication protocols and port numbers that are used by APIs.

- Communication protocol

  The HTTP and HTTPS protocols are supported by APIs. An API uses a protocol that is used by JP1/AO for communicating with a Web browser. The supported version of HTTP or HTTPS protocol is version 1.1. For detailed specifications of communication protocols, see the following standards:

  - For the HTTP protocol:
    RFC2616

  - For the HTTPS protocol:
    RFC2818

- Port number

  The default setting of the port number depends on the communication protocol. The default port number for HTTP is 23015. The default port number for HTTPS is 23016. If you want to change the port number, see the relevant topic in *Procedure to change the port number* in the *Job Management Partner 1/Automatic Operation Configuration Guide*.

9.2.2 Security and authentication

User authentication is required to issue an API request and receive the response. A JP1/AO API uses the Basic authentication (Basic Access Authentication) or an authentication using the HSSO token. The HSSO token is necessary for Single Sign-On. The HSSO token is timed out when 1,000 seconds have passed since it was issued.

In the request header, specify the authentication information to be used for user authentication. The following example specifies authentication information in the request header.

Example

For Basic authentication:

```
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
```

For authentication using the HSSO token

```
Authorization:HSSO 32bd25936120d68dceabcb49493079f8ef82a4_V0300
```

If a request with no permission is issued, the JP1/AO server returns status code 401 as the response, and requests user authentication.

> **Tip**
>
> If the Basic authentication or an authentication using the HSSO token is used to connect to the JP1/AO server, WWW-Authenticate: HSSO *hsso-token* is returned in the response header. If you want to reconnect with the JP1/AO server by using the same session to execute an API function, specify the request header as follows:
>
> ```
> Authorization:HSSO hsso-token
> ```

9.2.3 Input/output format

The JSON format or XML format can be used as the data format for API request and response. Specify this data format in the request header. If you omit specifying the data format, the JSON format is set. UTF-8 is used as the character encoding for input/output format.

The following example specifies the request header when the XML format is specified as the input/output format.

Example

```
Accept:application/xml
Content-Type:application/xml
```

9.2.4 Namespace

If the XML format is used as the data format for API request and response, use the following namespace:

- `http://www.hitachi.com/products/it/software/xml/restfw/common/API-version`
- `http://www.hitachi.com/products/it/software/xml/automation/API-version`

9.2.5 Request format

The following shows the request format required for the API to use the functions provided by JP1/AO.

Figure 9–1: Request format (when the domain is object)
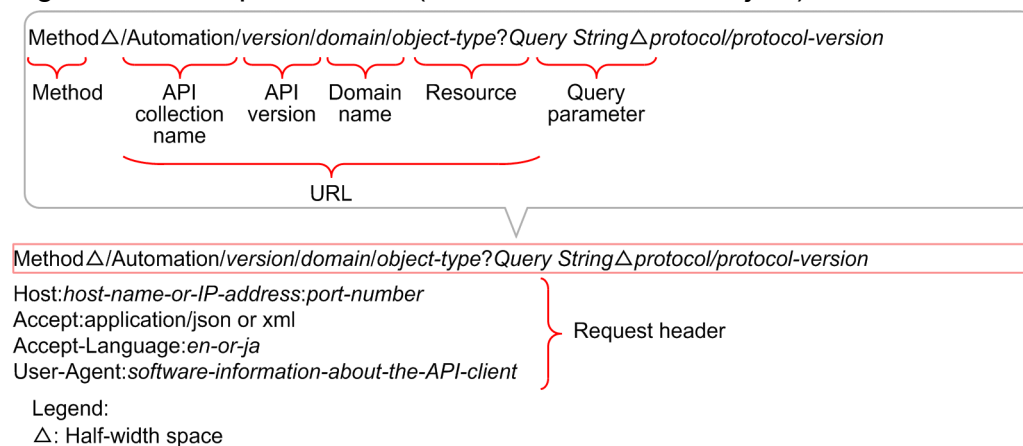
The following table describes the components of the request format.

Table 9–6: Components of the request format

Item		Description	See
Method		Specify an operation for the resource.	9.2.7 Supported methods
URL	API collection name	API collection# name. Specify Automation as the fixed value.	--
	API version	Specify the API version to be used.	See API version in the description of each API.
	Domain name	Specify the domain name for the resource that is to be operated by the API to be executed. This request format is used only when the domain is *objects*.	9.2.8 Domain names and resources that can be managed by APIs
	Resource	The functions provided by JP1/AO are provided as API resources. Specify a resource according to the processing you want to execute.	
Query parameter		By adding search conditions for a request, you can filter or sort the output result of the response.	9.2.9 Query parameter
Protocol		Specify HTTP as the communication protocol used by the API. Specify HTTP even when you use HTTP as the communication protocol.	9.2.1 Communication protocol
Protocol version		Specify 1.1 as the version of the communication protocol used by the API.	
Request header	Host	Specify the host information.	9.2.10 Request header
	Accept	Specify the data format of the response.	
	Accept-Language	Specify the language code for the response.	
	User-Agent	Specify the software information of the API client.	

Legend:

--: Not applicable.

#

A *collection* refers to data subject to processing.

For details and components of the request format, see Request format in the description of each API (differs depending on the API).

9.2.6 Response format

The following shows the response format.

Figure 9–2: Response format

protocol/protocol-version status-code message ⎫ Status line
Content-Type: application/json or xml ⎫ Response header

Response body
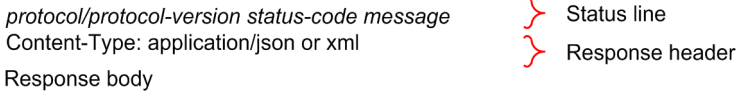
The following table describes the components of the response format for a request.

Table 9–7: Components of the response format

Item		Description	See
Status line	Protocol	Displays the communication protocol used by the API.	--
	Protocol version	Displays the version of the communication protocol used by the API.	--
	Status code	Execution result of the request is returned as the status code.	• See Status code in the description for each API. • For details about the status code when an error occurs before an API is executed, see the relevant topic in 9.2.17 Status code.
	Message	Displays the contents of the status code.	
Response header	Content-Type	The response data format specified in the request header is returned.	9.2.13 Response header
Response body		A schema of the data format specified in the request header is returned.	See Response schema in the description for each API.

Legend:

--: Not applicable.

9.2.7 Supported methods

In an API, an operation for a resource is defined as a method.

Specify a method according to the API processing. For details about the method to be specified, see Request format in the description of each API.

The following table describes the methods supported by an API.

Table 9–8: Supported methods

Method	Description
GET	Acquires the information and list of resources.
POST	Executes JP1/AO processing according to the resource.

9.2.8 Domain names and resources that can be managed by APIs

Specify the domain name for the resource to be operated by the API to be executed, and a resource supported by JP1/AO.

Note that, in request and response data in XML format, the name of a resource whose domain name is *objects* becomes a singular name.

The following table describes the list of domain names and resources that can be managed by APIs.

Table 9–9: Domain names and resources that can be managed by APIs

Domain name	Resource	Description of the resource
objects	Services	Services registered in JP1/AO
	Schedules	Schedules set for tasks
	Tasks	Tasks created by execution of services
	FlowSteps	Steps included in a task
	TaskLogs	Task logs
	PropertyDefinitions	Definitions of service template properties or service share properties
	PropertyValues	Values of service properties, schedule properties, task properties, and service share properties
user	UserInfo[#]	Information about a user authenticated by JP1/AO
configuration	VersionInfo[#]	Information about JP1/AO and API versions

\#

This resource name is not specified for a request because it is included in a response. For details about how to specify a request, see Request format in the description of each API.

9.2.9 Query parameter

If you add search conditions to a request by using query parameters, you can filter or sort the output results of the response.

This section describes query parameters supported by JP1/AO.

Query parameter that can be specified for all APIs

The query parameter described in the following table can be specified for all APIs.

Table 9–10: Query parameter that can be specified for all APIs

Parameter	Description	Specifiable value	Default value
alt	Input/output data format can be specified in the same way as the Content-Type header and Accept header in a request.	xml or json	--

Legend:

-- : Not applicable.

Query parameters that can be used for some APIs

The query parameters in the table below can be specified for a part of APIs[#].

#

- Acquisition of a list of services
- Acquisition of a list of schedules
- Acquisition of a list of tasks
- Acquisition of a list of steps
- Acquisition of task logs
- Acquisition of a list of property definitions
- Acquisition of a list of property values

Table 9–11: Query parameters that can be specified for a part of APIs

Parameter	Description	Specifiable value[#1]	Default value
HQL::filter	Filters the output results by using the specified conditions.	See 9.2.11 Using HQL standard.	--
HQL::fields	Specify this parameter when you want to filter members to be included in a response. You can specify multiple parameters by separating them by commas (,).	*Member-name*	--
HQL::sortBy	Sorts the output results by the specified member name.	*Member-name* [{ASC| DESC}](, *member-name* [{ASC| DESC}]) • ASC: Ascending order • DESC: Descending order	ASC
HQL::offset[#2]	Specifies the position of the heading object whose information is to be acquired. Specify the maximum number of objects that can be included in a response with HQL::count. *page* takes preference over HQL::offset.	0 to 2147483647	0
HQL::count[#2]	Specify the maximum number of objects to be included in a response from the position of the heading object specified with HQL::offset. *pageSize* takes preference over HQL::count. If the total of HQL::count and HQL::offset exceeds 2,147,483,647, the 2,147,483,647th object from the value specified with HQL::offset is acquired.	1 to 2147483647	100
page[#2]	Acquires information about the specified page when a resource is divided into pages. You must also specify pageSize. *page* takes preference over HQL::offset.	1 to 2147483647	--
pageSize[#2]	Specify the maximum number of objects that can be displayed in a page. pageSize takes preference over HQL::count.	1 to 2147483647	--

Legend:

    --: Not applicable.

#1

    If you want to specify a character string that cannot be expressed as a URL, use UTF-8 encoding and encode the character string.

#2

    You cannot specify this parameter for API *Acquisition of task logs* and *Acquisition of a list of steps*.

For pageSize, specify the maximum number of objects that can be displayed in a page. For *page*, specify which of the divided pages is to be displayed. (The relationship between pageSize and *page* is almost the same as the relationship between Rows/page and Page of Services in a JP1/AO window.) If you specify *page* and pageSize, the number of all resources and pages are returned to the Pagination object. This value enables you to determine whether the next page exists.

Note that *page* and pageSize are used after converted to an HQL::offset value as follows:

HQL::offset = pageSize * (page - 1)

Therefore, if *page* and pageSize exceed the specifiable range for HQL::offset, status code 400 (Bad Request) is returned.

Related topic

- 9.2.11 Using HQL standard

9.2.10 Request header

The request header specifies the data format and language code for the response.

Table 9–12: Request header

Header	Description	Specifiable value	Default value	Whether specification is required
Host	Specify the following items as host information: • Host name or IP address: Host name or IP address of the JP1/AO server • Port number: Port number that an API uses to connect to JP1/AO When you specify the port number, see 9.2.1 Communication protocol.	Specify this value after checking the user environment.	--	Required
Accept	Specify the desired data format for response data.	• application/json: JSON format • application/xml: XML format	application/json	Required
Accept-Language	Specify the desired language code for response data.	ja: Japanese	--	Required
Content-Type	Specify the data format for the request body.	• application/json: JSON format • application/xml: XML format	application/json	Optional
Authorization	Specify authentication information.	For Basic authentication: *user-information* For authentication using the HSSO token: *hsso-token*	--	Optional

Legend:

--: Not applicable.

9.2.11 Using HQL standard

You can specify HQL (Hitachi Query Language) for HQL::filter to filter the target data. *Collection* refers to data to be filtered.

Use UTF-8 encoding and encode characters and symbols that cannot be expressed as a URL.

Format

To define a collection of a resource request, use the following expressions:

```
expression ::= "(" expression ")" | binary-expression | expression junction
expression
junction ::= ( "and" | "or" )

binary-expression ::= (compare-expression | tuple-expression)

compare-expression ::= name-expression compare-operation value-expression

name-expression ::= property-name | "[" property-name "]"
compare-operation ::= ( "eq" | "=" | "ne" | "<>" | "!=" | "gt" | ">" | "lt"
| "<" | "ge" |">=" | "le" |"<=" | "starts" | "ends" )
value-expression ::= ( string-expression | number-expression |Boolean-
expression )

string-expression ::= "'" ([^'] | ['']{2})* "'"
number-expression::= ( "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8"
| "9" )+
Boolean-expression::= "true" | "false" |"TRUE" | "FALSE"

tuple-expression ::= name-expression tuple-operation tuple-value-expression

tuple-value-expression ::= "[" value-expression ("," value-expression)* "]"

tuple-operation ::= ( "in" | "not in" )
```

property-name is a member name defined in a resource.

value-expression displays whether the expression is a string expression, number expression, or Boolean expression. This value is different from the actual data type of the member defined in a resource.

The following table describes the relationship between the data types and expression formats.

Table 9–13: Relationship between data types and expression formats

Data type	Expression format
int/long	number-expression
enum	string-expression
string	string-expression
ISO8601String	string-expression
URLString	string-expression
boolean	Boolean-expression

The following table lists and describes the operators supported by HQL in preferential order.

Table 9–14: Operators supported by HQL

Operator	Description	Specifiable data type	Priority
eq	Equal	number-expression, string-expression (string, enum), Boolean-expression	1
ne	Not equal	number-expression, string-expression (string, enum), Boolean-expression	1
gt	Greater than	number-expression, string-expression (string, enum)	1
lt	Smaller than	number-expression, string-expression (string, enum)	1
ge	Equal or greater than	number-expression, string-expression (string, enum)	1
le	Equal or smaller than	number-expression, string-expression (string, enum)	1
starts[#]	Start value	string-expression (string, excluding ISO8601String)	1
ends[#]	End value	string-expression (string, excluding ISO8601String)	1
in	Included	number-expression, string-expression (string, enum), Boolean-expression	1
not in	Not included	number-expression, string-expression (string, enum), Boolean-expression	1
and	Both true	compare-expression, tuple-expression	2
or	Either of them true	compare-expression, tuple-expression	3

\#

　　The operator name is not case sensitive.

Usage example

The example below filters the specified line. If you want to specify a character string that cannot be expressed as a URL, use UTF-8 encoding and encode the character string.

Before URL encoding:
```
...?HQL::filter=instanceID in [1000,1001,1002] and status = 'running'
```

After URL encoding:
```
...?HQL::filter=instanceID%20in%20%5b1000%2c1001%2c1002%5d%20and%20status
%20%3d%20%27running%27
```

9.2.12 Domain object format

A *domain* refers to the location in which resources supported by JP1/AO are stored. A *domain object* refers to a resource. This section describes the data format of members for resources.

Supported data type

The following table describes the data types supported by the JSON format and XML format.

Table 9–15: Supported data type

Type name	Description
boolean	true or false
int	32-bit signed integer
long	64-bit signed integer
string[#]	Text data

\#

    ISO8601String, URLString, and enum are extended expressions for the string type.

Date and time

The following describes how to specify the date and time for a domain object.

To specify the date and time, use ISO8601 format. In this format, you can omit all information except year (yyyy). If the date or time is omitted, the minimum specifiable value is automatically added. If the time zone is omitted, the time zone set for the JP1/AO server is set by default.

Note, however, that you cannot omit the date and time if you use HQL::filter to specify them. If you acquire time information in JSON format, the time is output in a format where a colon (:) is not used for time zone information (for example, 2014-12-09T18:50:30.500+0900). To specify the time information acquired in JSON format as an input for an API, add a colon (:) in the time zone (for example, 2014-12-09T18:50:30.500+09:00). If you do not add a colon (:), an error occurs.

If the data type of a member of a resource is ISO8601String, year, month, date, time, and time zone are displayed in the response body in yyyy-mmddThh:mm:ss.mmmTZD format.

Table 9–16: Format of year-month-date, time, and time zone

Format	Example	Time processed by JP1/AO
yyyy-mm-ddThh:mm:ss.mmmTZD	2014-12-09T18:50:30.500+09:00	Same as the example.
yyyy-mm-ddThh:mm:ss.mmm	2014-12-09T18:50:30.500.000	2014-12-09T18:50:30.500.000[*time-zone-of-the-host-server*]
yyyy-mm-ddThh:mm:ssTZD	2014-12-09T18:50:30+09:00	2014-12-09T18:50:30.000+09:00
yyyy-mm-ddThh:mmTZD	2014-12-09T18:50+09:00	2014-12-09T18:50:00.000+09:00
yyyy-mm-ddThhTZD	2014-12-09T18+09:00	2014-12-09T18:00:00.000+09:00
yyyy-mm-dd	2014-12-09	2014-12-09T00:00:00.000[*time-zone-of-the-host-server*]
yyyy-mm	2014-12	2014-12-01T00:00:00.000[*time-zone-of-the-host-server*]
yyyy	2014	2014-01-01T00:00:00.000[*time-zone-of-the-host-server*]

9.2.13 Response header

The following table describes the response headers controlled by JP1/AO.

Table 9–17: Response headers

Header	Description
Cache-Control	Performs cache control on the response information of an API for which the GET method is specified.
Content-Type	Data format of the response data
Language	Language code of the response data
WWW-Authenticate	Outputs the authenticated HSSO token.
Warning	Displays information when the API processing succeeds but there is a problem with the server status.

Related topic

- 9.2.10 Request header

9.2.14 Members of resources

Functions provided by JP1/AO are categorized into resources. In the response body, you can acquire resource information as members. The tables below describe (for each functionality) the member names, data types, and descriptions of the returned resources, and whether HQL::filter or HQL::sortBy is applied to the members.

Note that, in JP1/AO 10-50, although unsupported members might be returned, only the members described in the tables below are supported.

For details about how to specify the year, month, and date, see Table 9–16: Format of year-month-date, time, and time zone, unless otherwise described.

Table 9–18: Members that can be acquired by Acquisition of a list of services (Resource (Services))

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
data	Object	List of resources	N
instanceID	long	Instance ID	Y
name	string	Service name	Y
description	string	Description of the service	Y
tags	string	Category information is displayed, with categories separated by commas (,)	N
serviceTemplateName	string	Name of the service template that is used as the base of a service	Y
createTime	ISO8601String	Year, month, date, time, and time zone at which the service was added	Y
modifyTime	ISO8601String	Year, month, date, time, and time zone at which the service information was updated	Y
serviceState	enum	Service type • debug: Debug • release: Release	Y

Member name	Data type	Description	Whether HQL::filter or HQL::sort By is applied
serviceGroupName	string	Name of the resource group the service belongs to	Y
pagination	Object	Information used when a resource is divided into pages	N
page	integer	The page specified in the request (page number)	N
pageSize	integer	The page size specified in the request (maximum number of objects included in a page)	N
numPages	integer	Total number of pages (page number)	N
totalCount	integer	Total number of returned resources	N
count	integer	The number of data items that match the conditions specified by query parameters (0 to n)	N

Legend:

Y: Applied. N: Not applied.

Table 9–19: Members that can be aquired by Acquisition of a list of schedules (Resource (Schedules))

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
data	Object	List of resources	N
instanceID	long	Instance ID	Y
name	string	Task name specified when the service is executed	Y
submitter	string	Execution user name	Y
status	enum	Status of periodically executed schedules • complete: Indicates that periodic execution has been completed for the schedule. Periodic execution will not be performed. • running: Indicates that periodic execution is running for the schedule. Periodic execution will be performed.	Y
scheduleType	enum	Schedule type • immediate: Executed immediately • schedule: Executed at the specified date and time. • recurrence: Executed periodically.	Y
createTime	ISO8601String	Year, month, date, time, and time zone at which the schedule was created by service execution	Y
modifyTime	ISO8601String	Year, month, date, time, and time zone at which task information was updated	Y
description	string	Description of the task	Y
scheduledStartTime	ISO8601String	Year, month, date, time, and time zone at which scheduled task is planed to start	Y[#]

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
recurrenceInterval	enum	Periodic execution cycle • daily: Daily • weekly: Weekly • monthly: Monthly	Y
recurrenceDayOfWeek	string	Day of week the service is to be executed when the periodic execution cycle is set to Weekly (1: Sun to 7: Sat)	N
recurrenceDayOfMonth	string	Day of month the service is to be executed when the periodic execution cycle is set to Monthly (1st to 31st)	N
recurrenceLastDayOfMonth	boolean	Whether to execute on the final day of month • true: Execute • false: Not execute	Y
recurrenceStartDate	string	Date the periodic execution task starts execution (yyyy-mm-dd)	Y
recurrenceTime	string	Time the periodic execution task is executed (hh:mm:ss)	Y
serviceState	enum	Service type • debug: Debug • release: Release	Y
serviceID	long	ID of the service that is the generation source of the schedule	Y
pagination	Object	Information when the resource is divided into pages	N
page	integer	The page number specified in the request (page number)	N
pageSize	integer	The page size specified in the request (maximum number of objects that can be included in a page)	N
numPages	integer	Total number of pages (page number)	N
totalCount	integer	Total number of returned resources	N
count	integer	Number of data items that match the conditions specified by query parameters (0 to n)	N

Legend:

Y: Applied. N: Not applied.

#

HQL::sortBy is not applied.

Table 9–20: Members that can be acquired by Acquisition of a list of tasks (Resource (Tasks))

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
data	Object	List of resources	N

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
instanceID	long	Instance ID	Y
name	string	Task name	Y
status	enum	Status of the task • failed: Failed • completed: Completed • canceled: Canceled • inProgressTerminating: Being stopped • inProgressWithError: Abnormality detected • waitingForInput: Waiting for response • inProgress: In progress • suspended: Suspended • waiting: Waiting	Y
startTime	ISO8601String	Start year, month, date, time, and time zone of the task	Y
endTime	ISO8601String	End year, month, date, time, and time zone of the task	Y
scheduledStartTime	ISO8601String	Year, month, date, time, and time zone at which the scheduled task is planned to be started	Y
submitter	string	Execution user name	Y
submitTime	ISO8601String	Year, month, date, time, and time zone at which the task was created by service execution	Y
modifyTime	ISO8601String	Year, month, date, time, and time zone at which the task information was updated	Y
serviceState	enum	Task type • debug: Debug • release: Release	Y
scheduleID	long	Definition ID of the schedule that is set for the task	Y
serviceID	long	ID of the service that is the generation source of the task	Y
pagination	Object	Information when the resource is divided into pages	N
page	integer	The age specified in the request (page number)	N
pageSize	integer	The page size specified in the request (maximum number of objects that can be included in a page)	N
numPages	integer	Total number of pages (page number)	N
totalCount	integer	Total number of returned resources	N
count	integer	Number of data items that match the conditions specified by query parameters (0 to n)	N

Legend:

Y: Applied. N: Not applied.

Table 9–21: Members that can be acquired by Acquisition of a list of steps (Resource (FlowSteps))

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
data	Object	List of resources	N
name	string	Step name	N
startTime	string	Start year, month, date, and time of the step (yyyy-MM-dd hh:mm:ss)	N
endTime	string	End year, month, date, and time of the step (yyyy-MM-dd hh:mm:ss)	N
jobStatus	enum	Status of the step (task processing engine) • noplan: Not scheduled • unexec: Not executed but ended • bypass: Bypassed and not executed • shutdown: Blocked • termwait: Waiting for the previous step to end • execwait: Waiting to execute • queuing: Queuing • holding: Being held • running: Running • abnormal: Ended abnormally • kill: Killed • fail: Failed to start • job_unknown: Unknown end status (UNKNOWN has been changed to JOB_UNKNOWN.) • warning: Ended with warning • normal: Ended normally • normalfalse: Normal end - False • monitorintrpt: Interrupted monitoring	N
comment	string	Comment for the step	N
stepStatus	enum	Status of the step (JP1/AO) • normal: Normal • warning: Warning • waiting: Waiting • holding: Being held • break: Interrupted • break_after: Interrupted (After Execution) • running: Running • waiting_for_response: Waiting for response • abnormal_continue: Abnormality detected • complete: Completed • error: Failed • abnormal: Ended with a warning • un_exec: Not executed but ended • bypass: Bypassed and not executed • terminate: Terminated • waiting_for_foreach: Waiting to repeat	N
pagination	Object	Information when a resource is divided into pages	N
page	integer	The page specified in the request (page number)	N

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
pageSize	integer	The page size specified in the request (maximum number of objects that can be included in a page)	N
numPages	integer	Total number of pages (page number)	N
totalCount	integer	Total number of returned resources	N
count	integer	Number of data items that match the conditions specified by query parameters (0 to n)	N

Legend:

N: Not applied.

Table 9–22: Members that can be acquired by Acquisition of task logs (Resource (Tasklogs))

Member name	Data type	Description	Whether HQL::filter or HQL::sort By is applied
data	Object	List of resources	N
instanceID	long	Instance ID	N
text	string	Body of the task log	N
totalSize	long	Total file size of the task logs (unit: byte)	N
readSize	long	Size of the acquired task log (unit: byte)	N
lineCount	long	Number of lines in the acquired task log	N
offset	long	Offset specified when the task log is acquired (unit: byte)	N
reverse	boolean	Whether the task log was acquired in the opposite direction from the offset • true: The task log was acquired in the opposite direction from the offset. • false: The task log was acquired in the normal direction from the offset.	N
pagination	Object	Information when a resource is divided into pages	N
page	integer	page specified in the request (page number)	N
pageSize	integer	pageSize specified in the request (maximum number of objects that can be included in a page)	N
numPages	integer	Total number of pages (page number)	N
totalCount	integer	Total number of returned resources	N
count	integer	Number of data items that match the conditions specified by query parameters (0 to n)	N

Legend:

N: Not applied.

Table 9–23: Members that can be acquired by Acquisition of a list of property definitions (Resource (PropertyDefinitions))

Member name	Data type	Description	Whether HQL::filter or HQL::sort By is applied
data	Object	List of resources	N
instanceID	long	Instance ID	Y
keyName	string	Property key name	Y
displayName	string	Display name of the property	N
defaultValue	string	Default value of the property	Y
type	enum	Data type of the property • boolean • integer • string • double • timestamp(date) • password • list	Y
visibility	enum	Visibility of the property • config • exec	Y
scope	enum	Valid range of the property • share: Service share property • local: Property that is valid only for the service	Y
description	string	Description of the property	N
mode	enum	Input/output type of the property • in: Input property • out: Output property	Y
required	boolean	Whether to specify a property at execution • true: Specification required • false: Can be omitted	Y
maxLength	int	Maximum length of the character string that can be input as a property	Y
minLength	int	Minimum length of the character string that can be input as a property	Y
minValue	string	Minimum value that can be input as a property	Y
maxValue	string	Maximum value that can be input as a property	Y
pattern	string	Regular expression pattern of a character string that can be specified for a string or password property	Y
valueList	string	Candidate property values that are separated by commas (,) when the data type of the property is list	Y
propertyGroupName	string	Property group name	Y
pagination	Object	Information when the resource is divided into pages	N

Member name	Data type	Description	Whether HQL::filter or HQL::sort By is applied
page	integer	page specified in the request (page number)	N
pageSize	integer	pageSize specified in the request (maximum number of objects that can be included in a page)	N
numPages	integer	Total number of pages (page number)	N
totalCount	integer	Total number of returned resources	N
count	integer	Number of data items that match the conditions specified by query parameters (0 to n)	N

Legend:

Y: Applied. N: Not applied.

Table 9–24: Members that can be acquired by Acquisition of a list of property values (Resource (PropertyValues))

Member name	Data type	Description	Whether HQL::filter or HQL::sortB y is applied
data	Object	List of resources	N
instanceID	long	Instance ID	Y
type	enum	Data type of the property • boolean • integer • string • double • timestamp(date) • password • list	Y
keyName	string	Property key name	Y
value	string	Property value	Y
serviceID	long	Service ID of the resource	Y
scheduleID	long	Schedule ID of the resource	Y
taskID	long	Task ID of the resource	Y
pagination	Object	Information when the resource is divided into pages	N
page	integer	page specified in the request (page number)	N
pageSize	integer	pageSize specified in the request (maximum number of objects that can be included in a page)	N
numPages	integer	Total number of pages (page number)	N
totalCount	integer	Total number of returned resources	N

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
count	integer	Number of data items that match the conditions specified by query parameters (0 to n)	N

Legend:

Y: Applied. N: Not applied.

Table 9–25: Members of a resource for information management functionality (UserInfo)

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
userName	string	User name	N
accessPermission	string	Access permissions granted to the user	N
resourceGroup	ResourceGroup	Access permissions granted to the user for each resource group	N

Legend:

N: Not applied.

Table 9–26: Members of a resource for information management functionality (VersionInfo)

Member name	Data type	Description	Whether HQL::filter or HQL::sortBy is applied
productName	string	Product name (JP1/Automatic Operation)	N
productVersion	string	Product version	N
apiVersionl	string	API version	N

Legend:

N: Not applied.

9.2.15 Members to be returned for APIs that execute JP1/AO operations

Some APIs provided by JP1/AO execute JP1/AO operations. The following shows the applicable APIs and the members to be returned. For details about request, see Request format in the description of each API.

APIs that execute JP1/AO operations

- Execution of a service
- Cancellation of a schedule
- Pause of a schedule

- Resume of a schedule
- Stoppage of task execution
- Re-execution of a task
- Retry from the failed step
- Retry from the step after the failed step

Table 9–27: Members to be returned for APIs that execute JP1/AO operations

Member name	Data type	Description
instanceID	string	Indicates the instance ID.
created	string	Indicates (in ISO8601 format) the date and time the object was generated.
updated	string	Indicates the time this object was updated, if asynchronous processing was executed. If synchronous processing is executed, this member indicates the same time as *created*. This member is expressed in ISO8601 format.
completed	string	Indicates the time the processing was completed, if asynchronous processing was executed. If synchronous processing is executed, this member indicates the same time as *created*. This member is expressed in ISO8601 format.
state	string	• queued: The operation has not started processing yet. In this status, only stop processing is accepted. • running: The operation is running. In this status, only stop processing is accepted. • failed: The operation failed. • success: The operation has been successfully completed. • stopping: The operation is being stopped. • stopped: The operation is stopped before completion.
affectedResource	string	Indicates the URL of the API resource created or updated as a result of the operation.

9.2.16 Members to be returned for APIs that acquire executable operations

Some APIs provided by JP1/AO acquire the operations that can be executed for a resource, and the execution-destination URL. The following shows the applicable APIs, and the members to be returned. For details about request, see Request format in the description of each API.

APIs that acquire executable operations

- Acquisition of a list of operations for a service
- Acquisition of information necessary for executing a service
- Acquisition of a list of operations for a schedule
- Acquisition of information necessary for canceling a schedule
- Acquisition of information necessary for pausing a schedule
- Acquisition of information necessary for resuming a schedule
- Acquisition of a list of task operations
- Acquisition of information necessary for stopping task execution
- Acquisition of information necessary for re-executing a task
- Acquisition of information necessary for retrying a task (retry from the failed step)

- Acquisition of information necessary for retrying a task (retry from the step after the failed step)

Table 9–28: Members to be returned for APIs that acquire executable operations

Member name	Data type	Description
name	string	Operation name
href	string	Execution-destination URL of the operation
method	string	Method name • GET • POST
parameters	Object	Parameters required when operations are executed

9.2.17 Status code

The following table describes the various status codes that can be returned when an API is executed. The status codes to be returned depend on the API, so see the description for each API for details.

Table 9–29: Status code

Status code	Message	Description
200	OK	Processing the request has been successfully completed.
201	Created	If creation of a resource ended successfully, status 201 is returned instead of status 200.
400	Bad Request	The content of the request is invalid.
401	Unauthorized	Authentication failed. Authentication information or permission information is invalid. The accepted authentication method is reported by WWW-Authenticate in the response header. Specify the accepted authentication method for Authorization in the request header. Otherwise, the user does not have User Management permission, or a permission for the resource group.
403	Forbidden	The user does not have execution permission for the request.
404	Not found	The requested resource does not exist, there is no operation for the request, or specification of the query parameter is invalid.
405	Method not allowed	The requested method does not exist for this resource.
406	Not acceptable	The format of the specified response is not supported.
409	Conflict	The request cannot be completed because the data conflicts with data that already exists on the server, or because the system cannot accept the request in the current status.
412	Precondition failed	The request cannot be accepted because it does not satisfy requirements.
415	Unsupported media type	The format of the specified request is not supported.
500	Server-side error	A server processing error occurred.

Related topic

- 9.2.18 Error information

9.2.18 Error information

This section describes the case an error occurs in an API request. If an error occurs in an API request, the schema in the table below is returned as the response information. For error information other than the schema in the table below, see the manual *Job Management Partner 1/Automatic Operation Messages*.

The following table describes the schema of error information.

Table 9–30: Schema of error information

Member name	Data type	Description
errorSource	string	API where the error occurred
message	string	Message of the error
messageID	string	Message ID of the error. If the error is caused by wrong XML description at request, the message ID becomes *generic error*.
application	string	Information about the application that holds the API where an error occurred (Automation)
messageData	string	Detailed information of the error

Output example

The following example outputs KNAE02102-E as messageID of the error information.

```
{
  "errorSource" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/
555",
  "message" : "The specified resource does not exist or you do not have
access. After reviewing the content of the following, please re-run.\n- The
presence or absence of resources\n- Access rights to the resource",
  "messageID" : "KNAE02102-E",
  "application" : "Automation"
}
```

9.3 API description format

The items below provide descriptions for individual APIs. Note that some items might not be described for some APIs.

Function

Describes the function of an API.

Execution permissions

Indicates the permissions and roles that are required to execute an API.

API version

Indicates the version of an API.

Request format

Describes the request format for requesting the use of an API.

Note that the HTTP protocol is used in the described request format. If the HTTPS protocol is used, replace *http://* with *https://* when you read the description.

Status code

Describes the status code after you execute an API by using the HTTP or HTTPS protocol. For details about the status code when an error occurs before an API is executed, see 9.2.17 Status code.

Response schema

Describes schema information of the response that is returned when an API is successfully completed.

Usage example

Provides examples of the request for the use of API, and its response.

Note that the HTTP protocol is used in the examples. If the HTTPS protocol is used, replace *HTTP* with *HTTPS* when you read the description.

9.4 Service-related APIs

This section describes the operations for managing service resources.

9.4.1 Acquisition of a list of services

Function

Acquires a list of services registered in JP1/AO.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Services
```

This API acquires a list of all services for which the user who executed the API has permissions.

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
400	Bad Request	A query parameter is invalid.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

Data that matches the conditions specified by query parameters in a request is returned in the response body. The following shows the schema of the response body.

```
{
  "data" : [ {"member-of-the-resources-for-service-
functionality(Services)" : value ... }, ... ],
  "count" : number-of-data-items-that-match-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of all services.

```
Request header:
GET /Automation/v1/objects/Services HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:36:42 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO ed355b6e59f72c675dca1498e951439e8aa0d8_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:
{
  "data" : [ {
    "instanceID" : 2015,
    "name" : "testService1",
    "description" : "description",
    "tags" : "",
    "serviceTemplateName" : "testService",
    "createTime" : "2014-07-14T01:16:11.000-0700",
    "modifyTime" : "2014-07-14T04:36:30.000-0700",
    "serviceState" : "release",
    "serviceGroupName" : "Default Service Group",
    "serviceGroupID" : 3
  }, {
    "instanceID" : 2020,
    "name" : "testService2",
    "description" : "description",
    "tags" : "",
    "serviceTemplateName" : "testService",
    "createTime" : "2014-07-14T01:16:39.000-0700",
    "modifyTime" : "2014-07-14T04:36:33.000-0700",
    "serviceState" : "release",
    "serviceGroupName" : "Default Service Group",
    "serviceTemplateID" : 2008,
    "serviceGroupID" : 3
  } ],
  "count" : 2
}
```

Related topic

-

9.4.2 Acquisition of service information

Function

Acquires information about the specified service.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Services/id
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceID" : instance-id,
  "name" : "service-display-name",
  "description" : "description-text",
  "tags" : "category-information",
  "serviceTemplateName" : "service-template-name",
  "createTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "serviceState" : "service-state",
  "serviceGroupName" : "resource-group-name",
  "serviceGroupID" : service-group-id
}
```

Usage example

In the following example, the API acquires information about the service whose instanceID is 2015.

```
Request header:

GET /Automation/v1/objects/Services/2015 HTTP/1.1
```

```
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:40:06 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO e894c54236919ffb39e71d4b9577345ce8599a_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : 2015,
  "name" : "testService1",
  "description" : "description",
  "tags" : "",
  "serviceTemplateName" : "testService",
  "createTime" : "2014-07-14T01:16:11.000-0700",
  "modifyTime" : "2014-07-14T04:36:30.000-0700",
  "serviceState" : "release",
  "serviceGroupName" : "Default Service Group",
  "serviceGroupID" : 3
}
```

9.4.3 Acquisition of a list of operations for a service

Function

Acquires a list of operations that can be executed for the specified service.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Services/id/actions
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "data" : [ {
    "name" : "submit",
    "href" : "http://host:port/Automation/version/objects/Services/id/
actions/submit/invoke",
    "method" : "POST",
    "parameters" : null
  } ],
  "count" : count
}
```

Usage example

In the following example, the API acquires a list of operations that can be executed for the service resource whose instanceID is 2015.

```
Request header:

GET /Automation/v1/objects/Services/2015/actions HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:41:09 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO f12ac2d0d54a5ba48563df84b33f49e3181afea4_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "data" : [ {
```

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```
      "name" : "submit",
      "href" : "http://10.196.184.238:22015/Automation/v1/objects/Services/
2015/actions/submit/invoke",
      "method" : "POST",
      "parameters" : [ ]
   }, ],
   "count" : 1
}
```

Related topic

9.4.4 Acquisition of information necessary for executing a service

Function

Acquires information necessary for executing the specified service.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Services/id/actions/submit
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The user does not have a permission to acquire the service, or the service does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
   "name" : "submit",
   "href" : "http://host:port/Automation/version/objects/Services/id/actions/
submit/invoke",
   "method" : "POST",
```

```
    "parameters" : [ {...} ]
}
```

The following table describes the objects that can be output as *parameters* (member).

Table 9–31: Objects that can be output as parameters (member) (Acquisition of information necessary for executing a service)

Function	Resource name	Number	Description
Schedule	Schedule	1	Execution schedule for the service
List of property values	PropertyValue	0 to n	Input property for the service

Usage example

In the following example, the API acquires template information necessary for preparing execution of the service whose instanceID is 2015.

```
Request header:

GET /Automation/v1/objects/Services/2015/actions/submit HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:44:25 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 717c09f57f33957cd1e6f8d4207e6853b05eac_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "name" : "submit",
  "href" : "http://10.196.184.238:22015/Automation/v1/objects/Services/2015/
actions/submit/invoke",
  "method" : "POST",
  "parameters" : [ {
    "name" : "testService1_20140714044426",
    "submitter" : "System",
    "scheduleType" : "immediate",
    "description" : "",
    "scheduledStartTime" : "2014-07-14T04:44:26.004-07:00",
    "recurrenceInterval" : "daily",
    "recurrenceDayOfWeek" : "",
```

```
    "recurrenceDayOfMonth" : "",
    "recurrenceLastDayOfMonth" : false,
    "recurrenceStartDate" : "2014-07-14",
    "recurrenceTime" : "00:00:00",
    "serviceID" : 2015
  }, {
    "instanceID" : 2012,
    "type" : "string",
    "keyName" : "testProp",
    "value" : "defaultValue",
    "serviceID" : 2015
  } ]
}
```

Related topics

9.4.5 Execution of a service

Function

Executes the specified service.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
POST http://host:port/Automation/version/objects/Services/id/actions/submit/
invoke
```

The following shows the structure of the request body.

```
{
  "name" : "submit",
  "href" : "http://host:port/Automation/version/objects/Services/id/actions/
submit/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects that can be specified as *parameters* (member) in the schema of a request.

Table 9–32: Objects that can be specified as parameters (member)

Function	Resource name	Number	Description
Schedule	Schedule	1	Execution schedule of the service

Function	Resource name	Number	Description
List of property values	PropertyValue	0 to n	Input property for the service

The following describes the properties that can be specified for the above objects. The following members can be specified for properties regardless of when the service is executed (Now, Later, or Recurring).

Resource name	Member name	Number
Schedule	name	1
	description	1
	scheduleType	1
PropertyValue	keyName	0 to n
	value	0 to n

If the timing of service execution is Now or Recurring, the following members can be specified for the property.

Resource name	Member name	Number	Whether the property can be specified
Schedule	scheduledStartTime	1	Can be specified when Later is set.
	recurrenceInterval	1	Can be specified when Recurring is set.
	recurrenceDayOfWeek	1	
	recurrenceDayOfMonth	1	
	recurrenceLastDayOfMonth	1	
	recurrenceStartDate	1	
	recurrenceTime	1	

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
201	Created	Processing has been successfully completed.
400	Bad Request	The argument is invalid.
401	Unauthorized	The user does not have login permission.
403	Forbidden	The user does not have a permission for executing the service.
404	Not found	The user does not have a permission for acquiring the service, or the service does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceId" : "instance-id",
  "created" : "created-date-and-time",
```

```
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ]
}
```

The following table describes the objects that can be output as *affectedResources* (member).

Table 9–33: Objects that can be output as affectedResources (member) (Execution of a service)

Output	Resource name	Number	Description
Link to the created schedule	String	1	Link to the created resource for schedule functionality (Schedules)
Link to the created task	String	1	Link to the created resource for task functionality (Tasks)

Usage example

In the following example, the API executes the service whose instanceID is 2015.

```
Request header:

POST /Automation/v1/objects/Services/2015/actions/submit/invoke HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 811
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:45:34 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 9745c5e76461cc6c3e6946e3f7bfe84c8732ac5_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : "3d9069ca-444f-4757-b0c5-a57ddd7d44cf",
  "created" : "2014-07-14T04:45:35.293-0700",
  "updated" : "2014-07-14T04:45:35.293-0700",
  "completed" : "2014-07-14T04:45:35.293-0700",
  "state" : "success",
  "affectedResource" : [ "http://10.196.184.238:22015/Automation/v1/objects/
Schedules/2025", "http://10.196.184.238:22015/Automation/v1/objects/Tasks/
2026" ]
```

```
    }
```

Related toped

-

9.5 Schedule-related APIs

This section describes operations for managing schedule functionality set for tasks.

9.5.1 Acquisition of a list of schedules

Function

Acquires a list of schedules set for the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Schedules
```

This API acquires a list of all schedules for which the user who executed the API has permissions. By specifying query parameters, you can filter the schedules for which you want to acquire the list. Specify query parameters in the following format:

```
?query-parameter=value[&query-parameter=value...]
```

Table 9–34: List of query parameters that can be specified for API Acquisition of a list of schedules

Query parameter	Filter condition
serviceID	Equal to the specified value
scheduleStatus[#]	Schedule information for unexecuted tasks

\#

To acquire schedule information for unexecuted tasks, specify *running* for scheduleStatus.

For details about other query parameters that can be specified, see 9.2.9 Query parameter.

Example

The following example specifies 2015 for serviceID as a query parameter.

```
?serviceID=2015
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
400	Bad Request	A query parameter is invalid.

Status code	Message	Description
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

Data that matches the conditions specified by query parameters in a request is returned in the response body. The following shows the schema of the response body.

```
{
  "data" : [ {"member-of-a-resource-for-schedule-
functionality(Schedules)" : vlaue ... }, ... ],
  "count" : number-of-data-items-that-match-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of all schedules.

```
Request header:

GET /Automation/v1/objects/Schedules HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:25:42 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO c181cf3ee24e93ce964562788bccda3381a647f5_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "data" : [ {
    "instanceID" : 2060,
    "name" : "testService1_20140714044426_Resubmit",
    "submitter" : "System",
    "scheduleType" : "immediate",
    "createTime" : "2014-07-14T05:19:39.000-0700",
    "modifyTime" : "2014-07-14T05:19:39.000-0700",
```

```
      "description" : "",
      "serviceState" : "release",
      "serviceID" : 2015
   }, {
      "instanceID" : 2029,
      "name" : "testService1_20140714045613",
      "submitter" : "System",
      "scheduleType" : "immediate",
      "createTime" : "2014-07-14T04:56:15.000-0700",
      "modifyTime" : "2014-07-14T04:56:15.000-0700",
      "description" : "",
      "serviceState" : "release",
      "serviceID" : 2015
   }, {
      "instanceID" : 2025,
      "name" : "testService1_20140714044426",
      "submitter" : "System",
      "scheduleType" : "immediate",
      "createTime" : "2014-07-14T04:45:34.000-0700",
      "modifyTime" : "2014-07-14T04:45:34.000-0700",
      "description" : "",
      "serviceState" : "release",
      "serviceID" : 2015
   }, {
      "instanceID" : 2056,
      "name" : "Execute remote command_20140714045708",
      "submitter" : "System",
      "scheduleType" : "immediate",
      "createTime" : "2014-07-14T04:57:09.000-0700",
      "modifyTime" : "2014-07-14T04:57:09.000-0700",
      "description" : "",
      "serviceState" : "test",
      "serviceID" : 2040
   }, {
      "instanceID" : 2134,
      "name" : "stop_20140714052330",
      "submitter" : "System",
      "scheduleType" : "immediate",
      "createTime" : "2014-07-14T05:23:32.000-0700",
      "modifyTime" : "2014-07-14T05:23:32.000-0700",
      "description" : "",
      "serviceState" : "test",
      "serviceID" : 2092
   } ],
   "count" : 5
}
```

Related topic

9.5.2 Acquisition of schedule information

Function

Acquires information about the specified schedule.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Schedules/id
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceID" : instance-id,
  "name" : "registered-service-name",
  "submitter" : "submit-user-name",
  "scheduleType" : "type-of-schedule",
  "createTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "description" : "description-text",
  "serviceState" : "service-state",
  "serviceID" : service-id
}
```

Usage example

In the following example, the API acquires information about the schedule whose instanceID is 2060.

```
Request header:

GET /Automation/v1/objects/Schedules/2060 HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:
```

```
HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:26:19 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 32bd25936120d68dceabcb49493079f8ef82a4_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : 2060,
  "name" : "testService1_20140714044426_Resubmit",
  "submitter" : "System",
  "scheduleType" : "immediate",
  "createTime" : "2014-07-14T05:19:39.000-0700",
  "modifyTime" : "2014-07-14T05:19:39.000-0700",
  "description" : "",
  "serviceState" : "release",
  "serviceID" : 2015
}
```

9.5.3 Acquisition of a list of operations for a schedule

Function

Acquires a list of operations that can be executed for the specified schedule.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Schedules/id/actions
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.

Status code	Message	Description
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "data" : [ {
    "name" : "cancel",
    "href" : "http://host:port/Automation/version/objects/Schedules/id",
    "method" : "POST",
    "parameters" : null
  }, {
    "name" : "suspend",
    "href" : "http://host:port/Automation/version/objects/Schedules/id",
    "method" : "POST",
    "parameters" : null
  }, {
    "name" : "resume",
    "href" : "http://host:port/Automation/version/objects/Schedules/id/
actions/submit/invoke",
    "method" : "POST",
    "parameters" : null
  } ],
  "count" : count
}
```

Usage example

In the following example, the API acquires a list of operations that can be executed for the schedule whose instanceID is 2193.

```
Request header:

GET /Automation/v1/objects/Schedules/2193/actions HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:29:28 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO cc5725658f9964bc6194b6477763ebbe502fcf_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

```
Response body:

{
  "data" : [ {
    "name" : "cancel",
    "href" : "http://10.196.184.238:22015/Automation/v1/objects/Schedules/
2193/actions/cancel/invoke",
    "method" : "POST",
    "parameters" : [ ]
  }, {
    "name" : "suspend",
    "href" : "http://10.196.184.238:22015/Automation/v1/objects/Schedules/
2193/actions/suspend/invoke",
    "method" : "POST",
    "parameters" : [ ]
  }, {
    "name" : "resume",
    "href" : "http://10.196.184.238:22015/Automation/v1/objects/Schedules/
2193/actions/resume/invoke",
    "method" : "POST",
    "parameters" : [ ]
  } ],
  "count" : 3
}
```

Related topic

- 9.2.14 Members of resources

9.5.4 Acquisition of information necessary for canceling a schedule

Function

Acquires information necessary for canceling the specified schedule.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Schedules/id/actions/cancel
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.

Status code	Message	Description
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "name" : "cancel",
  "href" : "http://host:port/Automation/version/objects/Schedules/id/
actions/cancel/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

Usage example

In the following example, the API acquires information necessary for canceling the schedule whose instanceID is 2193.

```
Request header:

GET /Automation/v1/objects/Schedules/2193/actions/cancel HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:34:39 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO d0f2fa4f5046c92521664920b9d84e652bcb6dee_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "name" : "cancel",
  "href" : "http://10.196.184.238:22015/Automation/v1/objects/Schedules/
2193/actions/cancel/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

9.5.5 Cancellation of a schedule

Function

Cancels the specified schedule.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
POST http://host:port/Automation/version/objects/Schedules/id/actions/
cancel/invoke
```

The following shows the structure of the request body.

```
{
  "name" : "cancel",
  "href" : "http://host:port/Automation/version/objects/Schedules/id/
actions/cancel/invoke",
  "method" : "POST",
  "parameters" : null
}
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
409	Conflict	The status of the task is neither Waiting nor Holding.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
```

```
   "instanceId" : "instance-id",
   "created" : "created-date-and-time",
   "updated" : "updated-date-and-time",
   "completed" : "completed-date-and-time",
   "state" : "state",
   "affectedResources" : [ {...} ]
}
```

The following table describes the object that can be output as *affectedResources* (member).

Table 9–35: Object that can be output as affectedResources (member) (Cancellation of a schedule)

Output	Resource name	Number	Description
Link to the affected schedule	String	1	Link to the affected resource for schedule functionality (Schedules)

Usage example

In the following example, the API cancels the schedule whose instanceID is 2193.

```
Request header:

POST /Automation/v1/objects/Schedules/2193/actions/cancel/invoke HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 172
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:35:22 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 2c90fb9464fb635a106ec87345e839118bc45dba_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
   "instanceID" : "7a2924f8-1d5b-4f94-aef0-babccb2eb525",
   "created" : "2014-07-14T05:35:23.113-0700",
   "updated" : "2014-07-14T05:35:23.113-0700",
   "completed" : "2014-07-14T05:35:23.113-0700",
   "state" : "success",
   "affectedResource" : [ "http://10.196.184.238:22015/Automation/v1/objects/
Schedules/2193" ]
}
```

9.5.6 Acquisition of information necessary for pausing a schedule

Function

Acquires information necessary for pausing the specified schedule.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Schedules/id/actions/suspend
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "name" : "suspend",
  "href" : "http://host:port/Automation/version/objects/Schedules/id/
actions/suspend/invoke",
  "method" : "POST",
  "parameters" : null
}
```

Usage example

In the following example, the API acquires information necessary for pausing the schedule whose instanceID is 2193.

```
Request header:

GET /Automation/v1/objects/Schedules/2193/actions/suspend HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1
```

```
Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:31:38 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 34f06d8c215d7ce2bfa1d4c5e3ec8ab7ecd61f36_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "name" : "suspend",
  "href" : "http://10.196.184.238:22015/Automation/v1/objects/Schedules/
2193/actions/suspend/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

Related topic

- 9.5.7 Pause of a schedule

9.5.7 Pause of a schedule

Function

Pauses the specified schedule.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
POST http://host:port/Automation/version/objects/Schedules/id/actions/
suspend/invoke
```

The following shows the structure of the request body.

```
{
  "name" : "suspend",
  "href" : "http://host:port/Automation/version/objects/Schedules/id/
actions/suspend/invoke",
  "method" : "POST",
```

```
  "parameters" : null
}
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
409	Conflict	The status of the task is neither Waiting nor Holding.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceId" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ]
}
```

The following table describes the object that can be output as *affectedResources* (member).

Table 9–36: Object that can be output as affectedResources (member) (Pause of a schedule)

Output	Resource name	Number	Description
Link to the affected schedule	String	1	Link to the affected Schedules resource

Usage example

In the following example, the API pauses the schedule whose instanceID is 2193.

```
Request header:

POST /Automation/v1/objects/Schedules/2193/actions/suspend/invoke HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 174
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:
```

```
HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:32:16 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 35e60f22b689d26c6fa4514f115629d92e4d_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : "3a6ac368-e49c-49ec-ac5b-380370800551",
  "created" : "2014-07-14T05:32:16.519-0700",
  "updated" : "2014-07-14T05:32:16.519-0700",
  "completed" : "2014-07-14T05:32:16.519-0700",
  "state" : "success",
  "affectedResource" : [ "http://10.196.184.238:22015/Automation/v1/objects/
Schedules/2193" ]
}
```

9.5.8 Acquisition of information necessary for resuming a schedule

Function

Acquires information necessary for resuming the specified schedule.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Schedules/id/actions/resume
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Searching for or deleting a resource has been successfully completed.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "name" : "resume",
  "href" : "http://host:port/Automation/version/objects/Schedules/id/
actions/resume/invoke",
  "method" : "POST",
  "parameters" : null
}
```

Usage example

In the following example, the API acquires information necessary for resuming the schedule whose instanceID is 2193.

```
Request header:

GET /Automation/v1/objects/Schedules/2193/actions/resume HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:33:15 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO b6614f2b01ee545d99439e172e745d55ccc6081_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "name" : "resume",
  "href" : "http://10.196.184.238:22015/Automation/v1/objects/Schedules/
2193/actions/resume/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

Related topic

- 9.5.9 Resume of a schedule

9.5.9 Resume of a schedule

Function

Resumes the specified schedule.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Schedules/id/actions/resume/
invoke
```

The following shows the structure of the request body.

```
{
  "name" : "resume",
  "href" : "http://host:port/Automation/version/objects/Schedules/id/
actions/resume/invoke",
  "method" : "POST",
  "parameters" : null
}
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
409	Conflict	The status of the task is neither Waiting nor Holding.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceId" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
```

```
    "affectedResources" : [ {...} ]
}
```

The following table describes the object that can be output as *affectedResources* (member).

Table 9–37: Object that can be output as affectedResources (member) (Resume of a schedule)

Output	Resource name	Number	Description
Link to the affected schedule	String	1	Link to the affected resource for schedule functionality (Schedules)

Usage example

In the following example, the API resumes the schedule whose instanceID is 2193.

```
Request header:

POST /Automation/v1/objects/Schedules/2193/actions/resume/invoke HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 172
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:33:56 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO b2d0839f82cfad2ed8d119a8dc37bbe3b494e73_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : "a109b95d-e7ef-4982-ab24-2d062b38e088",
  "created" : "2014-07-14T05:33:56.925-0700",
  "updated" : "2014-07-14T05:33:56.925-0700",
  "completed" : "2014-07-14T05:33:56.925-0700",
  "state" : "success",
  "affectedResource" : [ "http://10.196.184.238:22015/Automation/v1/objects/
Schedules/2193" ]
}
```

9.6 Task-related APIs

This section describes the operations for managing task resources.

9.6.1 Acquisition of a list of tasks

Function

Acquires a list of tasks.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Tasks
```

This API acquires a list of all tasks for which the user who executed the API has permissions. By specifying query parameters, you can filter the tasks for which you want to acquire the list. Specify query parameters in the following format.

```
?query-parameter=value[&query-parameter=value...]
```

Table 9–38: List of query parameters that can be specified for API Acquisition of a list of tasks

Query parameter	Filter condition
serviceID	Equal to the specified value
scheduleID	Equal to the specified value

For details about other query parameters that can be specified, see 9.2.9 Query parameter.

Example

The following example specifies 2015 for serviceID as a query parameter.

```
?serviceID=2015
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
400	Bad Request	The query parameter is invalid.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.

Status code	Message	Description
500	Server-side error	A server processing error occurred.

Response schema

Data that matches the conditions specified by query parameters in a request is returned in the response body. The following shows the schema of the response body.

```
{
   "data" : [ {"member-of-a-resource-for-task-functionality(Tasks)" :
value ... }, ... ],
   "count" : number-of-data-items-that-match-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of all tasks.

```
Request header:

GET /Automation/v1/objects/Tasks HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:47:45 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO bd804a4bbfb57c37cad7fe56034d49e428b615_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "data" : [ {
    "instanceID" : 2026,
    "name" : "testService1_20140714044426",
    "status" : "completed",
    "startTime" : "2014-07-14T04:45:35.000-0700",
    "endTime" : "2014-07-14T04:45:35.000-0700",
    "submitter" : "System",
    "submitTime" : "2014-07-14T04:45:34.000-0700",
    "modifyTime" : "2014-07-14T04:45:57.000-0700",
    "serviceState" : "release",
```

```
      "scheduleID" : 2025,
      "serviceGroupID" : 3,
      "serviceID" : 2015
  } ],
  "count" : 1
}
```

Related topic

- 9.2.14 Members of resources

9.6.2 Acquisition of task information

Function

Acquires information about the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Tasks/id
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceID" : instance-id,
  "name" : "task-name",
  "status" : "task-status",
  "startTime" : "start-date-and-time",
  "endTime" : "end-date-and-time",
  "submitter" : "submit-user-name",
  "submitTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
```

```
    "serviceState" : "service-state",
    "scheduleID" : schedule-id,
    "serviceGroupID" : service-group-id
    "serviceID" : service-id
}
```

Usage example

In the following example, the API acquires information about the task whose instanceID is 2026.

```
Request header:

GET /Automation/v1/objects/Tasks/2026 HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:58:17 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 4c41b543aa586cdc7eda448abadac3ff6268be_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : 2026,
  "name" : "testService1_20140714044426",
  "status" : "completed",
  "startTime" : "2014-07-14T04:45:35.000-0700",
  "endTime" : "2014-07-14T04:45:35.000-0700",
  "submitter" : "System",
  "submitTime" : "2014-07-14T04:45:34.000-0700",
  "modifyTime" : "2014-07-14T04:45:57.000-0700",
  "serviceState" : "release",
  "scheduleID" : 2025,
  "serviceGroupID" : 3,
  "serviceID" : 2015
}
```

9.6.3 Acquisition of a list of task operations

Function

Acquires a list of operations that can be executed for the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Tasks/id/actions
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "data" : [ {
    "name" : "stop",
    "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
stop/invoke",
    "method" : "POST",
    "parameters" : null
  }, {
    "name" : "resubmit",
    "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
resubmit/invoke",
    "method" : "POST",
    "parameters" : null
  }, {
    "name" : "rerunStart",
    "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStart/invoke",
    "method" : "POST",
    "parameters" : null
  }, {
    "name" : "rerunStepStart",
    "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStepStart/invoke",
    "method" : "POST",
```

```
      "parameters" : null
  } ],
  "count" : count
}
```

Usage example

In the following example, the API acquires a list of operations that can be executed for the task whose instanceID is 2026.

```
Request header:

GET /Automation/v1/objects/Tasks/2026/actions HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:50:49 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO ef25841e55e5ca35748991fa926afd0852d24f6_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "data" : [ {
    "name" : "stop",
    "href" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/2026/
actions/stop/invoke",
    "method" : "POST",
    "parameters" : [ ]
  }, {
    "name" : "resubmit",
    "href" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/2026/
actions/resubmit/invoke",
    "method" : "POST",
    "parameters" : [ ]
  }, {
    "name" : "rerunStart",
    "href" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/2026/
actions/rerunStart/invoke",
    "method" : "POST",
    "parameters" : [ ]
  }, {
    "name" : "rerunStepStart",
```

```
      "href" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/2026/
actions/rerunStepStart/invoke",
    "method" : "POST",
    "parameters" : [ ]
  } ],
  "count" : 4
}
```

9.6.4 Acquisition of information necessary for stopping task execution

Function

Acquires information necessary for stopping execution of the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Tasks/id/actions/stop
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Searching for or deleting a resource has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "name" : "stop",
  "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
stop/invoke",
  "method" : "POST",
  "parameters" : null
}
```

Usage example

In the following example, the API acquires information necessary for stopping execution of the task whose instanceID is 2026.

```
Request header:

GET /Automation/v1/objects/Tasks/2026/actions/stop HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:21:37 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO a542e79cb51d1228f7359e62edb254aa14b81cc_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "name" : "stop",
  "href" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/2026/
actions/stop/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

Related topic

- 9.6.5 Stoppage of task execution

9.6.5 Stoppage of task execution

Function

Stops execution of the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
POST http://host:port/Automation/version/objects/Tasks/id/actions/stop/
invoke
```

The following shows the structure of the request body.

```
{
  "name" : "stop",
  "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
stop/invoke",
  "method" : "POST",
  "parameters" : null
}
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
409	Conflict	The status of the task is neither In Progress, Waiting for Response, nor Abnormal Detection.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceId" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ]
}
```

The following table describes the object that can be output as *affectedResources* (member).

Table 9–39: Object that can be output as affectedResources (member) (Stoppage of task execution)

Output	Resource name	Number	Description
Link to the affected task	String	1	Link to the updated resource for task functionality (Tasks)

Usage example

In the following example, the API stops execution of the task whose instanceID is 2026.

```
Request header:

POST /Automation/v1/objects/Tasks/2026/actions/stop/invoke HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 164
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:23:58 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO d3b775e19041295c9834a332f7936467d94358e_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : "f550ef02-b4f8-4332-95da-3b685f2cedf8",
  "created" : "2014-07-14T05:23:59.222-0700",
  "updated" : "2014-07-14T05:23:59.222-0700",
  "completed" : "2014-07-14T05:23:59.222-0700",
  "state" : "success",
  "affectedResource" : [ "http://10.196.184.238:22015/Automation/v1/objects/
Tasks/2026" ]
}
```

9.6.6 Acquisition of information necessary for re-executing a task

Function

Acquires information necessary for re-executing the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Tasks/id/actions/resubmit
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Searching for or deleting a resource has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "name" : "resubmit",
  "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
resubmit/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects that can be output as *parameters* (member).

Table 9–40: Objects that can be output as parameters (member) (Acquisition of information necessary for re-executing a task)

Function	Resource name	Number	Description
Schedule	Schedule	1	Execution schedule of the service
List of property values	PropertyValue	0 to n	Input property of the service

Usage example

In the following example, the API acquires information necessary for re-executing the task whose instanceID is 2026.

```
Request header:

GET /Automation/v1/objects/Tasks/2026/actions/resubmit HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:03:20 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO c733364e62b52913e477addabfbf8c55f9de831_V0300
```

```
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "name" : "resubmit",
  "href" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/2026/
actions/resubmit/invoke",
  "method" : "POST",
  "parameters" : [ {
    "name" : "testService1_20140714044426_Resubmit",
    "submitter" : "System",
    "scheduleType" : "immediate",
    "description" : "",
    "scheduledStartTime" : "2014-07-14T05:03:20.441-07:00",
    "recurrenceInterval" : "daily",
    "recurrenceDayOfWeek" : "",
    "recurrenceDayOfMonth" : "",
    "recurrenceLastDayOfMonth" : false,
    "recurrenceStartDate" : "2014-07-14",
    "recurrenceTime" : "00:00:00",
    "serviceID" : 2015
  }, {
    "instanceID" : 2012,
    "type" : "string",
    "keyName" : "testProp",
    "value" : "defaultValue",
    "serviceID" : 2015
  } ]
}
```

Related topics

-
-

9.6.7 Re-execution of a task

Function

Re-executes the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
POST http://host:port/Automation/version/objects/Tasks/id/actions/resubmit/
invoke
```

The following shows the structure of the request body.

```
{
  "name" : "resubmit",
  "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
resubmit/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects that can be specified as *parameters* (member) in the schema of a request.

Table 9–41: Objects that can be specified as parameters (member)

Function	Resource name	Number	Description
Schedule	Schedule	1	Execution schedule of the service
List of property values	PropertyValue	0 to n	Input property of the service

The following describes the properties that can be specified.

In the case of common settings:

Table 9–42: In the case of common settings

Resource name	Member name	Number
Schedule	name	1
Schedule	description	1
Schedule	scheduleType	1
PropertyValue	keyName	0 to n
PropertyValue	value	0 to n

In the case of **Now**:

No property needs to be specified.

In the case of **Later**:

Table 9–43: In the case of Later

Resource name	Member name	Number
Schedule	scheduledStartTime	1

In the case of **Recurring**:

Table 9–44: In the case of Recurring

Resource name	Member name	Number
Schedule	recurrenceInterval	1

Resource name	Member name	Number
Schedule	recurrenceDayOfWeek	1
Schedule	recurrenceDayOfMonth	1
Schedule	recurrenceLastDayOfMonth	1
Schedule	recurrenceStartDate	1
Schedule	recurrenceTime	1

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
400	Bad Request	The argument is invalid.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
409	Conflict	The status of the task is neither Completed nor Canceled.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceId" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ]
}
```

The following table describes the objects that can be output as *affectedResources* (member).

Table 9–45: Objects that can be output as affectedResources (member) (Re-execution of a task)

Output	Resource name	Number	Description
Link to the created schedule	String	1	Link to the created resource for schedule functionality (Schedules)
Link to the created task	String	1	Link to the created resource for task functionality (Tasks)

Usage example

In the following example, the API re-executes the task whose instanceID is 2026.

```
Request header:
```

```
POST /Automation/v1/objects/Tasks/2026/actions/resubmit/invoke HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 821
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:19:39 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 5011884058b535482bf6bac7390956be5fc2122_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : "d2a2284f-9a94-4be0-8813-e5f991762740",
  "created" : "2014-07-14T05:19:40.089-0700",
  "updated" : "2014-07-14T05:19:40.089-0700",
  "completed" : "2014-07-14T05:19:40.089-0700",
  "state" : "success",
  "affectedResource" : [ "http://10.196.184.238:22015/Automation/v1/objects/
Schedules/2060", "http://10.196.184.238:22015/Automation/v1/objects/Tasks/
2063" ]
}
```

9.6.8 Acquisition of information necessary for retrying a task (retry from the failed step)

Function

Specifies a task, and acquires information necessary for retrying the task from the failed step.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Tasks/id/actions/rerunStart
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "name" : "rerunStart",
  "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStart/invoke",
  "method" : "POST",
  "parameters" : null
}
```

Usage example

In the following example, the API acquires information necessary for retrying the task whose instanceID is 2026 from the failed step.

```
Request header:

GET /Automation/v1/objects/Tasks/2026/actions/rerunStart HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:54:52 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO aca0707d2fae7c881d4a97f42ab4a5b27824aa_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:
```

```
{
   "name" : "rerunStart",
   "href" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/2026/
actions/rerunStart/invoke",
   "method" : "POST",
   "parameters" : [ ]
}
```

Related topic

- 9.6.9 Retry from the failed step

9.6.9 Retry from the failed step

Function

Specifies a task, and retries the task from the failed step.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
POST http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStart/invoke
```

The following shows the structure of the request body.

```
{
   "name" : "rerunStart",
   "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStart/invoke",
   "method" : "POST",
   "parameters" : null
}
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
400	Bad Request	The argument is invalid.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
409	Conflict	The status of the task is not Failed.

Status code	Message	Description
412	Precondition failed	The server is not running.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceId" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ]
}
```

The following table describes an object that can be output as *affectedResources* (member).

Table 9–46: Object that can be output as affectedResources (member) (Retry from the failed step)

Output	Resource name	Number	Description
Link to the affected task	String	1	Link to the updated resource for task functionality (Tasks)

Usage example

In the following example, the API retries the task whose instanceID is 2052 from the failed step.

```
Request header:

POST /Automation/v1/objects/Tasks/2052/actions/rerunStart/invoke HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 184
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:58:17 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 4c41b543aa586cdc7eda448abadac3ff6268be_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

```
Response body:

{
  "instanceID" : "cabe6176-498a-44ed-9691-5d270213f9b7",
  "created" : "2014-07-14T04:58:17.957-0700",
  "updated" : "2014-07-14T04:58:17.957-0700",
  "completed" : "2014-07-14T04:58:17.957-0700",
  "state" : "success",
  "affectedResource" : [ "http://10.196.184.238:22015/Automation/v1/objects/
Tasks/2052" ]
}
```

9.6.10 Acquisition of information necessary for retrying a task (retry from the step after the failed step)

Function

Specifies a task, and acquires information necessary for retrying the task from the step after the failed step.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStepStart
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "name" : "rerunStepStart",
  "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStepStart/invoke",
  "method" : "POST",
```

```
  "parameters" : null
}
```

Usage example

In the following example, the API acquires information necessary for retrying the task whose instanceID is 2026 from the step after the failed step.

```
Request header:

GET /Automation/v1/objects/Tasks/2026/actions/rerunStepStart HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:54:52 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO aca0707d2fae7c881d4a97f42ab4a5b27824aa_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "name" : "rerunStepStart",
  "href" : "http://10.196.184.238:22015/Automation/v1/objects/Tasks/2026/
actions/rerunStepStart/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

Related topic

9.6.11 Retry from the step after the failed step

Function

Specifies a task, and retries the task from the step after the failed step.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
POST http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStepStart/invoke
```

The following shows the structure of the request body.

```
{
  "name" : "rerunStepStart",
  "href" : "http://host:port/Automation/version/objects/Tasks/id/actions/
rerunStepStart/invoke",
  "method" : "POST",
  "parameters" : null
}
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
400	Bad Request	The argument is invalid.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
409	Conflict	The status of the task is not Failed.
412	Precondition failed	The server is not running.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceId" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ]
}
```

The following table describes the object that can be output as *affectedResources* (member).

Table 9–47: Object that can be output as affectedResources (member) (Retry from the step after the failed step)

Output	Resource name	Number	Description
Link to the affected task	String	1	Link to the updated resource for task functionality (Tasks)

Usage example

In the following example, the API retries the task whose instanceID is 2052 from the step after the failed step.

```
Request header:

POST /Automation/v1/objects/Tasks/2052/actions/rerunStepStart/invoke HTTP/
1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 184
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 11:58:17 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 4c41b543aa586cdc7eda448abadac3ff6268be_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json


Response body:

{
  "instanceID" : "cabe6176-498a-44ed-9691-5d270213f9b7",
  "created" : "2014-07-14T04:58:17.957-0700",
  "updated" : "2014-07-14T04:58:17.957-0700",
  "completed" : "2014-07-14T04:58:17.957-0700",
  "state" : "success",
  "affectedResource" : [ "http://10.196.184.238:22015/Automation/v1/objects/
Tasks/2052" ]
}
```

9.6.12 Acquisition of a list of steps

Function

Acquires a list of steps displayed in the **Task Details** dialog box among the steps included in the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/FlowSteps
```

Make sure that you specify taskID as a query parameter.

By specifying taskID, you can filter the target task. Among the steps included in the task, you can acquire a list of steps displayed in the **Task Details** dialog box. If no query parameter is specified, or if multiple query parameters are specified, an error occurs. Specify a query parameter in the following format:

```
?query-parameter=value[&query-parameter=value...]
```

Table 9–48: List of query parameters that can be specified for API Acquisition of a list of steps

Query parameter	Filter condition
taskID	Equal to the specified value

For details about other query parameters that can be specified, see 9.2.9 Query parameter.

Example

The following example specifies 512 for taskID as a query parameter.

```
?taskID=512
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
400	Bad Request	The argument is invalid.
401	Unauthorized	The user does not have login permission.
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not running.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "data" : [ {"member-of-the-resources-for-step-functionality(FlowSteps)" :
value ... }, ... ],
  "count" : number-of-data-items-that-match-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of steps to be executed by the task whose task ID is 2052.

```
Request header:

GET /Automation/v1/objects/FlowSteps?taskID=2052 HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:51:18 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 91b080f3e0409735fa1583e8e4d6409daa4433f8_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json


Response body:
{
  "data" : [ {
    "instanceID" : "remoteHostCommandExe_2052",
    "name" : "remoteHostCommandExe",
    "startTime" : "2014-07-14 04:57:10",
    "endTime" : "2014-07-14 04:57:34",
    "jobStatus" : "normal",
    "comment" : "Executes a command on the remote execution target server
and displays the results.",
    "stepStatus" : "complete"
  } ],
  "count" : 1
}
```

9.6.13 Acquisition of task logs

Function

Acquires the logs for the specified task.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/TaskLogs
```

This API acquires the logs for the task that has the specified taskID, among all tasks for which the user who executed the API has permissions. By specifying query parameters, you can filter the tasks for which you want to acquire the list.

This API acquires the logs for the task that has the specified taskID, in the size specified for readSize or smaller, starting from the point specified for the offset. If reverse is specified, the API acquires the logs in the size specified for readSize to the opposite direction from the offset. Specify query parameters in the format below.

Note that logs are acquired line by line. If the log size reaches the specified size, the line being acquired will be discarded.

```
?query-parameter=value[&query-parameter=value...]
```

Table 9–49: List of query parameters that can be specified for API Acquisition of task logs

Query parameter	Filter condition
taskID	Equal to the specified value
readSize	Equal to the specified value
offset	Equal to the specified value
reverse	Equal to the specified value

For details about other query parameters that can be specified, see 9.2.9 Query parameter.

Example

The following example specifies 16731 for serviceID and 512 for taskID as query parameters.

```
?serviceID=16731&taskID=512
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	Created	Processing has been successfully completed.
400	Bad Request	The argument is invalid.
401	Unauthorized	The user does not have login permission.

Status code	Message	Description
404	Not found	The permission is invalid, or the resource does not exist.
412	Precondition failed	The server is not running.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "data" : [ {"member-of-the-resources-for-task-log-
functionality(Tasklogs)" : value ... }, ... ],
  "count" : number-of-data-items-that-match-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of logs for the task whose taskID is 2052 (logs read from 0 bytes, up to 5,000,000 bytes).

```
Request header:

GET /Automation/v1/objects/TaskLogs?taskID=2052&offset=0&readSize=5000000
HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:42:47 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO a6daa83f23a873c39c7a65069728796ce882153_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body

{
  "data" : [ {
    "instanceID" : 2052,
    "text" : "**** Windows Server 2008 R2 6.1
TZ=America/Los_Angeles
2014/07/14 04:57:31.730\r\n
yyyy/mm/dd hh:mm:ss.sss                        pid      tid     message-
```

```
id              message(LANG=ja)\r\n
8947 2014/07/14 04:57:31.746      Automation      27A4F43E 12252248
KNAE08001-I          Started executing plug-in (task name:Execute remote
command_20140714045708, task ID:2052, step ID:/remoteHostCommandExe,
execution ID:@A102).\r\n
9101 2014/07/14 04:57:31.824      Automation      27A4F43E 12252248
KNAE08129-I          The general command plug-in started (command:a).\r\n
9103 2014/07/14 04:57:31.824      Automation      27A4F43E 12252248
KNAE08070-I          The setting to elevate to root privileges for SSH
connections is now enabled.\r\n
9140 2014/07/14 04:57:34.433      Automation      27A4F43E 12252248
KNAE08131-E     ER   The general command plug-in failed (command:a, plug-
in return code:77).\r\n
9148 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08002-I          Plug-in execution completed (task name:Execute remote
command_20140714045708, task ID:2052, step ID:/remoteHostCommandExe,
execution ID:@A102, plug-in return code:77).\r\n
9152 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          schema_version=1.1\r\n9154 2014/07/14
04:57:34.449      Automation      27A4F43E 12252248 KNAE08004-I
vendor=com.hitachi.software.dna\r\n
9156 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          name=ExecuteCommandPlugin\r\n9158 2014/07/14
04:57:34.449      Automation      27A4F43E 12252248 KNAE08004-I
version=01.10.00\r\n
9160 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          plugin_type=javaClass\r\n9162 2014/07/14
04:57:34.449      Automation      27A4F43E 12252248 KNAE08004-I
vendor_display_name=Hitachi, Ltd.\r\n
9164 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          display_name=General Command Plug-in\r\n
9166 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          short_description=This plug-in executes a command
line on the destination host.\r\n
9168 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          tags=Basic,Hitachi\r\n9170 2014/07/14
04:57:34.449      Automation      27A4F43E 12252248 KNAE08004-I
enable_SSH_charset_detection=true\r\n
9172 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          property=com.hitachi.software.dna.sys.mail.bcc, value=
\r\n
9174 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          property=com.hitachi.software.dna.sys.mail.cc, value=
\r\n
9177 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          property=com.hitachi.software.dna.sys.mail.from,
value=********\r\n
9179 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          property=com.hitachi.software.dna.sys.mail.notify,
value=false\r\n
9182 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I
property=com.hitachi.software.dna.sys.mail.smtp.password, value=********\r\n
9184 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I          property=com.hitachi.software.dna.sys.mail.smtp.port,
value=25\r\n
9186 2014/07/14 04:57:34.449      Automation      27A4F43E 12252248
KNAE08004-I
```

```
property=com.hitachi.software.dna.sys.mail.smtp.server, value=\r\n
9188 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I
property=com.hitachi.software.dna.sys.mail.smtp.userid, value=\r\n
9190 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=com.hitachi.software.dna.sys.mail.to, value=
\r\n
9192 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=com.hitachi.software.dna.sys.task.log.level,
value=10\r\n
9194 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=common.remoteCommand, value=a\r\n
9196 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=common.remoteCommandParameter, value=a\r\n
9198 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=common.stdoutProperty, value=\r\n
9200 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=common.targetHost, value=a\r\n
9202 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=foreach.max_value, value=3\r\n
9204 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=mail.plugin.retry.interval, value=10\r\n
9206 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=mail.plugin.retry.times, value=3\r\n
9208 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=plugin.private.builtin.baseUrl, value=http://
WIN-JLTV0PQLK2A:22015/Automation/\r\n
9210 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.service.category,
value=OS_Operations/Basic\r\n
9212 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.service.name, value=Execute remote
command\r\n
9214 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.service.resourceGroupName,
value=Default Service Group\r\n
9216 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.step.path, value=/
remoteHostCommandExe\r\n
9218 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.step.prevReturnCode, value=0\r\n
9220 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.task.description, value=\r\n
9222 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.task.dir, value=C:\\Program Files\
\HiCommand\\Automation\\data\\task\\2052\r\n
9224 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.task.id, value=2052\r\n
9226 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.task.name, value=Execute remote
command_20140714045708\r\n
9228 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.task.submitter, value=System\r\n
9230 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=reserved.task.url, value=http://WIN-
JLTV0PQLK2A:22015/Automation/launcher/TaskDetails?task_id=2052\r\n
9232 2014/07/14 04:57:34.449      Automation        27A4F43E 12252248
KNAE08004-I            property=account, value=\r\n
```

```
9234 2014/07/14 04:57:34.449    Automation      27A4F43E 12252248
KNAE08004-I        property=commandLine, value=a\r\n
9236 2014/07/14 04:57:34.449    Automation      27A4F43E 12252248
KNAE08004-I        property=commandLineParameter, value=a\r\n
9238 2014/07/14 04:57:34.449    Automation      27A4F43E 12252248
KNAE08004-I        property=credentialType, value=destination\r\n
9240 2014/07/14 04:57:34.449    Automation      27A4F43E 12252248
KNAE08004-I        property=destinationHost, value=a\r\n
9243 2014/07/14 04:57:34.457    Automation      27A4F43E 12252248
KNAE08004-I        property=password, value=********\r\n
9245 2014/07/14 04:57:34.457    Automation      27A4F43E 12252248
KNAE08004-I        property=stdoutPattern1, value=((?s).*)\r\n
9247 2014/07/14 04:57:34.457    Automation      27A4F43E 12252248
KNAE08004-I        property=stdoutPattern2, value=\r\n
9249 2014/07/14 04:57:34.457    Automation      27A4F43E 12252248
KNAE08004-I        property=stdoutPattern3, value=\r\n
9252 2014/07/14 04:57:34.457    Automation      27A4F43E 12252248
KNAE08004-I        property=suPassword, value=********\r\n
9254 2014/07/14 04:57:34.457    Automation      27A4F43E 12252248
KNAE08009-I        No standard output exists.\r\n
9258 2014/07/14 04:57:34.699    Automation      27A4F43E 12252248
KNAE08014-E    ER    Cannot resolve the specified host name (error
details: a  [errno=11004, syscall=getaddrinfo]).
The specified host name could not be resolved. Check your network and DNS
configuration, and then re-execute the service.\r\n
9260 2014/07/14 04:57:34.699    Automation      27A4F43E 12252248
KNAE08016-E    ER    An error occurred while executing the plug-in (task
name:Execute remote command_20140714045708, task ID:2052, step ID:/
remoteHostCommandExe, execution ID:@A102,
plug-in return code:77).\r\n
Possible causes are as follows:\r\n(1) An error occurred during plug-in
execution.\r\n(2) An operation to forcibly stop the task was performed.\r\n
(3) An operation to stop this product was performed.\r\n
See the messages that were output to the task log or to the common message
log (Server[n].log) before and after the error occurred, and then take the
necessary actions. If there is no evidence of an operation to forcibly stop
the task or to stop the product, and if no error message was output before
or after the error, collect the log information by using the Data
Collection Tool, and then contact the system administrator.\r\n
**** Windows Server 2008 R2
6.1                                      TZ=America/
Los_Angeles        2014/07/14 04:58:17.793\r\n
yyyy/mm/dd hh:mm:ss.sss                  pid     tid     message-
id         message(LANG=ja)\r\n
9913 2014/07/14 04:58:17.793    Automation      27A4F43E 1A87FBF6
KNAE08904-I        The task was retried from the step after the failed
step. (user ID = System)\r\n",
    "totalSize" : 9477,
    "readSize" : 9477,
    "lineCount" : 66,
    "offset" : 0,
    "reverse" : false
  } ],
  "count" : 1
}
```

9.7 Property-related APIs

This section describes the operations for managing property definitions or property values.

9.7.1 Acquisition of a list of property definitions

Function

Acquires a list of property definitions for service properties or service share properties whose input/output type is in or out.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/PropertyDefinitions
```

This API acquires a list of property definitions for all services and tasks for which the user who executed the API has permissions. By specifying query parameters, you can filter the property definitions for which you want to acquire the list. Specify query parameters in the following format:

```
?query-parameter=value[&query-parameter=value...]
```

Table 9–50: List of query parameters that can be specified for API Acquisition of a list of property definitions

Query parameter	Filter condition
serviceID	Equal to the specified value
taskID	Equal to the specified value

For details about other query parameters that can be specified, see 9.2.9 Query parameter.

Example

    The following example specifies 16731 for serviceID and 512 for taskID as query parameters.

```
?serviceID=16731&taskID=512
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.

Status code	Message	Description
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

Data that matches the conditions specified by query parameters in a request is returned in the response body. The following shows the schema of the response body.

```
{
  "data" : [ {"member-of-the-resources-for-property-definition-
functionality(PropertyDefinitions)" : value ... }, ... ],
  "count" : number-of-data-items-that-matches-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of property definitions for all services and tasks.

```
Request header:

GET /Automation/v1/objects/PropertyDefinitions HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:36:09 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 5f652d484555f1b2f289a33be680d83212cd6e35_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "data" : [ {
    "instanceID" : 44,
    "keyName" : "destinationHost",
    "displayName" : "Destination Host",
    "defaultValue" : "",
    "description" : "Specify the IP address or host name of the destination
host. The destination host must be in a network environment that can
communicate with the JP1/AO server. You cannot specify more than one
destination host.",
```

```
    "mode" : "in",
    "required" : true
  }, {
    "instanceID" : 52,
    "keyName" : "destinationHost",
    "displayName" : "Destination Host",
    "defaultValue" : "",
    "description" : "Specify the IP address or host name of the destination
host. The destination host must be in a network environment that can
communicate with the JP1/AO server. You cannot specify more than one
destination host.",
    "mode" : "in",
    "required" : true
  }, {
    "instanceID" : 82,
    "keyName" : "destinationHost",
    "displayName" : "Destination Host",
    "defaultValue" : "",
    "description" : "Specify the IP address or host name of the destination
host. The destination host must be in a network environment that can
communicate with the JP1/AO server. You cannot specify more than one
destination host.",
    "mode" : "in",
    "required" : true
  }, {
    "instanceID" : 101,
    "keyName" : "destinationHost",
    "displayName" : "Destination Host",
    "defaultValue" : "",
    "description" : "Specify the IP address or host name of the destination
host. The destination host must be in a network environment that can
communicate with the JP1/AO server. You cannot specify more than one
destination host.",
    "mode" : "in",
    "required" : true
  }, {
    "instanceID" : 267,
    "keyName" : "destinationHost",
    "displayName" : "Destination Host",
    "defaultValue" : "",
    "description" : "Specify the IPv4 address, IPv6 address or host name of
the destination host. The destination host must be in a network environment
that can communicate with the JP1/AO server. You cannot specify more than
one destination host.",
    "mode" : "in",
    "required" : true
  }, {
    "instanceID" : 173,
    "keyName" : "foreachTask",
    "displayName" : "Repeatedly Executed Task",
    "defaultValue" : "",
    "description" : "Specify the full name of the jobnet to be executed
repeatedly. You cannot specify a jobnet to be executed repeatedly if it is
in a jobnet that is also executed repeatedly.",
    "mode" : "in",
    "required" : true
  }, {
    "instanceID" : 222,
```

```
      "keyName" : "stdoutProperty",
      "displayName" : "Standard Output Value",
      "defaultValue" : "",
      "description" : "Specify what is output to the standard output. Specify
one or more keys of service property or reserved property (?
dna_<propertyKey>?), literal characters, or any combination of the above.",
      "mode" : "in",
      "required" : true
   }, {
      "instanceID" : 121,
      "keyName" : "remoteHost",
      "displayName" : "Remote Host",
      "defaultValue" : "",
      "description" : "Specify the IP address or host name of the remote
host. The remote host must be in a network environment that can communicate
with the server. You cannot specify more than one remote host.",
      "mode" : "in",
      "required" : true
   }, {
      "instanceID" : 129,
      "keyName" : "remoteHost",
      "displayName" : "Remote Host",
      "defaultValue" : "",
      "description" : "Specify the IP address or host name of the remote
host. The remote host must be in a network environment that can communicate
with the server. You cannot specify more than one remote host.",
      "mode" : "in",
      "required" : true
   }, {
      "instanceID" : 144,
      "keyName" : "remoteHost",
      "displayName" : "Remote Host",
      "defaultValue" : "",
      "description" : "Specify the IP address or host name of the remote
host. The remote host must be in a network environment that can communicate
with the server. You cannot specify more than one remote host.",
      "mode" : "in",
      "required" : true
   }, {
      "instanceID" : 158,
      "keyName" : "remoteHost",
      "displayName" : "Remote Host",
      "defaultValue" : "",
      "description" : "Specify the IP address or host name of the remote
host. The remote host must be in a network environment that can communicate
with the server. You cannot specify more than one remote host.",
      "mode" : "in",
      "required" : true
   } ],
   "count" : 11
}
```

Related topic

9.7.2 Acquisition of property definition information

Function

Acquires information about the specified property definition.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/PropertyDefinitions/id
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The requested resource or operation does not exist, or the user does not have read permission for the resource.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceID" : instance-id,
  "keyName" : "key-name",
  "displayName" : "display-name",
  "defaultValue" : "default-value",
  "type" : "type",
  "visibility" : "visibility",
  "scope" : "scope",
  "description" : "description",
  "mode" : "mode",
  "required" : {true|false},
  "maxLength" : maxLength,
  "minLength" : minLength,
  "minValue" : "minRange",
  "maxValue" : "maxRange",
  "pattern" : "pattern",
  "valueList" : "valueList",
  "propertyGroupName" : "propertyGroupName"
}
```

Usage example

In the following example, the API acquires information about the property definition whose instanceID is 158.

```
Request header:

GET /Automation/v1/objects/PropertyDefinitions/158 HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:37:24 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 3096d91c11fd92d841b3513ed988ba758237cd1_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : 158,
  "keyName" : "remoteHost",
  "displayName" : "Remote Host",
  "defaultValue" : "",
  "description" : "Specify the IP address or host name of the remote host.
The remote host must be in a network environment that can communicate with
the server. You cannot specify more than one remote host.",
  "mode" : "in",
  "required" : true
}
```

9.7.3 Acquisition of a list of operations for a property definition

Function

Acquires a list of operations that can be executed for the specified property definition.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/PropertyDefinitions/id/
actions
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The request conflicts with another request, or the request does not match the current status of the object.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "data" : [ {"member-of-the-resources-for-property-definition-
functionality(PropertyDefinitions)" : value ... }, ... ],
  "count" : number-of-data-items-that-match-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of operations that can be executed for the property definition whose instanceID is 158.

```
Request header:

GET /Automation/v1/objects/PropertyDefinitions/158/actions HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:38:20 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 78d4d9d37740a76bfe7212277228eb2db759bb10_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

```
Response body:

{
  "data" : [ ],
  "count" : 0
}
```

9.7.4 Acquisition of a list of property values

Function

Acquires a list of the following values:

- Service share properties
- Properties related to a specific service
- Properties related to a specific schedule
- Properties related to a specific task

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/PropertyValues
```

This API acquires a list of property values for all services, schedules, and tasks, for which the user who executed the API has permissions. By specifying query parameters, you can filter the property values for which you want to acquire the list. Specify query parameters in the following format:

```
?query-parameter=value[&query-parameter=value...]
```

Table 9–51: Query parameters that can be set for API Acquisition of a list of property values

Query parameter	Filter condition
serviceID	Equal to the specified value
scheduleID	Equal to the specified value
taskID	Equal to the specified value

For details about other query parameters that can be specified, see 9.2.9 Query parameter.

Example

The following example specifies 16731 for serviceID and 512 for taskID as query parameters.

```
?serviceID=16731&taskID=512
```

If you want to acquire the property value for a service, schedule, or task, you need to specify a query parameter for the corresponding serviceID, scheduleID, or taskID. If no query parameter is specified, only service share properties are returned as the response.

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

Data that matches the conditions specified by query parameters in a request is returned in the response body. The following shows the schema of the response body.

```
{
  "data" : [ {"member-of-the-resources-for-property-value-management-
functionality(PropertyValues)" : value ... }, ... ],
  "count" : number-of-data-items-that-match-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of property values for all services, schedules, and tasks.

```
Request header:

GET /Automation/v1/objects/PropertyValues HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:40:06 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 56ca4c95167e4ce4aeb51fa73a85b2923d65e28e_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
```

```
Content-Type: application/json

Response body:

{
  "data" : [ {
    "instanceID" : 18,
    "type" : "boolean",
    "keyName" : "com.hitachi.software.dna.sys.mail.notify",
    "value" : "false",
  }, {
    "instanceID" : 11,
    "type" : "string",
    "keyName" : "com.hitachi.software.dna.sys.mail.smtp.server",
    "value" : "",
  }, {
    "instanceID" : 20,
    "type" : "integer",
    "keyName" : "com.hitachi.software.dna.sys.mail.smtp.port",
    "value" : "25",
  }, {
    "instanceID" : 5,
    "type" : "string",
    "keyName" : "com.hitachi.software.dna.sys.mail.smtp.userid",
    "value" : "",
  }, {
    "instanceID" : 13,
    "type" : "password",
    "keyName" : "com.hitachi.software.dna.sys.mail.smtp.password",
  }, {
    "instanceID" : 17,
    "type" : "string",
    "keyName" : "com.hitachi.software.dna.sys.mail.from",
    "value" : "",
  }, {
    "instanceID" : 12,
    "type" : "string",
    "keyName" : "com.hitachi.software.dna.sys.mail.to",
    "value" : "",
  }, {
    "instanceID" : 7,
    "type" : "string",
    "keyName" : "com.hitachi.software.dna.sys.mail.cc",
    "value" : "",
  }, {
    "instanceID" : 6,
    "type" : "string",
    "keyName" : "com.hitachi.software.dna.sys.mail.bcc",
    "value" : "",
  } ],
  "count" : 9
}
```

Related topic

-

9.7.5 Acquisition of a property value

Function

Acquires information about the specified property value.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/PropertyValues/id
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
404	Not found	The requested resource or operation does not exist, or the user does not have read permission for the resource.
412	Precondition failed	The server is not available.
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "instanceID" : instance-id,
  "type" : "type",
  "keyName" : "key-name",
  "value" : "value"
  "serviceID" : service-id,
  "scheduleID" : schedule-id,
  "taskID" : task-id
}
```

Usage example

In the following example, the API acquires information about the property value whose instanceID is 7.

```
Request header:

GET /Automation/v1/objects/PropertyValues/7 HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
```

```
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:40:54 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 2dafa6e61f242ce903f1797053d0ebfba5566_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "instanceID" : 7,
  "type" : "string",
  "keyName" : "com.hitachi.software.dna.sys.mail.cc",
  "value" : "",
}
```

9.7.6 Acquisition of a list of operations for a property value

Function

Acquires a list of operations that can be executed for the specified property value.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/objects/PropertyValues/id/actions
```

Status code

The following table describes the various status codes that can be returned as the response to a request.

Status code	Message	Description
200	OK	Processing has been successfully completed.
401	Unauthorized	The user does not have login permission.
412	Precondition failed	The server is not available.

Status code	Message	Description
500	Server-side error	A server processing error occurred.

Response schema

The following shows the structure of the response body for a request.

```
{
  "data" : [ {"member-of-the-resources-for-property-value-management-
functionality(PropertyValues)" : value ... }, ... ],
  "count" : number-of-data-items-that-match-the-conditions-specified-by-
query-parameters(0-to-n)
}
```

Usage example

In the following example, the API acquires a list of operations that can be executed for the property value whose instanceID is 7.

```
Request header:

GET /Automation/v1/objects/PropertyValues/7/actions HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 14 Jul 2014 12:41:31 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 35ddb1c916ffe060ce74527e258c78eaf78db5a_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "data" : [ ],
  "count" : 0
}
```

9.8 APIs for information management

This section describes the operations for acquiring user information, or JP1/AO and API version information.

9.8.1 Acquisition of user information

Function

Acquires information about the user who executed the API.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/user
```

Status code

For details about the status codes that can be returned as the response to a request, see the relevant topic in 9.2.17 Status code.

Response schema

The following shows the structure of the response body for a request.

```
{
  "userName" : "user-name",
  "accessPermission" : [ ... ],
  "resourceGroup" : [ {
    "instanceId" : "instance-id",
    "name" : "resource-group-name",
    "description" : "description",
    "accessPermission" : [ ... ]
  } , ... ]
}
```

Usage example

In the following example, the API acquires information about the execution user.

```
Request header:

GET /Automation/v1/user HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1
```

```
Response header:

HTTP/1.1 200 OK
Date: Mon, 28 Jul 2014 03:21:30 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO ce680e5daa37d9873f31124c64fa8c4a435c21_WIN-
JLTV0PQLK2A_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-store, no-transform
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "userName" : "System",
  "accessPermission" : [ "User Management" ],
  "resourceGroup" : [ {
    "instanceId" : "Automation_RG_ALL",
    "name" : "All Service Groups",
    "description" : "default service groups which contains all services",
    "accessPermission" : [ "View", "Execute", "Develop", "Modify", "Admin" ]
  } ]
}
```

9.8.2 Acquisition of version information

Function

Acquires the JP1/AO and API version.

Execution permissions

Admin role, Develop role, Modify role, Submit role

API version

v1

Request format

```
GET http://host:port/Automation/version/configuration/version
```

Status code

For details about the status codes that can be returned as the response to a request, see the relevant topic in 9.2.17 Status code.

Response schema

The following shows the structure of the response body for a request.

```
{
  "productName" : "product-name",
  "productVersion" : "product-version",
  "apiVersion" : "api-version"
}
```

Usage example

In the following example, the API acquires version information.

```
Request header:

GET /Automation/v1/configuration/version HTTP/1.1
Host:10.196.184.238:22015
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

Response header:

HTTP/1.1 200 OK
Date: Mon, 28 Jul 2014 04:34:59 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 4e671d509ad3cd624d83afd9da20f55c1c261193_WIN-
JLTV0PQLK2A_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Response body:

{
  "productName" : "JP1/Automatic Operation",
  "productVersion" : "10-50-00",
  "apiVersion" : "01.00.00"
}
```

9.9 API usage example

The procedure below shows an example of using an API to execute a service. First, check the instanceID of the service you want to execute. Then, specify Now for Schedule to execute the service.

1. Display a list of resources for service functionality (Services), and check the instanceID of the service you want to execute.

```
GET /Automation/v1/objects/Services/ HTTP/1.1
Host:10.197.112.78:23015
User-Agent:sample rest client/1.00.0
Accept:application/json
Accept-Language: ja
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: useragent1

HTTP/1.1 200 OK
Date: Mon, 18 Aug 2014 11:15:01 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO b8712c86fcd026562182a358ea43bb23b09c62_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

{
  "data" : [ {
    "instanceID" : 2269, <- Check instanceID.
    "name" : "Execute remote command",
    "description" : "Executes a command on the remote execution target
server.",
    "tags" : "OS_Operations,Basic",
    "serviceTemplateName" : "Execute remote command",
    "createTime" : "2014-08-18T16:53:50.000+0900",
    "modifyTime" : "2014-08-18T16:53:58.000+0900",
    "serviceState" : "release",
    "serviceGroupName" : "All Resources",
    "iconURL" : "http://10.197.112.78:23015/Automation/icon/services/
com.hitachi.software.dna.cts.jp1/remoteCommandExe/01.10.00",
    "vendorName" : "Hitachi,Ltd.",
    "version" : "01.10.00",
    "latest" : true,
    "imageURL" : "http://10.197.112.78:23015/Automation/resources/images/
overview/overview.png",
    "serviceTemplateID" : 2204,
    "serviceGroupID" : 2
  } ],
  "count" : 1
}
```

2. Acquire a list of operations that can be performed for the resource that has the instanceID you checked above.

```
GET /Automation/v1/objects/Services/2269/actions HTTP/1.1
Host:10.197.112.78:23015
```

```
User-Agent:sample rest client/1.00.0
Accept:application/json
Accept-Language: ja
Authorization: HSSO b8712c86fcd026562182a358ea43bb23b09c62_V0300

HTTP/1.1 200 OK
Date: Mon, 18 Aug 2014 11:24:41 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO b365e6a2cda2b4d195d55fee1461a6ed0889927_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

{
  "data" : [ {
    "name" : "submit", <- Check the href information of submit that is
used to execute the service.
    "href" : "http://10.197.112.78:23015/Automation/v1/objects/Services/
2269/actions/submit/invoke",
    "method" : "POST",
    "parameters" : [ ]
  } ],
  "count" : 1
}
```

3. Acquire the request body information necessary for executing the specified service.

```
GET /Automation/v1/objects/Services/2269/actions/submit HTTP/1.1
Host:10.197.112.78:23015
User-Agent:sample rest client/1.00.0
Accept:application/json
Accept-Language: ja
Authorization: HSSO b8712c86fcd026562182a358ea43bb23b09c62_V0300

HTTP/1.1 200 OK
Date: Mon, 18 Aug 2014 11:26:00 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 1b9b5891c58315e26cd0cca9aac6d43e572e3db_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

Output the response to the properties.json file.
```

Contents of `properties.json`

```
{
  "name" : "submit",
  "href" : "http://10.197.112.78:23015/Automation/v1/objects/Services/
2269/actions/submit/invoke",
```

```
    "method" : "POST",
    "parameters" : [ {
      "name" : "Execute remote command_20140818202600",
      "submitter" : "System",
      "scheduleType" : "immediate",
      "description" : "",
      "scheduledStartTime" : "2014-08-18T20:26:00.536+09:00",
      "recurrenceInterval" : "daily",
      "recurrenceDayOfWeek" : "",
      "recurrenceDayOfMonth" : "",
      "recurrenceLastDayOfMonth" : false,
      "recurrenceStartDate" : "2014-08-18",
      "recurrenceTime" : "00:00:00",
      "serviceID" : 2269
    }, {
      "instanceID" : 2275,
      "type" : "string",
      "keyName" : "common.targetHost",
      "value" : "",
      "serviceID" : 2269
    }, {
      "instanceID" : 2271,
      "type" : "string",
      "keyName" : "common.remoteCommand",
      "value" : "",
      "serviceID" : 2269
    }, {
      "instanceID" : 2273,
      "type" : "string",
      "keyName" : "common.remoteCommandParameter",
      "value" : "",
      "serviceID" : 2269
    } ]
}
```

4. Edit the acquired template information as necessary. The following is an example of when Now is specified for Schedule.

```
{
  "name" : "submit",
  "href" : "http://10.197.112.78:23015/Automation/v1/objects/Services/
2269/actions/submit/invoke",
  "method" : "POST",
  "parameters" : [ {
    "name" : "Execute remote command_20140818202600",
    "submitter" : "System",
    "scheduleType" : "immediate", <- Specify "immediate".
    "description" : "",
    "scheduledStartTime" : "2014-08-18T20:26:00.536+09:00",
    "recurrenceInterval" : "daily",
    "recurrenceDayOfWeek" : "",
    "recurrenceDayOfMonth" : "",
    "recurrenceLastDayOfMonth" : false,
    "recurrenceStartDate" : "2014-08-18",
    "recurrenceTime" : "00:00:00",
    "serviceID" : 2269
  }, {
    "instanceID" : 2275,
```

```
      "type" : "string",
      "keyName" : "common.targetHost",
      "value" : "",   <- Change value as necessary.
      "serviceID" : 2269
   }, {
      "instanceID" : 2271,
      "type" : "string",
      "keyName" : "common.remoteCommand",
      "value" : "hostname",   <- Change value as necessary.
      "serviceID" : 2269
   }, {
      "instanceID" : 2273,
      "type" : "string",
      "keyName" : "common.remoteCommandParameter",
      "value" : "",   <- Change value as necessary.
      "serviceID" : 2269
   } ]
}
```

5. Execute the service by using the edited information.

```
POST /Automation/v1/objects/Services/2269/actions/submit/invoke HTTP/1.1
Host:10.197.112.78:23015
User-Agent:sample rest client/1.00.0
Accept:application/json
Accept-Language: ja
Content-Type: application/json
Content-Length: 1087
Authorization: HSSO b8712c86fcd026562182a358ea43bb23b09c62_V0300

Request the contents of properties.json.


HTTP/1.1 200 OK
Date: Mon, 18 Aug 2014 11:39:03 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 8ba382c1f2e81a65d7a252391b262624c6fa61_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

{
  "instanceID" : "4a9141e4-9566-4e42-af08-0f09926f2a5f",
  "created" : "2014-08-18T20:39:04.242+0900",
  "updated" : "2014-08-18T20:39:04.242+0900",
  "completed" : "2014-08-18T20:39:04.242+0900",
  "state" : "success",
  "affectedResource" : [ "http://10.197.112.78:23015/Automation/v1/
objects/Schedules/2285" <- URL of the created schedule resource,
 "http://10.197.112.78:23015/Automation/v1/objects/Tasks/2280" <- URL of
the created task resource ],
  "result" : [ ]
}
```

Acquire the Schedule resource created by execution of the service, and check the contents of the resource.

```
GET /Automation/v1/objects/Schedules/2285 HTTP/1.1
Host:10.197.112.78:23015
User-Agent:sample rest client/1.00.0
Accept:application/json
Accept-Language: ja
Authorization: HSSO b8712c86fcd026562182a358ea43bb23b09c62_V0300

HTTP/1.1 200 OK
Date: Mon, 18 Aug 2014 11:43:00 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO cafcefb87199122267f8ad33772555f9357c8a2_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

{
  "instanceID" : 2285,
  "name" : "Execute remote command_20140818202600",
  "submitter" : "System",
  "scheduleType" : "immediate",
  "createTime" : "2014-08-18T20:39:03.000+0900",
  "modifyTime" : "2014-08-18T20:39:03.000+0900",
  "description" : "",
  "serviceState" : "release",
  "serviceID" : 2269
}
```

6. Acquire the Task resource created by execution of the service, and check the contents of the resource.

```
GET /Automation/v1/objects/Tasks/2280 HTTP/1.1
Host:10.197.112.78:23015
User-Agent:sample rest client/1.00.0
Accept:application/json
Accept-Language: ja
Authorization: HSSO b8712c86fcd026562182a358ea43bb23b09c62_V0300

HTTP/1.1 200 OK
Date: Mon, 18 Aug 2014 11:43:59 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 3713abcd1e99d1481c7b92cc9892a95d1a702d6_V0300
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

{
  "instanceID" : 2280,
  "name" : "Execute remote command_20140818202600",
  "status" : "failed",
```

```
    "startTime" : "2014-08-18T20:39:04.000+0900",
    "endTime" : "2014-08-18T20:39:13.000+0900",
    "submitter" : "System",
    "submitTime" : "2014-08-18T20:39:03.000+0900",
    "modifyTime" : "2014-08-18T20:39:19.000+0900",
    "serviceState" : "release",
    "scheduleType" : "immediate",
    "description" : "",
    "serviceName" : "Execute remote command",
    "tags" : "",
    "serviceGroupName" : "All Resources",
    "serviceTemplateID" : 2204,
    "scheduleID" : 2285,
    "serviceGroupID" : 2,
    "serviceID" : 2269
}
```

Appendix

A. Reference Information

This appendix provides reference information about how to use JP1/AO.

A.1 List of limit values for JP1/AO windows

This section contains a table that lists the limit values of windows used in JP1/AO.

Table A–1: List of limit values for JP1/AO windows

Window name	Item	Limit value	Default	Available character
Login window	String allowed in the **User ID** text box	256 characters	None	Half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, −, ., =, @, \, ^, _, |
	String allowed in the **Password** text box	256 characters	None	Half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, −, ., =, @, \, ^, _, |
	Number of terminals that can concurrently connect to JP1/AO on the same server	64	n/a	n/a
Main window	Date that can be specified with the calendar in the filter area	From 1994-01-01 to 2036-12-31	None	n/a
	Number of main windows that can be concurrently opened on the same host	2	n/a	n/a
	Maximum number of filter conditions	20	n/a	n/a
Services window	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area: • Service • Resource Group • Category • Description • Service Template • Vendor • Version	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	Number of **Service Details** windows that can be opened from the **Services** window	No limit.	n/a	n/a
Submit Service dialog box	String allowed in the **Name** text box	128 characters	*service-name_YYYYMMDDhhmmss* (Date and time when the	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)

Window name	Item	Limit value	Default	Available character
Submit Service dialog box	String allowed in the **Name** text box	128 characters	service is performed)	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text box of the list of properties (string)	1,024 characters	The default value defined in the service definition information contained in the service template. If no default value is defined, nothing is displayed.	Any characters defined as restricted characters in the service definition information contained in the service template, other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text box of the list of properties (integer)	From -2147483648 to 2147483647		
	String allowed in the **Value** text box of the list of properties (double)	A numeric value approximately from $\pm 4.9 \times 10^{-324}$ to $\pm 1.7 \times 10^{308}$ Note that, however, you cannot enter the value in exponential form.		
	String allowed in the **Value** text box of the list of properties (password)	1,024 characters		
	Date that can be specified in the calendar displayed by clicking the **Calendar** button of the list of properties	From 1900-01-01 to 2100-12-31		n/a
	Date that can be specified in the calendar displayed by clicking the **Calendar** button of the **Schedule Starts On** text box	From 1994-01-01 to 2036-12-31	None	n/a
	Schedule Time spin box (hour)	23	None	Half-width numeric characters
	Schedule Time spin box (minute)	59	None	Half-width numeric characters
	Recurrence Time spin box (hour)	23	None	Half-width numeric characters
	Recurrence Time spin box (minute)	59	None	Half-width numeric characters
	Recurrence Date text box	92 characters	None	Half-width numeric characters from 1 to 31 and **,**
	Number of **Submit Service** dialog boxes that can be opened from a single main window	No limit.	n/a	n/a
	Number of **Service Details** windows that can be opened from the	No limit.	n/a	n/a

Window name	Item	Limit value	Default	Available character
Submit Service dialog box	**Submit Service** dialog box	No limit.	n/a	n/a
	Number of characters that can be specified for the query parameter for the direct access URL	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Add Service dialog box	String allowed in the **Service Name** text box	64 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	None	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \ Note that, however, you cannot use / and , at the beginning or end of the character string.
	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area: • Category • Description • Name • Vendor • Version	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	Number of **Service Details** windows that can be opened from the **Add Service** dialog box	No limit.	n/a	n/a
Service Definition dialog box	String allowed in the **Name** text box	64 characters	The name of the service to be defined	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description set for the service to be defined	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	The category name set for the service to be defined	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \ Note that, however, you cannot use / and , at the beginning or end of the character string.
	String allowed in the **Value** text box of the list of properties (string)	1,024 characters	The default value defined in the service definition information contained in the service template.	Any characters defined as restricted characters in the service definition information contained in the service template, other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text box of the list of properties (integer)	From -2147483648 to 2147483647		

Window name	Item	Limit value	Default	Available character
Service Definition dialog box	String allowed in the **Value** text box of the list of properties (double)	A numeric value approximately from $\pm 4.9 \times 10^{-324}$ to $\pm 1.7 \times 10^{308}$ Note that, however, you cannot enter the value in exponential form.	If no default value is defined, nothing is displayed.	Any characters defined as restricted characters in the service definition information contained in the service template, other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text box of the list of properties (password)	1,024 characters		
	Date that can be specified in the calendar displayed by clicking the **Calendar** button of the list of properties	From 1900-01-01 to 2100-12-31		n/a
	Number of **Service Definition** dialog boxes that can be opened from a single main window	No limit.	n/a	n/a
	Number of **Service Details** windows that can be opened from the **Service Definition** dialog box	No limit.	n/a	n/a
	Number of characters that can be specified for the query parameter for the direct access URL	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Tasks view, **Task Histories** view, related dialog boxes for tasks	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area: • Task • Description • Service • Resource Group • Category • Submitted By	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	Numeral value allowed in the **Value** text field if **ID** is selected in the **Attribute** list box in the filter area	9999999999999999	None	Half-width numeric characters
	Time (in hours) allowed in the text field to enter a time if one of the following attributes is selected in the **Attribute** list box in the filter area:	23	0	n/a

Window name	Item	Limit value	Default	Available character
Tasks view, **Task Histories** view, related dialog boxes for tasks	• Scheduled Time • Start Time • End Time • Submitted At • Recurrence Time	23	0	n/a
	Time (in minutes) allowed in the text field to enter a time if one of the following attributes is selected in the **Attribute** list box in the filter area: • Scheduled Time • Start Time • End Time • Submitted At • Recurrence Time	59	0	n/a
	Time (in seconds) allowed in the text field to enter a time if one of the following attributes is selected in the **Attribute** list box in the filter area: • Scheduled Time • Start Time • End Time • Submitted At • Recurrence Time	59	0	n/a
Debug-Tasks view	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area: • Task Name • Task Description • Service Name • Resource Group • Category • Submitted By • Service Template Name • Vendor Name • Version	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	Numeral value allowed in the **Value** text field if **Task ID** is selected in the **Attribute** list box in the filter area	9999999999999999	None	Half-width numeric characters
	Time (in hours) allowed in the text field to enter a time if one of the	23	0	n/a

Window name	Item	Limit value	Default	Available character
Debug-Tasks view	following attributes is selected in the **Attribute** list box in the filter area: • Start Time • End Time	23	0	n/a
	Time (in minutes) allowed in the text field to enter a time if one of the following attributes is selected in the **Attribute** list box in the filter area: • Start Time • End Time	59	0	n/a
	Time (in seconds) allowed in the text field to enter a time if one of the following attributes is selected in the **Attribute** list box in the filter area: • Start Time • End Time	59	0	n/a
Task Details dialog box	Number of **Task Details** dialog boxes that can be opened from a single main window	No limit.	n/a	n/a
	Number of characters that can be specified for the query parameter for the direct access URL	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Respond dialog box	Number of **Respond** dialog boxes that can be opened from a single main window, **Task Details** dialog box, or **Tasks** view	No limit.	n/a	n/a
Connection Destinations view	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area: • Destination • Resource Group • User ID	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create Connection Destination dialog box	String allowed in the **Destination** text box (if **Host Name** is selected in the **Type** list box)	1,024 characters	None	Any characters allowed in regular expression format supported by Java SE5
	String allowed in the **Destination** text box (if	1,024 characters	None	Half-width numeric characters, *, -, .

Window name	Item	Limit value	Default	Available character
Create Connection Destination dialog box	**IPv4** is selected in the **Type** list box)	1,024 characters	None	Half-width numeric characters, *, −, .
	String allowed in the **Destination** text box (if **IPv6** is selected in the **Type** list box)	1,024 characters	None	• Any characters allowed in unicast addresses formatted according to RFC 2373 • Any characters allowed in network prefixes formatted according to RFC 2373 • * (asterisk)
	String allowed in the **User ID** text box	256 characters	None	Half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, −, ., =, @, \, ^, _, |
	String allowed in the **Password** text box	256 characters	None	Half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, −, ., =, @, \, ^, _, |
	String allowed in the **Superuser Password** text box	256 characters	None	ASCII-code characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Connection Destination dialog box	String allowed in the **Destination** text box (if **Host Name** is selected in the **Type** list box)	1,024 characters	The destination of connection set up in the selected definitions of the connection destinations	Any characters allowed in regular expression format supported by Java SE5
	String allowed in the **Destination** text box (if **IPv4** is selected in the **Type** list box)	1,024 characters	The destination of connection set up in the selected definitions of the connection destinations	Half-width numeric characters, *, −, .
	String allowed in the **Destination** text box (if **IPv6** is selected in the **Type** list box)	1,024 characters	The destination of connection set up in the selected definitions of the connection destinations	• Any characters allowed in unicast addresses formatted according to RFC 2373 • Any characters allowed in network prefixes formatted according to RFC 2373 • * (asterisk)
	String allowed in the **User ID** text box	256 characters	The user ID set up in the selected definitions of the connection destinations	Half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, −, ., =, @, \, ^, _, |
	String allowed in the **Password** text box	256 characters	The password set up in the selected definitions of the connection destinations	Half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, −, ., =, @, \, ^, _, |
	String allowed in the **Superuser Password** text box	256 characters	The superuser's password set up in the selected definitions of the connection destinations	ASCII-code characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Service Share Properties view	String allowed in the **Value** text field if one of the following attributes is selected in the	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)

Window name	Item	Limit value	Default	Available character
Service Share Properties view	**Attribute** list box in the filter area: • Property • Description • Value	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text field if **Key** is selected in the **Attribute** list box in the filter area	128 characters	None	Half-width alphanumeric characters, −, _, .
	Numerical value allowed in the **Value** text field if **No.** is selected in the **Attribute** list box in the filter area	2147483647	None	Half-width numeric characters
Users and Permissions window, **Add Users** dialog box (Users and Permissions), **Edit Profile** dialog box, **Change Password** dialog box	String allowed in the **User ID** text box	256 characters	None	Half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, −, ., ., =, @, \, ^, _, |
	String allowed in the **Password** text box	256 characters	None	Half-width alphanumeric characters, !, #, $, %, &, ', (,), *, +, −, ., ., =, @, \, ^, _, |
	String allowed in the **Full Name** text box	80 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F) You cannot enter two or more consecutive $ characters.
	String allowed in the **E-mail** text box	255 bytes	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	80 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	Number of **Users and Permissions** windows that can be opened from a single main window	1	n/a	n/a
Add Groups dialog box	String allowed in the **Distinguished Name** text box	250 characters	None	Any characters that can be used to specify identification names in compliance with RFC 4514
User Groups view	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area for **User Groups**: • User Group • Description • Distinguished Name	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text field if **No. of Users** is selected in the **Attribute** list box in the filter area for **User Groups**	2147483647	None	Half-width numeric characters
	String allowed in the **Value** text field if one of	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)

Window name	Item	Limit value	Default	Available character
User Groups view	the following attributes is selected in the **Attribute** list box in the filter area for **Users**: • User ID • Full Name • Description • User Group	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create User Group dialog box	String allowed in the **Name** text box	64 characters	None	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • ", *, ,, /, :, ;, <, >, ?, |, \, multi-byte characters The existing user group names and the user group names with only half- and full-width space characters are not allowed.
	String allowed in the **Description** text box	80 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area for **Users**: • User ID • Full Name • User Groups	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area for **Resource Groups**: • Resource Group • Description • User Groups	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text field if **Product** is selected in the **Attribute** list box in the filter area for **Resource Groups**	256 characters	None	Any characters other than the control characters
Add Users dialog box (User Groups)	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area for **Users**: • User ID • Full Name • User Groups	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)

Window name	Item	Limit value	Default	Available character
Add Resource Groups dialog box, **Edit Roles** dialog box	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area: • Description • User Groups • Resource Group	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit User Group dialog box	String allowed in the **Name** text box	64 characters	The name of the selected user group	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • ", *, ,, /, :, ;, <, >, ?, |, \, multi-byte characters The existing user group names and the user group names with only half- and full-width space characters are not allowed.
	String allowed in the **Description** text box	80 characters	The description for the selected user group	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area for **Users**: • User ID • Full Name • User Groups	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area for **Resource Groups**: • Resource Group • Description • User Groups	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text field if **Product** is selected in the **Attribute** list box in the filter area for **Resource Groups**	256 characters	None	Any characters other than the control characters
Assign User Groups dialog box	String allowed in the **Value** text field if **User Group** or **Description** is selected in the **Attribute** list box in the filter area for **Available User Groups** and **Selected User Groups**	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)

Window name	Item	Limit value	Default	Available character
Assign User Groups dialog box	Numerical value allowed in the **Value** text field if **No. of Users** is selected in the **Attribute** list box in the filter area for **Available User Groups** and **Selected User Groups**	2147483647	None	Half-width numeric characters
Resource Groups view	String allowed in the **Value** text field if one of the following attributes is selected in the **Attribute** list box in the filter area: • Resource Group • Description • User Groups	4,096 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create Resource Group dialog box	String allowed in the **Name** text box	63 characters	None	Half-width alphanumeric characters, _
	String allowed in the **Description** text box	80 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Resource Group dialog box	String allowed in the **Name** text box	63 characters	The name of the selected resource group	Half-width alphanumeric characters, _
	String allowed in the **Description** text box	80 characters	The description for the selected resource group	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
User Profile window	Number of **User Profile** windows that can be opened from a single main window	1	n/a	n/a
Plug-in view (**Release** tab)	String allowed in the **Quick Find** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Plug-in view (**Under Development** tab)	String allowed in the **Quick Find** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Copy Plug-in dialog box	String allowed in the **ID** text box	64 characters	The ID of the plug-in to be copied	Half-width alphanumeric characters, -, _, . An error occurs in any of the following cases: • Any of the following strings is contained: CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, or LPT9 • A period (.) is used at the beginning or end of the string.
	String allowed in the **Version** text box	8 characters	The version of the plug-in to be copied	Half-width numeric characters, .

Window name	Item	Limit value	Default	Available character
Copy Plug-in dialog box	String allowed in the **Vendor ID** text box	64 characters	The ID of the vendor of the plug-in to be copied Note that, however, if the ID of the vendor of the plug-in to be copied begins with `com.hitachi. software.dna`, nothing is displayed.	Half-width alphanumeric characters, -, _, . An error occurs in any of the following cases: • Any of the following strings is contained: `CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, or LPT9` • A period (`.`) is used at the beginning or end of the string. • The ID begins with `com.hitachi.software.dna.`
	String allowed in the **Name** text box	64 characters	The name of the plug-in to be copied	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Vendor Name** text box	64 characters	The name of the vendor of the plug-in to be copied Note that, however, if the ID of the vendor of the plug-in to be copied begins with `com.hitachi. software.dna`, nothing is displayed.	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the plug-in to be copied	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	The name of the category of the plug-in to be copied	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \ Note that, however, you cannot use `/` and `,` at the beginning or end of the character string.
Create Plug-in dialog box	String allowed in the **ID** text box	64 characters	None	Half-width alphanumeric characters, -, _, . An error occurs in any of the following cases: • Any of the following strings is contained: `CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, or LPT9` • A period (.) is used at the beginning or end of the string.
	String allowed in the **Version** text box	8 characters	01.00.00	Half-width numeric characters, `.`
	String allowed in the **Vendor ID** text box	64 characters	None	Half-width alphanumeric characters, -, _, . An error occurs in any of the following cases: • Any of the following strings is contained: `CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8,`

Window name	Item	Limit value	Default	Available character
Create Plug-in dialog box	String allowed in the **Vendor ID** text box	64 characters	None	`COM9`, `LPT0`, `LPT1`, `LPT2`, `LPT3`, `LPT4`, `LPT5`, `LPT6`, `LPT7`, `LPT8`, or `LPT9` • A period (.) is used at the beginning or end of the string. • The ID begins with `com.hitachi.software.dna.`
	String allowed in the **Name** text box	64 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Vendor Name** text box	64 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	None	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \\ Note that, however, you cannot use / and , at the beginning or end of the character string.
Edit Plug-in dialog box	String allowed in the **Name** text box	64 characters	The name of the plug-in to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Vendor Name** text box	64 characters	The name of the vendor of the plug-in to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the plug-in to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	The name of the category of the plug-in to be edited	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \\ Note that, however, you cannot use / and , at the beginning or end of the character string.
Create Input Property for Plug-in dialog box	String allowed in the **Key** text box	128 characters	None	Half-width alphanumeric characters, -, _, . Note that, however, you cannot specify a property key that begins with `reserved.` (lower case) or `plugin.` (lower case).
	String allowed in the **Name** text box	128 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Input Property for Plug-in dialog box	String allowed in the **Key** text box	128 characters	The key of the property to be edited	Half-width alphanumeric characters, -, _, . Note that, however, you cannot specify a property key that begins with `reserved.` (lower case) or `plugin.` (lower case).

Window name	Item	Limit value	Default	Available character
Edit Input Property for Plug-in dialog box	String allowed in the **Name** text box	128 characters	The name of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box	1,024 characters	The default value of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create Output Property for Plug-in dialog box	String allowed in the **Key** text box	128 characters	None	Half-width alphanumeric characters, −, _, . Note that, however, you cannot specify a property key that begins with reserved. (lower case) or plugin. (lower case).
	String allowed in the **Name** text box	128 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Output Property for Plug-in dialog box	String allowed in the **Key** text box	128 characters	The key of the property to be edited	Half-width alphanumeric characters, −, _, . Note that, however, you cannot specify a property key that begins with reserved. (lower case) or plugin. (lower case).
	String allowed in the **Name** text box	128 characters	The name of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Remote Command dialog box	String allowed in the **Command line** text box	8,192 characters	The command line that has already been set Note that, however, if no command line has been set, nothing is displayed.	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **File Name** text box	90 characters	The file name that has already been set Note that, however, if no file name has been set, nothing is displayed.	ASCII-code characters Note that, however, you cannot specify any of the following characters: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • ?, *, ", >, <, |, :, /, \ • Multi-byte characters Also, you cannot specify a string that contains any of the following strings: CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, or LPT9
	String allowed as a name of the script file to be attached	90 characters	The script file that has already been set Note that, however, if no script file has been set, **(Select File)** is displayed.	

Window name	Item	Limit value	Default	Available character
Edit Remote Command dialog box	String allowed in the **Script** text box	5,000 characters	The script that has already been set Note that, however, if no script has been set, nothing is displayed.	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F) Note that, however, tabs (\u0009) and linefeeds (\u000D, \u000A) are allowed.
	String allowed in the **Execution Directory** text box	256 characters	The execution directory that has already been set Note that, however, if no execution directory has been set, nothing is displayed.	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create Environment Variable dialog box	String allowed in the **Name** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text box	2,048 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Environment Variable dialog box	String allowed in the **Name** text box	256 characters	The name of the environment variable to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Value** text box	2,048 characters	The value of the environment variable to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Output Filter dialog box	String allowed in the **Output Filter** text box	1,024 characters	The output filter that has already been set Note that, however, if no output filter has been set, nothing is displayed.	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Standard Output / Standard Error Output** text box	500,000 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F) Note that, however, tabs (\u0009) and linefeeds (\u000D, \u000A) are allowed.
Create Service Template dialog box	String allowed in the **ID** text box	64 characters	None	Half-width alphanumeric characters, −, _, . An error occurs in any of the following cases: • Any of the following strings is contained: CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, or LPT9 • A period (.) is used at the beginning or end of the string.
	String allowed in the **Version** text box	8 characters	01.00.00	Half-width numeric characters, .

Window name	Item	Limit value	Default	Available character
Create Service Template dialog box	String allowed in the **Vendor ID** text box	64 characters	None	Half-width alphanumeric characters, -, _, . An error occurs in any of the following cases: • Any of the following strings is contained: CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, or LPT9 • A period (.) is used at the beginning or end of the string. • The ID begins with com.hitachi.software.dna.
	String allowed in the **Name** text box	64 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Vendor Name** text box	64 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	None	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \ Note that, however, you cannot use / and , at the beginning or end of the character string.
Service Template List dialog box	String allowed in the **Quick Find** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Copy Service Template dialog box	**ID** text box	64 characters	The ID of the service template to be copied	Half-width alphanumeric characters, -, _, . An error occurs in any of the following cases: • Any of the following strings is contained: CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, or LPT9 • A period (.) is used at the beginning or end of the string.
	String allowed in the **Version** text box	8 characters	The version of the service template to be copied	Half-width numeric characters, .
	String allowed in the **Vendor ID** text box	64 characters	The ID of the vendor of the service template to be copied Note that, however, if this ID begins with com.hitachi. software.dna, nothing is displayed.	Half-width alphanumeric characters, -, _, . An error occurs in any of the following cases: • Any of the following strings is contained: CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, or LPT9 • A period (.) is used at the beginning or end of the string. • The ID begins with com.hitachi.software.dna.

Window name	Item	Limit value	Default	Available character
Copy Service Template dialog box	String allowed in the **Name** text box	64 characters	The name of the service template to be copied	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Vendor Name** text box	64 characters	The name of the vendor of the service template to be copied Note that, however, if this ID begins with com.hitachi. software.dna , nothing is displayed.	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the service template to be copied	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	The name of the category of the service template to be copied	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \ Note that, however, you cannot use / and , at the beginning or end of the character string.
Perform Debugging dialog box	String allowed in the **Service Name** text box	64 characters	[DEBUG]*service-template-name*	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	The name of the category of the service template to be debugged	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \ Note, however, that you cannot use / or , at the beginning or end of the character string.
	String allowed in the **Task Name** text box	128 characters	[DEBUG]*service-template-name_YYYYMMDDhhmmss* (date and time that the service template was debugged)	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Task Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Property Value** text box of the list of properties (string)	1,024 characters	The default value defined in the service definition information contained in the service template. If no default value is defined, nothing is displayed.	Any characters defined as restricted characters in the service definition information contained in the service template, other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Property Value** text box of the list of properties (integer)	From -2147483648 to 2147483647		

Window name	Item	Limit value	Default	Available character
Perform Debugging dialog box	String allowed in the **Property Value** text box of the list of properties (double)	A numeric value approximately from $\pm 4.9 \times 10^{-324}$ to $\pm 1.7 \times 10^{308}$ Note, however, that you cannot enter the value in exponential form.	The default value defined in the service definition information contained in the service template. If no default value is defined, nothing is displayed.	Any characters defined as restricted characters in the service definition information contained in the service template, other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Property Value** text box of the list of properties (password)	1,024 characters		
	Date that can be specified in the calendar displayed by clicking the Calendar button of the list of properties	From 1900-01-01 to 2100-12-31		n/a
Edit Service Definition dialog box	String allowed in the **Name** text box	64 characters	The name of the service template to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Vendor Name** text box	64 characters	The name of the vendor of the service template to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the service template to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Category** text box	256 characters	The name of the category of the service template to be edited	Any characters other than the following: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • \\ Note that, however, you cannot use / and , at the beginning or end of the character string.
	String allowed as a file name for **Custom Files**	64 characters	The custom file that has been specified for the service template to be edited	Any characters other than the following: • Surrogate pair characters • Multi-byte characters
	String allowed in the **Custom File Name for Service Details Dialog** text box	64 characters	The name of the Service Details window file that has been set for the service template to be edited	ASCII-code characters Note that, however, you cannot specify any of the following characters: • Control characters (from \u0000 to \u001F and from \u007F to \u009F) • ?, *, ", >, <, |, :, \\ • Multi-byte characters An error occurs in any of the following cases: • Any of the following strings is contained in the folder name or file name: CON, PRN, AUX, CLOCK$, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8,

Window name	Item	Limit value	Default	Available character
Edit Service Definition dialog box	String allowed in the **Custom File Name for Service Details Dialog** text box	64 characters	The name of the Service Details window file that has been set for the service template to be edited	`COM9`, `LPT0`, `LPT1`, `LPT2`, `LPT3`, `LPT4`, `LPT5`, `LPT6`, `LPT7`, `LPT8`, or `LPT9` • A forward slash (`/`) or period (`.`) is used at the beginning or end of the string. • Two or more successive forward slashes are entered.
Create Property Group dialog box	String allowed in the **ID** text box	32 characters	None	Half-width alphanumeric characters, `-`, `_`, `.`
	String allowed in the **Name** text box	64 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Property Group dialog box	String allowed in the **ID** text box	32 characters	The ID of the property group to be edited	Half-width alphanumeric characters, `-`, `_`, `.`
	String allowed in the **Name** text box	64 characters	The name of the property group to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the property group to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create Input Property for Service dialog box	String allowed in the **Key** text box	128 characters	None	Half-width alphanumeric characters, `-`, `_`, `.` Note that, however, you cannot specify a property key that begins with `reserved.` (lower case).
	Name text box	128 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **string** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **integer** is specified for **Data Type**	From -2147483648 to 2147483647	None	Half-width numeric characters, `-`
	String allowed in the **Default Value** text box when **double** is specified for **Data Type**	17 characters (from -99999999999999999 to 99999999999999999)	None	Half-width numeric characters, `-`, `.`
	String allowed in the **Default Value** text box when **date** is specified for **Data Type**	From 1900-01-01 to 2100-12-31	None	n/a
	String allowed in the **Default Value** text box when **password** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)

A. Reference Information

Window name	Item	Limit value	Default	Available character
Create Input Property for Service dialog box	String allowed in the **Default Value** text box when **list** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Minimum Length** text box when **string** is specified for **Data Type**	From 0 to 1024	None	Half-width numeric characters
	String allowed in the **Minimum Length** text box when **password** is specified for **Data Type**	From 0 to 1024	None	Half-width numeric characters
	String allowed in the **Maximum Length** text box when **string** is specified for **Data Type**	From 1 to 1024	None	Half-width numeric characters
	String allowed in the **Maximum Length** text box when **password** is specified for **Data Type**	From 1 to 1024	None	Half-width numeric characters
	String allowed in the **Restricted Character** text box when **string** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Restricted Character** text box when **password** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Minimum Value** text box when **integer** is specified for **Data Type**	From -2147483648 to 2147483647	None	Half-width numeric characters, -
	String allowed in the **Minimum Value** text box when **double** is specified for **Data Type**	17 characters (from -999999999999999 to 999999999999999)	None	Half-width numeric characters, -, .
	String allowed in the **Minimum Value** text box when **date** is specified for **Data Type**	From 1900-01-01 to 2100-12-31	None	n/a
	String allowed in the **Maximum Value** text box when **integer** is specified for **Data Type**	From -2147483648 to 2147483647	None	Half-width numeric characters, -
	String allowed in the **Maximum Value** text box when **double** is specified for **Data Type**	17 characters (from -999999999999999 to 999999999999999)	None	Half-width numeric characters, -, .

Window name	Item	Limit value	Default	Available character
Create Input Property for Service dialog box	String allowed in the **Maximum Value** text box when **date** is specified for **Data Type**	From 1900-01-01 to 2100-12-31	None	n/a
	String allowed in the **Specify List Items** text box	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Input Property for Service dialog box	String allowed in the **Key** text box	128 characters	The key of the property to be edited	Half-width alphanumeric characters, –, _, . Note that, however, you cannot specify a property key that begins with reserved. (lower case).
	String allowed in the **Name** text box	128 characters	The name of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **string** is specified for **Data Type**	1,024 characters	The default value of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **integer** is specified for **Data Type**	From -2147483648 to 2147483647	The default value of the property to be edited	Half-width numeric characters, –
	String allowed in the **Default Value** text box when **double** is specified for **Data Type**	17 characters (from -99999999999999999 to 99999999999999999)	The default value of the property to be edited	Half-width numeric characters, –, .
	String allowed in the **Default Value** text box when **date** is specified for **Data Type**	From 1900-01-01 to 2100-12-31	The default value of the property to be edited	n/a
	String allowed in the **Default Value** text box when **password** is specified for **Data Type**	1,024 characters	The default value of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **list** is specified for **Data Type**	1,024 characters	The default value of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Minimum Length** text box when **string** is specified for **Data Type**	From 0 to 1024	The minimum length of the property to be edited	Half-width numeric characters
	String allowed in the **Minimum Length** text box when **password** is specified for **Data Type**	From 0 to 1024	The minimum length of the property to be edited	Half-width numeric characters

Window name	Item	Limit value	Default	Available character
Edit Input Property for Service dialog box	String allowed in the **Maximum Length** text box when **string** is specified for **Data Type**	From 1 to 1024	The maximum length of the property to be edited	Half-width numeric characters
	String allowed in the **Maximum Length** text box when **password** is specified for **Data Type**	From 1 to 1024	The maximum length of the property to be edited	Half-width numeric characters
	String allowed in the **Restricted Character** text box when **string** is specified for **Data Type**	1,024 characters	The restrictions on the characters that has been specified for the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Restricted Character** text box when **password** is specified for **Data Type**	1,024 characters	The restrictions on the characters that has been specified for the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Minimum Value** text box when **integer** is specified for **Data Type**	From -2147483648 to 2147483647	The minimum value of the property to be edited	Half-width numeric characters, -
	String allowed in the **Minimum Value** text box when **double** is specified for **Data Type**	17 characters (from -999999999999999 to 999999999999999)	The minimum value of the property to be edited	Half-width numeric characters, -, .
	String allowed in the **Minimum Value** text box when **date** is specified for **Data Type**	From 1900-01-01 to 2100-12-31	The minimum value of the property to be edited	n/a
	String allowed in the **Maximum Value** text box when **integer** is specified for **Data Type**	From -2147483648 to 2147483647	The maximum value of the property to be edited	Half-width numeric characters, -
	String allowed in the **Maximum Value** text box when **double** is specified for **Data Type**	17 characters (from -999999999999999 to 999999999999999)	The maximum value of the property to be edited	Half-width numeric characters, -, .
	String allowed in the **Maximum Value** text box when **date** is specified for **Data Type**	From 1900-01-01 to 2100-12-31	The maximum value of the property to be edited	n/a
	String allowed in the **Specify List Items** text box	1,024 characters	The list items of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create Output Property for	String allowed in the **Key** text box	128 characters	None	Half-width alphanumeric characters, -, _, . Note that, however, you cannot specify a property key that begins with reserved. (lower case).

Window name	Item	Limit value	Default	Available character
Service dialog box	String allowed in the **Name** text box	128 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **string** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **password** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Output Property for Service dialog box	String allowed in the **Key** text box	128 characters	The key of the property to be edited	Half-width alphanumeric characters, -, _, . Note that, however, you cannot specify a property key that begins with `reserved.` (lower case).
	String allowed in the **Name** text box	128 characters	The name of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **string** is specified for **Data Type**	1,024 characters	The default value of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **password** is specified for **Data Type**	1,024 characters	The default value of the property to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create Variable dialog box	String allowed in the **Key** text box	128 characters	None	Half-width alphanumeric characters, -, _, . Note that, however, you cannot specify a property key that begins with `reserved.` (lower case).
	String allowed in the **Name** text box	128 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **string** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **password** is specified for **Data Type**	1,024 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Edit Variable dialog box	String allowed in the **Key** text box	128 characters	The property key of the variable to be edited	Half-width alphanumeric characters, -, _, . Note that, however, you cannot specify a property key that begins with `reserved.` (lower case).

Window name	Item	Limit value	Default	Available character
Edit Variable dialog box	String allowed in the **Name** text box	128 characters	The name of the variable to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the variable to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **string** is specified for **Data Type**	1,024 characters	The default value of the variable to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Default Value** text box when **password** is specified for **Data Type**	1,024 characters	The default value of the variable to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
Create Step dialog box	String allowed in the **ID** text box	30 characters	The ID of the plug-in added for the step. If the ID of the plug-in added for the step exceeds 30 characters, the 31th and subsequent characters are truncated. Also, if there is a step whose ID is the same as the plug-in ID in the flow, the plug-in ID is displayed with _n (sequence number) added at the end. If the step ID exceeds 30 characters after _n is added, characters equal to the number of characters required for _n are truncated from the end of the step ID.	Half-width alphanumeric characters, −, _, . Note: You cannot begin a step ID with a period.
	String allowed in the **Name** text box	64 characters	The name of the plug-in added for the step. If the name of the plug-in added for the step exceeds 64 characters, the 65th and subsequent characters are truncated.	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)

Window name	Item	Limit value	Default	Available character
Create Step dialog box	String allowed in the **Name** text box	64 characters	Also, if there is a step whose name is the same as the plug-in name in the flow, the plug-in name is displayed with _n (sequence number) added at the end. If the step name exceeds 64 characters after _n is added, characters equal to the number of characters required for _n are truncated from the end of the step name.	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	None	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Judgment Level** text box	From 0 to 255	None	Half-width numeric characters
	String allowed in the **Warning Level** text box	From 1 to 255	None	Half-width numeric characters
Edit Step dialog box	String allowed in the **ID** text box	30 characters	The ID of the step to be edited	Half-width alphanumeric characters, -, _, . Note: You cannot begin a step ID with a period.
	String allowed in the **Name** text box	64 characters	The name of the step to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Description** text box	256 characters	The description of the step to be edited	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F)
	String allowed in the **Judgment Level** text box	From 0 to 255	The judgment level for the step to be edited	Half-width numeric characters
	String allowed in the **Warning Level** text box	From 1 to 255	The warning level for the step to be edited	Half-width numeric characters
Specify Plug-in Input Properties for Mapping dialog box	String allowed in the **Mapping Parameter** text box when the **Input Method** radio button is displayed	1,024 characters	The value set for the mapping parameter	Any characters other than the control characters (from \u0000 to \u001F and from \u007F to \u009F) Note that, however, tabs (\u0009) and linefeeds (\u000D, \u000A) are allowed.
	String allowed in the **Mapping Parameter** text box when the **Input Method** radio button is not displayed	From the minimum value to the maximum value set for the input property		Half-width alphanumeric characters, -

Window name	Item	Limit value	Default	Available character
Debug view	String allowed in the **Return Value** text box	From 0 to 127	The return value of the plug-in that paused during debugging	Half-width numeric characters
	String allowed in the **Property Value** text box of the list of properties	1,024 characters	The property value of the plug-in that paused during debugging	Any characters other than the control characters (from \u0000 to u\001F and from u\007F to u\009F) Note, however, that linefeeds (\u000D, \u000A), tabs (\u0009), and spaces (\u0020) are allowed.

Legend:

n/a: The item is not applicable.

A.2 status icons displayed in windows

(1) Task status icons

The following table shows the icons that indicate task statuses.

Table A–2: Task status icons

Icon	Task status
	Waiting
	Holding
	In Progress
	Waiting for Response
	Abnormal Detection
	Terminated
	Completed
	Failed
	Canceled

Related topic

- Topic *Task statuses and status transitions* in the *Job Management Partner 1/Automatic Operation Administration Guide*

(2) Step status icons

The following table shows the icons that indicate step statuses.

Table A–3: Step status icons

Icon	Step status
	Waiting or Waiting to Repeat
	Interrupted
	In Progress
	Waiting for Response
	Abnormality Detected
	Completed
	Failed
	Ended with a Warning
	Not Executed or Bypassed

Related topic

• Topic *Step statuses* in the *Job Management Partner 1/Automatic Operation Administration Guide*

A.3 Version changes

(1) Changes in version 10-10

• New functionality allows the user to develop service templates and plug-ins in the **Editor** window.

• Notes on operating on windows in Windows Server 2012 were added.

• **Configuration Type** was added as a display item of the following windows:

  • **Waiting Task List** dialog box

  • **Waiting for Response Task List** dialog box

  • **In Progress Task List** dialog box

  • **Completed Task List** dialog box

  • **Failed Task List** dialog box

  • **Services** window

  • **Submit Service** dialog box

  • **Add Service** dialog box

- **Service Definition** dialog box

- **Tasks** view

- **Task Details** dialog box

- **Task Histories** view

- The following items of the Task Details dialog box were changed:

  - **Jobnet Information** was changed to **Step Information**.

  - **Jobnet Details** was changed to **Step Details**.

  - **Root Jobnet Name** was deleted.

  - **Units** was changed to **Steps**.

  - **Unit Name** was changed to **Name**.

  - **Comment** was changed to **Description**.

- Telnet was added to the available protocols.

- Plug-in resource files for English, Chinese, and Japanese environments can now be selected.

- Service resource files for English, Chinese, and Japanese environments can now be selected.

- The limit on simultaneous execution was increased from 2 to 10 for both the `submittask` and `stoptask` commands.

- New functionality allows the user to change the subject identification information output to the audit log.

- A description that the `setupcluster` command is not available in Windows Server 2012 was added.

- The Develop role was added to user permissions. It can be used to execute the following commands:

  - `deleteservicetemplate` command

  - `importservicetemplate` command

  - `listservices` command

  - `listtasks` command

  - `stoptask` command

  - `submittask` command

- Configuration Type was added to the output items of the `listservices` and `listtasks` commands.

- The following description was added: If you omit specifying the `/property` option in the `submittask` command, the values you entered in the **Service Definition** dialog box are set for the corresponding property keys.

- The `/wait` option, which is used to finish the command after outputting the execution results of the task, was added to the `submittask` command.

- The `/scheduledate` and `/scheduletime` options, which are used to specify when services are to be executed, were added to the `submittask` command.

- The description of JP1/Base services was deleted because these services automatically start when JP1/AO services start.

- The limit values for the **Editor** window were added to the list of limit values.

- The list of limit values was modified.

- Items related to functionality in the list of limit values were moved to the Job Management Partner 1/Automatic Operation Overview and System Design Guide as List of limit values of functions.

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