

JP1 Version 13

**JP1/Automatic Job Management System 3
Configuration Guide**

3021-3-L45-10(E)

Notices

■ Relevant program products

For details about the applicable OS versions, and the service packs and patches required for JP1/Automatic Job Management System 3, see the *Release Notes*.

JP1/Automatic Job Management System 3 - Manager (For Windows):

P-2A12-3KDL JP1/Automatic Job Management System 3 - Manager version 13-10

The above product includes the following:

P-CC2A12-4KDL JP1/Automatic Job Management System 3 - Manager version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

P-CC2912-39DL JP1/Automatic Job Management System 3 - Web Console version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

P-CC8412-39DL JP1/Automatic Job Management System 3 - Web Console version 13-10 (For Linux 7, Linux 8, Linux 9, Oracle Linux 7, Oracle Linux 8, Oracle Linux 9, SUSE Linux 12, SUSE Linux 15)

P-CC2A12-3NDL JP1/Automatic Job Management System 3 - Print Option Manager version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

P-CC2A2C-6LDL JP1/Base version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

JP1/Automatic Job Management System 3 - Manager (For Linux):

P-8412-3KDL JP1/Automatic Job Management System 3 - Manager version 13-10

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P-CC8412-4KDL JP1/Automatic Job Management System 3 - Manager version 13-10 (For Linux 7, Linux 8, Linux 9, Oracle Linux 7, Oracle Linux 8, Oracle Linux 9, SUSE Linux 12, SUSE Linux 15)

P-CC2912-39DL JP1/Automatic Job Management System 3 - Web Console version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

P-CC8412-39DL JP1/Automatic Job Management System 3 - Web Console version 13-10 (For Linux 7, Linux 8, Linux 9, Oracle Linux 7, Oracle Linux 8, Oracle Linux 9, SUSE Linux 12, SUSE Linux 15)

P-CC8412-3NDL JP1/Automatic Job Management System 3 - Print Option Manager version 13-10 (For Linux 7, Linux 8, Linux 9, Oracle Linux 7, Oracle Linux 8, Oracle Linux 9, SUSE Linux 12, SUSE Linux 15)

P-CC842C-6LDL JP1/Base version 13-10 (For Linux 7, Linux 8, Linux 9, Oracle Linux 7, Oracle Linux 8, Oracle Linux 9, SUSE Linux 12, SUSE Linux 15)

JP1/Automatic Job Management System 3 - Agent (For Windows):

P-2A12-33DL JP1/Automatic Job Management System 3 - Agent version 13-10

The above product includes the following:

P-CC2A12-43DL JP1/Automatic Job Management System 3 - Agent version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

P-CC2A2C-6LDL JP1/Base version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

JP1/Automatic Job Management System 3 - Agent (For AIX):

P-1M12-33DL JP1/Automatic Job Management System 3 - Agent version 13-10

The above product includes the following:

P-CC1M12-43DL JP1/Automatic Job Management System 3 - Agent version 13-10 (For AIX)

P-CC1M2C-6LDL JP1/Base version 13-10 (For AIX)

JP1/Automatic Job Management System 3 - Agent (For Linux):

P-8412-33DL JP1/Automatic Job Management System 3 - Agent version 13-10

The above product includes the following:

P-CC8412-43DL JP1/Automatic Job Management System 3 - Agent version 13-10 (For Linux 7, Linux 8, Linux 9, Oracle Linux 7, Oracle Linux 8, Oracle Linux 9, SUSE Linux 12, SUSE Linux 15)

P-CC842C-6LDL JP1/Base version 13-10 (For Linux 7, Linux 8, Linux 9, Oracle Linux 7, Oracle Linux 8, Oracle Linux 9, SUSE Linux 12, SUSE Linux 15)

JP1/Automatic Job Management System 3 - Agent Minimal Edition (For Windows):

P-2A12-38DL JP1/Automatic Job Management System 3 - Agent Minimal Edition version 13-10

The above product includes the following:

P-CC2A12-48DL JP1/Automatic Job Management System 3 - Agent Minimal Edition version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

P-CC2A2C-6LDL JP1/Base version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016)

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P-CC842C-6LDL JP1/Base version 13-10 (For Linux 7, Linux 8, Linux 9, Oracle Linux 7, Oracle Linux 8, Oracle Linux 9, SUSE Linux 12, SUSE Linux 15)

JP1/Automatic Job Management System 3 - View (For Windows):

P-2A12-34DL JP1/Automatic Job Management System 3 - View version 13-10

The above product includes the following:

P-CC2A12-44DL JP1/Automatic Job Management System 3 - View version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016, Windows 11, Windows 10)

P-CC2A12-3MDL JP1/Automatic Job Management System 3 - Print Option version 13-10 (For Windows Server 2022, Windows Server 2019, Windows Server 2016, Windows 11, Windows 10)

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■ Microsoft product name abbreviations

This manual uses the following abbreviations for Microsoft product names.

Abbreviation	Full name or meaning
Excel	Microsoft(R) Excel
	Microsoft(R) Office Excel
Exchange Server	Microsoft(R) Exchange 2000 Enterprise Server
	Microsoft(R) Exchange 2000 Server
	Microsoft(R) Exchange Server
Internet Explorer	Windows(R) Internet Explorer(R)
Microsoft Edge	Microsoft(R) Edge
Microsoft SQL Server	Microsoft(R) SQL Server
	Microsoft(R) SQL Server Enterprise Edition
MSMQ	Microsoft(R) Message Queue Server

Abbreviation		Full name or meaning
Outlook	Outlook 2016	Microsoft(R) Office Outlook(R) 2016
	Outlook 2019	Microsoft(R) Office Outlook(R) 2019
	Outlook 2021	Microsoft(R) Office Outlook(R) 2021
Outlook Express		Microsoft(R) Outlook(R) Express
Windows 10		Windows(R) 10 Enterprise
		Windows(R) 10 Pro
		Windows(R) 10 Home
Windows 11		Windows(R) 11 Enterprise
		Windows(R) 11 Pro
		Windows(R) 11 Home
Windows Server 2016		Microsoft(R) Windows Server(R) 2016 Datacenter
		Microsoft(R) Windows Server(R) 2016 Standard
Windows Server 2019		Microsoft(R) Windows Server(R) 2019 Datacenter
		Microsoft(R) Windows Server(R) 2019 Standard
Windows Server 2022		Microsoft(R) Windows Server(R) 2022 Datacenter
		Microsoft(R) Windows Server(R) 2022 Standard

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Summary of amendments

For details about the amendments, see the manual *JP1/Automatic Job Management System 3 Overview*.

Preface

This manual describes how to install and set up JP1/Automatic Job Management System 3 (abbreviated hereafter to *JP1/AJS3*).

For details on the prerequisites before reading this manual, see the manual *JP1/Automatic Job Management System 3 Overview*.

■ Organization of this manual

This manual is organized into the following parts:

PART 1: Windows Host

PART 1 describes installation and setup of JP1/AJS3 on a Windows host.

PART 2: UNIX Host

PART 2 describes installation and setup of JP1/AJS3 on a UNIX host.

PART 3: Environment Setting Parameters

PART 3 describes the definition format of environment setting parameters and the environment settings for system management and scheduler service.

PART 4: Setup Based on Operations

PART 4 describes how to set up functions according to the operation method, the procedure for replicating virtual machines after installing or setting up JP1/AJS3, how to set up the embedded database, and how to perform setup to use an external database.

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1

Types of JP1/AJS3 System Configuration and System Setup Procedures

A JP1/AJS3 system can be set up in various configurations. For example, a small configuration might have only one host that is used to define and execute jobs, whereas a large configuration might have several hosts that execute many jobs. In a JP1/AJS3 system, the functions of other products can also be used by linking JP1/AJS3 to those products. This chapter describes the JP1/AJS3 system configurations you can create, and the necessary setup procedures.

1.1 Overview of setting up JP1/AJS3

This section describes the JP1/AJS3 system configurations you can create and the necessary setup procedures.

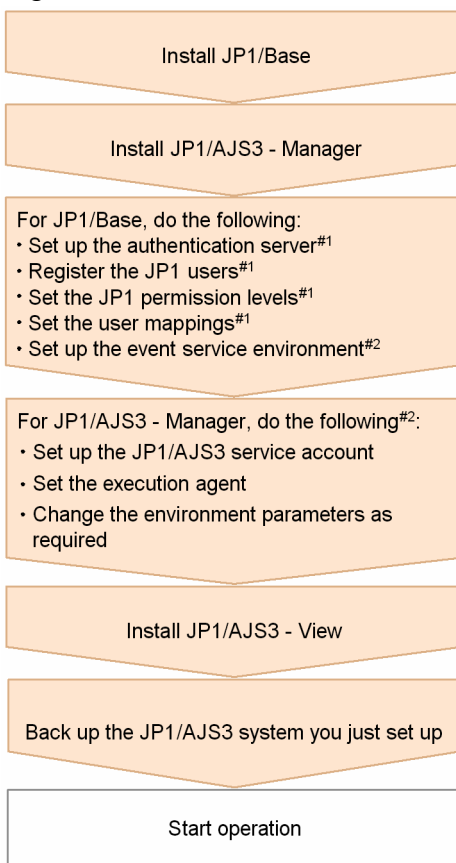
For details about JP1/AJS3 series programs and the prerequisites for setting up a JP1/AJS3 system, see *2.1 Checking the operating environment* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

1.1.1 Procedure for setting up a system with JP1/AJS3 - Manager and JP1/AJS3 - View

Prepare a host machine and install JP1/AJS3 - Manager. If necessary, prepare another host machine and install JP1/AJS3 - View. Multiple JP1/AJS3 - View hosts can connect to the JP1/AJS3 - Manager host.

The following figure shows the procedure for setting up a system with JP1/AJS3 - Manager and JP1/AJS3 - View.

Figure 1–1: Procedure for setting up a system with JP1/AJS3 - Manager and JP1/AJS3 - View



#1: If automatic setup is selected during a new installation of JP1/Base, this setup operation is automatically performed with the defaults. If it is not necessary to change the defaults, you do not need to perform the operation. If automatic setup is not selected during a new installation of JP1/Base or if JP1/Base is remotely installed as a new installation by using JP1/Software Distribution, you need to perform this operation manually.

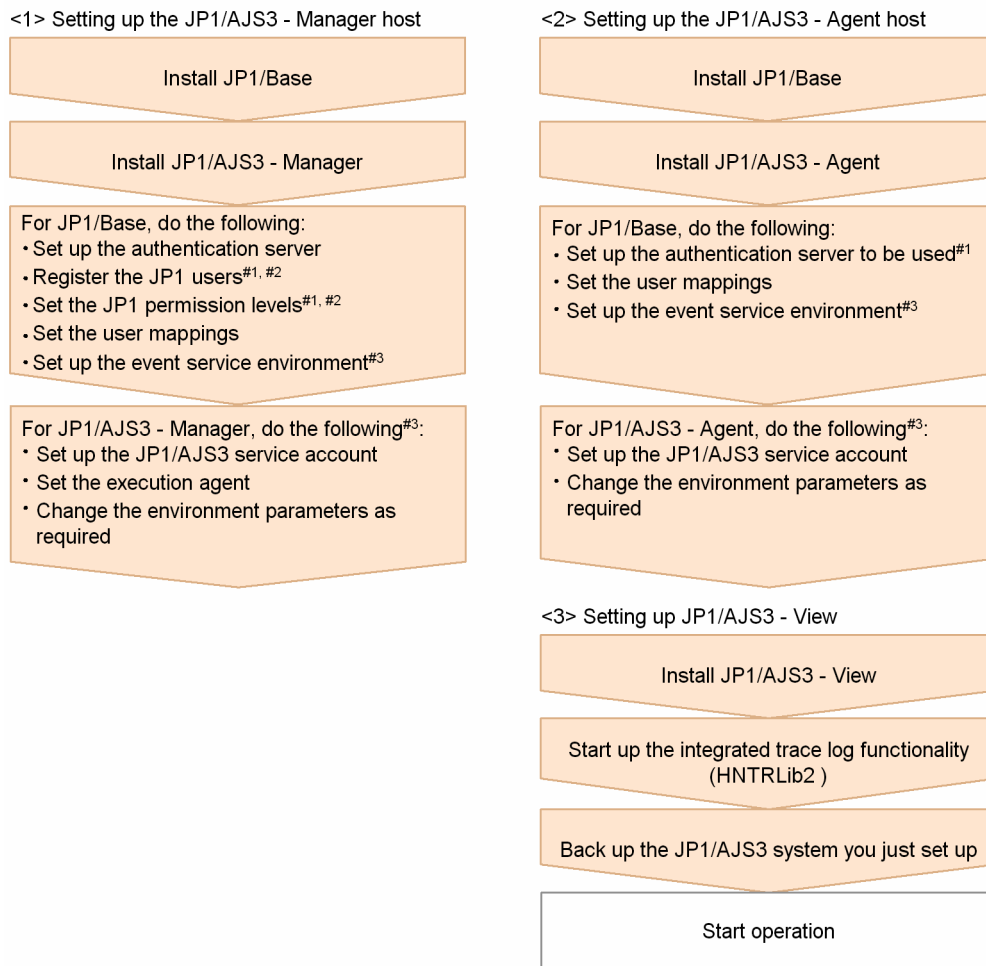
#2: Change settings as needed for your operating requirements.

1.1.2 Procedure for setting up a system in a manager/agent configuration that uses only one JP1/AJS3 - Manager host

Prepare a host for installing JP1/AJS3 - Manager, and hosts for installing JP1/AJS3 - Agent. If necessary, also prepare a host for installing JP1/AJS3 - View.

The following figure shows the procedure for setting up a system in a manager/agent configuration that uses only one JP1/AJS3 - Manager host.

Figure 1–2: Procedure for setting up a system in a manager/agent configuration that uses only one JP1/AJS3 - Manager host



- #1 If automatic setup is selected during a new installation of JP1/Base, this setup operation is automatically performed with the defaults. If it is not necessary to change the defaults, you do not need to perform the operation. If automatic setup is not selected during a new installation of JP1/Base or if JP1/Base is remotely installed as a new installation by using JP1/Software Distribution, you need to perform this operation manually.
- #2 You can omit this operation when you have defined the JP1/Base authentication server on another host.
- #3 Change settings as needed for your operating requirements.

1.1.3 Procedure for setting up a system in a manager/agent configuration that uses several JP1/AJS3 - Manager hosts

Prepare hosts for installing JP1/AJS3 - Manager and for installing JP1/AJS3 - Agent. If necessary, also prepare a host for installing JP1/AJS3 - View.

Although the procedure for setting up a system that uses several JP1/AJS3 - Manager hosts is the same as that for setting up a system that uses only one JP1/AJS3 - Manager host, the procedure in *Figure 1-2* must be performed for each JP1/AJS3 - Manager host.

After live operation starts, define a manager job group or manager jobnet so that multiple managers can be managed centrally.

2

Installation

This chapter describes how to install JP1/AJS3.

2.1 Required task before installing JP1/AJS3 series programs

This section describes the following task that is required before you can install JP1/AJS3 on a Windows host:

- Installing JP1/Base

Important

Before you perform a new installation of JP1/AJS3, you must install JP1/Base. Before you perform an upgrade installation of JP1/AJS3, you must upgrade JP1/Base.

2.1.1 Installing JP1/Base

Make sure that JP1/Base has been installed on the hosts on which JP1/AJS3 series programs (JP1/AJS3 - Manager and JP1/AJS3 - Agent) will be installed. JP1/AJS3 - View and JP1/AJS3 - Web Console do not require installation of JP1/Base.

Note that if you select automatic setup when performing a new installation of JP1/Base, the following user information is automatically set. If this information is appropriate, you do not need to set any user information.

- Authentication server: local host
- JP1 user: `jpladmin`
- JP1 user's password: `jpladmin`
- OS user mapped to the JP1 user and the OS user password: The OS user and password entered during installation
- Server host name: *

If automatic setup is not selected during a new installation of JP1/Base or if JP1/Base is remotely installed as a new installation by using JP1/Software Distribution, the user information is not specified automatically. In such cases, these settings must be specified manually after JP1/Base has been installed. If the authentication server for JP1/Base has not been set, startup of the JP1/AJS3 service in JP1/AJS3 - Manager fails.

For details about installing and setting up JP1/Base, see the *JP1/Base User's Guide*.

2.2 Installing JP1/AJS3 series programs

This section describes how to install JP1/AJS3 series programs (JP1/AJS3 - Manager, JP1/AJS3 - Agent, JP1/AJS3 - View, and JP1/AJS3 - Web Console).

Note that JP1/Base must already be installed before you install JP1/AJS3 - Manager and JP1/AJS3 - Agent. Also make sure that the installed version of JP1/Base is the prerequisite version for JP1/AJS3.

For details about installing JP1/Base, see the *JP1/Base User's Guide*.

Supplementary note:

After installing JP1/AJS3 - Manager or JP1/AJS3 - Agent on a virtual machine, you can replicate the virtual machine. For an overview of replicating a virtual machine, see *2.8 Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *22. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up*.

2.2.1 Points you must check before installation

This subsection describes the points that you must check before installing JP1/AJS3 series programs.

- If a user who does not have administrator privileges is to perform operations to install, setup, or uninstall JP1/AJS3 in an environment in which the UAC function is enabled, assign administrator privileges to that user. If the UAC function is disabled, a user who belongs to the administrators group must perform such operations.
- Set the physical host name and logical host name of the host where JP1/AJS3 is to be installed in the range of 1-32 bytes.
- To install JP1/AJS3 on a physical host, set the host name by using 1 to 63 bytes. To install JP1/AJS3 on a logical host, set the host name by using 1 to 32 bytes.
- JP1/AJS3 supports Japanese, English, Simplified Chinese, Korean, German, French, Spanish, and Russian. If JP1/AJS3 is to be used in a particular language (Japanese, English, Simplified Chinese, Korean, German, French, Spanish, or Russian), before installing JP1/AJS3, make sure that the language settings are the same on all of the hosts on which JP1/AJS3 is to be installed.

For details about how to specify the settings for using the desired language, see *2.4.2(11) About the operations in multiple language environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(1) For JP1/AJS3 - Manager and JP1/AJS3 - Agent

If a space is included in the installation path for JP1/AJS3 - Manager or for the embedded DB, and there is a file or folder that has the same path up to the point of the space, the following commands will not run correctly.

- `jajs_setup`
- `jajs_setup_cluster`
- `jajs_migrate`
- `ajsembdbinstl`
- `ajsembdbuninstl`

In addition, if any of the following files, or a file or folder that has the name "Program", exists directly under the system drive, the commands listed above will not run properly.

- For 32-bit versions of Windows
 - Program.exe
 - Program Files
 - Program Files\Common
 - Program Files\Common.exe
- For 64-bit versions of Windows
 - Program.exe
 - Program Files
 - Program Files.exe
 - Program Files (x86)\Common
 - Program Files (x86)\Common.exe

If any of the files or folders listed above exist directly under the system drive, change the name of those files or folders before executing commands.

(2) For JP1/AJS3 - View

- Do not install JP1/AJS3 - View to a folder that is used as the installation folder for another product.
- Close the JP1/AJS3 - View window before installation. After installation, a reboot may be necessary. If a reboot is necessary, the system outputs a message prompting you to restart the system after installation. Restart the system accordingly.
- When a space is contained in the installation path of JP1/AJS3 - View, if a file and folder with the same path as the path up to the space exists, installation of JP1/AJS3 - View will not be performed correctly. In this case, change the installation path or path of the file with the path name and folder that exists.

Example:

If the file or folder of C:\Program exists when installing JP1/AJS3 - View in C:\Program Files (x86)\HITACHI\jplajs2v, installation of JP1/AJS3 - View will not be performed correctly.

- In JP1/AJS3 - View, the following paths are set to the PATH environment variable during installation.

- *Hitachi-common-folder*

Example: C:\Program Files (x86)\Common Files\Hitachi

- *JP1/AJS3-View-install-path\bin*

Example: C:\Program Files (x86)\Hitachi\JP1AJS2V\bin

- *system-folder\hitachi*

Example: C:\WINDOWS\hitachi

If the value length of the PATH environment variable of Windows, including the value length of the paths set during installation, exceeds the limit length of Windows, the value set for the PATH environment variable will not become valid. Delete the unnecessary parts of the PATH environment variable so that the value length is within the limit length. For details about the maximum path length in Windows, see the documentation provided by Microsoft.

- If an overwrite installation or upgrade installation of JP1/AJS3 - View is performed, JP1/AJS3 - View inherits the language settings that were specified before the installation.

To change the language settings for JP1/AJS3 - View, uninstall, and then reinstall JP1/AJS3 - View.

(3) For JP1/AJS3 - Web Console

- Do not install JP1/AJS3 - Web Console to a folder that is used as the installation folder for another product.
- When a space is contained in the installation path of JP1/AJS3 - Web Console, if a file and folder with the same path as the path up to the space exists, installation of JP1/AJS3 - Web Console will not be performed correctly. In this case, change the installation path or path of the file with the path name and folder that exists.

Example:

If the file or folder of C:\Program exists when installing JP1/AJS3 - Web Console in C:\Program Files\HITACHI\JP1AJS3WEB, installation of JP1/AJS3 - Web Console will not be performed correctly.

- When performing a new installation of JP1/AJS3 - Web Console, make sure port numbers 22254, 22255 and 23152 can be used as the ports for internal communication. To use the port numbers for a purpose other than for JP1/AJS3 - Web Console, use the port numbers during installation of JP1/AJS3 - Web Console, and then change the port numbers.
- In accordance with the format specified in the RFC2609 standards, use only the following types of characters for the host name of the host to be installed:
 - Alphabetic characters (A to Z, a to z)
 - Numbers (0 to 9)^{#1}
 - Hyphen (-)^{#2}
 - Period (.)^{#3}

#1

Do not use a number directly after the last period.

#2

Do not use a hyphen for the first or last character of the host name.

#3

Do not use a period for the first or last character of the host name.

2.2.2 Notes on installation

This subsection provides notes on installing JP1/AJS3 series programs.

(1) Host on which JP1/AJS3 - Manager and JP1/AJS3 - Agent is installed

- You cannot install JP1/AJS3 - Manager and JP1/AJS3 - Agent on the same host.
- When performing a new installation of JP1/AJS3 - Manager, make sure that the local host name is resolved, and then install JP1/AJS3 - Manager. If JP1/AJS3 - Manager is newly installed without resolving the local host name, creation of the job execution environment database might fail, and the JP1/AJS3 service might not start.
- When performing a new installation of JP1/AJS3 - Manager, make sure port number 22220 can be used as the port for communicating with the embedded DB. To use port number 22220 for a purpose other than for JP1/AJS3 - Manager, use port number 22220 during installation of JP1/AJS3 - Manager, and then re-perform setup of the embedded DB to change the port number. For details about the setting up an embedded DB again, see [23.4.1\(6\) Setting up an embedded database again](#).

(2) Notes on upgrade installation

(a) About customizable files

JP1/AJS3 files include files that can be customized by users. Because an upgrade installation does not replace existing customizable files, current user-customized settings are retained.

Note that the folder that contains the customized files also contains model files (files ending with `.model`) from which the customized files were created. These model files are updated in an upgrade installation. After an upgrade installation has been completed, check whether the files in the folders listed below have been customized. For any customized configuration files you find, make the same customization to the copies of the model files you have made. Next, delete all the existing configuration files, and rename the copies of the model files so that they become the new configuration files. If no files have been customized, you need only to delete all the existing configuration files and rename the copies of the model files.

For JP1/AJS3 - Manager or JP1/AJS3 - Agent:

- `JP1/AJS3-installation-folder\conf`

For JP1/AJS3 - View

- `JP1/AJS3-View-installation-folder\conf`
- `%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2V\conf`
The default value for `%ALLUSERSPROFILE%` is `system-drive\ProgramData`.
- `JP1/IM-Manager-installation-folder\conf\console\monitor\hitachi_jp1_ajs2_mon.conf`

Cautionary notes:

- When JP1/AJS3 is operating in a cluster system, the model files in the `conf` folder within the `jp1ajs2` shared folder are not updated. Therefore, if the files in the shared folder have been customized, perform the same customization for the copies of the model files in the folders described above instead of customizing the model files in the shared folder. If the files have not been customized, you need only to overwrite files of the same name with the copies of the model files.

Note that the `conf` files used for logical hosts are stored in the `conf` folder within the `jp1ajs2` shared folder.

- During upgrade installation, both data collection tools and model files are updated. If you need to customize the data collection tool `_04.bat` after upgrade installation, back up the tool before performing upgrade installation. You cannot customize the data collection tool `jajs_log.bat`.

If JP1/AJS2 - Manager is upgraded to JP1/AJS3 - Manager, the process management definition files and extended startup process definition files (`jp1ajs_xxxd.conf` and `jp1ajs_xxxx_0700.conf` in the folders listed above) are automatically updated for a JP1/AJS3 - Manager process configuration. If linkage with HP NNM or a queueless job execution environment was set up in JP1/AJS2 - Manager, check whether the settings in these files have been inherited after the upgrade installation and setup has been completed. If these settings have not been inherited, re-specify them. If the restart settings were customized (for example, so that abnormally terminated JP1/AJS2 processes are restarted), the restart settings are reset to the defaults. If you want to disable the restart settings or change the maximum number of restart attempts, customize the settings again after the upgrade installation and setup have been completed.

(b) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent

- When JP1/AJS2 - Manager is upgraded to JP1/AJS3 - Manager, the JP1/AJS2 service and JP1/AJS2 Monitor service are deleted, and the functionality of these services is integrated into the JP1/AJS3 service. When JP1/AJS2 - Agent is upgraded to JP1/AJS3 - Agent, the JP1/AJS2 service becomes the JP1/AJS3 service.
- Stop all of the following services and processes that are running on the host on which you want to install JP1/AJS3, and then perform the installation:

- JP1/AJS3 or JP1/AJS2
- Products prerequisite for JP1/AJS3 or JP1/AJS2
- Products linked with JP1/AJS3 or JP1/AJS2
- Make sure that the following types of processing are not executed until installation is complete:
 - Processing requests for products linked with JP1/AJS3 or JP1/AJS2
 - Processing that executes JP1/AJS3 or JP1/AJS2 functions or commands
- We recommend that you back up necessary definition files before the upgrade installation. For the objects to be backed up, see *5.2.2 Target files and backup timing* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
- To perform an upgrade installation of JP1/AJS3 - Manager version 10-00 or later from a version earlier than 10-00, you need to migrate the embedded database to the format for version 10-00 and later. For details about how to migrate the embedded database, see *3.6.1 Settings for enhancing the embedded database management function*.

(c) When JP1/AJS3 - View is being used

Close the JP1/AJS3 - View window before you perform an upgrade installation.

(d) About upgrade installations of JP1/AJS3 - Web Console

- Clear your web browser cache. If you do not clear the cache, the web browser will reference the cache of the previous version, and the upgraded content will not be applied.
- If you upgrade JP1/AJS3 - Web Console from a version earlier than 13-00 to version 13-00 or later, the settings in the environment setting files will be changed. For details, see *3.4.11 Setup required to upgrade the version of JP1/AJS3 - Web Console*.

(e) When IPv6 addresses are being used for communication

To upgrade JP1/Base or JP1/AJS3 to version 10 or later from version 9 or earlier, and to enable communication using IPv6 addresses, you need to specify settings for communicating using IPv6 addresses.

For details, see *3.5.3 Settings for communication using IPv6 addresses*.

(3) Remote installation (software distribution) using JP1/Software Distribution

JP1/AJS3 supports remote installation by JP1/Software Distribution.

The following types of remote installation are supported:

- New installation
JP1/AJS3 can be installed as a new installation on target hosts.
- Upgrade installation
The version of JP1/AJS3 or JP1/AJS2 installed on target hosts can be updated. Note, however, that setup must be performed on each host if JP1/AJS2 - Manager is upgraded to JP1/AJS3 - Manager.

For details about the actual procedure for remote installation when JP1/Software Distribution is used, see the *Job Management Partner 1/Software Distribution System Administrator's Guide Volume 1* (For Windows Systems) or *Job Management Partner 1/Software Distribution System Administrator's Guide Volume 2* (For Windows Systems).

For details about how to perform the required setup after JP1/AJS2 - Manager has been upgraded to JP1/AJS3 - Manager, see 8.5 *Upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) Upgrade installation from JP1/AJS2 - Manager to JP1/AJS3 - Manager

Because JP1/AJS3 - Manager requires more disk space and memory than JP1/AJS2 - Manager, accurately estimate how much disk space and memory will be required before upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager. Note that operation of JP1/AJS3 - Manager following an upgrade from JP1/AJS2 - Manager cannot start until setup has been completed after the upgrade installation. Because the time required for the setup to finish depends on the amount of data and other factors, the upgrade installation and setup must be performed according to a suitable plan. For details about the setup procedure required after an upgrade installation from JP1/AJS2 - Manager to JP1/AJS3 - Manager, see 8.5 *Upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

2.2.3 Installing a JP1/AJS3 series program

This subsection describes how to install a JP1/AJS3 series program on a Windows host.

(1) New installation

To install a JP1/AJS3 series program as a new installation on a Windows host:

Cautionary notes:

- If you are using Windows Firewall, a pop-up message might appear during setup. In this case, you will need to add the affected program to the firewall exclusion list. Refer to the cautionary notes that accompany the `ajsembdbinstl` command and take the appropriate action.
- Even if a new installation of JP1/AJS3 - Manager or JP1/AJS3 - Agent whose version is 09-50 or later is successful, JP1/AJS3-related menu items will not display when you choose the Windows Start menu.
- The language environment of JP1/AJS3 is automatically set according to the locale set in the OS. When the locale set in the OS is a Japanese, English, or Chinese locale, the language environment of JP1/AJS3 is set to be the same as that of the OS. When the locale set in the OS is other than Japanese, English, or Chinese locales, the language environment of JP1/AJS3 is set to English.
- User information defined during installation cannot be changed after installation is complete. To change this information, you must first uninstall JP1/AJS3.

1. Log in as a user with administrator privileges to the host on which you want to install the JP1/AJS3 series program.

2. Stop all programs linked with JP1/AJS3.

If a program linked with JP1/AJS3 is running on the host on which you want to install JP1/AJS3, stop the program. If the Windows Event Viewer window is open, close it.

3. Insert the media that contains the JP1/AJS3 series program you want to install.

The Hitachi Integrated Installer window opens.

4. Enter the information requested by the Hitachi Integrated Installer.

You will need to enter the following information during installation:

- User information
Enter the user name and other necessary information.

- **Installation folder**
Specify the folder where the JP1/AJS3 series programs are to be installed.
- **Setup**
Specify this item only when installing JP1/AJS3 - Manager. Specify whether to set up a scheduler service and an embedded database during installation. When you set up the scheduler service and embedded database, you also need to select the database model of the embedded database.

In the following cases, you need to perform installation without setting up a scheduler service or an embedded database. When installation has finished, perform the individual setup procedure.

When performing advanced setup of the embedded database

When installation has finished, add a scheduler service. For details about the procedure for adding a scheduler service, in Windows, see [6.1.1\(1\) Adding a scheduler service](#). In UNIX, see [15.1.1\(1\) Adding a scheduler service](#).

When adding the scheduler service, execute the `jajs_setup` command with the `-S` option specified to perform advanced setup of the embedded database. For details about advanced setup of an embedded database, see [23.4 Advanced setup of an embedded database](#).

When using an external database as the JP1/AJS3 database

When installation has finished, perform the setup necessary to use an external database. For details about how to do this, see [24. Performing setup for using an external database in a cloud environment](#).

Note that when JP1/AJS3 - View is installed, the integrated trace log function (both HNTRLlib2 and HNTRLlib2 (x64)) are also installed in the `system-drive\Program Files (x86)\HITACHI\HNTRLlib2\` folder and `system-drive\Program Files\HITACHI\HNTRLlib2\` folder. However, the Hitachi Network Objectplaza Trace Monitor 2 service does not start automatically if only JP1/AJS3 - View has been installed on a host. If the service does not start automatically, start it by selecting **Hitachi Network Objectplaza Trace Monitor 2 (x64)** in the list box of the Windows **Services** administrative tool.

When JP1/AJS3 - Web Console is installed, the integrated trace log function (HNTRLlib2 (x64)) is also installed in the `system-drive\Program Files\HITACHI\HNTRLlib2\` folder. In preparation for possible problems, open the **Services** administrative tool of Windows, and check whether the Hitachi Network Objectplaza Trace Monitor 2 (x64) service is started. If the service is not started, start it.

If a dialog box displaying An attempt to build a Scheduler service failed. After installation, please re-build the Scheduler service. appears during installation of JP1/AJS3 - Manager, take appropriate action after checking the KAVS2128-E message that has been output to the Windows event log.

5. When installation has finished, restart the host when a restart is requested.

For details about setting up JP1/AJS3 series programs, see [3. Setup](#).

(2) Upgrade installation

To install a JP1/AJS3 series program as an upgrade installation on a Windows host:

1. Log in as a user with administrator privileges to the host on which you want to install a JP1/AJS3 series program.
2. Stop all programs linked with JP1/AJS3.
If JP1/AJS3 series programs or programs linked with JP1/AJS3 are running on the host on which you want to install JP1/AJS3, make sure that you stop those programs. If the Windows Event Viewer window is open, close it.
3. Set the JP1/AJS3 series program installation media, and start installation.
The overwrite or upgrade installation start window appears.
4. Perform installation.

Perform the necessary installation operations as directed in the installer window.

Note that when JP1/AJS3 - View is installed, the integrated trace log function (both HNTRLlib2 and HNTRLlib2 (x64)) are also installed in the *system-drive*\Program

Files (x86)\HITACHI\HNTRLlib2\ folder and *system-drive*\Program Files\Hitachi\HNTRLlib2\ folder. If you are installing only JP1/AJS3 - View on a host, select and activate the **Hitachi Network Objectplaza Trace Monitor 2 (x64)** service from the list box of the Windows **Services** administrative tool.

Important

An upgrade installation updates the following files. If necessary, back them up before performing the installation.

- Files with the .model extension in the *JP1/AJS3-installation-folder*\conf folder
- Files with the .bat extension in the *JP1/AJS3-installation-folder*\tools folder[#]

[#]: If the version of JP1/AJS3 is 10-50 or later, the data collection tool *jaajs_log.bat* is added to the *tools* folder in *JP1/AJS3-installation-folder*. Note that, if you upgrade JP1/AJS3 from a version earlier than 10-50 to version 10-50 or later, and if the file *jaajs_log.bat* already exists, it is overwritten by the data collection tool. For this reason, if the file *jaajs_log.bat* created in a JP1/AJS3 version earlier than 10-50 is necessary, move the file to another folder before performing installation.

5. When installation has finished, restart the host when a restart is requested.

Important

- Operation of JP1/AJS3 - Manager following an upgrade from JP1/AJS2 - Manager cannot start until setup has been completed after the upgrade installation. For details about the setup procedure required after an upgrade installation from JP1/AJS2 - Manager to JP1/AJS3 - Manager, see [8.5 Upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
- If JP1/AJS3 - Manager in a standard configuration is installed as an upgrade installation, you might also need to install the embedded database as an upgrade installation. If an upgrade installation of the embedded database is necessary, perform the installation after reading *Installation Procedures and System Generation Precautions* in the *Release Notes*.
- If the embedded database is already in use when you perform an upgrade installation, the file *Pdc1tm32.dll* might not be present in the folder *JP1/AJS3-installation-folder*\bin. In this case, create the file by copying and renaming the *Pdc1tm32.dll.model* file.
- If you upgrade JP1/AJS3 - Manager from version 12-60 or earlier to version 13-00 or later, you must also convert the scheduler services databases to the format compatible with version 13-00 or later. For details about how to convert the databases, see [3.6.3 Settings required when JP1/AJS3 - Manager is upgraded to version 13-00 or later](#).

For details about setting up JP1/AJS3 series programs, see [3. Setup](#).

(3) Upgrade installation in a cluster configuration

The following describes the procedure for installing a JP1/AJS3 series program as an upgrade installation on a Windows host in a cluster configuration.

The installation procedure differs according to whether JP1/AJS3 - Manager is updated from JP1/AJS2 - Manager or from JP1/AJS3 - Manager.

Note that, in the procedures that follow, the node that normally operates is called the *primary node*, and the node that normally does not operate but remains on standby is called the *secondary node*.

(a) Upgrade procedure for a program other than JP1/AJS2 - Manager

To perform an upgrade installation from JP1/AJS3 - Manager, JP1/AJS3 - Agent, or JP1/AJS2 - Agent:

1. Make sure that the logical host is not operating on the secondary node.
Make sure that JP1/AJS3 or JP1/AJS2 of the logical host is not operating on the secondary node.
No problems are caused if JP1/AJS3 or JP1/AJS2 of the logical host is operating on the primary node.
2. Perform an upgrade installation on the secondary node.
For details about installing a JP1/AJS3 series program as an upgrade installation, see (2) *Upgrade installation*.
3. Make sure that the logical host is not operating on the primary node.
Either fail over the logical host from the primary node to the secondary node or stop the logical host to ensure that JP1/AJS3 or JP1/AJS2 of the logical host is not operating on the primary node.
No problems are caused by failing over the logical host to the secondary node on which an upgrade installation has finished.
4. Perform an upgrade installation on the primary node.
For details about installing a JP1/AJS3 series program as an upgrade installation, see (2) *Upgrade installation*.

Important

When the logical host has been failed over to the secondary node on which an upgrade installation has finished, do not fail back the logical host to the primary node until the upgrade installation on the primary node has finished.

(b) Upgrade procedure (from JP1/AJS2 - Manager to JP1/AJS3 - Manager in a standard configuration)

Important

An upgrade installation of JP1/AJS2 - Manager in a cluster configuration requires some setup, such as the migration of data on the shared disk, after completion of the upgrade installation. This setup requires that cluster operation be temporarily stopped. You will not be able to start JP1/AJS3 - Manager operation until this setup is complete. Because the time required for the setup to finish depends on the amount of data and other factors, the upgrade installation and setup must be performed according to a suitable plan.

To perform an upgrade installation from JP1/AJS2 - Manager:

Note: If your system consists of multiple logical hosts, perform steps 6 to 16 and 20 to 23 for each logical host. When using a logical host in a non-cluster environment, perform only the steps that relate to the primary node. You cannot begin using JP1/AJS3 until setup is completed on all physical and logical hosts.

Note: The following procedure assumes that one scheduler service is stored in one embedded database. If multiple scheduler services have been set up, perform steps 8, 11, and 12 for all of the scheduler services. To add an embedded database, perform steps 9, 10, 20, and 21.

1. Terminate JP1 on both the primary and secondary nodes.

Use the cluster software to stop all JP1 programs and services running on the primary and secondary nodes. For details about how to do so, see the documentation for your cluster software.

2. Install JP1/Base as an upgrade installation on the primary node.

For details about installing JP1/Base, see the *JP1/Base User's Guide*.

3. Install JP1/AJS3 - Manager as an upgrade installation on the primary node.

On the primary node, upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager.

For details about an upgrade installation of a JP1/AJS3 series program, see (2) *Upgrade installation*.

4. Start the embedded database or instance of HiRDB you were using before the upgrade on the physical primary node host.

To provide access to the database from before the upgrade, start the embedded database or instance of HiRDB that was used as the database of the scheduler service on the physical host of the primary node.

For details about how to start the embedded database or HiRDB, see the manual for the JP1/AJS2 product or HiRDB you are using.

5. Perform setup on the physical host of the primary node.

On the physical host of the primary node, execute the `jajs_migrate` command.

For example, execute the command as follows:

```
jajs_migrate -convert
```

For details about the `jajs_migrate` command, see *jajs_migrate* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Confirm that the shared disk and logical IP address are available to the primary node.

Make sure that the shared disk is mounted and the logical IP address is valid so that the data on the shared disk can be migrated. If the shared disk is not mounted or the logical IP address is invalid, use the cluster software or volume manager software to mount the shared disk and enable the logical IP address. For details about how to do so, see the documentation for your cluster software.

7. Start the embedded database or instance of HiRDB you were using before the upgrade on the logical host of the primary node.

To provide access to the database from before the upgrade, start the embedded database or instance of HiRDB that was used as the database of the scheduler service on the logical host of the primary node.

For details about how to start the embedded database or HiRDB, see the manual for the JP1/AJS2 product or HiRDB you are using.

8. Execute the `ajscnvdbexport` command on the primary node to back up the contents of the database.

For example, execute the command as follows:

```
ajscnvdbexport -mh LHOST -F AJSROOT2 -b D:\workdir
```

For details about the `ajscnvdbexport` command, see *ajscnvdbexport* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

9. Execute the `ajsembdbinstl` command on the primary node to install the JP1/AJS3 database.

For example, execute the command as follows:

```
ajsembdbinstl -s "C:\Program Files (x86)\HITACHI\JP1AJS2\tools\AJS3DB"  
-id _JF1 -mh LHOST
```

For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

10. Execute the `ajsembdbbuild` command on the primary node to build the environment for the database.

For example, execute the command as follows:

```
ajsembdbbuild -s -r -d "D:\products\jplajs2\embdb\_JF1"  
-ld "C:\Program Files (x86)\HITACHI\JP1AJS2\embdb\_JF1\dbarea" -mh LHOST  
-eh hostA -p 22221 -i "C:\Program Files (x86)\HITACHI\JP1AJS2\embdb\_JF1"  
-id _JF1
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

11. Execute the `ajsembdbsetup` command on the primary node to set up the environment for the database.

For example, execute the command as follows:

```
ajsembdbsetup -mh LHOST -F AJSROOT2 -p 22221 -id _JF1 -ru s -convert
```

For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

12. Execute the `ajscnvdbimport` command on the primary node to import the contents of the database.

For example, execute the command as follows:

```
ajscnvdbimport -mh LHOST -F AJSROOT2 -b D:\workdir
```

For details about the `ajscnvdbimport` command, see *ajscnvdbimport* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

13. Perform setup on the primary node.

Execute the `jajs_migrate` command on the primary node to set up the environment for running JP1/AJS3.

For example, execute the command as follows:

```
jajs_migrate -convert -h LHOST -r -S
```

For details about the `jajs_migrate` command, see *jajs_migrate* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

14. Stop the embedded database, which was started automatically during the setup process.

For example, execute the command as follows:

```
ajsembdbstop -id _JF1
```

For details about the `ajsembdbstop` command, see *ajsembdbstop* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15. Execute the `jbsgetcnf` command on the primary node to back up the common definition information to a file.

Execute the command as follows:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

16. Copy the file you created in step 15 to the secondary node.

17. Install JP1/Base as an upgrade installation on the secondary node.

For details about installing JP1/Base, see the *JP1/Base User's Guide*.

18. Install JP1/AJS3 - Manager as an upgrade installation on the secondary node.

On the secondary node, upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager.

For details about an upgrade installation of a JP1/AJS3 series program, see (2) *Upgrade installation*.

19. Perform setup on the physical host of the secondary node.

Execute the `jajs_migrate` command on the physical host of the secondary node.

For example, execute the command as follows:

```
jajs_migrate -convert
```

For details about the `jajs_migrate` command, see `jajs_migrate` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

20. Execute the `ajsembdbinstl` command on the secondary node to install the JP1/AJS3 database.

For example, execute the command as follows:

```
ajsembdbinstl -s "C:\Program Files (x86)\HITACHI\JP1AJS2\tools\AJS3DB"  
-id _JF1 -mh LHOST
```

For the `-id` option, specify the same value that you used when installing the database on the primary node.

For details about the `ajsembdbinstl` command, see `ajsembdbinstl` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

21. Execute the `ajsembdbbuild` command on the secondary node to build the environment for the database.

For example, execute the command as follows:

```
ajsembdbbuild -s -f -d "D:\products\jplajs2\embdb\_JF1"  
-ld "C:\Program Files (x86)\HITACHI\JP1AJS2\embdb\_JF1\dbarea"  
-mh LHOST -eh hostA -p 22221  
-i "C:\Program Files (x86)\HITACHI\JP1AJS2\embdb\_JF1" -id _JF1
```

For the `-id`, `-d`, and `-p` options, specify the same value that you used when building the environment on the primary node.

For details about the `ajsembdbbuild` command, see `ajsembdbbuild` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

22. Execute the `jbssetcnf` command on the secondary node to apply the common definition information.

Execute the command as follows:

```
jbssetcnf name-of-file-copied-in-step-16
```

23. Perform setup on the secondary node.

Execute the `jajs_migrate` command on the secondary node to set up the environment for running JP1/AJS3.

For example, execute the command as follows:

```
jajs_migrate -convert -h LHOST -f -S
```

For details about the `jajs_migrate` command, see `jajs_migrate` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

24. Unregister the embedded database or instance of HiRDB you were using with JP1/AJS2 before the upgrade from the cluster software.

For details about how to do so, see the documentation for your cluster software.

25. Start JP1 on the primary node.

Use the cluster software to start the JP1 programs and services on the primary node. This starts JP1/AJS3 operation in a cluster environment.

(c) Upgrade procedure (from JP1/AJS2 - Manager to JP1/AJS3 - Manager in a compatible ISAM configuration)

Because JP1/AJS3 - Manager version 11-10 or later does not support a compatible ISAM configuration, JP1/AJS2 - Manager cannot be upgraded to JP1/AJS3 - Manager version 11-10 or later in a compatible ISAM configuration. Therefore, to upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager in such a case, perform the procedure described in [\(b\) Upgrade procedure \(from JP1/AJS2 - Manager to JP1/AJS3 - Manager in a standard configuration\)](#) to upgrade to JP1/AJS3 - Manager in a standard configuration.

(d) Upgrade procedure for JP1/AJS3 - Web Console

To perform an upgrade installation from JP1/AJS3 - Web Console:

1. Make sure that JP1/AJS3 - Web Console is not operating on the secondary node.

Make sure that services of JP1/AJS3 - Web Console is not operating on the secondary node.

No problems are caused if services of JP1/AJS3 - Web Console is operating on the primary node.

2. Install JP1/AJS3 - Web Console as an upgrade installation on the secondary node.

For details about installing a JP1/AJS3 - Web Console as an upgrade installation, see [\(2\) Upgrade installation](#).

3. Make sure that JP1/AJS3 - Web Console is not operating on the primary node.

Fail over from the primary host to the secondary host, or stop JP1/AJS3 - Web Console on the primary host, and then make sure that the JP1/AJS3 - Web Console service is not running on the primary host.

Note that, you can fail over to the secondary host (for which an upgrade installation was completed in step 2) without any problems.

4. Install JP1/AJS3 - Web Console as an upgrade installation on the primary node.

For details about installing a JP1/AJS3 - Web Console as an upgrade installation, see [\(2\) Upgrade installation](#).

Important

If, after performing an upgrade installation for the secondary host, you run JP1/AJS3 - Web Console on the secondary host, do not fail back to the primary host until upgrade installation is complete for the primary host.

(4) Upgrade installation of embedded database

When you perform an upgrade installation from version 12-60 or earlier, you must also perform the following tasks:

- Upgrade installation of embedded database
- Convert the scheduler services databases to the format compatible with version 13-00 or later

If there are multiple embedded databases, perform upgrade installation and database conversion for all of them. For details about database conversion, see [3.6.3 Settings required when JP1/AJS3 - Manager is upgraded to version 13-00 or later](#).

If you are upgrading from version 13-00 or later, after upgrading JP1/AJS3 - Manager, compare the version of the embedded database against the Release Notes. If the version differs from the version specified in the Release Notes, also perform an upgrade installation of the embedded database. If multiple embedded databases are used, upgrade every embedded database by performing an upgrade installation.

The following describes the procedure for the upgrade installation of the embedded database:

For details about the commands shown in the procedure described below, see the *JP1/Automatic Job Management System 3 Command Reference*.

(a) Upgrade installation of an embedded database

The following describes the procedure for the upgrade installation of an embedded database:

1. Stop all JP1/AJS3 services.
2. Start the JP1/AJS3 Database `_JFn` service (n is 0 to 9 or A to Z).
3. Start the embedded database.

Execute the `ajsembdbstart` command with the `-id _JFn` option specified.

If JP1/AJS3 has been upgraded from an earlier version by upgrade installation and `pd_mode_conf` has been set to `AUTO`, the `ajsembdbstart` command might result in an error because the embedded database starts when the JP1/AJS3 Database `_JFn` service starts. In such a case, even if the error occurs, you do not need to deal with the error. Go to the next procedural step.

4. Check that the embedded database is operating.

Execute the `ajsembdbstatus` command with the `-s ust` and `-id _JFn` options specified to check that the embedded database is operating (`UNIT-STAT` is `ONLINE`).

5. Stop the embedded database normally.

Execute the `ajsembdbstop` command with the `-id _JFn` option specified. Do not specify the `-f` option in the command.

6. Check that the embedded database is stopped.

Execute the `ajsembdbstatus` command with the `-s ust` and `-id _JFn` options specified to check that the embedded database is stopped (`UNIT-STAT` is `STOP`).

7. Execute the `ajsembdbinstl` command to perform the upgrade installation of the embedded database.

8. Check that the embedded database is stopped.

Execute the `ajsembdbstatus` command with the `-s ust` and `-id _JFn` options specified to check that the embedded database is stopped (`UNIT-STAT` is `STOP`). If the embedded database is operating, execute the `ajsembdbstop` command to normally stop the embedded database.

9. Start the services that were stopped in step 1.

If you wish to perform an upgrade installation from version 12-60 or earlier, you must migrate the database before activating the service.

For details on database migration, see [3.6.3 Settings required when JP1/AJS3 - Manager is upgraded to version 13-00 or later](#). After migration is finished, stop the embedded database by using the `ajsembdbstop` command and then activate the service.

(b) Upgrade installation of embedded databases in a cluster configuration

For the upgrade installation of embedded databases in a cluster configuration, follow the procedure below.

- On the primary node
On the primary node, perform the upgrade installation of the embedded database while the shared disk and logical IP address are available to the primary node. For details about the procedure, see *(a) Upgrade installation of an embedded database*.
- On the secondary node
After the upgrade installation of the embedded database on the primary node, execute the `ajsembdbinst1` command on the secondary node to perform the upgrade installation of the embedded database.
Note that, for the upgrade installation of the embedded database on the secondary node, you do not need to enable the IP address and shared disk allocated to the logical host.

3

Setup

This chapter describes how to set up each JP1/AJS3 series program and the system and user environments.

3.1 Required setup for JP1/AJS3 - Manager

Before JP1/AJS3 - Manager can be used, both JP1/Base and JP1/AJS3 - Manager must be set up.

You must complete setting up JP1/Base before you attempt to set up JP1/AJS3 - Manager.

Supplementary note:

After setting up JP1/AJS3 - Manager on a virtual machine, you can replicate the virtual machine.

For an overview of replicating a virtual machine, see *2.8 Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *22. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up*.

3.1.1 Setting up JP1/Base

This subsection describes how to set up JP1/Base.

The subsection contains an overview of setup and brief setup procedures. For details about the setup procedures, items to be set, and commands, see the *JP1/Base User's Guide*.

The following is an overview of JP1/Base setup:

1. Set user information.

JP1/Base user management is used to specify user authentication and mapping settings.

The user authentication settings specify JP1/AJS3 users and the permissions required to use JP1/AJS3.

The user mapping settings are required to execute jobs and to log in from JP1/AJS3 - View. JP1 users are mapped to OS users who have been registered on hosts.

For details about how to specify these settings, see *(1) Setting user information*.

2. Specify the event service environment settings.

The event service environment settings are required to send and receive JP1 events.

In the JP1/Base event service environment settings, specify `keep-alive` as the communication type for the `server` parameter in the API settings file. If `close` is specified, the following problems might occur:

- The JP1 event issued by JP1/AJS3 at startup cannot be issued.
- The KAVT1040-E message is output to the integrated trace log, and the JP1 event reception monitoring job, log file monitoring job, and Windows event log monitoring job cannot detect events.
- The JP1 event sending job terminates abnormally (*Ended abnormally* status).

For details about how to specify settings and about the API settings file, see the *JP1/Base User's Guide*.

The following describes the JP1/Base setup procedure and definitions.

(1) Setting user information

The general procedure for setting user information is as follows:

1. Specify the authentication server to be used.
2. Register JP1 users.
3. Set the JP1 permission level.

4. Perform user mapping. (This step is also required when a user logs in from JP1/AJS3 - View.)

Note that if the authentication server has been set on another host, steps 2 and 3 are not necessary. However, the operations in these steps must have been performed for the authentication server on the other host.

In the Windows version of JP1/Base, user information can be set by using either the GUI or commands. This manual describes only the method using the GUI. For the method using commands, see the *JP1/Base User's Guide*.

The following describes the steps required to set user information.

(a) Specify the authentication server to be used

To specify the authentication server to be used:

1. From the Windows Start menu, choose **JP1_Base** and then **Environment Settings**.

The JP1/Base Environment Settings dialog box appears.

2. Click the **Authentication Server** tab.

3. In the **Order of authentication server** area, click the **Add** button.

The Authentication Server dialog box appears.

4. Enter the name of the host that you want to use as the authentication server, and then click the **OK** button.

Specify which host you want to use as the authentication server. You can use either the local or a remote host as the authentication server.

If you want to set a secondary authentication server, specify two authentication servers. If you do not want to set a secondary authentication server, specify only one authentication server.

The authentication server or authentication servers that you specify are displayed in the **Authentication server** of the JP1/Base Environment Settings dialog box. If two authentication servers are displayed, the upper one is the primary authentication server and the lower one is the secondary authentication server.

Authentication server specification is complete.

Important

If you specify the local host as an authentication server (primary or secondary authentication server) in the **Order of authentication server** area, you must make sure that the JP1/Base service is not running.

(b) Register JP1 users

To register JP1 users:

1. In the JP1/Base Environment Settings dialog box, click the **Authentication Server** tab.

2. In the **JP1 user** area, click the **Add** button.

The JP1 User dialog box appears.

3. Enter the JP1 user name and password for logging in to JP1/AJS3 - Manager, and then click the **OK** button.

The registered user name is displayed in the **JP1 user** of the JP1/Base Environment Settings dialog box.

To register more JP1 users, repeat steps 2 and 3.

JP1 user registration is complete.

If you have specified a remote host as an authentication server, register JP1 users on the authentication server.

(c) Set the JP1 permission level

For each JP1 user you register, set a permission level, which determines what processing the JP1 user can define or execute in JP1/AJS3. When you set a permission level for a JP1 user, you must define both a JP1 resource group and a JP1 permission level for the JP1 user.

To set a JP1 permission level:

1. In the JP1/Base Environment Settings dialog box, click the **Authentication Server** tab.
2. In the **JP1 user**, select the name of the JP1 user for whom you want to set a permission level.
3. In the **Authority level for JP1 resource group** area, click the **Add** button.
The JP1 Resource Group Details dialog box appears.
4. In **JP1 resource group**, enter a JP1 resource group name.
Resource group names are arbitrary names that are used to manage units as a group.
Specify the name of an existing resource group that already has JP1 users or the name of a new resource group. The JP1 resource group can consist of alphanumeric characters and underscores (_).
5. In **Permissions not granted**, select the name of the JP1 permission level that you want to set for the JP1 user, and then click the **Add** button.
The selected JP1 permission level name is displayed in the **Permissions granted**.
If you want to set more than one JP1 permission level, repeat this step.
To delete a JP1 permission level name from the **Permissions granted**, select the names and then click the **Delete** button.
For details about the JP1 permission levels required in JP1/AJS3, see *(2) JP1 permission levels required for JP1/AJS3*.
6. Click the **OK** button.
The JP1 resource group name and JP1 permission level names that you have set are displayed in the **Authority level for JP1 resource group** of the JP1/Base Environment Settings dialog box.
To set JP1 permission levels for other JP1 users, repeat steps 2 through 5.

Specification of the JP1 permission level settings is complete.

If you have specified another host as an authentication server, specify JP1 permission level settings on that server.

(d) Map the JP1 users

Map the registered JP1 users to OS users.

To map a JP1 user:

1. In the JP1/Base Environment Settings dialog box, click the **User Mapping** tab.
2. In **Password management**, click the **Set** button.
The Password Manager dialog box appears.
3. Click the **New User** button.
The New User dialog box appears.

4. Specify the OS user name and password as OS user information, and then click the **OK** button.

The OS user information is set, and the Password Manager dialog box appears again. In the dialog box, you can register, change, and delete OS user and password information.

An OS user is defined in *domain-name\user-name* or *user-name* format. In JP1/AJS3, an OS user name with a domain name is distinguished from an OS user name without a domain name. Select the appropriate format as explained below:

- For a domain user, use the *domain-name\user-name* format.
- For a user on the domain controller, use the *domain-name\user-name* format.
- For a local user (a user whose domain name and computer name are the same), use the *user-name* format (do not add a computer name).

If the domain name is defined by FQDN, during JP1/AJS3 - View operation, KAVV545-E is output and during JP1/AJS3 - Web Console operation, KNAK3641-E is output, and a problem in which JP1/AJS3 - View or JP1/AJS3 - Web Console becomes inoperable occurs.

If this problem occurs, change the domain name to a short name from FQDN, and make sure that JP1/AJS3 - View or JP1/AJS3 - Web Console are operable.

5. Click the **Exit** button.

The Password Manager dialog box closes, and the JP1/Base Environment Settings dialog box appears again with the **User Mapping** page displayed.

6. In the **JP1 user** area, click the **Add** button.

The JP1 User dialog box appears.

7. Enter a JP1 user name, the host permitted to request job execution, and the host to which JP1/AJS3 - View logs in. Then click the **OK** button.

The OS User Mapping Details dialog box appears.

If a specific host is set for **Server host**, job execution requests from the other hosts will not be accepted. If an asterisk (*) is set for **Server host**, job execution requests from all hosts will be accepted. To accept a login request from JP1/AJS3 - View, set the local host name or an asterisk (*) for **Server host**.

8. For the displayed JP1 user, select one or more OS users to which you want to map the JP1 user.

The **OS users not mapped** displays the OS users set in the Password Manager dialog box. In this field, select the OS users to which you want to map the JP1 user, and then click the **Add** button. The selected OS users move to the **OS users to be mapped**.

Note that a JP1 user can be mapped to several OS users.

9. After making sure that all the OS users to which you want to map the JP1 user are selected, click the **OK** button.

The JP1 user name and the mapped OS user names are displayed in the **List of OS users to be mapped** of the JP1/Base Environment Settings dialog box.

User mapping is complete.

Important

The OS user that a JP1 user is mapped to requires permissions that allow local logon to the manager host and agent host.

You can set these permissions by using the Windows **Local Security Policy** administrative tool.

Make sure that the OS users to which a JP1 user is mapped are able to log on normally to the OS.

(2) JP1 permission levels required for JP1/AJS3

JP1/AJS3 provides three types of JP1 permission levels:

- Those related to defining and executing jobnets
- Those related to manipulating agent management information
- Those related to executing and manipulating jobs

The following describes the JP1 permission levels for each type.

(a) JP1 permission levels related to defining and executing jobnets

The following five JP1 permission levels are related to defining and executing jobnets:

- **JP1_AJS_Admin**
Grants administrator authority to the holder, and permits the holder to perform operations related to the owner and resource group of a unit, and to define, execute, and edit a jobnet.
- **JP1_AJS_Manager**
Permits the holder to define, execute, and edit a jobnet.
- **JP1_AJS_Editor**
Permits the holder to define and edit a jobnet.
- **JP1_AJS_Operator**
Permits the holder to execute and view a jobnet.
- **JP1_AJS_Guest**
Permits the holder to view a jobnet.

The following table provides information about the operations that are permitted by the above JP1 permission levels.

Table 3–1: Operations permitted by the JP1 permission levels related to defining and executing jobnets

Operation	JP1_AJS_Admin	JP1_AJS_Manager	JP1_AJS_Editor	JP1_AJS_Operator	JP1_AJS_Guest
Changing the owner, JP1 resource group name, or job execution-user type (<i>Executed by</i>) of a unit owned by another user	Y#1	--	--	--	--
Defining a unit	Y	Y	Y	--	--
Changing the definition of the units of a jobnet	Y	Y#2	Y#2	--	--
Changing the definition of a jobnet	Y	Y	Y	--	--
Copying, moving, or renaming a unit	Y	Y	Y	--	--
Deleting a unit	Y	Y	Y	--	--
Outputting the name of a unit to the standard output file	Y	Y	Y	Y	Y

Operation	JP1_AJS_Admin	JP1_AJS_Manager	JP1_AJS_Editor	JP1_AJS_Operator	JP1_AJS_Guest
Outputting the definition of a unit to the standard output file	Y	Y	Y	Y	Y
Backing up a unit	Y	Y	Y	Y	Y
Restoring a unit	Y	Y	Y	--	--
Defining calendar information for a job group	Y	Y	Y	--	--
Defining a jobnet execution schedule for a specific period	Y	Y	--	Y	--
Registering a defined jobnet for execution	Y	Y	--	Y	--
Unregistering execution of a jobnet	Y	Y	--	Y	--
Outputting information such as the execution log, current status, and next execution schedule of a jobnet or job to the standard output file	Y	Y	Y	Y	Y
Temporary changing the schedule of a jobnet	Y	Y	--	Y	--
Temporary changing the status of a job	Y	Y	--	Y	--
Changing the status of a job	Y	Y	--	Y	--
Interrupting execution of a jobnet	Y	Y	--	Y	--
Re-executing a jobnet	Y	Y	--	Y	--
Forcibly terminating a job or jobnet	Y	Y	--	Y	--
Exporting a unit	Y	Y	Y	Y	Y
Importing a unit	Y	Y	Y	--	--
Exporting the registered execution-schedule information for root jobnets	Y	Y	Y	Y	Y
Importing the registered execution-schedule information for root jobnets	Y	Y	--	Y	--
Registering release of a jobnet	Y	Y	Y#3	Y#3	--
Canceling the release of a jobnet	Y	Y	Y#3	Y#3	--
Viewing jobnet release information	Y	Y	Y	Y	Y

Legend:

Y: This operation can be performed at this permission level.

--: This operation cannot be performed at this permission level.

Note 1:

JP1 users who are mapped to OS users with administrator permissions can perform all operations regardless of the granted JP1 permission level. Note, however, that if the value of the `ADMACLIMIT` environment setting parameter is changed to `yes` from the default, the JP1 user can only perform operations permitted for the granted JP1 permission level. In this case, grant the necessary permissions to JP1 users who back up or recover JP1/AJS3 - Manager or perform operations on related products.

For details about the `ADMACLIMIT` environment setting parameter, see [20.11.2\(4\) ADMACLIMIT](#).

If no JP1 resource group has been set for a unit, all users can perform all JP1/AJS3 operations for that unit.

Note 2:

For the manager job group and manager jobnet, the access permission definition of the JP1/AJS3 - Manager to be accessed applies.

#1

The owner of a unit can perform these operations for the unit even when JP1_AJS_Admin permission has not been granted. For details, see 7.2.1 *Unit owner permission* in the manual *JP1/Automatic Job Management System 3 Overview*.

#2

When the execution-user type of a unit is *User who owns*, operations that change the unit can be performed only by the owner of the unit and by JP1 users who have JP1_AJS_Admin permission. This prevents general users without JP1_AJS_Admin permission from executing jobs.

When the execution-user type of a unit is *User who registered*, operations that change the unit can be performed by any user who has a JP1 permission level sufficient for performing those operations.

#3

Both JP1_AJS_Editor and JP1_AJS_Operator permissions must be granted. The reason is that operations for changing definitions and registering execution are required to register or cancel the release of a jobnet.

(b) JP1 permission levels related to manipulating agent management information

The following three JP1 permission levels are related to manipulating agent management information:

- JP1_JPQ_Admin
Grants administrator authority to the holder, and permits the holder to add, change, or delete an execution agent or execution agent group.
- JP1_JPQ_Operator
Permits the holder to change the job transfer restriction status for an execution agent or execution agent group.
- JP1_JPQ_User
Permits the holder to view the status and definition of an execution agent or execution agent group.

When you set JP1 permission levels related to manipulating agent management information, make sure that you set them for the resource group named JP1_Queue. Note that JP1_Queue is case sensitive.

The following table provides information about the operations permitted by the above JP1 permission levels.

Table 3–2: Operations permitted by the JP1 permission levels related to manipulating agent management information

Operation	JP1_JPQ_Admin	JP1_JPQ_Operator	JP1_JPQ_User
Adding an execution agent	Y	--	--
Adding an execution agent group	Y	--	--
Deleting an execution agent	Y	--	--
Deleting an execution agent group	Y	--	--
Changing the target host defined on an execution agent	Y	--	--
Changing the maximum number of concurrently executable jobs on an execution agent	Y	--	--

Operation	JP1_JPQ_Admin	JP1_JPQ_Operator	JP1_JPQ_User
Changing the description of an execution agent	Y	--	--
Changing the description of an execution agent group	Y	--	--
Adding an execution agent to an execution agent group	Y	--	--
Changing the priority of execution agents in an execution agent group	Y	--	--
Removing an execution agent from an execution agent group	Y	--	--
Changing the job transfer restriction status for an execution agent	Y	Y	--
Changing the job transfer restriction status for an execution agent group	Y	Y	--
Displaying the status of an execution agent [#]	Y	Y	Y
Displaying the status of an execution agent group [#]	Y	Y	Y
Displaying the status of all execution agents and execution agent groups [#]	Y	Y	Y
Displaying the names of all execution agents and execution agent groups [#]	Y	Y	Y
Outputting the definition of an execution agent [#]	Y	Y	Y
Outputting the definition of an execution agent group [#]	Y	Y	Y
Outputting the definitions of all execution agents and execution agent groups [#]	Y	Y	Y

Legend:

Y: This operation can be performed at this permission level.

--: This operation cannot be performed at this permission level.

#

Users who have administrator privileges of the OS can perform all operations, regardless of the granted JP1 permission level.

Important

For the manipulation of agent management information, the access permission definition of the authentication server used by the Manager that executes the command applies.

(c) JP1 permission levels related to executing and manipulating jobs

The following three JP1 permission levels are related to executing and manipulating jobs:

- **JP1_JPQ_Admin**
Grants administrator authority to the holder, and permits the holder to set up the execution environment, to manipulate queues and job execution agents, and to manipulate jobs queued by other users.
- **JP1_JPQ_Operator**
Permits the holder to manipulate queues and to manipulate jobs queued by other users.
- **JP1_JPQ_User**
Permits the holder to register submit jobs and manipulate jobs queued by the holder.

When you set JP1 permission levels related to executing and manipulating jobs, make sure that you set the JP1 permission levels for the resource group named `JP1_Queue`. Note that `JP1_Queue` is case sensitive.

The following table provides information about the operations permitted by the above JP1 permission levels.

Table 3–3: Operations permitted by the JP1 permission levels related to executing and manipulating jobs

Operation	JP1_JPQ_Admin	JP1_JPQ_Operator	JP1_JPQ_User
Canceling or forcibly terminating job execution	Y	Y	U
Holding job execution or canceling a hold placed on job execution	Y	Y	U
Moving a job	Y	Y	U
Outputting job information	Y	Y	U
Outputting information about jobs that have ended	Y	Y	U
Deleting information about jobs that have ended from the database	Y	Y	--
Registering a submit job [#]	Y	Y	Y
Opening a queue [#]	Y	Y	--
Closing a queue [#]	Y	Y	--
Adding a queue [#]	Y	--	--
Deleting a queue [#]	Y	--	--
Outputting queue information [#]	Y	Y	Y
Changing the queue definition [#]	Y	--	--
Connecting a queue to an agent [#]	Y	--	--
Disconnecting a queue from an agent [#]	Y	--	--
Changing the maximum number of concurrently executable jobs [#]	Y	--	--
Adding an agent [#]	Y	--	--
Deleting an agent [#]	Y	--	--
Outputting agent host information [#]	Y	--	--
Adding an execution-locked resource [#]	Y	--	--
Deleting an execution-locked resource [#]	Y	--	--
Outputting information about execution-locked resources [#]	Y	Y	Y

Legend:

Y: This operation can be performed at this permission level.

U: This operation cannot be performed by a user at this permission level when the job was executed by another user.

--: This operation cannot be performed at this permission level.

#

This operation can be performed only in a configuration in which submit jobs can be used.

Important

For the execution and manipulation of a job, the access permission definition of the authentication server used by the Manager that accepts the processing request applies.

When a job execution control command is used to execute or manipulate a job, make sure that a JP1 user whose name is the same as the OS user who executes the command is registered. In addition, for that JP1 user, set a JP1 permission level sufficient for executing or manipulating the job.

If the `jpqjobsub` command is executed, the JP1 user executing the job (the user with the same name as the OS user who executes the command) must be mapped on the job execution host to an OS user on that host.

If `-eu` is specified in the executed `jpqjobsub` command, the JP1 user that has the same name as the OS user who executes the command must be mapped on the job execution host to the OS user specified in `-eu`.

3.1.2 Setting up JP1/AJS3 - Manager

This subsection describes how to set up JP1/AJS3 - Manager. To set up JP1/AJS3 - Manager, you must have administrator privileges.

Make sure that JP1/Base has already been set up before you attempt to set up JP1/AJS3 - Manager.

Note that this subsection describes the basic setup of JP1/AJS3. If you need to change the settings to match specific operating requirements, see the appropriate section listed in the following table.

Topic	Reference
Procedure for setting the execution agent	4.1
Procedure for setting environment setting parameters	4.2
Procedure for setting up operation profiles	21.1
Procedure for restricting connections to JP1/AJS3	21.2
Procedure for setting up the function that allows backup to be performed while JP1/AJS3 is running (backup enhancement function)	21.6
Settings for controlling the scheduler	6.1
Settings for controlling job execution	6.2
Settings for controlling events and actions	6.3
Settings for controlling queueless job execution	6.4
Settings for the definition pre-check function	6.5
Settings for the Web GUI (Management Portal)	6.7
Other settings	6.9
Settings for logging	7
Setting up a cluster system	8
Setup for disaster recovery operations	9
Settings for the embedded database	23

Topic	Reference
Setup for using the external database	24

(1) Setup procedure

To set up JP1/AJS3 - Manager:

1. If necessary, change the account settings for the JP1/AJS3 service.

Skip this step if it is not necessary to change the account settings for the JP1/AJS3 service. For details about the operation required to change the account settings, see *4.2.3(1) Changing the account for services provided by JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

2. If necessary, change the environment setting parameters.

Skip this step if you accept the environment setting parameter values proposed by JP1/AJS3. To change environment setting parameter values, use the `jajs_config` command, or the `jbssetcnf` command provided by JP1/Base.

For details about how to set the environment setting parameters, see *4.2 Environment setting parameter settings*.

3. If necessary, set up the system and user environments.

For details about setting up the system and user environments, see *3.5 Setting up the system and user environments*.

4. If you want to use the Web Console server, perform the required setup of the JP1/AJS3 - Manager instance to which you want to connect the Web Console server.

If you want to use the Web Console server, set up the JP1/AJS3 - Manager instance to which you want to connect the Web Console server.

For details about how to set up JP1/AJS3 - Manager when using the Web Console server, see *3.4.1 Setting up JP1/AJS3 - Manager*.

JP1/AJS3 - Manager setup is complete.

3.2 Required setup for JP1/AJS3 - Agent

Before JP1/AJS3 - Agent can be used, both JP1/Base and JP1/AJS3 - Agent must be set up.

You must finish setting up JP1/Base before you attempt to set up JP1/AJS3 - Agent.

Supplementary note:

After setting up JP1/AJS3 - Agent on a virtual machine, you can replicate the virtual machine.

For an overview of replicating a virtual machine, see 2.8 *Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see 22. *Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up*.

3.2.1 Setting up JP1/Base

This subsection describes how to set up JP1/Base.

The subsection contains an overview of setup and brief setup procedures. For details about the setup procedures, items to be set, and commands, see the *JP1/Base User's Guide*.

The following is an overview of JP1/Base setup:

1. Set user information.

JP1/Base user management is used to specify user mapping settings.

The user mapping settings are required when another host sends a job execution request to the local host. JP1 users are mapped to OS users who have been registered on hosts.

For details about how to specify these settings, see (1) *Setting user information*.

2. Specify the event service environment settings.

The event service environment settings are required to send and receive JP1 events.

In the JP1/Base event service environment settings, specify `keep-alive` as the communication type for the `server` parameter in the API settings file. If `close` is specified, the following problems might occur:

- The JP1 event issued by JP1/AJS3 at startup cannot be issued.
- The KAVT1040-E message is output to the integrated trace log, and the JP1 event reception monitoring job, log file monitoring job, and Windows event log monitoring job cannot detect events.
- The JP1 event sending job terminates abnormally (*Ended abnormally* status).

For details about how to specify settings and about the API settings file, see the *JP1/Base User's Guide*.

The following describes the JP1/Base setup procedure and definitions.

(1) Setting user information

In the Windows version of JP1/Base, user information can be set by using either the GUI or commands. This manual describes only the method using the GUI. For the method using commands, see the *JP1/Base User's Guide*.

Note that JP1/AJS3 - Agent and JP1/AJS2 - Agent 07-00-/C and later versions no longer access the authentication server when they start.

In JP1/AJS3 - Agent and JP1/AJS2 - Agent 07-00-/C and later versions, you do not need to specify the authentication server.

The following describes the steps required to set user information.

(a) Map the JP1 users

Map the JP1 users registered on the authentication server to OS users.

To map a JP1 user:

1. In the JP1/Base Environment Settings dialog box, click the **User Mapping** tab.
2. In **Password management**, click the **Set** button.
The Password Manager dialog box appears.
3. Click the **New User** button.
The New User dialog box appears.
4. Specify the OS user name and password as OS user information, and then click the **OK** button.
The OS user information is set, and the Password Manager dialog box appears again. In the dialog box, you can register, change, and delete OS user and password information.
An OS user is defined in *domain-name\user-name* or *user-name* format. In JP1/AJS3, an OS user name with a domain name is distinguished from an OS user name without a domain name. Select the appropriate format as explained below:
 - For a domain user, use the *domain-name\user-name* format.
 - For a user on the domain controller, use the *domain-name\user-name* format.
 - For a local user (a user whose domain name and computer name are the same), use the *user-name* format (do not add a computer name).
5. Click the **Exit** button.
The Password Manager dialog box closes, and the JP1/Base Environment Settings dialog box appears again with the **User Mapping** page displayed.
6. In the **JP1 user** area, click the **Add** button.
The JP1 User dialog box appears.
7. Enter a JP1 user name and the name of the host requesting the job, and then click the **OK** button.
The OS User Mapping Details dialog box appears.
If an asterisk (*) is set for **Server host**, job execution requests from all hosts will be accepted.
8. For the displayed JP1 user, select one or more OS users to which you want to map the JP1 user.
The **OS users not mapped** displays the OS users set in the Password Manager dialog box. In this field, select the OS users to which you want to map the JP1 user, and then click the **Add** button. The selected OS users move to the **OS users to be mapped**.
Note that a JP1 user can be mapped to several OS users.
9. After making sure that all the OS users to which you want to map the JP1 user are selected, click the **OK** button.
The JP1 user name and the mapped OS user names are displayed in the **List of OS users to be mapped** of the JP1/Base Environment Settings dialog box.

User mapping is complete.

Important

Each OS user to which a JP1 user is mapped must have a permission sufficient for logging on locally to the host on which jobs will be executed.

You can set these permissions by using the Windows **Local Security Policy** administrative tool.

Make sure that the OS users to which a JP1 user is mapped are able to log on normally to the OS.

3.2.2 Setting up JP1/AJS3 - Agent

This subsection describes how to set up JP1/AJS3 - Agent. To set up JP1/AJS3 - Agent, you must have administrator privileges.

Make sure that JP1/Base has already been set up before you attempt to set up JP1/AJS3 - Agent.

Note that this subsection describes the basic setup of JP1/AJS3. If you need to change the settings to match specific operating requirements, see the appropriate section listed in the following table.

Topic	Reference
Procedure for setting environment setting parameters	4.2
Procedure for restricting connections to JP1/AJS3	21.2.1
Settings for defining the work path to be used during job execution as a variable	6.2.1
Settings for executing a job with a long file name	6.2.15
Settings for executing jobs that require a user profile	6.2.16
Changing the settings related to the size of the log for event jobs and custom event jobs to match operational requirements	6.3.1
Setting the status passing option for the file monitoring job	6.3.3
Settings for large-file monitoring (monitoring of files that are 2 GB or larger)	6.3.16
Settings for executing a job that requires a user profile in a queueless job environment	6.4.2
Settings for the JP1/AJS3 definition pre-check function	6.5.1
Settings for using the Web GUI (Management Portal)	6.7.2
Settings for logging	7
Setting up for a cluster system	8

(1) Setup procedure

To set up JP1/AJS3 - Agent:

1. If necessary, change the account settings for the JP1/AJS3 service.

Skip this step if it is not necessary to change the account settings for the JP1/AJS3 service. For details about the operation required to change the account settings, see *4.2.3(1) Changing the account for services provided by JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

2. If necessary, change the environment setting parameters.

Skip this step if you accept the environment setting parameter values proposed by JP1/AJS3. To change environment setting parameter values, use the `jajs_config` command, or the `jbssetcnf` command provided by JP1/Base. For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*. For details on the `jbssetcnf` command, see the *JP1/Base User's Guide*.

3. If necessary, set up the system and user environments.

For details about setting up the system and user environments, see *3.5 Setting up the system and user environments*.

JP1/AJS3 - Agent setup is complete.

3.3 Required setup for JP1/AJS3 - View

JP1/AJS3 - View can be used immediately after installation without performing any special setup procedures or changing any default values.

For details about how to change the JP1/AJS3 - View environment settings, see [5. JP1/AJS3 - View Environment Settings](#).

3.4 Setup required to use JP1/AJS3 - Web Console

This section describes how to set up JP1/AJS3 for Windows.

If you want to use the Web Console server, set up the following components:

- JP1/AJS3 - Manager[#]
- JP1/AJS3 - Web Console

#:

Information about this component differs according to the OS of the JP1/AJS3 - Manager host to which JP1/AJS3 - Web Console connects. If the JP1/AJS3 - Manager host OS is Windows, see [3.4.1 Setting up JP1/AJS3 - Manager](#). If the JP1/AJS3 - Manager host OS is UNIX, see [13.3.1 Setting up JP1/AJS3 - Manager](#).

Note that to use the Web GUI (Management Portal), after completing JP1/AJS3 - Web Console setup, you must also set up the management portal. For details about setting up the management portal, see [6.7 Settings related to the Web GUI \(Management Portal\)](#).

This section describes how to set up these components.

3.4.1 Setting up JP1/AJS3 - Manager

This subsection describes how to set up the Windows version of JP1/AJS3 - Manager as required to connect JP1/AJS3 - Web Console and JP1/AJS3 - Manager. To set up JP1/AJS3 - Manager, you must have administrator privileges.



Note

If the OS of the JP1/AJS3 - Manager host to which JP1/AJS3 - Web Console connects is UNIX, see [13.3.1 Setting up JP1/AJS3 - Manager](#).

To set up JP1/AJS3 - Manager:

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. When JP1/AJS3 - Manager has been installed by performing an upgrade installation, specify settings to start the `ajscdinetd` process.

You do not need to perform this procedure if a new installation of JP1/AJS3 - Manager version 11-00 or later was performed, or if this procedure has already been performed.

The `ajscdinetd` process of JP1/AJS3 - Manager must be started to enable JP1/AJS3 - Manager to accept connections from JP1/AJS3 - Web Console. To start the `ajscdinetd` process, you must revise the JP1/AJS3 startup process definition file (`jplajs_hstd.conf`) and the extended startup process definition file (`jplajs_hsad_0700.conf`) of JP1/AJS3 - Manager. You must also add the port number of the port the `ajscdinetd` process uses to the `services` file.

How to specify settings in these definition files varies depending on whether the `jplajs_hstd.conf` file or the `jplajs_hstd_0700.conf` file has already been revised. To check whether the `jplajs_hstd.conf` file or the `jplajs_hstd_0700.conf` file has already been revised, open each file by using a text editor.

The following shows the storage folders for `jplajs_hstd.conf`, `jplajs_hstd_0700.conf`, and the model files:

For a physical host:

`JP1/AJS3-Manager-installation-folder\conf`

For a logical host:

`shared-folder\conf`

If the `jp1ajs_hstd.conf` file and the `jp1ajs_hstd_0700.conf` file have not been revised, see [\(1\) Settings to start the ajscdinetc process \(when the definition files have not been revised\)](#). If the `jp1ajs_hstd.conf` file or the `jp1ajs_hstd_0700.conf` file has already been revised, see [\(2\) Settings to start the ajscdinetc process \(when the definition files have already been revised\)](#).

3. If necessary, change the restart setting of the ajscdinetc process.

With the initial settings for JP1/AJS3 - Manager, the ajscdinetc process restarts if the ajscdinetc process has ended abnormally. If necessary, change this restart setting.

The restart of the ajscdinetc process is defined in the JP1/AJS3 - Manager extended startup process definition file (`jp1ajs_hstd_0700.conf`). For details about the extended startup process definition file, see [6.3.1 Restarting an abnormally terminated JP1/AJS3 process](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

4. If necessary, change the setting of the size of the internal log for the ajscdinetc process.

Use the `AJSCDINETDLOGSIZE` environment setting parameter to specify the setting of the size of the internal log for the ajscdinetc process.

For details about the `AJSCDINETDLOGSIZE` environment setting parameter, see [20.4.2\(22\) AJSCDINETDLOGSIZE](#).

5. Specify settings to pass through the firewall.

When a firewall is set in the operating environment, you must specify settings to enable the communication between JP1/AJS3 - Web Console and JP1/AJS3 - Manager to pass through the firewall.

For the port numbers to be used by JP1/AJS3 - Web Console and JP1/AJS3 - Manager and the directions of communication traffic through a firewall, see [A. List of Port Numbers](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

6. If necessary, set environment setting parameters.

Based on a preliminary review, change settings of environment setting parameters. For details about the environment setting parameters to be reviewed, see [4.6.2 Environment settings for JP1/AJS3 - Manager connected with a Web Console server](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

To change the settings of environment setting parameters, use the `jaajs_config` command. For details about how to set environment setting parameters, see [4.2 Environment setting parameter settings](#).

7. Start the JP1/AJS3 service.

(1) Settings to start the ajscdinetc process (when the definition files have not been revised)

The following describes how to specify settings to start the ajscdinetc process when the content of the JP1/AJS3 startup process definition file and the JP1/AJS3 extended startup process definition file have not been changed from the initial status:

1. Back up the `jp1ajs_hstd.conf` file and the `jp1ajs_hstd_0700.conf` file.
2. Copy the model file (`jp1ajs_hstd.conf.model`) for the JP1/AJS3 startup process definition file, and then rename the copy of the model file to `jp1ajs_hstd.conf`.

- Copy the model file (`jplajs_hstd_0700.conf.model`) for the extended startup process definition file, and then rename the copy of the model file to `jplajs_hstd_0700.conf`.
- When logical hosts are used for operations, copy the files created in steps 2 and 3 into a shared folder.
- In the `services` file, add the port number of the port to be used by the `ajscdinetd` process.

Default port number:

22250

Example of adding a port number:

```
jplajs3cdinetd 22250/tcp # JP1/AJS3 - Web Console
```

If the default port number cannot be used, specify the port number of the port to be used by the `ajscdinetd` process while avoiding the duplicate specification of the port number specified for any other process. When you change the port number to be used from the default, you also need to change the connection port number specified in the network-settings file for JP1/AJS3 - Web Console.

If a duplicate port number is specified, a message (KAVS0904-E) is output to the integrated trace log when the `ajscdinetd` process starts.

Cautionary note:

The port number setting added in the `services` file is not deleted by performing an uninstallation of JP1/AJS3 - Manager. When the port number setting is no longer necessary, you need to delete it manually.

(2) Settings to start the `ajscdinetd` process (when the definition files have already been revised)

The following describes how to specify settings to start the `ajscdinetd` process when the content of the JP1/AJS3 startup process definition file or the JP1/AJS3 extended startup process definition file has been changed from the initial status:

- Open the `jplajs_hstd.conf` file.
- Add a definition of the `ajscdinetd` process on any line.

Add the following definition:

```
ajscdinetd|ajscdinetd.exe|||1800|
```

- Save the `jplajs_hstd.conf` file.
- Open the `jplajs_hstd_0700.conf` file.
- Add a definition of the `ajscdinetd` process to any line.

Add the following definition:

```
ajscdinetd|ajscdinetd.exe||1|3|3|21600|0|0|hostevam|1|||
```

- Save the `jplajs_hstd_0700.conf` file.
- Add the port number of the port to be used by the `ajscdinetd` process in the `services` file.

Default port number:

22250

Example of adding a port number:

```
jplajs3cdinetd 22250/tcp # JP1/AJS3 - Web Console
```

If the default port number cannot be used, specify the port number of the port to be used by the `ajscdinetd` process while avoiding the duplicate specification of the port number specified for any other process. When you change the port number to be used from the default, you also need to change the connection port number specified in the `network-settings` file for JP1/AJS3 - Web Console.

If a duplicate port number is specified, a message (KAVS0904-E) is output to the integrated trace log when the `ajscdinetd` process starts.

8. Start the JP1/AJS3 service.

Cautionary note

The port number setting added in the `services` file is not deleted by performing an uninstallation of JP1/AJS3 - Manager. When the port number setting is no longer necessary, you need to delete it manually.

3.4.2 Setting up JP1/AJS3 - Web Console

This subsection describes how to set up JP1/AJS3 - Web Console. To set up JP1/AJS3 - Web Console, you must have administrator privileges.

To set up JP1/AJS3 - Web Console:

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 Web Application Server service
- JP1/AJS3 HTTP Server service

2. Set up the environment of the Web Console server.

The table below lists the settings files for the Web Console server. Edit the appropriate settings files for the environment to be set.

Table 3–4: Settings files for the Web Console server

No.	File name	Environment requiring settings changes	Reference
1	Environment-settings file (<code>ajs3web.conf</code>)	Review settings in the following cases: <ul style="list-style-type: none"> • When the time zone is different between the destination manager host and the Web Console server • When the size of a log file or number of log files is to be changed • When the Web GUI (Job Portal) is used to restrict operations for each user who logs in • When the manager hosts to which JP1/AJS3 - Web Console can connect are restricted • When execution of API functions with JP1/AJS3 - Web Console is restricted • When the name of the connection-destination host is displayed in the Web GUI (Job Portal) window 	3.4.3 Details on the settings in the environment-settings file (<code>ajs3web.conf</code>)
2	Network-settings file (<code>ajscd_ajs3web.properties</code>)	Review settings in the following cases: <ul style="list-style-type: none"> • When the port number for the connection to JP1/AJS3 - Manager is changed from the default • When the environment settings (such as connection timeout period and number of retry attempts) for connection to JP1/AJS3 - Manager are to be changed 	3.4.4 Details on the settings in the network-settings file (<code>ajscd_ajs3web.properties</code>)

No.	File name	Environment requiring settings changes	Reference
3	HTTP server definition file (<code>httpd.conf</code>)	Review settings in the following cases: <ul style="list-style-type: none"> When the port number for the reception of connection requests from a web browsers is to be changed from the default When SSL communication is to be enabled When the port number for the communication between the HTTP and J2EE servers is to be changed from the default 	3.4.5 Details on the settings in the HTTP server definition file (<code>httpd.conf</code>)
4	User properties file for J2EE server (<code>usrconf.properties</code>)	Review settings in the following cases: <ul style="list-style-type: none"> When the port number for the communication between the HTTP and J2EE servers is to be changed from the default When the port number for the internal management of J2EE server is to be changed from the default 	3.4.6 Details on the settings in the user properties file for J2EE server (<code>usrconf.properties</code>)
5	Display color settings file (<code>ajs3web_color.conf</code>)	Review settings in the following case: <ul style="list-style-type: none"> When the colors indicating the statuses of the units displayed in the windows and dialog boxes of the Web GUI (Job Portal) are to be changed When the colors indicating the delay statuses of the units displayed in the windows and dialog boxes of the Web GUI (Job Portal) are to be displayed When the colors indicating the hold plan of the units displayed in the windows and dialog boxes of the Web GUI (Job Portal) are to be displayed 	3.4.7 Details on the settings in the display color settings file (<code>ajs3web_color.conf</code>)
6	Option definition file for J2EE server (<code>usrconf.cfg</code>)	Review settings in the following case: <ul style="list-style-type: none"> When the maximum size of the Java heap available to applications on the Web Console server is to be changed 	3.4.8 Details on the settings in the option definition file for J2EE server (<code>usrconf.cfg</code>)
7	System property file for server management commands (<code>usrconf.properties</code>)	Review settings in the following cases: <ul style="list-style-type: none"> When the port number for the internal management of J2EE server is to be changed from the default 	3.4.10 Details on the settings in the system properties file for server management commands (<code>usrconf.properties</code>)

3. If necessary, specify settings for SSL communication.

Using SSL communication enables the HTTPS communication between the Web GUI and Web Console server and, thereby, the prevention of password stealing by sniffing. Using SSL communication also enables the SSL encryption of the communications between the Web Console server and manager host.

For details about how to specify settings for SSL communication, see [21.4 Setting up the communication using SSL](#).

4. Specify settings to pass through the firewall.

When a firewall is set in the operating environment, you must enable the communications between JP1/AJS3 - Web Console and JP1/AJS3 - Manager and between JP1/AJS3 - Web Console and a web browser to pass through the firewall.

For the port numbers to be used by JP1/AJS3 - Web Console and JP1/AJS3 - Manager and the directions of communication traffic through the firewall, see [A. List of Port Numbers](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

5. Start the following services:

- JP1/AJS3 Web Application Server service
- JP1/AJS3 HTTP Server service

6. Check that the site at the URL below can be accessed from your browser.

Access the site at the following URL, and then make sure that the login window of the Web GUI appears.

`http://host-name-or-IP-address-of-Web-Console-server:port-number/ajs/login.html`

The default of *port-number* is 22252 for HTTP connection or 22253 for HTTPS connection.

If you enable SSL communication to connect on HTTPS, replace `http` at the top of the URL with `https`.

3.4.3 Details on the settings in the environment-settings file (ajs3web.conf)

This subsection describes the details on the format of settings and the items to be set in the environment-settings file (`ajs3web.conf`).

(1) File storage folder

The following describes the folders for storing the file `ajs3web.conf` and the model file `ajs3web.conf.model`.

(a) Model file storage folder

The following shows the folder storing the `ajs3web.conf.model` file.

`JP1/AJS3-Web-Console-installation-folder\conf`

(b) ajs3web.conf file storage folder

The following shows the folder storing the `ajs3web.conf` file.

`JP1/AJS3-Web-Console-installation-folder\conf#`

#:

In a cluster configuration, the file name is as follows:

`shared-folder\jp1ajs3web\conf`

If you make changes to a command log, edit both the `ajs3web.conf` file in the shared folder and the `ajs3web.conf` file in the installation folder.

(2) File-editing procedure

The procedure for editing the `ajs3web.conf` file varies between the case in which the size and number of log files are to be changed and the case in which other setting items are to be changed.

(a) Procedure for changing the size and number of log files

To change the size and number of log files, you must delete all log files and the files related to the logs before editing the `ajs3web.conf` file.

The following describes the procedure for changing the size and number of log files:

1. Stop the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.
2. Make backups of all log files[#] found in any folder.
3. Delete the following files[#]:

If you make changes to an application server log:

- All application server log files
- `appserver.mm` file in the `mmap` folder that is in the folder storing application server log files

If you make changes to a command log:

- All command log files
- `jajs_web_service.mm` file and `ajswebsetup.mm` file in the `mmap` folder that is in the folder storing command log files

4. Back up the `ajs3web.conf` file, and store the backup file in any folder.
5. Copy the model file (`ajs3web.conf.model`), and then rename the copy of the file to `ajs3web.conf`.
6. Open the `ajs3web.conf` file by using a text editor.
7. Modify the definitions to be changed.
8. Save the `ajs3web.conf` file.
9. Start the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.

#

For the names of the relevant log files and folders, see the table *Log files and folders in JP1/AJS3 - Web Console (for Windows)* in 1.2.5(1) *Log files and directories in Windows* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

(b) Procedure for changing items other than the size and number of log files

The following describes the procedure for changing items other than the size and number of log files:

1. Stop the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.
2. Back up of the `ajs3web.conf` file, and store the backup file in any folder.
3. Copy the model file (`ajs3web.conf.model`), and then rename the copy of the file to `ajs3web.conf`.
4. Open the `ajs3web.conf` file by using a text editor.
5. Modify the definitions to be changed.
6. Save the `ajs3web.conf` file.
7. Start the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.

(3) When the setting takes effect

If you make changes to a command log only:

- The settings for the setup command operation log take effect when a setup command is executed.
- The settings for the service start/stop log take effect when the JP1/AJS3 Web Application Server service starts.

If you make changes in addition to those to a command log:

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `ajs3web.conf` file:

```
[  
HNTR_LOG_LEVEL=level-of-the-message-to-be-output-to-integrated-trace-log  
HNTR_LOG_LANG=language-type-of-the-message-to-be-output-to-integrated-trace-log  
SYS_LOG_LEVEL=level-of-the-message-to-be-output-to-Windows-event-log  
SYS_LOG_LANG=language-type-of-the-message-to-be-output-to-Windows-event-log  
COM_LOG_SIZE=size-of-a-command-log-file  
COM_LOG_LEVEL=level-of-the-message-to-be-output-to-command-log  
COM_LOG_NUM=number-of-command-log-files  
COM_LOG_LANG=language-type-of-the-message-to-be-output-to-command-log  
SERVER_LOG_SIZE=size-of-an-application-server-log-file  
SERVER_LOG_LEVEL=level-of-the-message-to-be-output-to-application-server-log  
SERVER_LOG_NUM=number-of-application-server-log-files  
SERVER_LOG_LANG=language-type-of-the-message-to-be-output-to-application-server-log  
PFM_URL=URL-to-access-PFM-Web-Console  
EXECUTION_PROHIBITED_DISPLAY_FORMAT=display-format-of-prohibited-execution-of-a-root-jobnet-registered-for-planned-execution  
GUI_OPERATION_RESTRICTION=setting-that-determines-whether-the-operation-restriction-function-is-enabled  
PERMITTED_AJS_MANAGER_HOST=names-of-JP1/AJS3-Manager-hosts-to-which-JP1/AJS3-Web-Console-can-connect  
HOST_NAME_INPUT_METHOD=method-for-specifying-host-names-in-the-Web-GUI-login-screen  
API_EXECUTION_RESTRICTION=setting-that-determines-whether-execution-of-API-functions-is-to-be-restricted  
SERVER_SESSION_TIMEOUT=Web-GUI-session-timeout-period  
  
[host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host]  
TIMEZONE=time-zone-of-destination-JP1/AJS3-Manager  
SUMMARY_MAX_COUNT=maximum-number-of-monitoring-targets-on-Web-GUI (Job Portal)  
HOSTNAME_ALIAS_FOR_PFM=JP1/AJS3-Manager-host-alias-name-to-be-passed-to-PFM-Web-Console  
WEB_CONSOLE_SETTING_USER=JP1-user-who-can-change-the-operating-permission-settings-for-each-JP1-user (user-who-sets-permissions)  
HOST_INFO_BAR_BACKGROUND=background-color-of-the-area-that-displays-the-information-about-the-connection-destination-JP1/AJS3-Manager-host-in-the-Web-GUI (Job Portal)-window  
HOST_INFO_BAR_TEXT=connection-destination-JP1/AJS3-Manager-host-information-to-be-displayed-in-the-Web-GUI (Job Portal)-window  
HOST_INFO_BAR_TEXT_COLOR=font-color-of-the-area-that-displays-the-information-about-the-connection-destination-JP1/AJS3-Manager-host-in-the-Web-GUI (Job Portal)-window  
  
[host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host]  
:
```

Adding a semicolon (;) at the beginning of a line comments out the line and disables the setting of the line. The `ajs3web.conf` file before it is edited and its model file `ajs3web.conf.model` contain sample settings with all lines commented out. To enable settings, delete the prefixed semicolons (;) from the relevant lines.

The settings in the `ajs3web.conf` file are categorized by section as follows:

[] section

In this section, specify general settings for JP1/AJS3 - Web Console.

Specify the settings on the line next to [] and the following lines before the next section. If there no other sections, you can specify the settings up to the last line.

For details about the settings that can be specified, see (a) *HNTR_LOG_LEVEL* to (s) *SERVER_SESSION_TIMEOUT* in (5) *Setting items*.

[*host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host*] section

In this section, specify the settings for a JP1/AJS3 - Manager host to which JP1/AJS3 - Web Console connects. Define this section for each connection-destination host.

Specify the settings on the line next to [*host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host*] and the following lines before the next section. If there no other sections, you can specify the settings up to the last line.

For details about the settings that can be specified, see (u) *TIMEZONE* to (aa) *HOST_INFO_BAR_TEXT_COLOR* in (5) *Setting items*.

For a host for which the [*host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host*] section is not defined, default values are used for the following settings: (u) *TIMEZONE* to (aa) *HOST_INFO_BAR_TEXT_COLOR* in (5) *Setting items*.

For details about the values that can be specified in the [*host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host*] section, see (t) *Host name or IP address of destination JP1/AJS3 - Manager instance* in (5) *Setting items*.

(5) Setting items

The following describes the items to be set. Delimit each item by using a linefeed.

(a) HNTR_LOG_LEVEL

Specify the level of the messages to be output to the integrated trace log.

Specifiable values

none

No message is output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

info

Recommended value

Default value

(b) HNTR_LOG_LANG

Specify the language type of the messages to be output to the integrated trace log.

Specifiable values

system

Messages are output in the language type set in the OS.

If the character encoding set in the OS is neither English ASCII encoding nor Shift-JIS encoding, English ASCII encoding is assumed to be specified.

C

Messages are output by using English ASCII encoding.

SJIS

Messages are output by using Shift-JIS encoding.

Default value

system

Recommended value

Set the value appropriate for the operating environment.

(c) **SYS_LOG_LEVEL**

Specify the level of the messages to be output to the Windows event log.

Specifiable values

none

No message is output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

info

Recommended value

Default value

(d) **SYS_LOG_LANG**

Specify the language type of the messages to be output to the Windows event log.

Specifiable values

system

Messages are output in the language type set in the OS.

If the character encoding set in the OS is neither English ASCII encoding nor Shift-JIS encoding, English ASCII encoding is assumed to be specified.

C

Messages are output by using English ASCII encoding.

SJIS

Messages are output by using Shift-JIS encoding.

Default value

system

Recommended value

Set the value appropriate for the operating environment.

(e) COM_LOG_SIZE

Specify the size of a command log file.

Specifiable values

4 to 16, 384 (units: kilobytes)

Default value

128

Recommended value

Default value

(f) COM_LOG_LEVEL

Specify the level of the messages to be output to the command log.

Specifiable values

none

No message is output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

info

Recommended value

Default value

(g) COM_LOG_NUM

Specify the number of command log files.

Specifiable values

1 to 16 (units: files)

Default value

2

Recommended value

Default value

(h) COM_LOG_LANG

Specify the language type of the messages to be output to the command log.

Specifiable values

system

Messages are output in the language type set in the OS.

If the character encoding set in the OS is neither English ASCII encoding nor Shift-JIS encoding, English ASCII encoding is assumed to be specified.

C

Messages are output by using English ASCII encoding.

SJIS

Messages are output by using Shift-JIS encoding.

Default value

system

Recommended value

Set the value appropriate for the operating environment.

(i) SERVER_LOG_SIZE

Specify the size of an application server log file.

Specifiable values

4 to 16,384 (units: kilobytes)

Default value

8,192

Recommended value

Default value

(j) SERVER_LOG_LEVEL

Specify the level of the messages to be output to the application server log.

Specifiable values

none

No message is output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

info

Recommended value

Default value

(k) SERVER_LOG_NUM

Specify the number of application server log files.

Specifiable values

1 to 16 (units: files)

Default value

2

Recommended value

Default value

(l) SERVER_LOG_LANG

Specify the language type of the messages to be output to the application server log.

Specifiable values

system

Messages are output in the language type set in the OS.

If the language type set in the OS is neither Japanese nor English, English is assumed to be specified.

ja

Messages are output in Japanese.

en

Messages are output in English.

Default value

system

Recommended value

Set the value appropriate for the operating environment.

(m) PFM_URL

Specify the URL of the PFM - Web Console login screen.

Specifiable values

communication-protocol: //host-name-or-IP-address-of-PFM-Web-Console-host:port-number/
PFMWebConsole/login.do

The following describes the values that can be specified for the variables in *communication-protocol*: //host-name-or-IP-address-of-PFM-Web-Console-host:port number:

communication-protocol

Specify http or https as the communication protocol.

host-name-or-IP-address-of-PFM-Web-Console-host

Specify the host name or IP address of the PFM - Web Console host.

port-number

Specify the number of the port to be used for communication with PFM - Web Console. The default is 20358.

Default value

None.

Recommended value

Set the value appropriate for the operating environment.

(n) EXECUTION_PROHIBITED_DISPLAY_FORMAT

Specify the display format of prohibited execution of a root jobnet registered for planned execution.

Specifiable values

yes

If the execution of a root jobnet registered for planned execution is prohibited, No (Previous execution prohibited) is displayed for **Change plan** on the following screens and in the following dialog box:

- List screen
- Monthly Schedule screen
- Detail Information dialog box

no

If the execution of a root jobnet registered for planned execution is prohibited, Yes (Execution prohibited) is displayed for **Change plan** on the following screens and in the following dialog box:

- List screen
- Monthly Schedule screen
- Detail Information dialog box

Default value

no

Recommended value

Set the value appropriate for the operating environment.

(o) GUI_OPERATION_RESTRICTION

Specify whether to enable the operation restriction function of the Web GUI (Job Portal).

Specifiable values

yes

The operation restriction function is enabled.

no

The operation restriction function is disabled.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

To specify yes for this parameter, you must also specify the WEB_CONSOLE_SETTING_USER parameter.

(p) PERMITTED_AJS_MANAGER_HOST

Specify the names of JP1/AJS3 - Manager hosts to which JP1/AJS3 - Web Console is permitted to connect.

Specifiable values

The host name of JP1/AJS3 - Manager

You can specify the following host names:

For physical host

The host name that is output when the `hostname` command is run on a manager host

For logical host

The logical host name that was specified when the logical host environment was set up

The host name you specify must be a character string consisting of 255 or fewer bytes. You can specify multiple host names by using a comma (,) as a separator. You can specify a maximum of 128 host names. These host names are not case-sensitive.

Default value

None. (There are no restrictions on connections to hosts.)

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- If you specify a comma-separated list, do not add a comma (,) at the end of the list. If you do so, the specified value becomes invalid.
- If you specify this parameter, make sure that you specify the same value for the parameter [*host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host*].
- Be careful if you specify this parameter while there is a user who logged in to the Web GUI (Job Portal) without specifying a host name (for example, by specifying an IP address or alias name). In such a case, you must set the monitoring targets again by using the Set Monitoring Targets dialog box after that user logs in to the Web GUI (Job Portal) by specifying a host name.

(q) HOST_NAME_INPUT_METHOD

Specify the input method for the **Host to connect** item that appears on the Web GUI login screen.

Specifiable values

t f

The item is displayed as a text box in which the user is to enter a host name.

d l

The item is displayed as a drop-down list from which the user is to select from among hosts to which connections can be established.

The drop-down list displays host names in the same order that the host names that are specified for the `PERMITTED_AJS_MANAGER_HOST` parameter.

Default value

t f

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

This parameter takes effect only if at least one value is specified for the `PERMITTED_AJS_MANAGER_HOST` parameter.

(r) API_EXECUTION_RESTRICTION

Specify whether to restrict the execution of API functions from user applications.

Specifiable values

yes

Execution of all API functions is restricted.

no

Execution of API functions is not restricted.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

If you are using a user application that uses the API of JP1/AJS3 - Web Console, and you specify yes for this parameter, the user application might become unable to operate normally. If the user application becomes unable to operate normally, modify the user application as necessary.

(s) SERVER_SESSION_TIMEOUT

Specify the Web GUI session timeout period.

Specifiable values

900 to 3,600 (units: seconds)

Default value

900

Recommended value

Default value

(t) Host name or IP address of destination JP1/AJS3 - Manager instance

Specify the host name or IP address of a JP1/AJS3 - Manager host to which JP1/AJS3 - Web Console connects in a pair of halfwidth square brackets ([]).

Specify the value according to the value of the following items:

- **Host to connect** in the login window of Web GUI
- The `manager` parameter specified for the `query` API request
- The `manager` parameter specified in the message body of an API request

Whether the host name or IP address is used to specify a host is distinguished. Uppercase and lowercase letters are not distinguished.

For an example of settings, see [\(7\) Examples](#).

Specifiable values

Character string of 255 bytes or less

Default value

None.

Recommended value

Set the value appropriate for the operating environment.

(u) TIMEZONE

Specify the time zone of the physical or logical host of the destination JP1/AJS3 - Manager instance.

You need to specify this item when the time zone of the destination JP1/AJS3 - Manager instance differs from the time zone of the Web Console server.

Specifiable values

Time zone IDs that can be obtained by using the `ajswbtz.bat` command

When this item is not specified, the time zone setting in the OS is applied.

For details about the `ajswbtz.bat` command, see *ajswbtz.bat (Windows only)* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Default value

Time zone setting in the OS

Recommended value

Set the value appropriate for the operating environment.

(v) SUMMARY_MAX_COUNT

Specify the maximum number of monitoring targets that can be listed on the Dashboard screen of the Web GUI (Job Portal). You can register a maximum of 20 root jobnets as monitoring-target units per monitoring-target setting.

Specifiable values

1 to 20 (units: monitoring-target units)

Default value

5

Recommended value

Default value

(w) HOSTNAME_ALIAS_FOR_PFM

If a JP1/AJS3 - Manager host to be monitored by JP1/PFM is specified with an alias rather than the actual host name, specify the alias that will be passed to PFM - Web Console.

Specifiable values

Character string of 255 bytes or less

Default value

None.

Recommended value

Set the value appropriate for the operating environment.

(x) WEB_CONSOLE_SETTING_USER

To use the operation restriction function of the Web GUI, specify one or more JP1 users who can change the operating permission settings (*users who set permissions*).

Specifiable values

Name of the JP1 user

For details about the characters that can be used to specify JP1 user names, see the *JP1/Base User's Guide*.

If you specify multiple JP1 user names, use a comma (,) to delimit each user name. You can specify a maximum of 10 JP1 user names. These user names are not case-sensitive.

Default value

None.

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- This parameter takes effect only if `yes` is specified for the `GUI_OPERATION_RESTRICTION` parameter.
- If you specify a comma-separated list, do not add a comma (,) at the end of the list. If you do so, the specified value becomes invalid.

(y) HOST_INFO_BAR_BACKGROUND

Specify the background color of the area that displays the information about the connection-destination JP1/AJS3 - Manager host in the Web GUI (Job Portal) window.

Specifiable values

RGB value

Specify a color by its RGB in the *R,G,B* format. A number in the range from 0 to 255 can be specified for each of *R*, *G*, and *B*. For details about RGB values, see *(6) Specifying RGB values*.

Default value

192,192,192

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- Do not insert a halfwidth space before or after a comma (,) that is used as a separator. If a space is inserted, the specified values become invalid.
- Changing the background color of the window area might make the text displayed in the area hard to read, depending on the combination with the font color. If you change the background color, we recommend that you also adjust the font color as needed.

(z) HOST_INFO_BAR_TEXT

Specify the character string to be displayed in the Web GUI (Job Portal) window as the information about the connection-destination JP1/AJS3 - Manager host.

Specifiable values

Character string

Specify a character string of no more than 640 characters. If you specify a null string or empty line, a blank is displayed in the area.

Default value

Empty lines

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- Specify a character string that includes the OS, machine name, system name, and other information that describes the connection-destination JP1/AJS3 - Manager host.
- For the information about the connection-destination JP1/AJS3 - Manager host to be displayed in the window, we recommend that you specify a character string that is no longer than 40 characters. If you specify a character string longer than 40 characters, characters after the first 40 characters might not be displayed.
- You cannot use control characters, Unicode control characters, and platform-dependent characters.

(aa) HOST_INFO_BAR_TEXT_COLOR

Specify the font color of the information about the connection-destination JP1/AJS3 - Manager host to be displayed in the Web GUI (Job Portal) window.

Specifiable values

RGB value

Specify a color by its RGB in the *R,G,B* format. A number in the range from 0 to 255 can be specified for each of *R*, *G*, and *B*. For details about RGB values, see [\(6\) Specifying RGB values](#).

Default value

0,0,0

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- Do not insert a halfwidth space before or after a comma (,) that is used as a separator. If a space is inserted, the specified values become invalid.
- Changing the background color of the window area might make the text displayed in the area hard to read, depending on the combination with the font color. If you change the background color, we recommend that you also adjust the font color as needed.

(6) Specifying RGB values

RGB values are used to specify colors. Red, green and blue are specified with values between 0 and 255. One color is specified with a combination of three values.

The following table lists examples of RGB value specifications:

Table 3–5: Example RGB values

No.	Color	RGB value
1	White	255,255,255
2	Yellow	255,255,0
3	Light gray	192,192,192
4	Sky blue	0,255,255
5	Yellow green	0,255,0
6	Gray	128,128,128

No.	Color	RGB value
7	Dark yellow	128,128,0
8	Dark pink	255,0,255
9	Blue green	0,128,128
10	Red	255,0,0
11	Green	0,128,0
12	Purple	128,0,128
13	Brown	128,0,0
14	Blue	0,0,255
15	Dark blue	0,0,128
16	Black	0,0,0

The table lists only example RGB values. You can use a wide range of colors within the range that can be specified with RGB values.

(7) Examples

The following shows an example of the settings in the `ajs3web.conf` file. In this example, two [*host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host*] sections are created by specifying the host name `ManagerHostA` as host A and the IP address `100.100.1.2` as host B.

```
[ ]
HNTR_LOG_LEVEL=info
HNTR_LOG_LANG=system
SYS_LOG_LEVEL=info
SYS_LOG_LANG=system
COM_LOG_SIZE=128
COM_LOG_LEVEL=info
COM_LOG_NUM=2
COM_LOG_LANG=system
SERVER_LOG_SIZE=8192
SERVER_LOG_LEVEL=info
SERVER_LOG_NUM=2
SERVER_LOG_LANG=system
EXECUTION_PROHIBITED_DISPLAY_FORMAT=no
GUI_OPERATION_RESTRICTION=yes
PERMITTED_AJS_MANAGER_HOST=ManagerHostA,ManagerHostB
HOST_NAME_INPUT_METHOD=d1
API_EXECUTION_RESTRICTION=yes
SERVER_SESSION_TIMEOUT=900

[ManagerHostA]
TIMEZONE=Asia/Tokyo
SUMMARY_MAX_COUNT=5
WEB_CONSOLE_SETTING_USER=user1,user2

[100.100.1.2]
TIMEZONE=America/New_York
SUMMARY_MAX_COUNT=5
WEB_CONSOLE_SETTING_USER=user3,user4
```

(8) Notes

- Do not change the settings of items other than those explained herein.
- Do not insert a space before or after the equal sign in a definition line.
- Do not enter a linefeed in the middle of a definition line.
- If you specify a value for an item that cannot be set, the line including the item will be ignored.
- If an item to be set is not found, the default specification for that item is assumed for operation.
- If a setting is invalid, the JP1/AJS3 Web Application Server service cannot start.
- The definition keys of setting items are not case sensitive, but set values are case sensitive.
- If the same setting item is defined on multiple lines, only the first line defining the setting item is valid.

3.4.4 Details on the settings in the network-settings file (ajscd_ajs3web.properties)

This subsection describes the details on the format of settings and the items to be set in the network-settings file (`ajscd_ajs3web.properties`).

(1) File storage folder

The `ajscd_ajs3web.properties` file is not created in the initial status of JP1/AJS3 - Web Console immediately after JP1/AJS3 - Web Console has been installed. While the `ajscd_ajs3web.properties` file is not created, JP1/AJS3 - Web Console operates by using default settings.

Create the `ajscd_ajs3web.properties` file only when you want to change settings from the default settings.

(a) Model file storage folder

The following shows the folder storing the model file (`ajscd_ajs3web.properties.model`) for the network-settings file.

JP1/AJS3-Web-Console-installation-folder\conf

(b) ajscd_ajs3web.properties file storage folder

The `ajscd_ajs3web.properties` file storage folder varies depending on where JP1/AJS3 - Web Console is installed.

In a cluster configuration, the file name is as follows:

shared-folder\jp1ajs3web\conf

When JP1/AJS3 - Web Console is installed in the default folder or in a folder protected by the system, the `ajscd_ajs3web.properties` file storage folder is as follows:

%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\jp1ajs3web\conf

The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.

Folders protected by the system use the path to one of the following folders:

- Folder in *system-drive*\Windows
- Folder in *system-drive*\Program Files

If the JP1/AJS3 - Web Console installation folder is other than the above, the `ajscd_ajs3web.properties` file storage folder is as follows:

`JP1/AJS3-Web-Console-installation-folder\conf`

(2) File-editing procedure

The following describes the procedure for editing the `ajscd_ajs3web.properties` file:

1. Stop the JP1/AJS3 Web Application Server service.
2. If the `ajscd_ajs3web.properties` file has already been defined, back up the file, and store the backup file in any folder.
3. Copy the model file (`ajscd_ajs3web.properties.model`) into the folder storing the `ajscd_ajs3web.properties` file, and then rename the copy of the model file to `ajscd_ajs3web.properties`.
4. Open the `ajscd_ajs3web.properties` file by using a text editor.
5. Modify the definitions to be changed.
6. Save the `ajscd_ajs3web.properties` file by using UTF-8 encoding.
7. Start the JP1/AJS3 Web Application Server service.

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `ajscd_ajs3web.properties` file:

```
ajscd.port_number=port-number-for-connection-to-JP1/AJS3-Manager
ajscd.connect_timeout=timeout-period-of-connection-to-JP1/AJS3-Manager
ajscd.connect_retry_count=number-of-retries-of-connection-to-JP1/AJS3-Manag
er
ajscd.connect_retry_interval=interval-of-retries-of-connection-to-JP1/AJS3-M
anager
ajscd.receive_timeout=timeout-period-of-data-reception-from-JP1/AJS3-Manager
ajscd.login_wait=wait-time-for-login
ajscd.mp_port_number=port-number-for-connection-to-JP1/AJS3-Manager (jplajs3
sysctlm)
```

When writing a comment on a line, begin the comment line with a hash mark (#).

(5) Setting items

The following describes the items to be set. Delimit each item by using a linefeed.

(a) `ajscd.port_number`

Specify the port number of the port to connect to JP1/AJS3 - Manager.

Change this setting when the default port number cannot be used for JP1/AJS3 - Manager.

Specifiable values

5001 to 65535

Default value

22250

Recommended value

Set the value appropriate for the operating environment.

(b) ajscd.connect_timeout

Specify the timeout period for the connection to JP1/AJS3 - Manager.

By default, connection timeout processing is disabled. Change the setting from the default when you want to enable the timeout processing for the connection to JP1/AJS3 - Manager.

Specifiable values

0 to 86,400 (units: seconds)

When 0 is specified, connection timeout processing is disabled.

Default value

0 (Connection timeout processing is disabled.)

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

The connection timeout specification of the OS and the connection timeout setting in the OS might cause a connection timeout to occur earlier than the timeout period you specify for this setting item.

(c) ajscd.connect_retry_count

Specify the number of times to retry when a communication error occurs in an attempt to connect to JP1/AJS3 - Manager.

Specifiable values

0 to 100 (units: number of times)

Default value

3

Recommended value

Set the value appropriate for the operating environment.

(d) ajscd.connect_retry_interval

Specify the interval for retry attempts when a communication error occurs in an attempt to connect to JP1/AJS3 - Manager.

Specifiable values

1 to 300 (units: seconds)

Default value

12

Recommended value

Set the value appropriate for the operating environment.

(e) `ajscd.receive_timeout`

Specify the timeout period for data reception from JP1/AJS3 - Manager.

Specifiable values

0 to 86,400 (units: seconds)

When 0 is specified, reception timeout processing is disabled.

Default value

180

Recommended value

Set the value appropriate for the operating environment.

(f) `ajscd.login_wait`

Specify the time to wait for login processing (time to wait until entry into sleep state) when authentication of JP1/AJS3 - Manager fails.

Specifiable values

1 to 10 (units: seconds)

Default value

1

Recommended value

Set the value appropriate for the operating environment.

(g) `ajscd.mp_port_number`

Specify the port number (`jp1ajs3sysctlm`) used to connect the management portal to JP1/AJS3 - Manager.

Change this setting when the default port number cannot be used for JP1/AJS3 - Manager.

Specifiable values

5001 to 65535

Default value

22256

Recommended value

Set the value appropriate for the operating environment.

(6) Examples

The following shows an example of definitions in the `ajscd_ajs3web.properties` file:

```
ajscd.port_number=22250
ajscd.connect_timeout=0
ajscd.connect_retry_count=3
ajscd.connect_retry_interval=12
ajscd.receive_timeout=180
```

```
ajscd.login_wait=1
ajscd.mp_port_number=22256
```

(7) Notes

- Do not change the settings of items other than those explained herein.
- Do not insert a space before or after the equal sign in a definition line.
- Do not enter a linefeed in the middle of a definition line.
- If you specify a value for an item that cannot be set, the line including the item will be ignored.
- If a setting is invalid, the JP1/AJS3 Web Application Server service can start, but a processing error occurs in JP1/AJS3 - Web Console.
- The definition keys of setting items and set values are case sensitive. If the definition key on a definition line contains uppercase and lowercase letters, the definition line will be ignored.
- If the same setting item is defined on multiple lines, only the last line defining the setting item is valid.

3.4.5 Details on the settings in the HTTP server definition file (httpsd.conf)

This subsection describes the details on the format of settings and the items to be set in the HTTP server definition file (`httpsd.conf`).

(1) File storage folder

The following shows the folder storing the `httpsd.conf` file.

JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\conf

(2) File-editing procedure

The following describes the procedure for editing the `httpsd.conf` file. If you are operating in a cluster environment, follow the edit procedure to set the same definitions for the secondary node as those set for the primary node.

1. Stop the JP1/AJS3 HTTP Server service.
2. Back up the `httpsd.conf` file, and store the backup file in any folder.
3. Open the `httpsd.conf` file by using a text editor.
4. Modify the definitions to be changed.
5. Save the `httpsd.conf` file by using UTF-8 encoding.
6. Start the JP1/AJS3 HTTP Server service.

(3) When the setting takes effect

When the JP1/AJS3 HTTP Server service starts

(4) Format

The following shows the format of settings in the `httpsd.conf` file:

```
(omitted)

ServerRoot "JP1/AJS3-Web-Console-installation-folder/uCPSB/httpsd"

ServerName host-name-of-Web-Console-server
DocumentRoot "JP1/AJS3-Web-Console-installation-folder/uCPSB/httpsd/htdocs"

(omitted)

ProxyPass /ajs/ http://localhost:port-number-to-be-used-for-the-communicatio
n-between-HTTP-and-J2EE-servers/ajs/ timeout=3600 connectiontimeout=30
ProxyPassReverse /ajs/ http://localhost:port-number-to-be-used-for-the-commu
nication-between-HTTP-and-J2EE-servers/ajs/

(omitted)

Listen port-number-for-the-reception-of-connection-requests-from-web-browser
#Listen [::]:port-number-for-the-reception-of-connection-requests-from-web-b
rowser

#Listen port-number-for-the-reception-of-connection-requests-from-web-browse
r-during-SSL-communication
#Listen [::]:port-number-for-the-reception-of-connection-requests-from-web-b
rowser-during-SSL-communication
#<VirtualHost *:port-number-for-the-reception-of-connection-requests-from-we
b-browser-during-SSL-communication>
#  ServerName host-name-of-Web-Console-server
#  SSLEngine On
#  SSLCertificateFile "JP1/AJS3-Web-Console-installation-folder/uCPSB/httpsd
/conf/ssl/server/name-of-server-certification-file"
#  SSLCertificateKeyFile "JP1/AJS3-Web-Console-installation-folder/uCPSB/htt
psd/conf/ssl/server/name-of-private-key-file"
#  SSLProtocol version-of-TLS-used-for-SSL-communication
#  SSLCipherSuite TLSv1.3 list-of-cipher-types-available-with-TLSv1.3
#  SSLCipherSuite list-of-cipher-types-available-with-TLSv1.2
#  AllowEncodedSlashes On
#</VirtualHost>

Include "JP1/AJS3-Web-Console-installation-folder/uCPSB/CC/web/redirector/mo
d_jk.conf"

Include "JP1/AJS3-Web-Console-installation-folder/uCPSB/CC/web/redirector/mo
d_jk.conf"
```

Note that lines beginning with a hash mark (#) are comment lines.

(5) Setting items

The following describes the items to be set.

(a) JP1/AJS3 - Web Console installation folder

The installation folder for JP1/AJS3 - Web Console is set automatically.

You do not need to change this setting at setup.

(b) Host name of Web Console server

The host name of a Web Console server is set automatically.

If you have changed the host name of the Web Console server, change this setting manually.

(c) Port number to be used for communication between HTTP and J2EE servers

Specify the port number of the port to be used for the communication between the HTTP and J2EE servers on the Web Console server. The default is 22254.

When you want to change the port number from the default, change the port number so that it is appropriate to the environment. Make sure that the value set for the `ProxyPass` and `ProxyPassReverse` entries is the same as the value set for the `webserver.connector.nio_http.port` entry in the user properties file for J2EE server (`usrconf.properties`). For details, see [3.4.6 Details on the settings in the user properties file for J2EE server \(`usrconf.properties`\)](#).

(d) Port number for the reception of connection requests from a web browser

When not using SSL communication, specify the port number of the port at which the Web Console server receives connection requests from the web browser. The default is 22252.

If you have changed the port number for the reception of connection requests from the web browser, change the port number setting.

(e) Port number for the reception of connection requests from a web browser during SSL communication

When using SSL encryption for communication between the Web Console server and a web browser, specify the port number of the port at which the Web Console server receives connection requests from the web browser. The default is 22253.

To enable SSL communication, delete the hash mark (#) at the beginning of the definition line. If you have changed the port number for the reception of SSL communication from the web browser from the default setting, change the port number setting.

For details, see [21.4 Setting up the communication using SSL](#).

(f) Name of server certification file

When using SSL encryption for communication between the Web Console server and web browser, specify the name of the server certification file obtained from the CA. The default is `httpsd.pem`.

To enable SSL communication, delete the hash mark (#) at the beginning of the definition line, and then change the default setting to the name of the server certification file.

For details, see [21.4 Setting up the communication using SSL](#).

(g) Name of private key file

When using SSL encryption for communication between the Web Console server and web browser, specify the name of the private key file. The default is `httpsdkey.pem`.

To enable SSL communication, delete the hash mark (#) at the beginning of the definition line, and then change the default setting to the name of the private key file.

For details, see [21.4 Setting up the communication using SSL](#).

(h) Version of TLS used for SSL communication

Specify `+TLsv1.2` or `+TLsv1.3` as the version of the TLS protocol used for SSL communication. Only the specified version of the TLS protocol is enabled for SSL communication. You can also specify multiple versions in a space-separated list format.

Example:

In the following examples, Δ indicates a halfwidth space.

- To enable only TLSv1.2, specify the following:
`SSLProtocol Δ +TLsv1.2`
- To enable only TLSv1.3, specify the following:
`SSLProtocol Δ +TLsv1.3`
- To enable TLSv1.2 and TLSv1.3, specify the following:
`SSLProtocol Δ +TLsv1.2 Δ +TLsv1.3`

The default is `+TLsv1.2`.

To enable SSL communication, delete the hash mark (#) at the beginning of the definition line, and then edit the entry according to the TLS protocol versions to be used.

(i) List of cipher types available with TLSv1.3

Specify a list of cipher types available with TLSv1.3 in the following format: `SSLCipherSuite TLsv1.3 cipher-type-1 : cipher-type-2 : cipher-type-3...`

You can specify the following values:

- `TLS_AES_128_GCM_SHA256`
- `TLS_AES_256_GCM_SHA384`

By default, all specifiable values are specified.

To enable SSL communication, always delete the hash mark (#) at the beginning of the definition line even if you do not use TLSv1.3. If you use TLSv1.3, edit the entry according to the cipher types to be used.

(j) List of cipher types available with TLSv1.2

Specify a list of cipher types available with TLSv1.2 in the following format: `SSLCipherSuite cipher-type-1 : cipher-type-2 : cipher-type-3...`

You can specify the following values:

- `AES128-GCM-SHA256`

- AES256-GCM-SHA384
- ECDHE-RSA-AES128-SHA256
- ECDHE-RSA-AES256-SHA384
- ECDHE-RSA-AES128-GCM-SHA256
- ECDHE-RSA-AES256-GCM-SHA384
- ECDHE-ECDSA-AES128-SHA256
- ECDHE-ECDSA-AES256-SHA384
- ECDHE-ECDSA-AES128-GCM-SHA256
- ECDHE-ECDSA-AES256-GCM-SHA384

By default, all specifiable values are specified.

To enable SSL communication, always delete the hash mark (#) at the beginning of the definition line even if you do not use TLSv1.2. If you use TLSv1.2, edit the entry according to the cipher types to be used.

(6) Note

If a setting is invalid, the JP1/AJS3 HTTP Server service cannot start.

3.4.6 Details on the settings in the user properties file for J2EE server (usrconf.properties)

This subsection describes the details on the format of settings and the items to be set in the user properties file for J2EE server (`usrconf.properties`).

(1) File storage folder

The following shows the folder storing the `usrconf.properties` file.

JP1/AJS3-Web-Console-installation-folder\UCPSB\CC\server\usrconf\ejb\ajs3web

(2) File-editing procedure

The following describes the procedure for editing the `usrconf.properties` file. If you are operating in a cluster environment, follow the edit procedure to set the same definitions for the secondary node as those set for the primary node.

1. Stop the JP1/AJS3 Web Application Server service.
2. Back up the `usrconf.properties` file, and store the backup file in any folder.
3. Open the `usrconf.properties` file by using a text editor.
4. Modify the definitions to be changed.
5. Save the `usrconf.properties` file by using UTF-8 encoding.
6. Start the JP1/AJS3 Web Application Server service.

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `usrconf.properties` file:

```
(omitted)
# Internal http server settings
ejbserver.http.port=port-number-for-the-internal-management-of-J2EE-server
(omitted)
# NIO HTTP Server settings
webserver.connector.nio_http.port=port-number-to-be-used-for-the-communicati
on-between-HTTP-and-J2EE-servers
(omitted)
#ejbserver.rmi.naming.port=port-number-for-the-internal-management-of-J2EE-s
erver
(omitted)
```

Note that lines beginning with a hash mark (#) are comment lines.

(5) Setting items

The following describes the items to be set:

(a) Port numbers for the internal management of a J2EE server

Specify the port numbers for the internal management of the J2EE server. The defaults are 22255 and 23152.

When you want to change a port number from its default, change the port number so that it is appropriate to the environment. Make sure that the setting value of `ejbserver.rmi.naming.port` matches the setting value of `ejbserver.rmi.naming.port` in the system properties file for server management commands (`usrconf.properties`). For details, see [3.4.10 Details on the settings in the system properties file for server management commands \(`usrconf.properties`\)](#).

(b) Port number to be used for communication between HTTP and J2EE servers

Specify the port number of the port to be used for the communication between the HTTP and J2EE servers on the Web Console server. The default is 22254.

When you want to change the port number from the default, change the port number so that it is appropriate to the environment. Make sure that the value set for the `webserver.connector.nio_http.port` entry is the same as the value set for the `ProxyPass` and `ProxyPassReverse` entries in the HTTP server definition file (`httpsd.conf`). For details, see [3.4.5 Details on the settings in the HTTP server definition file \(`httpsd.conf`\)](#).

(6) Notes

- Do not change the settings of items other than those explained herein.
- If a setting is invalid, the JP1/AJS3 Web Application Server service cannot start.

3.4.7 Details on the settings in the display color settings file (ajs3web_color.conf)

This subsection describes the details on the format of settings and the items to be set in the display color settings file (`ajs3web_color.conf`).

(1) File storage folder

The `ajs3web_color.conf` file is not created in the initial status of JP1/AJS3 - Web Console immediately after JP1/AJS3 - Web Console has been installed. While the `ajs3web_color.conf` file is not created, JP1/AJS3 - Web Console operates by using default settings.

Create the `ajs3web_color.conf` file only when you want to change settings from the default settings.

(a) Model file storage folder

The following shows the folder storing the `ajs3web_color.conf.model` file and `ajs3web_color_view.conf.model` file.

JP1/AJS3-Web-Console-installation-folder\conf

(b) ajs3web_color.conf file storage folder

The following shows the folder storing the `ajs3web_color.conf` file.

JP1/AJS3-Web-Console-installation-folder\conf#

#:

In a cluster configuration, the file name is as follows:

shared-folder\jplajs3web\conf

(2) File-editing procedure

The procedure to edit the `ajs3web_color.conf` file varies depending on whether you want to change the display colors or to set the same display colors as those used in JP1/AJS3 - View.

(a) Changing display colors

The following describes how to change the display colors:

1. Stop the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.
2. If the `ajs3web_color.conf` file has already been defined, back up the file, and store the backup file in any folder.
3. Copy the model file (`ajs3web_color.conf.model`) into the folder storing the `ajs3web_color.conf` file, and then rename the copy of the model file to `ajs3web_color.conf`.
4. Open the `ajs3web_color.conf` file by using a text editor.
5. Modify the definitions to be changed.
6. Save the `ajs3web_color.conf` file.
7. Start the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.

(b) Setting the same display colors as those used in JP1/AJS3 - View

The following describes how to set the same display colors as those used in JP1/AJS3 - View:

1. Stop the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.
2. If the `ajs3web_color.conf` file has already been defined, back up the file, and store the backup file in any folder.
3. Copy the model file (`ajs3web_color_view.conf.model`) into the folder storing the `ajs3web_color.conf` file, and then rename the copy of the model file to `ajs3web_color.conf`.
The model file `ajs3web_color_view.conf.model` contains definitions of the default display colors for JP1/AJS3 - View.
4. If the display colors for JP1/AJS3 - View have been changed from the default, change the definitions in `ajs3web_color.conf`.
5. Start the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `ajs3web_color.conf` file:

```
;The definition file that specifies the display colors that indicate the status of the JP1/AJS3 - Web Console

;For details and notes about each item, see the applicable documentation.

;Enables or disables the function to change the display colors.
CHANGE_STATUS_COLOR=enables-or-disables-the-function-to-change-the-display-colors

;Specifies whether to use display colors for the delay status.
DISPLAY_DELAY_COLOR=specifies-whether-to-use-display-colors-for-the-delay-status

;Priority of the display colors for the delay status
DELAY_COLOR_PRIORITY=priority-of-the-display-colors-for-the-delay-status

;Specifies whether to use display colors to indicate hold plans.
DISPLAY_HOLD_PLAN_COLOR=specifies-whether-to-use-display-colors-to-indicate-hold-plans

;Only units for which the hold attribute has been changed are handled as units with a hold plan.
DISPLAY_HOLD_ATTRIBUTE_CHANGE_ONLY=only-units-for-which-the-hold-attribute-has-been-changed-are-handled-as-units-with-a-hold-plan

;The display color for Ended abnormally in the Status of Root Jobnet area on the Dashboard screen
STATUS_COLOR_DASHBOARD_ABNORMAL=display-color-for-Ended-abnormally-in-the-Status-of-Root-Jobnet-area-on-the-Dashboard-screen
```

```

;The display color for Ended with warning in the Status of Root Jobnet area
on the Dashboard screen
STATUS_COLOR_DASHBOARD_WARNING=display-color-for-Ended-with-warning-in-the-S
tatus-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Ended normally in the Status of Root Jobnet area on t
he Dashboard screen
STATUS_COLOR_DASHBOARD_NORMAL=display-color-for-Ended-normally-in-the-Status
-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Now running in the Status of Root Jobnet area on the
Dashboard screen
STATUS_COLOR_DASHBOARD_RUNNING=display-color-for-Now-running-in-the-Status-o
f-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Being held in the Status of Root Jobnet area on the D
ashboard screen
STATUS_COLOR_DASHBOARD_HOLDING=display-color-for-Being-held-in-the-Status-of
-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Waiting to start in the Status of Root Jobnet area o
n the Dashboard screen
STATUS_COLOR_DASHBOARD_START_WAIT=display-color-for-Waiting-to-start-in-the-
Status-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for the Not registered status
STATUS_COLOR_NO_ENTRY=display-color-for-the-Not-registered-status

;The display color for the Wait for start time status
STATUS_COLOR_TIME_WAIT=display-color-for-the-Wait-for-start-time-status

;The display color for the Wait for prev. to end status
STATUS_COLOR_TERM_WAIT=display-color-for-the-Wait-for-prev.-to-end-status

;The display color for the Hold plan status
STATUS_COLOR_HOLD_PLAN=display-color-for-the-Hold-plan-status

;The display color for the Being held status
STATUS_COLOR_HOLDING=display-color-for-the-Being-held-status

;The display color for the Waiting to execute status
STATUS_COLOR_EXEC_WAIT=display-color-for-the-Waiting-to-execute-status

;The display color for the Not sched. to exe. status
STATUS_COLOR_NO_PLAN=display-color-for-the-Not-sched.-to-exe.-status

;The display color for the Now queuing status
STATUS_COLOR_QUEUING=display-color-for-the-Now-queuing-status

;The display color for the Now running status
STATUS_COLOR_RUNNING=display-color-for-the-Now-running-status

;The display color for the Running + Warning status
STATUS_COLOR_WACONT=display-color-for-the-Running+Warning-status

;The display color for the Running + Abend status
STATUS_COLOR_ABCONT=display-color-for-the-Running+Abend-status

```

```

;The display color for the Ended normally status
STATUS_COLOR_NORMAL=display-color-for-the-Ended-normally-status

;The display color for the Ended with warning status
STATUS_COLOR_WARNING=display-color-for-the-Ended-with-warning-status

;The display color for the Ended abnormally status
STATUS_COLOR_ABNORMAL=display-color-for-the-Ended-abnormally-status

;The display color for the Bypassed status
STATUS_COLOR_BYPASS=display-color-for-the-Bypassed-status

;The display color for the Not executed + Ended (not scheduled) status
STATUS_COLOR_UNEXEC=display-color-for-the-Not-executed+-Ended-(not-schedule
d)-status

;The display color for the Not executed + Ended (scheduled) status
STATUS_COLOR_UNEXEC_YES=display-color-for-the-Not-executed+Ended-(scheduled)
-status

;The display color for the Interrupted status
STATUS_COLOR_INTERRUPT=display-color-for-the-Interrupted-status

;The display color for the Killed status
STATUS_COLOR_KILL=display-color-for-the-Killed-status

;The display color for the Invalid exe. seq. status
STATUS_COLOR_INVALID_SEQ=display-color-for-the-Invalid-exe.-seq.-status

;The display color for the Skipped so not exe. (not scheduled) status
STATUS_COLOR_EXEC_DEFFER=display-color-for-the-Skipped-so-not-exe.- (not-sche
duled)-status

;The display color for the Skipped so not exe. (scheduled) status
STATUS_COLOR_EXEC_DEFFER_YES=display-color-for-the-Skipped-so-not-exe.- (sche
duled)-status

;The display color for the Failed to start status
STATUS_COLOR_FAIL=display-color-for-the-Failed-to-start-status

;The display color for the Unknown end status status
STATUS_COLOR_UNKNOWN=display-color-for-the-Unknown-end-status-status

;The display color for the Shutdown status
STATUS_COLOR_SHUTDOWN=display-color-for-the-Shutdown-status

;The display color for the Now monitoring status
STATUS_COLOR_MONITORING=display-color-for-the-Now-monitoring-status

;The display color for the Wait for start cond. status
STATUS_COLOR_CONDITION_WAIT=display-color-for-the-Wait-for-start-cond.-stat
us

;The display color for the Unmonitored + Ended status
STATUS_COLOR_UNEXEC_MONITOR=display-color-for-the-Unmonitored+Ended-status

;The display color for the Monitor-end normal status
STATUS_COLOR_MONITOR_NORMAL=display-color-for-the-Monitor-end-normal-status

```

```

;The display color for the Monitor terminated status
STATUS_COLOR_MONITOR_CLOSE=display-color-for-the-Monitor-terminated-status

;The display color for the Interrupted monitoring status
STATUS_COLOR_MONITOR_INTRPT=display-color-for-the-Interrupted-monitoring-sta
tus

;The display color for the Normal end + False status
STATUS_COLOR_NORMAL_FALSE=display-color-for-the-Normal-end+False-status

;The display color for the Start delay status
STATUS_COLOR_START_DELAY=display-color-for-the-Start-delay-status

;The display color for the Start delay + Running status
STATUS_COLOR_START_DELAY_RUNNING=display-color-for-the-Start-delay+Running-s
tatus

;The display color for the End delay status
STATUS_COLOR_END_DELAY=display-color-for-the-End-delay-status

;The display color for the End delay + Running status
STATUS_COLOR_END_DELAY_RUNNING=display-color-for-the-End-delay+Running-stat
us

```

Note that lines beginning with a semicolon (;) are comment lines.

(5) Setting items

The following describes the items to be set.

(a) CHANGE_STATUS_COLOR

Specify whether to enable the function to change the display colors used for the Web GUI (Job Portal).

Specifiable values

yes

The function to change display colors is enabled.

no

The function to change display colors is disabled.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

(b) DISPLAY_DELAY_COLOR

Specify whether to display the icon and the status/result color image for a unit in the color that indicates a delay when the unit is in delayed status. This specification applies to the windows[#] and dialog boxes of the Web GUI (Job Portal).

#:

This specification does not apply to the **Status of Root Jobnet** area on the Dashboard screen.

Specifiable values

yes

The display color of the icon and color image is determined based on whether the unit is in the delayed status and according to the setting of the `DELAY_COLOR_PRIORITY` parameter.

no

The icon and status/result color image are not displayed in the color that indicates a delay.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter.
- If both the *Hold plan* and *Delayed* statuses are concurrently detected for the execution generation to be displayed, priority is given to the display color for the *Delayed* status.

(c) DELAY_COLOR_PRIORITY

Specify the priority of the display of the icon and status/result color image for a unit in the color that indicates the delayed status in the windows[#] and dialog boxes of the Web GUI (Job Portal). The specified priority applies when the unit status of *abend*, *warning* or *delay* occurs concurrently.

#:

This specification does not apply to the **Status of Root Jobnet** area on the Dashboard screen.

Specifiable values

A-W-D

The order of priority of display colors is as follows: *Abend*, *Warning*, and *Delay*. Specify this value when you want the display color (of the icon and status/result color image) for *Delay* to have lower priority than the display colors for *Abend* and *Warning*.

A-D-W

The order of priority of display colors is as follows: *Abend*, *Delay*, and *Warning*. Specify this value when you want the display color (of the icon and status/result color image) for *Delay* to have lower priority than the display color for *Abend* but higher priority than the display color for *Warning*.

D-A-W

The order of priority of display colors is as follows: *Delay*, *Abend*, and *Warning*. Specify this value when you want the display color (of the icon and status/result color image) for *Delay* to have higher priority than the display colors for *Abend* and *Warning*.

Default value

A-W-D

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter.

(d) DISPLAY_HOLD_PLAN_COLOR

Specify whether to display the icon and status/result color image of a unit in the color of *Hold plan* when the unit is in a wait status and its hold attribute has been set. Wait statuses include `Wait for start time`, `Wait for prev. to end`, `Waiting to execute`, and `Wait for start cond.`. This specification applies to the windows[#] and dialog boxes of the Web GUI (Job Portal).

#:

This specification does not apply to the **Status of Root Jobnet** area on the Dashboard screen.

Specifiable values

`yes`

The icon and status/result color image are displayed in the color of *Hold plan* when the hold attribute is set for the unit.

`no`

The icon and status/result color image are not displayed in the color of *Hold plan*.

Default value

`no`

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter.
- To ensure that the displayed hold plan matches the status transitions when the unit is executed, specify `yes` for the `UNITDEFINERELOAD` environment setting parameter in the connection-destination JP1/AJS3 - Manager.
- If you want to display the hold plan for the pseudo-schedule on the Monthly Schedule screen as well, specify `no` for the `DISPLAY_HOLD_ATTRIBUTE_CHANGE_ONLY` parameter.
- If both *Hold plan* and *Delayed* statuses are concurrently detected for the execution generation to be displayed, priority is given to the display color for the *Delayed* status.

(e) DISPLAY_HOLD_ATTRIBUTE_CHANGE_ONLY

Specify whether to treat only the changes to the hold attribute as the hold plan, when the icon and status/result color image are displayed in the color of *Hold plan* in the windows[#] and dialog boxes of the Web GUI (Job Portal).

#:

This specification does not apply to the **Status of Root Jobnet** area on the Dashboard screen.

Specifiable values

`yes`

Only the generations whose hold attributes were changed are displayed. The hold settings in the detailed definition of the unit are not displayed.

`no`

The generations whose hold attributes were changed and generations for which hold is set in the detailed definition of the unit are displayed.

Default value

`no`

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter and `DISPLAY_HOLD_PLAN_COLOR` parameter.

(f) Specifying display colors for the windows and dialog boxes of the Web GUI (Job Portal)

Specify the colors that indicate unit statuses in the windows and dialog boxes of the Web GUI (Job Portal). The following table lists the parameters and corresponding display colors.

Table 3–6: Parameters for specifying display colors for the windows and dialog boxes of the Web GUI (Job Portal)

No.	Parameter name	Corresponding display color	Display color used when no value is set (default color)
1	<code>STATUS_COLOR_DASHBOARD_ABNORMAL</code>	The display color for Ended abnormally in the Status of Root Jobnet area on the Dashboard screen.	Dark red (<code>dark red</code>)
2	<code>STATUS_COLOR_DASHBOARD_WARNING</code>	The display color for Ended with warning in the Status of Root Jobnet area on the Dashboard screen.	Light orange (<code>light orange</code>)
3	<code>STATUS_COLOR_DASHBOARD_NORMAL</code>	The display color for Ended normally in the Status of Root Jobnet area on the Dashboard screen.	Light green (<code>light green</code>)
4	<code>STATUS_COLOR_DASHBOARD_RUNNING</code>	The display color for Now running in the Status of Root Jobnet area on the Dashboard screen.	Blue green (<code>blue green</code>)
5	<code>STATUS_COLOR_DASHBOARD_HOLDING</code>	The display color for Being held in the Status of Root Jobnet area on the Dashboard screen.	Yellow (<code>yellow</code>)
6	<code>STATUS_COLOR_DASHBOARD_START_WAIT</code>	The display color for Waiting to start in the Status of Root Jobnet area on the Dashboard screen.	Light blue (<code>light blue</code>)
7	<code>STATUS_COLOR_NO_ENTRY</code>	The display color for the Not registered status.	None (<code>none</code>)
8	<code>STATUS_COLOR_TIME_WAIT</code>	The display color for the Wait for start time status.	Light blue (<code>light blue</code>)
9	<code>STATUS_COLOR_TERM_WAIT</code>	The display color for the Wait for prev. to end status.	Light blue (<code>light blue</code>)
10	<code>STATUS_COLOR_HOLD_PLAN^{#1}</code>	The display color for the Hold plan status.	Yellow (<code>yellow</code>)
11	<code>STATUS_COLOR_HOLDING</code>	The display color for the Being held status.	Yellow (<code>yellow</code>)
12	<code>STATUS_COLOR_EXEC_WAIT</code>	The display color for the Waiting to execute status.	Light blue (<code>light blue</code>)
13	<code>STATUS_COLOR_NO_PLAN</code>	The display color for the Not sched. to exe. status.	Light gray (<code>light gray</code>)
14	<code>STATUS_COLOR_QUEUING</code>	The display color for the Now queuing status.	Light blue (<code>light blue</code>)
15	<code>STATUS_COLOR_RUNNING</code>	The display color for the Now running status.	Blue green (<code>blue green</code>)

No.	Parameter name	Corresponding display color	Display color used when no value is set (default color)
16	STATUS_COLOR_WACONT	The display color for the Running + Warning status.	Orange (orange)
17	STATUS_COLOR_ABCONT	The display color for the Running + Abend status.	Dark red (dark red)
18	STATUS_COLOR_NORMAL	The display color for the Ended normally status.	Light green (light green)
19	STATUS_COLOR_WARNING	The display color for the Ended with warning status.	Light orange (light orange)
20	STATUS_COLOR_ABNORMAL	The display color for the Ended abnormally status.	Light red (light red)
21	STATUS_COLOR_BYPASS	The display color for the Bypassed status.	Gray (gray)
22	STATUS_COLOR_UNEXEC	The display color for the Not executed + Ended (not scheduled) status.	Gray (gray)
23	STATUS_COLOR_UNEXEC_YES	The display color for the Not executed + Ended (scheduled) status.	Gray (gray)
24	STATUS_COLOR_INTERRUPT	The display color for the Interrupted status.	Light red (light red)
25	STATUS_COLOR_KILL	The display color for the Killed status.	Light red (light red)
26	STATUS_COLOR_INVALID_SEQ	The display color for the Invalid exe. seq. status.	Light red (light red)
27	STATUS_COLOR_EXEC_DEFFER	The display color for the Skipped so not exe. (not scheduled) status.	Gray (gray)
28	STATUS_COLOR_EXEC_DEFFER_YES	The display color for the Skipped so not exe. (scheduled) status.	Gray (gray)
29	STATUS_COLOR_FAIL	The display color for the Failed to start status.	Light red (light red)
30	STATUS_COLOR_UNKNOWN	The display color for the Unknown end status status.	Light red (light red)
31	STATUS_COLOR_SHUTDOWN	The display color for the Shutdown status.	Brown (brown)
32	STATUS_COLOR_MONITORING	The display color for the Now monitoring status.	Blue green (blue green)
33	STATUS_COLOR_CONDITION_WAIT	The display color for the Wait for start cond. status.	Light blue (light blue)
34	STATUS_COLOR_UNEXEC_MONITOR	The display color for the Unmonitored + Ended status.	Light green (light green)
35	STATUS_COLOR_MONITOR_NORMAL	The display color for the Monitor-end normal status.	Light green (light green)
36	STATUS_COLOR_MONITOR_CLOSE	The display color for the Monitor terminated status.	Light red (light red)
37	STATUS_COLOR_MONITOR_INTRPT	The display color for the Interrupted monitoring status.	Light green (light green)
38	STATUS_COLOR_NORMAL_FALSE	The display color for the Normal end + False status.	Light green (light green)
39	STATUS_COLOR_START_DELAY ^{#2}	The display color for the Start delay status ^{#3} .	Pink (pink)

No.	Parameter name	Corresponding display color	Display color used when no value is set (default color)
40	STATUS_COLOR_START_DELAY_RUNNING#2	The display color for the Start delay + Running status#3.	Dark pink (dark pink)
41	STATUS_COLOR_END_DELAY#2	The display color for the End delay status#3.	Cherry blossom (cherry blossom)
42	STATUS_COLOR_END_DELAY_RUNNING#2	The display color for the End delay + Running status#3.	Light pink (light pink)

#1:

The setting of this parameter is valid only when `yes` is specified in the `DISPLAY_HOLD_PLAN_COLOR` parameter.

#2:

The setting of this parameter is valid only when `yes` is specified in the `DISPLAY_DELAY_COLOR` parameter.

#3:

Running statuses of a unit include *Now running*, *Running + Warning*, *Running + Abend*, and *Now monitoring*. Any status other than these is a non-running status of a unit.

For details about the windows and dialog boxes of the Web GUI (Job Portal) for which display colors can be changed by individual parameters, see *Targets for which display colors can be changed by using parameters*.

The following describes the parameter settings:

Specifiable values

parameter=display-color

The display color can be specified in the following two ways:

- Character string
Specify a color by using a character string. For a list of the character strings that can be specified, see *List of the character strings representing colors*. If the list does not include the color you want to specify, specify the color by its RGB value.
- RGB value
Specify a color by its RGB in the *R,G,B* format. A number in the range from 0 to 255 can be specified for each of *R*, *G*, and *B*. For details about RGB values, see *Specifying colors by their RGB values*.

Default value

For details, see *Table 3-6 Parameters for specifying display colors for the windows and dialog boxes of the Web GUI (Job Portal)*.

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter.
- When specifying an RGB value, do not include halfwidth spaces before or after each comma (,). If you include a halfwidth space, the value specified for the setting becomes invalid.

■ Targets for which display colors can be changed by using parameters

The following table lists the windows and dialog boxes of the Web GUI (Job Portal) for which display colors can be changed by using parameters. For details about screens and dialog boxes, see *15.2 Screens and Dialog Boxes of the Job Portal* in the *JPI/Automatic Job Management System 3 Operator's Guide*.

Table 3–7: Windows and dialog boxes of the Web GUI (Job Portal) for which display colors can be changed by using parameters

Parameter name	Dashboard screen		List screen		Monitor dialog box, Monitor screen		Generation Select ion dialog box (icon in the <i>Status</i> column)	Monthly Schedule screen		
	Status of Root Jobnet area (icon and execution progress)	Detail Information area (icon and execution on schedule)	List area (icon in the <i>Status</i> column)	List area (icon in the <i>Result</i> column)	Map area (Icon)	Top of screen and dialog box (button icons)		Schedule area (execution on schedule)	List area (icon)	Top of screen (button icons)
STATUS_COLOR_DASHBOARD_ABNORMAL	Y#1, #2	--	--	--	--	--	--	--	--	--
STATUS_COLOR_DASHBOARD_WARNING	Y#1, #2	--	--	--	--	--	--	--	--	--
STATUS_COLOR_DASHBOARD_NORMAL	Y#1, #2	--	--	--	--	--	--	--	--	--
STATUS_COLOR_DASHBOARD_RUNNING	Y#1, #2	--	--	--	--	--	--	--	--	--
STATUS_COLOR_DASHBOARD_HOLDING	Y#1, #2	--	--	--	--	--	--	--	--	--
STATUS_COLOR_DASHBOARD_START_WAIT	Y#1, #2	--	--	--	--	--	--	--	--	--
STATUS_COLOR_NO_ENTRY	--	--	Y	--	--	--	--	Y	--	--
STATUS_COLOR_TIME_WAIT	--	Y	Y	--	Y	--	Y	Y	Y	--
STATUS_COLOR_TERM_WAIT	--	Y	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_HOLD_PLAN	--	Y	Y	--	Y	--	Y	Y	Y	--
STATUS_COLOR_HOLDING	--	Y	Y	--	Y	Y#3	Y	Y	Y	Y#3
STATUS_COLOR_EXEC_WAIT	--	Y	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_NO_PLAN	--	--	Y	--	Y	--	--	--	--	--
STATUS_COLOR_QUEUING	--	Y	--	--	Y	--	--	Y	Y	--

Parameter name	Dashboard screen		List screen		Monitor dialog box, Monitor screen		Generation Selection dialog box (icon in the <i>Status</i> column)	Monthly Schedule screen		
	Status of Root Jobnet area (icon and execution progress)	Detail Information area (icon and execution on schedule)	List area (icon in the <i>Status</i> column)	List area (icon in the <i>Result</i> column)	Map area (Icon)	Top of screen and dialog box (button icons)		Schedule area (execution on schedule)	List area (icon)	Top of screen (button icons)
STATUS_COLOR_RUNNING	--	Y	Y	--	Y	Y#4	Y	Y	Y	--
STATUS_COLOR_WACONT	Y#2, #5	Y	Y	--	Y	--	Y	Y	Y	--
STATUS_COLOR_ABCONT	Y#2, #5	Y	Y	--	Y	--	Y	Y	Y	--
STATUS_COLOR_NORMAL	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_WARNING	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_ABNORMAL	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_BYPASS	--	--	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_UNEXEC	--	--	--	--	Y	--	--	--	--	--
STATUS_COLOR_UNEXEC_YES	--	--	--	--	Y	--	--	--	--	--
STATUS_COLOR_INTERRUPT	--	Y	C	Y	Y	Y#6	Y	Y	Y	--
STATUS_COLOR_KILL	--	Y	C	Y	Y	Y#7	Y	Y	Y	--
STATUS_COLOR_INVALID_SEQ	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_EXEC_DEFFER	--	--	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_EXEC_DEFFER_YES	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_FAIL	--	Y	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_UNKNOWN	--	--	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_SHUTDOWN	--	--	Y	--	Y	--	--	--	--	--

Parameter name	Dashboard screen		List screen		Monitor dialog box, Monitor screen		Generation Selection dialog box (icon in the <i>Status</i> column)	Monthly Schedule screen		
	Status of Root Jobnet area (icon and execution progress)	Detail Information area (icon and execution on schedule)	List area (icon in the <i>Status</i> column)	List area (icon in the <i>Result</i> column)	Map area (Icon)	Top of screen and dialog box (button icons)		Schedule area (execution on schedule)	List area (icon)	Top of screen (button icons)
STATUS_COLOR_MONITORING	--	Y	Y	--	--	--	Y	Y	Y	--
STATUS_COLOR_CONDITION_WAIT	--	Y	Y	--	--	--	Y	Y	Y	--
STATUS_COLOR_UNEXEC_MONITOR	--	Y	C	Y	--	--	Y	Y	Y	--
STATUS_COLOR_MONITOR_NORMAL	--	Y	C	Y	--	--	Y	Y	Y	--
STATUS_COLOR_MONITOR_CLOSE	--	Y	C	Y	--	--	Y	Y	Y	--
STATUS_COLOR_MONITOR_INTERRUPT	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_NORMAL_FALSE	--	Y	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_START_DELAY	--	Y	Y	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_START_DELAY_RUNNING	--	Y	Y	--	Y	--	Y	Y	Y	--
STATUS_COLOR_END_DELAY	--	Y	Y	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_END_DELAY_RUNNING	--	Y	Y	--	Y	--	Y	Y	Y	--

Legend:

Y: Display colors can be changed by using parameters.

C: Display colors can be changed by using parameters only if `today` is specified for the `VIEWSTATUSRANGE` environment setting parameter in JP1/AJS3 - Manager.

--: Display colors cannot be changed by using parameters.

#1:

The display color cannot be changed for the icon displayed on the right or left under the icon for the *Now running* status.

#2:

This setting also applies to the status icon that appears when the monitoring target is collapsed.

#3:

The display color can be changed only for the icons for the **Hold-On** button and the **Hold-Off** button.

#4:

The display color can be changed only for the icon for the **Rerun** button.

#5:

The display color can be changed only for the icon displayed on the right or left under the icon for the *Now running* status.

#6:

The display color can be changed only for the icon for the **Interrupt** button.

#7:

The display color can be changed only for the icon for the **Kill** button.

■ List of the character strings representing colors

The following table lists the character strings that represent colors.

Table 3–8: Character strings representing colors

No.	Color	Character string to be specified in the parameter
1	Blue green	blue green
2	Brown	brown
3	Cherry blossom	cherry blossom
4	Dark pink	dark pink
5	Dark red	dark red
6	Gray	gray
7	Light blue	light blue
8	Light gray	light gray
9	Light green	light green
10	Light orange	light orange
11	Light pink	light pink
12	Light red	light red
13	Orange	orange
14	Pink	pink
15	Yellow	yellow
16	None [#]	none

#:

The icon becomes transparent.

■ Specifying colors by their RGB values

RGB values are used to specify colors. Red, green and blue are specified with values between 0 and 255. One color is specified with a combination of three values.

The following table lists examples of RGB value specifications:

Table 3–9: Example RGB values

No.	Color	RGB value
1	White	255,255,255
2	Yellow	255,255,0
3	Light gray	192,192,192
4	Sky blue	0,255,255
5	Yellow green	0,255,0
6	Gray	128,128,128
7	Dark yellow	128,128,0
8	Dark pink	255,0,255
9	Blue green	0,128,128
10	Red	255,0,0
11	Green	0,128,0
12	Purple	128,0,128
13	Brown	128,0,0
14	Blue	0,0,255
15	Dark blue	0,0,128
16	Black	0,0,0

The table lists only example RGB values. You can use a wide range of colors within the range that can be specified with RGB values.

(6) Examples

The following shows an example of definitions in the `ajs3web_color.conf` file:

```
CHANGE_STATUS_COLOR=yes
DISPLAY_DELAY_COLOR=yes
DELAY_COLOR_PRIORITY=A-W-D
DISPLAY_HOLD_PLAN_COLOR=yes
DISPLAY_HOLD_ATTRIBUTE_CHANGE_ONLY=no
STATUS_COLOR_DASHBOARD_ABNORMAL=dark red
STATUS_COLOR_DASHBOARD_WARNING=light orange
STATUS_COLOR_DASHBOARD_NORMAL=light green
STATUS_COLOR_DASHBOARD_RUNNING=blue green
STATUS_COLOR_DASHBOARD_HOLDING=yellow
STATUS_COLOR_DASHBOARD_START_WAIT=light blue
STATUS_COLOR_NO_ENTRY=none
STATUS_COLOR_TIME_WAIT=light blue
STATUS_COLOR_TERM_WAIT=light blue
```

```

STATUS_COLOR_HOLD_PLAN=yellow
STATUS_COLOR_HOLDING=yellow
STATUS_COLOR_EXEC_WAIT=light blue
STATUS_COLOR_NO_PLAN=light gray
STATUS_COLOR_QUEUING=light blue
STATUS_COLOR_RUNNING=blue green
STATUS_COLOR_WACONT=orange
STATUS_COLOR_ABCONT=dark red
STATUS_COLOR_NORMAL=light green
STATUS_COLOR_WARNING=light orange
STATUS_COLOR_ABNORMAL=light red
STATUS_COLOR_BYPASS=gray
STATUS_COLOR_UNEXEC=gray
STATUS_COLOR_UNEXEC_YES=gray
STATUS_COLOR_INTERRUPT=light red
STATUS_COLOR_KILL=light red
STATUS_COLOR_INVALID_SEQ=light red
STATUS_COLOR_EXEC_DEFFER=gray
STATUS_COLOR_EXEC_DEFFER_YES=gray
STATUS_COLOR_FAIL=light red
STATUS_COLOR_UNKNOWN=light red
STATUS_COLOR_SHUTDOWN=brown
STATUS_COLOR_MONITORING=blue green
STATUS_COLOR_CONDITION_WAIT=light blue
STATUS_COLOR_UNEXEC_MONITOR=light green
STATUS_COLOR_MONITOR_NORMAL=light green
STATUS_COLOR_MONITOR_CLOSE=light red
STATUS_COLOR_MONITOR_INTRPT=light green
STATUS_COLOR_NORMAL_FALSE=light green
STATUS_COLOR_START_DELAY=pink
STATUS_COLOR_START_DELAY_RUNNING=dark pink
STATUS_COLOR_END_DELAY=cherry blossom
STATUS_COLOR_END_DELAY_RUNNING=light pink

```

(7) Notes

- Do not insert a space before or after the equal sign in a definition line.
- Do not enter a linefeed in the middle of a definition line.
- If you specify a value for an item that cannot be set, the line including the item will be ignored.
- If an item to be set is not found, the default specification for that item is assumed for operation.
- If an item to be set is invalid, the default specification for that item is assumed for operation.
- The definition keys of setting items are not case sensitive, but set values are case sensitive.
- If a setting item is defined on multiple lines, only the first line defining the setting item takes effect, and subsequent lines defining the same setting item are ignored. In such a case, if the setting item definition in the first line is invalid, the default is assumed for operation.
- Changes made to display colors apply to all users.

3.4.8 Details on the settings in the option definition file for J2EE server (usrconf.cfg)

This subsection describes the details on the format of settings and the items to be set in the option definition file for J2EE server (usrconf.cfg).

(1) File storage folder

The following shows the folder storing the usrconf.cfg file.

JP1/AJS3-Web-Console-installation-folder\uCPSB\CC\server\usrconf\ejb\ajs3web

(2) File-editing procedure

The following describes the procedure for editing the usrconf.cfg file. If you are operating in a cluster environment, follow the edit procedure to set the same definitions for the secondary node as those set for the primary node.

1. Stop the JP1/AJS3 Web Application Server service.
2. Back up the usrconf.cfg file, and store the backup file in any folder.
3. Open the usrconf.cfg file by using a text editor.
4. Modify the definitions to be changed.
5. Save the usrconf.cfg file by using UTF-8 encoding.
6. Start the JP1/AJS3 Web Application Server service.

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the usrconf.cfg file:

```
(omitted)
# java vm options
#add.jvm.arg=-Xms256m
add.jvm.arg=-Xmx the maximum size of Java heap available to applications on
the Web Console server
(omitted)
```

Note that lines beginning with a hash mark (#) are comment lines.

(5) Setting items

The following describes the items to be set:

(a) The maximum size of Java heap available to applications on the Web Console server

Specify the maximum size of the Java heap available to applications on the Web Console server.

Specifiable values

512 to 5120(units:megabytes)

Default value

2048(units:megabytes)

Recommended value

Default value

Always end the specified size value with the character "m".

If you change the maximum size from the default, specify a maximum size appropriate for system operation. For the memory requirements, see the *Release Notes*.

(6) Examples

The following shows an example of definitions in the `usrconf.cfg` file:

```
(omitted)
# java vm options
#add.jvm.arg=-Xms256m
add.jvm.arg=-Xmx512m
(omitted)
```

(7) Notes

- Do not change the settings of items other than those explained herein.
- If a setting is invalid, the JP1/AJS3 Web Application Server service cannot start.
A setting is invalid in the following circumstances:
 - If the value specified as the maximum Java heap size is in the wrong format (character or symbol)
 - If a value other than a natural number is specified as the maximum Java heap size, such as a negative value or decimal
- If you specify the same setting multiple times as follows, the largest value takes effect:

Example:

```
add.jvm.arg=-Xmx512m
add.jvm.arg=-Xmx1024m
```

- Do not specify a maximum Java heap size that is larger than the physical memory size. If you specify a value larger than the physical memory size, the JP1/AJS3 Web Application Server service might not start.

3.4.9 Web browser settings

When using the Web GUI, check the web browser settings described below. For details about how to specify settings, see the documentation for your web browser.

Setting of Pop-up Blocker

If the pop-up blocker is enabled in your web browser, display of Web GUI dialog boxes might be blocked. In the pop-up block settings in your web browser, add the address of the Web Console server to the allowed sites, to release the server from the pop-up block.

Setting of Java Scripts

To use the Web GUI, you need to enable Java Scripts (Active Scripts) in your web browser.

Java Scripts (Active Scripts) are enabled by default.

If Java Scripts (Active Scripts) are disabled, you cannot log in to JP1/AJS3 - Manager. Also, if Java Scripts (Active Scripts) are disabled after login, subsequent operation will be disabled.

Web storage setting

To use the Web GUI, the web storage (DOM storage and site data) settings must be enabled on the web browser.

The web storage (DOM storage and site data) settings are enabled by default.

Setting of SSL/TLS

To use the communication encryption function, you need to enable SSL and TLS encryption in your web browser.

The SSL/TLS settings are enabled by default.

If SSL and TLS encryption is disabled, the Login window does not appear even when you access the Web Console server. Also, if SSL and TLS encryption is disabled after login, subsequent operation will be disabled.

Supplementary note

The language in which the Web GUI displays text depends on the language setting of your web browser. Select Japanese, English, or Chinese to specify the language setting for the web browser.

3.4.10 Details on the settings in the system properties file for server management commands (`usrconf.properties`)

This subsection describes the details on the format of settings and the items to be set in the system properties file for server management commands (`usrconf.properties`).

(1) File storage folder

The following shows the folder storing the `usrconf.properties` file.

`JP1/AJS3-Web-Console-installation-folder\uCPSB\CC\admin\usrconf`

(2) File-editing procedure

The following describes the procedure for editing the `usrconf.properties` file. If you are operating in a cluster environment, follow the edit procedure to set the same definitions for the secondary node as those set for the primary node.

1. Stop the JP1/AJS3 Web Application Server service.
2. Back up the `usrconf.properties` file, and store the backup file in any folder.
3. Open the `usrconf.properties` file by using a text editor.
4. Modify the definitions to be changed.
5. Save the `usrconf.properties` file by using UTF-8 encoding.

6. Start the JP1/AJS3 Web Application Server service.

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `usrconf.properties` file:

```
(omitted)
ejbserver.rmi.naming.port=port-number-for-the-internal-management-of-J2EE-se
rver
```

(5) Setting items

The following describes the items to be set:

(a) Port numbers for the internal management of a J2EE server

Specify the port numbers for the internal management of the J2EE server. By default, no setting items are specified. If no setting item is specified, the default 23152 is used.

When you want to change a port number from its default, change the port number so that it is appropriate to the environment. Make sure that the setting value of `ejbserver.rmi.naming.port` matches the setting value of `ejbserver.rmi.naming.port` in the user properties file for J2EE server (`usrconf.properties`). For details, see [3.4.6 Details on the settings in the user properties file for J2EE server \(usrconf.properties\)](#).

(6) Notes

- Do not change the settings of items other than those explained herein.
- If a setting is invalid, the JP1/AJS3 Web Application Server service cannot start.

3.4.11 Setup required to upgrade the version of JP1/AJS3 - Web Console

If you perform upgrade installation of JP1/AJS3 - Web Console to upgrade it from a version earlier than 13-00 to 13-00 or a later version, the settings in the settings files on the Web Console server are reset to the default values. Therefore, if the settings of the setup items listed in the following table were changed in a version earlier than 13-00, you must manually respecify the settings after installing JP1/AJS3 - Web Console. Note that the files that were used in a version earlier than 13-00 are backed up to the `JP1/AJS3-installation-folder\sys\bk` folder.

The following table lists the setup items that you must respecify after upgrading the version of JP1/AJS3 - Web Console.

Table 3–10: Setup items you must respecify after upgrading the version

No.	Setup item	Settings files		Reference
		Earlier than version 13-00	Version 13-00 and later	
1	The host name of the Web Console server was changed	HTTP server definition file (<code>httpsd.conf</code>)		(1)

No.	Setup item	Settings files		Reference
		Earlier than version 13-00	Version 13-00 and later	
2	SSL communication was enabled	HTTP server definition file (<code>httpsd.conf</code>)		(2)
3	The number of the port used to accept connection requests from web browsers was changed (if SSL communication is not used)	HTTP server definition file (<code>httpsd.conf</code>)		(3)
4	The number of the port used for internal management of the J2EE server was changed	User properties file for J2EE server (<code>usrconf.properties</code>)		(4)
5	The number of the port used for communication between the HTTP and J2EE servers was changed	<ul style="list-style-type: none"> Worker definition file (<code>workers.properties</code>) User properties file for J2EE server (<code>usrconf.properties</code>) 	<ul style="list-style-type: none"> HTTP server definition file (<code>httpsd.conf</code>) User properties file for J2EE server (<code>usrconf.properties</code>) 	(5)
6	The maximum Java heap size was changed	Option definition file for J2EE server (<code>usrconf.cfg</code>)		(6)

(1) The host name of the Web Console server was changed

If the host name of the Web Console server was changed, then you must specify the settings in the HTTP server definition file (`httpsd.conf`).

For details about the HTTP server definition file (`httpsd.conf`), see [3.4.5 Details on the settings in the HTTP server definition file \(`httpsd.conf`\)](#).

The following table lists the settings that you must respecify.

Table 3–11: Settings you must respecify if the host name of the Web Console server was changed

No.	Setting items	Description
1	<code>ServerName</code> <i>host-name-of-Web-Console-server</i>	For <i>host-name-of-Web-Console-server</i> , set the value that was set before the version was upgraded.
2	<code># ServerName</code> <i>host-name-of-Web-Console-server</i>	You must respecify this item if SSL communication was enabled. Uncomment the line of the <code><VirtualHost></code> entry, and then, for <i>host-name-of-Web-Console-server</i> , set the value that was set before the version was upgraded.

(2) SSL communication was enabled

If SSL communication was enabled, then you must respecify the settings in the HTTP server definition file (`httpsd.conf`).

For details about the HTTP server definition file (`httpsd.conf`), see [3.4.5 Details on the settings in the HTTP server definition file \(`httpsd.conf`\)](#).

The following table lists the settings that you must respecify.

Table 3–12: Settings you must respecify if SSL communication was enabled

No.	Setting items	Description
1	#LogFormat "%t %{version}c %{cipher}c %{clientcert}c" hws_ssl	Uncomment the line.
2	#CustomLog " \"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/sbin/rotatelogs2.exe\" \"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/logs/ssl\" 10240 8\" hws_ssl	Uncomment the line.
3	Listen <i>port-number-for-the-reception-of-connection-requests-from-web-browser</i>	Comment out the line by adding a hash mark (#) at the beginning of the line.
4	#Listen <i>port-number-for-the-reception-of-connection-requests-from-web-browser-during-SSL-communication</i>	Uncomment the line, and then, for <i>port-number-for-the-reception-of-connection-requests-from-web-browser-during-SSL-communication</i> , set the value that was set before the version was upgraded.
5	#<VirtualHost *: <i>port-number-for-the-reception-of-connection-requests-from-web-browser-during-SSL-communication</i> > to #</VirtualHost>	Uncomment this and subsequent lines up to the end-tag line, and then respecify the settings of the lines as follows.
6	#<VirtualHost *: <i>port-number-for-the-reception-of-connection-requests-from-web-browser-during-SSL-communication</i> >	For <i>port-number-for-the-reception-of-connection-requests-from-web-browser-during-SSL-communication</i> , set the value that was set before the version was upgraded.
7	# SSLCertificateFile " <i>JP1/AJS3-Web-Console-installation-folder</i> /uCPSB/httpsd/conf/ssl/ <i>server/name-of-server-certification-file</i> "	For <i>JP1/AJS3-Web-Console-installation-folder</i> and <i>name-of-server-certification-file</i> , set the value that was set before the version was upgraded. If intermediate certificate files were used for SSL communication, open the server certificate and intermediate certificates with a text editor. Then, copy the content of the intermediate certificates to the server certificate so that the server certificate contains the following items in the indicated order: 1. Server certificates 2. Intermediate certificates 3. Cross signed root certificates [#]
8	# SSLCertificateKeyFile " <i>JP1/AJS3-Web-Console-installation-folder</i> /uCPSB/httpsd/conf/ssl/ <i>server/name-of-private-key-file</i> "	For <i>JP1/AJS3-Web-Console-installation-folder</i> and <i>name-of-private-key-file</i> , set the value that was set before the version was upgraded.

#

This item is required only when you use a cross signed root certificate.

(3) The number of the port used to accept connection requests from web browsers was changed

If SSL communication was not used and the number of the port used to accept connection requests from web browsers was changed, then you must respecify the settings in the HTTP server definition file (`httpsd.conf`).

For details about the HTTP server definition file (`httpsd.conf`), see [3.4.5 Details on the settings in the HTTP server definition file \(httpsd.conf\)](#).

The following table lists the settings that you must respecify.

Table 3–13: Settings you must respecify if the number of the port used to accept connection requests from web browsers was changed

No.	Setting items	Description
1	<code>Listen port-number-for-the-reception-of-connection-requests-from-web-browser</code>	For <i>port-number-for-the-reception-of-connection-requests-from-web-browser</i> , set the value that was set before the version was upgraded.

(4) The number of the port used for internal management of the J2EE server was changed

If the number of the port used for internal management of the J2EE server was changed, then you must respecify the settings in the user properties file for J2EE server (`usrconf.properties`).

For details about the user properties file for J2EE server (`usrconf.properties`), see [3.4.6 Details on the settings in the user properties file for J2EE server \(usrconf.properties\)](#).

The following table lists the settings that you must respecify.

Table 3–14: Settings you must respecify if the number of the port used for internal management of the J2EE server was changed

No.	Setting items	Description
1	<code>ejbserver.http.port=port-number-for-the-internal-management-of-J2EE-server</code>	For <i>port-number-for-the-internal-management-of-J2EE-server</i> , set the value that was set before the version was upgraded.
2	<code>#ejbserver.rmi.naming.port=port-number-for-the-internal-management-of-J2EE-server</code>	Uncomment the line, and then, for <i>port-number-for-the-internal-management-of-J2EE-server</i> , set the value that was set before the version was upgraded.

(5) The number of the port used for communication between the HTTP and J2EE servers was changed

If the number of the port used for communication between the HTTP and J2EE servers was changed, then you must respecify the settings in the HTTP server definition file (`httpsd.conf`) and user properties file for J2EE server (`usrconf.properties`).

For details about the HTTP server definition file (`httpsd.conf`), see [3.4.5 Details on the settings in the HTTP server definition file \(httpsd.conf\)](#).

For details about the user properties file for J2EE server (`usrconf.properties`), see [3.4.6 Details on the settings in the user properties file for J2EE server \(usrconf.properties\)](#).

The following table lists the settings that you must respecify.

Table 3–15: Settings you must respecify if the number of the port used for communication between the HTTP and J2EE servers was changed

No.	Settings files	Setting items	Description
1	HTTP server definition file (<code>httpsd.conf</code>)	<code>ProxyPass /ajs/ http://localhost:port-number-to-be-used-for-the-communication-</code>	For <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i> , set the value that was set for the

No.	Settings files	Setting items	Description
1	HTTP server definition file (httpd.conf)	<i>between-HTTP-and-J2EE-servers/ajs/ timeout=3600 connectiontimeout=30</i>	worker.worker1.port entry in the worker definition file (workers.properties)# before the version was upgraded.
2		ProxyPassReverse /ajs/ http://localhost:port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers/ajs/	For <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i> , set the value that was set for the worker.worker1.port entry in the worker definition file (workers.properties)# before the version was upgraded.
3	User properties file for J2EE server (usrconf.properties)	webserver.connector.nio_https.port= <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i>	For <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i> , set the value that was set for the webserver.connector.ajp13.port entry before the version was upgraded.

#

This is a file that was used in 12-60 and earlier versions.

(6) The maximum Java heap size was changed

If the maximum Java heap size was changed, then you must respecify the settings in the option definition file for J2EE server (usrconf.cfg).

For details about the option definition file for J2EE server (usrconf.cfg), see [3.4.8 Details on the settings in the option definition file for J2EE server \(usrconf.cfg\)](#).

The following table lists the settings that you must respecify.

Table 3–16: Settings you must respecify if the maximum Java heap size was changed

No.	Setting items	Description
1	add.jvm.arg=-Xmx <i>the maximum size of Java heap available to applications on the Web Console server</i> m	For <i>the maximum size of Java heap available to applications on the Web Console server</i> , set the value that was set before the version was upgraded.

3.5 Setting up the system and user environments

This section describes how to set up the system and user environments.

3.5.1 Extending trace log files

This subsection describes how to extend the following trace log files in Windows:

- JP1/AJS3 trace log file
- Queueless trace log file
- Internal log file for execution of queueless jobs

(1) Extending the JP1/AJS3 trace log file

The following two types of JP1/AJS3 trace log files exist:

- Common scheduler trace log file
The scheduler trace information on the physical host and all logical hosts is output to a single trace log file.
- Scheduler trace log file of each scheduler service
The scheduler trace information of scheduler service is output to this log file in units of scheduler service.

The following table describes the initial status of each type of trace log file:

Item	Common scheduler trace log file	Scheduler trace log file of each scheduler service
File name	If the installation folder is the default installation folder or is in a folder protected by the system ^{#1} , the file name is as follows: <code>%ALLUSERSPROFILE%#2\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog</code> If the installation folder is other than the above, the file name is as follows: <code>JP1/AJS3-Manager-installation-folder\log\tracelog</code>	If the installation folder is the default installation folder or is in a folder protected by the system ^{#1} , the file name is as follows: <code>%ALLUSERSPROFILE%#2\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog_scheduler-service-name</code> If the installation folder is other than the above, the file name is as follows: <code>JP1/AJS3-Manager-installation-folder\log\tracelog_scheduler-service-name</code>
Size	The size that allows the file to contain the trace log for about 10,000 executed jobs. Specifically, the size is set to 100 megabytes (102,400 kilobytes).	The size (per file) that allows the file to contain the trace log for about 10,000 executed jobs. Specifically, the size of each file is set to 100 megabytes (102,400 kilobytes).

#1:

A *folder protected by the system* is a folder under any of the following:

- `system-drive\Windows`
- `system-drive\Program Files`
- `system-drive\Program Files (x86)`

#2:

The default value for `%ALLUSERSPROFILE%` is `system-drive\ProgramData`.

The required trace log file size differs greatly depending on the jobnet structure, the number of JP1/AJS3 - View connections, and the nature of the operations. The method to estimate trace log file size also differs depending on whether scheduler trace log files are to be generated for individual scheduler services. Estimate an appropriate size for the trace log file and expand the current size if necessary.

For details about how to estimate an appropriate trace log file size, see 3.4.2 *Estimating the size of the scheduler trace log file* in the *JPI/Automatic Job Management System 3 System Design (Configuration) Guide*.

If the trace log file size must be extended, use the `ajstrsetsz` command to resize the file. For details about the `ajstrsetsz` command, see `ajstrsetsz` in 3. *Commands Used for Normal Operations* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

(2) Extending the queueless trace log file

The initial settings for the queueless trace log file are as follows:

- File name

If the installation folder is the default installation folder or is in a folder protected by the system, the file name is as follows:

```
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog.q1
```

The default value for `%ALLUSERSPROFILE%` is `system-drive\ProgramData`.

A *folder protected by the system* is a folder under any of the following:

- `system-drive\Windows`
- `system-drive\Program Files`
- `system-drive\Program Files (x86)`

If the installation folder is other than the above, the file name is as follows:

```
JP1/AJS3-installation-folder\log\tracelog.q1
```

- Size

15 MB (15,360 KB), which is the size of a file in which trace log data about the execution of approximately 10,000 jobs can be saved

Because an adequate queueless trace log file size differs considerably depending on such factors as whether the job transfers file and error results are output, the trace log file will need to be extended whenever necessary after an adequate file size has been estimated.

For details about how to estimate an appropriate trace log file size, see 7.2.1(2) *Estimating the size of the queueless trace log file* in the *JPI/Automatic Job Management System 3 System Design (Configuration) Guide*.

If the queueless trace log file must be extended, use the `ajsqltrsetsz` command to resize the file. For details about the `ajsqltrsetsz` command, see `ajsqltrsetsz` in 4. *Commands Used for Special Operation* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

(3) Extending the internal log file for execution of queueless jobs

The initial settings for the internal log file for execution of queueless jobs are as follows:

- File name

If the installation folder is the default installation folder or is in a folder protected by the system, the file name is as follows:

```
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\ajsqlexeclog#1
```

```
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\ajsqlexeclog_ftpd#2
```

The default value for `%ALLUSERSPROFILE%` is `system-drive\ProgramData`.

A *folder protected by the system* is a folder under any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

If the installation folder is other than the above, the file name is as follows:

JP1/AJS3-installation-folder\log\ajsql EXEClog#1

JP1/AJS3-installation-folder\log\ajsql EXEClog_ftp#2

#1:

In a cluster configuration, the file name is as follows:

JP1/AJS3-installation-folder\log\ajsql EXEClog- [*logical-host-name*]

If the full path name is 256 or more bytes, the maximum length of *logical-host-name* is 30 bytes.

#2:

This file is created for JP1/AJS3 - Manager only.

- Size

The size of the ajsql EXEClog file

24 MB (24,576 KB), which is the size of a file in which the internal execution log data output by the queueless agent service when about 40,000 queueless jobs are executed can be saved

The size of the ajsql EXEClog_ftp file

10 MB (10,240 KB), which is the size of a file in which the internal execution log data output by the queueless file transfer service when about 20,000 queueless jobs that perform a file transfer are executed can be saved

An adequate size for the internal log file for execution of queueless jobs differs considerably depending on the number of executed queueless jobs, whether the queueless job performs a file transfer, and other factors. Therefore, the trace log file must be extended whenever necessary after an adequate file size has been estimated.

For details about how to estimate an appropriate size for the internal log file for execution of queueless jobs, see 7.2.1(3) *Estimating the size of the internal execution logs for queueless jobs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

If the size of the internal execution logs for queueless jobs must be extended, use the ajsql EXECsetsz command to resize the file. For details about the ajsql EXECsetsz command, see *ajsql EXECsetsz* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3.5.2 Specifying communication environment settings

When a JP1/AJS3 system is created with an environment that uses the DNS or a firewall, environment settings for resolving host names and IP addresses or firewall communication settings must also be specified.

Specify the necessary communication environment settings as described in the following locations:

- 2.3.8(3) *Notes on operation in a DNS environment* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*
- 2.3.4 *Communications in firewall environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*

3.5.3 Settings for communication using IPv6 addresses

This subsection describes how to configure the settings to enable communication using IPv6 addresses.

Note that only Windows Server 2022, Windows Server 2019, and Windows Server 2016 support communication using IPv6 addresses.

(1) How to set up JP1/Base for communication using IPv6 addresses

(a) Setting the `jp1hosts2` file

You need to set `jp1hosts2` information to enable communication using IPv6 addresses. If you define `jp1hosts2` information, the `jp1hosts` information definition is no longer in effect. Accordingly, if you upgrade JP1/Base from version 09-50 or earlier to version 10-00 or later, you must move the `jp1hosts` definition information used in version 09-50 or earlier to `jp1hosts2`. You do not have to do this if communication uses IPv4 addresses.

If you want to return to the original settings, you can return the settings from `jp1hosts2` to `jp1hosts`.

For details about `jp1hosts2`, see the *JP1/Base User's Guide*.

(b) Setting the ANY binding addresses

If the communication protocol for reception is the ANY binding method, the following setting is needed. In the communication settings for a new installation of JP1/AJS3, the communication protocol for receiving must be set to the ANY binding method. Note that if you set up a logical host, this setting is not needed because the communication protocol for receiving is set to the IP binding method.

You need to set the ANY binding address protocol type to be used to *IPv4 only*, *IPv6 only*, or *Both IPv4 and IPv6*. Specify the setting so that the ANY binding address protocol type to be used for receiving matches the IP address protocol type obtained from name resolution on the sending side. If the protocol types of the nodes are different, communication is not possible. By default, the setting is specified so that only IPv4 ANY binding addresses are used.

For details about the communication protocol for receiving, see 2.3.3 *Connecting multiple LANs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about the settings for ANY binding addresses, see the *JP1/Base User's Guide*.

(2) How to set up JP1/AJS3 - Manager for communication using IPv6 addresses

If you perform an upgrade installation of JP1/AJS3 - Manager version 09-50 or earlier to version 10-00 or later, you need to re-create the embedded database to enable communication using IPv6 addresses. You do not have to do this if communication uses IPv4 addresses or if you perform a new installation of JP1/AJS3.

The following describes how to re-create an embedded database.

(a) For physical hosts

To re-create an embedded database for a physical host, perform the procedure below.

Cautionary note:

Performing the following procedure deletes information such as job execution results.

To re-create an embedded database:

1. Check the scheduler service stored in the embedded database to be re-created.

Use the `ajsembdbidlist` command to check the scheduler service in the embedded database. For details about the `ajsembdbidlist` command, see *ajsembdbidlist* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Back up the unit definition information for the scheduler service stored in the embedded database.

For details about how to back up the unit definition information, see *2.2.3(4) Backing up the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

3. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

4. Execute the `ajsembdbunset` command to cancel the setup of the embedded database.

For example, execute the `ajsembdbunset` command as follows:

```
ajsembdbunset -e -id _JF1
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Execute the `ajsembdbbuild` command to create an embedded database.

For example, execute the `ajsembdbbuild` command as follows:

```
ajsembdbbuild -s -d "D:\products\jp1ajs2\embdb\_JF1"  
-p 22221 -i "C:\Program Files\HITACHI\jp1ajs2\embdb\_JF1"  
-id _JF1 -ext_db -ext_log
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Execute the `ajsembdbsetup` command to set up the embedded database.

For example, execute the `ajsembdbsetup` command as follows:

```
ajsembdbsetup -ru s -F AJSROOT4 -p 22221 -tp AJS4 -id _JF1
```

For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. In Windows Control Panel, open the **Services** administrative tool, and start the following service:

- JP1/AJS3 service

8. Recover the unit definition information you backed up in step 2.

For details about how to recover the unit definition information, see *2.3.4(9) Recovering the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

(b) For logical hosts

To re-create an embedded database for a logical host, perform the procedure below. This procedure assumes that a shared disk and a logical IP address were allocated to the executing host.

Cautionary note:

Performing the following procedure deletes information such as job execution results.

1. Check the scheduler service stored in the embedded database to be re-created.

Use the `ajsembdbidlist` command to check the scheduler service in the embedded database. For details about the `ajsembdbidlist` command, see *ajsembdbidlist* in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

2. Back up the unit definition information for the scheduler service stored in the embedded database.

For details about how to back up the unit definition information, see *2.2.3(4) Backing up the unit definition* in the *JPI/Automatic Job Management System 3 Administration Guide*.

3. On the executing host, in Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- The JP1/AJS3 service on the logical host to which the embedded database to be re-created belongs

4. On the executing host, execute the `ajsembdbunset` command to cancel the setup of the embedded database for the executing host.

For example, execute the `ajsembdbunset` command as follows:

```
ajsembdbunset -e -id _JFA
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

5. On the standby host, execute the `ajsembdbunset` command to cancel the setup of the embedded database for the standby host.

For example, execute the `ajsembdbunset` command as follows:

```
ajsembdbunset -e -id _JFA
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

6. On the executing host, execute the `ajsembdbbuild` command to create an embedded database for the executing host.

For example, execute the `ajsembdbbuild` command as follows:

```
ajsembdbbuild -s -r -d "D:\products\jplajs2\embdb\_JFA"  
-ld "C:\Program Files\HITACHI\jplajs2\embdb\_JFA"  
-mh lhost -eh executing-physical-host -p 22230  
-i "C:\Program Files\HITACHI\jplajs2\embdb\_JFA"  
-id _JFA -ext_db -ext_log
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

7. On the executing host, execute the `ajsembdbsetup` command to set up the embedded database for the executing host.

For example, execute the `ajsembdbsetup` command as follows:

```
ajsembdbsetup -mh lhost -F AJSROOT10 -p 22230 -tp AJS1 -id _JFA -ru s
```

For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

8. On the executing host, execute the `jbsgetcnf` command to back up the environment setting parameters for the executing host.

Execute the following command:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

For details, see the *JPI/Base User's Guide*.

9. On the standby host, execute the `ajsembddbbuild` command to create an embedded database for the standby host.

For example, execute the `ajsembddbbuild` command as follows:

```
ajsembddbbuild -s -f -d "D:\products\jplajs2\embdb\_JFA"  
-ld "C:\Program Files\HITACHI\jplajs2\embdb\_JFA"  
-mh lhost -eh executing-physical-host -p 22230  
-i "C:\Program Files\HITACHI\jplajs2\embdb\_JFA"  
-id _JFA -ext_db -ext_log
```

For details about the `ajsembddbbuild` command, see `ajsembddbbuild` in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

10. On the standby host, execute the `jbssetcnf` command to set the environment setting parameters for the standby host from the backup you created in step 8.

Execute the following command:

```
jbssetcnf backup-file-name
```

For details, see the *JPI/Base User's Guide*.

11. On the executing host, execute the `ajsembdbstop` command to stop the embedded database for the executing host.

For example, execute the `ajsembdbstop` command as follows:

```
ajsembdbstop -id _JFA
```

For details about the `ajsembdbstop` command, see `ajsembdbstop` in *3. Commands Used for Normal Operations* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

12. On the executing host, in Windows Control Panel, open the **Services** administrative tool, and start the following service:

- The JPI/AJS3 service on the logical host to which the embedded database to be re-created belongs

13. Recover the unit definition information you backed up in step 2.

For details about how to recover the unit definition information, see *2.3.4(9) Recovering the unit definition* in the *JPI/Automatic Job Management System 3 Administration Guide*.

3.6 Required setup for upgrading

This section describes the setup procedures required when performing an upgrade installation of JP1/AJS3.

3.6.1 Settings for enhancing the embedded database management function

The embedded database management function was enhanced in JP1/AJS3 - Manager 10-00 and later versions. Accordingly, the following changes were made.

Table 3–17: Changes due to the enhancement of the embedded database management function

Changes	JP1/AJS3 - Manager version	
	Earlier than 10-00	10-00 and later
Default startup method of the JP1/AJS3 Database service	Automatic	Manual
JP1/AJS3 Database ClusterService service	Created	Not created

For embedded databases created by JP1/AJS3 - Manager whose version is earlier than 10-00, the management function enhancements must be set. Even if you do not specify the enhancement settings, you need to specify the settings shown below if you use the `ajsembdbinstl` command to install an embedded database or create or re-create a logical host.

The procedure for enhancing the embedded database management function is shown below.

(1) Procedure for enhancing the embedded database management function

After performing an upgrade installation of JP1/AJS3 - Manager, perform the following procedure for all the hosts you set up.

To enhance the embedded database management function:

1. Execute the `ajsembdbinstl` command to perform an overwrite installation of the embedded database.
For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Change the setting in the system common definition file for the embedded database.
Use a text editor such as Notepad to open the following file, and then change the settings.

System common definition file:

```
embedded-database-practical-directory\conf\pdsys
```

Before the change:

```
set pd_mode_conf = AUTO#
```

After the change:

```
set pd_mode_conf = MANUAL2
```

```
#
```

In a logical host environment, the value before the change is `MANUAL1`.

If `AUTO` or `MANUAL1` is set in the system common definition file, change the value to `MANUAL2`.

3. Copy the model files to the JP1/AJS3 startup process definition file and JP1/AJS3 extended startup process definition file, which are used for database management.

Overwrite the following files by copying the model files.

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	For a physical host: <i>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd.conf</i> For a logical host: <i>shared-folder\jplajs2\conf\jplajs_dbmd.conf</i>	<i>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd.conf.model</i>
JP1/AJS3 extended startup process definition file (database management)	For a physical host: <i>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd_0700.conf</i> For a logical host: <i>shared-folder\jplajs2\conf\jplajs_dbmd_0700.conf</i>	<i>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd_0700.conf.model</i>

4. Change the setting in the JP1/AJS3 extended startup process definition file used for system management.

Use a text editor such as Notepad to open the following file, and then change the underlined value in the line under *Before the change*.

JP1/AJS3 extended startup process definition file (system management)

- For a physical host:

JP1/AJS3-Manager-installation-folder\conf\jplajs_service_0700.conf

- For a logical host:

shared-folder\jplajs2\conf\jplajs_service_0700.conf

Before the change

`jajs_dbmd|jajs_dbmd.exe||0|3|3|21600|0|2||1|`

After the change

`jajs_dbmd|jajs_dbmd.exe||1|3|3|21600|0|2||1|`

(2) Procedure for specifying the required settings when the embedded database management function is not enhanced

If you do not enhance the embedded database management function for reasons as difficulty in changing the created environment, you need to perform the following when you use the `ajsembdbinstl` command to install an embedded database or create or re-create a logical host.

(a) Required procedure for using the `ajsembdbinstl` command to install an embedded database

To use the `ajsembdbinstl` command to perform a new or upgrade installation of an embedded database:

1. Execute the `ajsembdbinstl` command with the `-v9standard` option specified.

For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(b) Required procedure for creating or re-creating a logical host

To create or re-create a logical host, perform the following after setting up the logical host environment.

1. Copy the model files to the JP1/AJS3 startup process definition file and JP1/AJS3 extended startup process definition file, which are used for database management.

Overwrite the following files by copying the model files.

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	<i>shared-folder</i> \jplajs2\conf\jplajs_dbmd.conf	<i>JP1/AJS3-Manager-installation-folder</i> \conf\jplajs_dbmd.conf.v9standard.model
JP1/AJS3 extended startup process definition file (database management)	<i>shared-folder</i> \jplajs2\conf\jplajs_dbmd_0700.conf	<i>JP1/AJS3-Manager-installation-folder</i> \conf\jplajs_dbmd_0700.conf.v9standard.cluster.model

2. Change the setting in the JP1/AJS3 extended startup process definition file used for system management.

Use a text editor such as Notepad to open the following file, and then change the underlined value in the line under *Before the change*.

JP1/AJS3 extended startup process definition file (system management)

shared-folder\jplajs2\conf\jplajs_service_0700.conf

Before the change

```
jajs_dbmd|jajs_dbmd.exe||1|3|3|21600|0|2||1|
```

After the change

```
jajs_dbmd|jajs_dbmd.exe||0|3|3|21600|0|2||1|
```

3.6.2 Settings for reducing the data area usage in the embedded database

In JP1/AJS3 - Manager version 10-00 and later, the efficiency of data storage in embedded databases is improved to reduce data area usage. To reduce the data area usage of embedded databases created by JP1/AJS3 - Manager in a version earlier than 10-00, you need to set up the embedded database again.

Perform the setup procedure for each embedded database. You can use the `ajsembdbidlist` command to check the embedded databases used by JP1/AJS3. For details about the `ajsembdbidlist` command, see *ajsembdbidlist* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the embedded databases that are automatically created by JP1/AJS3, see *2.6.5 Database settings that are set up in JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(1) Setup procedure for reducing the data area usage of an embedded database

To reduce the data area usage of an embedded database, perform the procedure below.

Supplementary note:

For a cluster environment, perform this procedure on the executing host. This procedure is unnecessary on the standby host.

1. Back up the execution agent information and unit definition information contained in the embedded database.

For details about how to back up the information, see 2.2.3(2) *Backing up the execution agent information* in the *JP1/Automatic Job Management System 3 Administration Guide* and 2.2.3(4) *Backing up the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

2. On the JP1/AJS3 - Manager physical host and all logical hosts, stop all the services, including the JP1/AJS3 service, that access the embedded database.

For a cluster environment, confirm the following before starting the subsequent procedure:

- The physical host of the primary node can access the shared disk.
- The IP address of the logical host is enabled.

3. Execute the `ajsembdbunset` command to delete the embedded database.

For example, execute the `ajsembdbunset` command as follows:

```
ajsembdbunset -e -id setup-identifier
```

For details about the `ajsembdbunset` command, see `ajsembdbunset` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Execute the `ajsembdbbuild` command to create an embedded database.

For example, execute the `ajsembdbbuild` command as follows.

For an embedded database automatically created by JP1/AJS3:

```
ajsembdbbuild {-s|-m|-l} -d data-area-directory  
-p embedded-database-port-number#  
-i embedded-database-practical-directory -id setup-identifier  
[-mh logical-host-name -eh executing-physical-host  
-r -ld work-area-directory] -ext_db -ext_log
```

#: Specify the value of the RDBPORT environment setting parameter for the scheduler service used in the embedded database.

For an embedded database created by performing advanced setup:

```
ajsembdbbuild option-used-for-creation-before-upgrade
```

For details about the `ajsembdbbuild` command, see `ajsembdbbuild` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Execute the `ajsembdbsetup` command to set up the embedded database.

For example, execute the `ajsembdbsetup` command as follows.

For an embedded database automatically created by JP1/AJS3:

```
ajsembdbsetup -ru {s|m|l} -F scheduler-service-name#1  
-p embedded-database-port-number#2 -id setup-identifier#2  
-tp table-name-prefix#3 [-mh logical-host-name]
```

#1: Specify the scheduler service name that was previously used.

#2: Specify the value you specified for the `ajsembdbbuild` command in step 4.

#3: Specify the value of the TABLENAMEPREFIX environment setting parameter for the relevant scheduler service.

For an embedded database created by performing advanced setup:

```
ajsembdbsetup option-used-for-setup-before-upgrade
```

For details about the `ajsembddbsetup` command, see *ajsembddbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Cold-start the JP1/AJS3 service.

7. Recover the execution agent information and unit definition information from the backup.

For details about how to recover the information, see 2.3.4(8) *Recovering the execution agent information* in the *JP1/Automatic Job Management System 3 Administration Guide* and 2.3.4(9) *Recovering the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

3.6.3 Settings required when JP1/AJS3 - Manager is upgraded to version 13-00 or later

If you upgrade JP1/AJS3 - Manager from version 12-60 or earlier, you must also convert the databases for scheduler services into the format compatible with version 13-00 or later. The scheduler services cannot start before conversion is complete.

Note that if you use embedded databases with the upgraded version of JP1/AJS3 - Manager, you must perform upgrade installation of the embedded databases before converting the database format.

The following table describes the tasks you perform when converting the databases for scheduler services.

Table 3–18: Tasks required for converting the databases for scheduler services

No.	Work contents	Reference
1	Preparation tasks for using embedded databases: <ul style="list-style-type: none"> • Checking the embedded database versions and maintaining the embedded database areas • Securing the space for the table area • Securing the space for the index area 	(1)
2	Conversion tasks required on the physical host	(2)
3	Conversion tasks required in a cluster environment: <ul style="list-style-type: none"> • Tasks required on the primary node • Tasks required on the secondary node 	(3)

(1) Preparation tasks for using embedded databases

This section describes the preparation tasks required if you use embedded databases for scheduler services.

(a) Checking the embedded database versions and maintaining the embedded database areas

1. Stop the JP1/AJS3 services.

Stop all JP1/AJS3 services on the physical host and all logical hosts. If JP1/AJS3 is operating in a cluster environment, temporarily remove JP1/AJS3 from that environment.

2. Starts the embedded database.

Use the following command to start the embedded databases that are set up on the physical host and all logical hosts:

```
ajsembdbstart -id embedded-database-setup-ID
```

3. Maintain the embedded database areas.

Use the following command to maintain the embedded database areas on the physical host and all logical hosts:

```
ajsembdbreclaim -m manager [-mh logical-host-name]
```

(b) Securing the space for the table area

Perform the following procedure for all embedded databases that are set up on the physical host and all logical hosts. In a cluster environment, make sure that the shared disk is mounted to the active server before performing the procedure.

1. Check the status of the database area for the embedded database.

Use the following command to check the status of the database area for the embedded database:

```
ajsembdbstatus -db -id embedded-database-setup-ID
```

2. Check the number of unused segments in the table area.

Record the value of Unused Segment under RD Area Name : AJS2DATA in the execution results of the command in step 1.

Hereinafter, this value is referred to as (A).

For example, if the command returns the following results, (A) is 210:

```
RD Area Name   : AJS2DATA
Server         : ajs2
Total Segment  :          300   Segment Size :          10 Pages
Unused Segment:          210   Page Size   :          30720 Bytes
```

3. Check the number of used segments in the table in the release definition.

Check the value of the Sum column on the Segment line for the table with a name of xxxxRELS# indicated at Table Name in the execution results of the command in step 1.

If multiple scheduler services are set up for one embedded database, there are multiple xxxxRELS# tables. In such a case, record the total value for those tables and the maximum value.

#

For the xxxx portion, a string such as AJS1 is output.

Hereinafter, the total value is referred to as (B) and the maximum value is referred to as (C).

If there is only one scheduler service, (B) and (C) are the same.

For example, if the command returns the following results, (B) is 9 (8 + 1) and (C) is 8:

```
Table Name : AJS1RELS
Auth Id    : root
Status     :
Reference Pending Status :
Check      Pending Status :
Segment Reuse :          18 segments
<Base row segment>
Search Mode : INS
Reuse Search Failure :          0/          0
      Used(Full)      Used(      Full)      Sum
Segment 100%( 88%)    8(          7)        8
Page    100%( 99%)    80(          79)       80
Collect On Segment :          0

Table Name : AJS2RELS
```

```

Auth Id      : root
Status      :
Reference Pending Status :
Check       Pending Status :
Segment Reuse :      18 segments
<Base row segment>
Search Mode : INS
Reuse Search Failure :      0/      0
      Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)      1(      0)      1
Page    10%( 0%)      1(      0)      10
Collect On Segment :      0

```

4. Check whether there is sufficient free space for conversion.

If the following condition is met, there is sufficient free space for conversion. In such a case, you do not need to perform the subsequent steps.

$$(A) \geq (B) + ((C) + 1) \times 2$$

Hereinafter, the value resulting from $(B) + ((C) + 1) \times 2$ is referred to as (D).

If the auto-increment function for the embedded database is enabled, the database format can be converted when the following condition is met even if available free space is insufficient. In this case, you do not need to perform the subsequent steps. You can check whether the auto-increment function is enabled by executing the `ajsembddbstatus` command with the `-c` option specified.

$$(size-of-ajssys041-file-in-embedded-database-data-area-directory) + ((D) - (A)) \times 0.3 \text{ MB} \leq 64 \text{ GB}$$

Note that the disk where the embedded-database data area directory is located must have at least $((D) - (A)) \times 0.3$ (MB) of free space.

5. Expand the embedded-database database area.

Use the `ajsembdbaddarea` command to expand the AJS2DATA table area. When executing the command, specify a value equal to or larger than the value resulting from $((D) - (A)) \times 0.3$ (MB) for *embedded-database-file-system-area-size*.

```

ajsembdbaddarea -r table
-s embedded-database-file-system-area-size
-d name-of-directory-where-database-area-to-be-expanded-stored
-id embedded-database-setup-ID

```

(c) Securing the space for the index area

Perform the following procedure for all embedded databases that are set up on the physical host and all logical hosts. In a cluster environment, make sure that the shared disk is mounted to the active server before performing the procedure.

1. Check the number of unused segments in the index areas.

Record the value of Unused Segment under RD Area Name : AJS2INDX in the execution results of the command in step 1 in *(b) Securing the space for the table area*.

Hereinafter, this value is referred to as (A).

For example, if the command returns the following results, (A) is 781:

```

RD Area Name      : AJS2INDX
Server            : ajs2

```

Total Segment :	880	Segment Size :	10 Pages
Unused Segment:	<u>781</u>	Page Size :	4096 Bytes

2. Check the number of used segments in the index in the release definition.

Check the value of the Sum column on the Segment line for each index of the index set (xxxxRELSINDEX1 to xxxxRELSINDEX3)# in the execution results of the command in step 1 in (b) *Securing the space for the table area*. The name of each index is indicated at Index Name. Then, record the total of those values.

If multiple scheduler services are set up for one embedded database, there are multiple instances of the index set (xxxxRELSINDEX1 to xxxxRELSINDEX3) for which you need to record the values. In such a case, check the values for each index set and record the total value and the maximum value.

#

For the xxxx portion, a string such as AJS1 is output.

Hereinafter, the total value is referred to as (B) and the maximum value is referred to as (C).

If there is only one scheduler service, (B) and (C) are the same.

For example, if the command returns the following results, (B) is 13 ((5 + 3 + 2) + (1 + 1 + 1)) and (C) is 10 (5 + 3 + 2):

```

Index Name : AJS1RELSINDEX1
Auth Id    : root
Status     :
      Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)    5(      0)      5
Page    82%( 0%)    41(      0)      50
Collect On Segment :      0

Index Name : AJS1RELSINDEX2
Auth Id    : root
Status     :
      Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)    3(      0)      3
Page    67%( 0%)    20(      0)      30
Collect On Segment :      0

Index Name : AJS1RELSINDEX3
Auth Id    : root
Status     :
      Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)    2(      0)      2
Page    80%( 0%)    16(      0)      20
Collect On Segment :      0

Index Name : AJS2RELSINDEX1
Auth Id    : root
Status     :
      Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)    1(      0)      1
Page    10%( 0%)    1(      0)      10
Collect On Segment :      0

Index Name : AJS2RELSINDEX2
Auth Id    : root
Status     :
      Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)    1(      0)      1

```

```

Page      10%( 0%)          1 (          0)          10
Collect On Segment :          0

Index Name : AJS2RELSINDEX3
Auth Id    : root
Status     :
          Used(Full)        Used(          Full)        Sum
Segment 100%( 0%)          1 (          0)          1
Page     10%( 0%)          1 (          0)          10
Collect On Segment :          0

```

3. Check whether there is sufficient free space for conversion.

If the following condition is met, there is sufficient free space for conversion. In such a case, you do not need to perform the subsequent steps.

```
(A) >= (B) + (((C) + 1) x 2)
```

Hereinafter, the value resulting from $(B) + (((C) + 1) \times 2)$ is referred to as (D).

If the auto-increment function for the embedded database is enabled, the database format can be converted when the following condition is met even if available free space is insufficient. In this case, you do not need to perform the subsequent steps.

```
(size-of-ajssys042-file-in-embedded-database-data-area-directory) + ((D) - (A)) x 0.04 MB <= 64 GB
```

Note that the disk where the embedded-database data area directory is located must have at least $((D) - (A)) \times 0.04$ (MB) of free space.

4. Expand the embedded-database database area.

Use the `ajsembdbaddarea` command to expand the `AJS2INDX` table area. When executing the command, specify a value equal to or larger than the value resulting from $((D) - (A)) \times 0.04$ (MB) for *embedded-database-file-system-area-size*.

```
ajsembdbaddarea -r index
-s embedded-database-file-system-area-size
-d name-of-directory-where-database-area-to-be-expanded-stored
-id embedded-database-setup-ID
```

(2) Conversion tasks required on the physical host

The following shows the conversion procedure to be performed on the physical host:

1. Confirm that the JP1/AJS3 service is not running on the physical host.

Confirm that the JP1/AJS3 service is not running by executing the following command:

```
ajjs_spmd_status
```

If the service is running, stop it by executing the following command:

```
ajjs_spmd_stop
```

2. Start the databases.

For an embedded database:

Use the following command to start all embedded databases that are set up:


```
ajsembdbstart -id embedded-database-setup-ID
```

You can skip this operation if you already performed it in *(1) Preparation tasks for using embedded databases*.

For an external database:

Confirm that the connected databases are operating.

3. Convert the databases for scheduler services.

Use the following command to convert the databases for scheduler services:

```
ajjs_cnldb -c V13
```

If the KAVS8470-I message is output, the command execution was successful.

If the KAVS8471-E message is output, the command execution was not successful. In this case, take the action described in *(4)(h) Action to be taken if the ajjs_cnldb command fails*.

4. If you are using embedded databases, perform maintenance of the database area.

If you are using embedded databases, execute the following command to perform maintenance of the database area:

```
ajsembdbreclaim -m manager
```

(3) Conversion tasks required in a cluster environment

The section describes the conversion procedure to be performed in a cluster environment.

(a) Tasks required on the primary node

Note that all tasks described here must be performed while the shared disk is mounted.

1. Temporarily remove JP1/AJS3 from the cluster environment.

You can skip this operation if you already performed it in *(1) Preparation tasks for using embedded databases*.

2. Stop the JP1/AJS3 services on logical hosts.

You can skip this operation if you already performed it in *(1) Preparation tasks for using embedded databases*.

3. Start the databases.

Use the following command to start all embedded databases that are set up on the target logical host:

```
ajsembdbstart -id embedded-database-setup-ID
```

You can skip this operation if you already performed it in *(1) Preparation tasks for using embedded databases*.

4. Convert the databases for scheduler services.

Use the following command to convert the databases for scheduler services:

```
ajjs_cnldb -h logical-host-name -c V13
```

If the KAVS8470-I message is output, the command execution was successful.

If the KAVS8471-E message is output, the command execution was not successful. In this case, take the action described in *(4)(h) Action to be taken if the ajjs_cnldb command fails*.

5. Perform maintenance of the database area.

Perform maintenance of the database area by executing the following command:

```
ajsembdbreclaim -m manager -mh logical-host-name
```

6. Add JP1/AJS3 back to the cluster environment.

(b) Tasks required on the secondary node

1. Convert the databases for scheduler services.

Convert the databases for scheduler services by executing the `jajs_cnvdb` command with the `-s` option specified:

```
jajs_cnvdb -h logical-host-name -c V13 -s
```

(4) Command for converting the databases for scheduler services (jajs_cnvdb)

(a) Format

```
jajs_cnvdb  
  [-h logical-host-name]  
  [-all]  
  {-c V13|-v}  
  [-s]
```

(b) Description

The `jajs_cnvdb` command converts scheduler databases from the format compatible with version 12-60 or earlier into the format compatible with version 13-00 or later. The command also converts the data stored in the databases.

(c) Execution privileges

Administrators privilege

(d) Arguments

`-h logical-host-name`

Use this option to perform database conversion on only a specified logical host.

If you specify this option without an argument, the command assumes that the logical host name specified for the `JP1_HOSTNAME` environment variable is specified. If the `JP1_HOSTNAME` environment variable is not specified, the command assumes that the physical host name (`JP1_DEFAULT`) is specified.

If you omit this option when `JP1_DEFAULT` is specified for the `JP1_HOSTNAME` environment variable, the command will fail with the KAVS0187-E message.

If the specified host does not exist, the command will fail with the KAVS0291-E message.

`-all`

Use this option to convert all scheduler services on the physical host and all logical hosts.

The `-all` option is assumed even if it is not explicitly specified.

`-c V13`

Converts the scheduler databases into the format compatible with version 13-00 or later.

`-v`

Displays whether of the current scheduler databases have already been converted.

If both the `-c V13` and `-v` options are omitted, the command assumes that the `-v` option is specified.

If you execute the command with this option in an environment where no scheduler services exist, the command will fail with the KAVS1516-E message.

-s

Always specify this option if you execute the command on the standby server in a cluster environment.

(e) Example

To convert the databases for all scheduler services on the physical host, execute the following command:

```
jajs_cnvdb -c V13
```

(f) Output example

The following shows an output example when the `-v` option is specified.

(1)	(2)
AJSROOT1	V13
AJSROOT2	-
AJSROOT3	V13

Explanation of output items

(1) scheduler service name

The length of each scheduler service name output field is fixed to 30 bytes.

For example, for a scheduler service that has an 8-byte name (such as AJSROOT1), the name will be output with 22 halfwidth trailing spaces.

(2) Database format

V13

The database for the scheduler service is set up in the format compatible with version 13.

-

The database for the scheduler service is set up in the format compatible with version 12-60 or earlier.

(g) Notes

- If you upgrade the version from 12-60 or earlier, convert the databases for all scheduler services by executing the command with the `-c V13` option specified.
- In a cluster environment, execute the command on both the active and standby servers.
- On the active server in a cluster environment, you must execute this while no services are running. Therefore, you cannot convert databases while jobs are operating.
- Execute this command only when you have upgraded the version from 12-60 or earlier.
- Execute this command when all JP1/AJS3 services are stopped.
- When you perform conversion, all embedded databases set up on the target hosts must be active. If you happened to execute this command while the embedded databases were inactive, activate them and then re-execute the command.
- You cannot concurrently execute multiple instances of this command.

(h) Action to be taken if the `jajs_cnvdb` command fails

Remove the cause of the error indicated in the error message, and then re-execute the `jajs_cnvdb` command.

You can check whether conversion has finished by executing the `jajs_cnvdb` command with the `-v` option specified.

The following shows command execution examples.

For a physical host:

```
jajs_cnvdb -v
```

For a logical host:

```
jajs_cnvdb -h logical-host-name -v
```

If the string V13 is output after a scheduler service name, conversion is complete.

If a hyphen (-) is output after a scheduler service name, conversion is not complete.

Output example

```
AJSROOT1 V13  
AJSROOT2 -  
AJSROOT3 V13
```

(i) Return values

0	Normal end
Values other than 0	Abnormal end

(5) Notes on version upgrade to JP1/AJS3 - Manager 13-00 or later

Database backups taken with JP1/AJS3 - Manager version 12-60 or earlier cannot be used after JP1/AJS3 - Manager is upgraded to version 13-00 or later. Convert the databases into the format compatible with version 13-00 or later, and then re-create backups.

4

Environment Settings

This chapter describes the JP1/AJS3 environment settings.

4.1 Execution agent settings

You can use the `ajsagtadd`, `ajsagtdel`, and `ajsagtalt` commands to add, delete, or change an execution agent or execution agent group during JP1/AJS3 operation.

When queue and submit jobs are being used, you can use the `jppqagtadd`, `jppqqueueadd`, and other commands to add, delete, or change an agent or queue for queue and submit jobs. For details, see 7.1.2(1)(b) *Changing the execution environment for QUEUE jobs and submit jobs dynamically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about each command, see 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

You can also add, delete, and change execution agents and execution agent groups from JP1/AJS3 - Web Console.

For details about performing operations on execution agents from JP1/AJS3 - Web Console, see 15.2.4 *Execution Agent screen* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

4.1.1 Procedure for specifying execution agent settings

To use the `ajsagtadd` command to add an execution agent and execution agent group:

1. Add an execution agent, and set the maximum number of concurrently executable jobs.

Use the `ajsagtadd` command to add an execution agent.

Before executing the `ajsagtadd` command, make sure that the IP address can be resolved from the host name of the execution agent you want to add.

```
ajsagtadd -a exec-agent-name [-s target-host-name] [-c time-time=maximum-number-of-concurrently-executable-jobs, ...]
```

Example:

```
ajsagtadd -a AP1 -s Host1 -c 01:00-05:00=1
```

If the `-c` option is omitted, the maximum number of concurrently executable jobs is set to 5 regardless of the time (that is, `-c 00:00-00:00=5` is assumed). If the `-c` option is specified, the maximum number of concurrently executable jobs for the time periods that are not specified in the option is set to 0. For example, if `-c 01:00-02:00=10` is specified, the maximum number of concurrently executable jobs for each time period is as follows:

- 00:00 to 01:00: 0
- 01:00 to 02:00: 10
- 02:00 to 00:00: 0

When the maximum number of concurrently executable jobs is 0, no jobs can be executed. A value of at least 1 must be specified to execute a job. You can also use the `ajsagtalt` command to change the maximum number of concurrently executable jobs. For an example of specifying the maximum number of concurrently executable jobs, see the supplementary note for `ajsagtadd` in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Add an execution agent group.

Use the `ajsagtadd` command to add an execution agent group, which is a group of execution agents.

You can add an execution agent group when, for example, you want to connect several execution agents to the execution agent group so that job execution is distributed to those agents. You can also specify a priority for each execution agent so that jobs are delivered to execution agents based on the priorities that have been specified.

```
ajsagtadd -g exec-agent-group-name [-l exec-agent-name[:priority],...]
```

Example:

```
ajsagtadd -g APG1 -l AP1:16,AP2,AP3:5
```

You can use the `ajsagtalt` command to change the priorities of execution agents in a group.

3. Verify the settings you have specified.

Execute the `ajsagtshow` command to display the settings you specified in steps 1 and 2 so that you can verify that the settings are correct.

```
ajsagtshow {-a exec-agent-name|-g exec-agent-group-name|-l|-n}
```

Example:

```
ajsagtshow -a AP1
```

As shown below, several execution agents and execution agent groups can be added all at one time by using an execution agent definition file.

```
ajsagtadd -f exec-agent-definition-file-name
```

The format used for the execution agent definition file is the same as the format of the CSV file output by the `ajsagtprint` command. For details about the execution agent definition file, see *ajsagtadd* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference* and *ajsagtprint* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

You can also perform this operation from JP1/AJS3 - Web Console.

For details about performing operations on execution agents from JP1/AJS3 - Web Console, see *15.2.4 Execution Agent screen* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

Cautionary notes:

- Names are not case sensitive.
- Multi-byte characters such as Japanese can also be used. However, because the character byte length varies depending on the language environment, we recommend ASCII characters.
- Names that begin with @SYS cannot be used.
- The following characters cannot be used:
 - Space
 - , (comma)
 - : (colon)
- Control characters (tab and linefeed characters) cannot be used.

4.2 Environment setting parameter settings

This section describes how to change common definition information that has already been registered.

You can use the following methods to change the common definition information that has already been registered:

- `jajs_config` command

If you use the `jajs_config` command, you can eliminate specification errors because the specified environment setting parameter names and values are checked.

With the `jajs_config` command, you can set the environment setting parameters that have the same definition key at the same time. To set environment setting parameters that have different definition keys, run the `jajs_config` command for each definition key.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- `jbssetcnf` command

If you use the `jbssetcnf` command provided by JP1/Base, the new environment setting parameter settings specified in a setting file will replace the corresponding current settings.

With the `jbssetcnf` command, you can set multiple environment setting parameters at the same time even if one or more parameters have different definition keys. For details about the `jbssetcnf` command, see the *JP1/Base User's Guide*.

Note that the parameter names and values provided by the `jbssetcnf` command are not checked. If you specify any settings that are incorrect, you might want to restore the previous settings. For details about how to restore the previous settings when incorrect settings have been registered, see *B. Recovery Procedure Used When an Incorrect Environment Settings Parameter is Set*.

For details about the environment setting parameter settings necessary for registration in the common definition information, see *20. Environment Setting Parameters*.

The following describes how to use each method.

4.2.1 Procedure for setting the environment setting parameters by using the `jajs_config` command

To use the `jajs_config` command to change the settings in the common definition information:

1. Stop the JP1/AJS3 service.

In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Change the settings in the common definition information.

Use the following command to specify new environment setting parameter settings in the common definition information:

```
jajs_config $\Delta$ -k $\Delta$ definition-key $\Delta$ "parameter-name-1"=value-1 $\Delta$ ["parameter-name-2"=value-2] ...
```

Legend:

Δ : One-byte space

Example:

```
jajs_config -k [JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1] "LOGSIZE"=dword:00002800 "AJSLOG"="all"
```

3. Restart JP1/AJS3.

The changes in the common definition information are applied to JP1/AJS3.

Supplementary note:

You can specify only one definition key for *definition-key*. To set environment setting parameters that have different definition keys, run the `jajs_config` command for each definition key, or use the `jbssetcnf` command.

4.2.2 Procedure for setting the environment setting parameters by using the `jbssetcnf` command

To use the `jbssetcnf` command to replace the settings in the common definition information with new settings specified in a configuration file:

1. Stop the JP1/AJS3 service.

In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Create a configuration file that contains the new settings.

Use a text editor such as Notepad to create a setting file that contains the additional or new environment setting parameter settings.

Assign any name to the configuration file.

The following shows an example of specifying settings in the configuration file.

In this example, the environment setting parameter settings shown in the following table will be used.

Definition key	Parameter	Value
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]	"LOGSIZE"=	00002800 (hexadecimal)
	"AJSLOG"=	"all"
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT2]	"LOGSIZE"=	00005000 (hexadecimal)
	"AJSLOG"=	"all"

To specify the above settings, create a configuration file as follows:

```
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]
"LOGSIZE"=dword:00002800
"AJSLOG"="all"
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT2]
"LOGSIZE"=dword:00005000
"AJSLOG"="all"
```

3. Save the configuration file.

4. Change the common definition information.

Execute the following command, which will change the common definition information based on the specified configuration file:

```
jbssetcnf configuration-file
```

The `jbssetcnf` command is located in the `JP1/Base-installation-folder\bin\` folder.

5. Restart JP1/AJS3.

The changes in the common definition information are applied to JP1/AJS3.

5

JP1/AJS3 - View Environment Settings

This chapter describes how to change the JP1/AJS3 - View environment settings.

5.1 Procedure for changing the JP1/AJS3 - View environment settings

This section describes how to change the JP1/AJS3 - View environment settings.

For the JP1/AJS3 - View environment settings that can be specified, see *11. Customizing Windows and Dialog Boxes Used for JP1/AJS3 - View* in the *JP1/Automatic Job Management System 3 Operator's Guide*. For the items that can be set in the dialog boxes that are displayed, see *12. Windows and Dialog Boxes* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

To change the JP1/AJS3 - View environment settings:

1. From the Windows Start menu, **JP1_Automatic Job Management System 3 - View**, and then **Job System Operation**.

The Login screen appears.

2. After entering the JP1 user name and password, and the name of the JP1/AJS3 - Manager host to which you want to connect, click the **OK** button.

The JP1/AJS3 - View window of JP1/AJS3 - View appears.

3. From the **Options** menu, choose **Preferences**.

The Preferences dialog box appears.

4. Specify the necessary information, and click the **OK** button.

You can change the JP1/AJS3 - View environment settings while you are using JP1/AJS3 - View.

For details about when the new settings take effect, see *12.3.42 Preferences dialog box* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

6

Specifying Settings Based on the Usage of JP1/AJS3

This chapter describes the JP1/AJS3 detailed settings that can be specified to match the requirements for JP1/AJS3 operation.

6.1 Settings for controlling the scheduler

This section describes how to change the settings for controlling the scheduler.

When you set environment setting parameters, use the `jaajs_config` command.

For details about the `jaajs_config` command, see *jaajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.1.1 Settings for starting multiple scheduler services

Job groups are managed by the scheduler service. If multiple scheduler services are started, the scheduler services can be used to manage the job groups.

To start multiple scheduler services, you must first set information such as the names of the scheduler services to be added.

The following describes the procedures for adding and deleting scheduler services.

For details about how to add scheduler services to a logical host and how to delete scheduler services from a logical host, see *8.2.10 Setting startup of multiple scheduler services on a logical host*.

(1) Adding a scheduler service

To add a scheduler service:

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following services:

- JP1/AJS3 service
- JP1/AJS3 System Control Manager service[#]
- JP1/AJS3 System Control Agent service[#]

#

You need to stop this service in only the case where the management portal execution environment has been set up.

Important

All embedded databases configured on the physical host must be operating. Make sure that the applicable JP1/AJS3 Database `_JFn` (n : 0 to 9 or A to Z) services are running. If any JP1/AJS3 Database `_JFn` services are not running, start them.

Execute the `ajsembdbstatus` command with `-s ust -id _JFn` (n : 0 to 9 or A to Z) specified to confirm that the embedded database is operating (UNIT-STAT is ONLINE). If the database is not operating, use the `ajsembdbstart` command with `-id _JFn` specified to activate it.

Execute the `ajsembdbidlist` command to check the setup identifier (`_JFn`) of the embedded database to be activated.

2. Use Explorer or another means to create the following folders:

- Database folder

- Folder for temporary files
- Job information folder
- Backup information folder

Make sure that the above folders, other than the backup information folder, are neither folders used by other scheduler services set on the local hosts (the physical host and all logical hosts) nor subfolders of those folders.

3. Execute the `jajs_setup` command to add the scheduler service.

```
jajs_setup -a -F scheduler-service
-p service-for-the-port-reporting-the-job-status
-d database-folder
-t folder-for-temporary-files
-j job-information-folder
-b backup-information-folder
-n scheduler-service-identification-number
[[-I setup-identifier
  -P embedded-database-port-number]
[-M {s|m|l}]
[-B]
|-S]
```

Example of adding a scheduler service named AJSROOT2:

```
jajs_setup -a -F AJSROOT2
-p jplajs2report2
-d "C:\Program Files\HITACHI\JP1AJS2\database\schedule\AJSROOT2"
-t "C:\Program Files\HITACHI\JP1AJS2\tmp\schedule2"
-j "C:\Program Files\HITACHI\JP1AJS2\jobinf2"
-b "C:\Program Files\HITACHI\JP1AJS2\backup\schedule2"
-n 2
```

If you add a scheduler service to an embedded database whose installation directory has been changed from the default path, execute the `jajs_setup` command with the `-S` option specified.

For details about the `jajs_setup` command, see *jajs_setup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Important

The port numbers of the embedded database port and job status notification port must be unique within the system. Therefore, you must specify different values for the `-P` option (*embedded-database-port-number*) and the `-p` option (*service-for-the-port-reporting-the-job-status*).

4. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 3, perform advanced setup for the embedded database. For details about advanced setup for the embedded database, see *23.4 Advanced setup of an embedded database*.

If you have changed the embedded database installation directory from the default path, execute the `ajsembdbsetup` command. For details, see *23.4.1(5)(b) Setting up multiple scheduler databases in one embedded database environment*.

5. Open the following file with a text editor such as Notepad:

```
system-folder\system32\drivers\etc\Services
```

6. For the service name of the port that reports the job status specified in step 3, set the port number.

Example of setting 20248 as the port number:

```
jp1ajs2report2 20248/tcp
```

Important

When you add a scheduler service to a physical host, make sure that the scheduler service does not use a port number that is used by another scheduler service that runs on the physical host. To use JP1/AJS3 in an environment with a Windows Firewall, register the port number you specified (in the above example, service name `jp1ajs2report2` and port number 20248) in the Windows Firewall rules so that data will be able to pass through the firewall.

7. If you want to use queueless jobs, you must perform the setup required for using queueless jobs.

Execute the following command:

```
ajsqlsetup [-F scheduler-service-name]
```

For details about the `ajsqlsetup` command, see `ajsqlsetup` in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

8. Stop the embedded database.

Stop the JP1/AJS3 Database `_JFn` service for the embedded database you started in Step 1.

9. Restart the services that you stopped in step 1.

The scheduler service is added and started with the specified settings.

After the JP1/AJS3 service has been restarted, use JP1/AJS3 - View to confirm that the manager job group is displayed with the name of the added scheduler service attached.

Supplementary note on command execution:

When the scheduler service is adding, if you execute a command without specifying a scheduler service name in the `-F` option, the default scheduler service is assumed.

You can omit the `-F` option when the name of a scheduler service name is specified in the `AJSCONF` environment variable.

(2) Deleting a scheduler service that has been added

To delete a scheduler service that has been added:

1. Stop the JP1/AJS3 services.

Stop all JP1/AJS3 services, including the JP1/AJS3 - Manager services, on logical hosts.

If the management portal execution environment has been set up, also stop the following services:

- JP1/AJS3 System Control Manager service
- JP1/AJS3 System Control Agent service

Important

All embedded databases configured on the physical host must be operating. Make sure that the applicable JP1/AJS3 Database `_JFn` (n : 0 to 9 or A to Z) services are running. If any JP1/AJS3 Database `_JFn` services are not running, start them.

Execute the `ajsembdbstatus` command with `-s ust -id _JFn` (n : 0 to 9 or A to Z) specified to confirm that the embedded database is operating (UNIT-STAT is ONLINE). If the database is not operating, use the `ajsembdbstart` command with `-id _JFn` specified to activate it.

Execute the `ajsembdbidlist` command to check the setup identifier (`_JFn`) of the embedded database to be activated.

2. Execute the following `jaajs_setup` command to delete the scheduler service.

```
jaajs_setup -e -F scheduler-service-name
```

Example of deleting the AJSROOT2 scheduler service:

```
jaajs_setup -e -F AJSROOT2
```

For details about the `jaajs_setup` command, see `jaajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Delete the folder that was created when the scheduler service was added.

Delete the following folders that were created when you executed the `jaajs_setup` command:

- Database folder specified in the `-d` option
- Folder for temporary files specified in the `-t` option
- Job information folder specified in the `-j` option
- Backup information folder specified in the `-b` option

4. If a trace log has been output per scheduler service, delete the trace log file for the deleted scheduler service.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, delete the trace log file for the deleted scheduler service.

5. Stop the embedded database.

Stop the JP1/AJS3 Database `_JFn` services for all embedded databases.

6. Restart the JP1/AJS3 service.

Restart the services you stopped in Step 1, and make sure that the scheduler service has been deleted.

(3) Uninstalling an unnecessary database environment

To uninstall a database environment that is no longer necessary:

1. Execute the `ajsembdbidlist` command to identify the embedded databases that are not being used by any scheduler services.

Execute the following command:

```
ajsembdbidlist
```

For details about the `ajsembdbidlist` command, see `ajsembdbidlist` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Execute the `ajsembdbuninstl` command to uninstall an embedded database that is not being used by any scheduler services.

Execute the following command:

```
ajsembdbuninstl -id setup-identifier
```

When uninstalling an embedded database environment associated with version 8 or earlier, follow the uninstallation procedure described in the manual for that product version.

When uninstalling such an embedded database environment in UNIX, execute the `ajsembdbunset` command, and then the following command:

```
/opt/HiRDB_J/bin/pdesetup -u embedded-database-practical-directory
```

The embedded databases listed below contain information necessary for the system. Do not specify the setup identifiers of these databases in the `-id` option.

- Embedded database whose setup identifier is `_JF0`
- The embedded database set up first on the host when the setup identifier has been changed to a setup identifier other than `_JF0` by performing any of the following operations: (1) migrating data needed for advanced setup of the embedded database, (2) advanced setup of the embedded database, or (3) performing setup again for the embedded database
- An embedded database set up with the setup identifier specified in the `-I` option of the `jajs_setup_cluster` command in an environment in which logical hosts have been created

For details about the `ajsembdbuninstl` command, see *ajsembdbuninstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the `jajs_setup_cluster` command, see *jajs_setup_cluster* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(4) Renaming a scheduler service

Renaming a scheduler service affects many types of JP1/AJS3 functions. For example, a unit might end abnormally or might not be executed properly. To prevent such problems, we recommend that you rename a scheduler service before operation starts.

The following describes how to rename a scheduler service before and after operation starts.

(a) How to rename a scheduler service before operation starts

To rename a scheduler service before operation starts:

1. Execute the `jajs_setup` command to rename the scheduler service.

Execute the following command:

```
jajs_setup -r -F scheduler-service-name-before-the-change -A new-scheduler-service-name
```

For details about the `jajs_setup` command, see *jajs_setup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(b) How to rename a scheduler service after operation starts

To rename a scheduler service after operation starts:

1. Stop the scheduler service to be renamed, and then cold-start the scheduler service.

After the cold-start, do not register a jobnet for execution until the renaming procedure is finished.

2. Stop the JP1/AJS3 services on the physical host and all logical hosts.

If the management portal execution environment has been set up, also stop the following services:

- JP1/AJS3 System Control Manager service
- JP1/AJS3 System Control Agent service

3. Execute the `jajs_setup` command to rename the scheduler service.

Example: To change AJSROOT2 to AJSROOT5:

```
jajs_setup -r -F AJSROOT2 -A AJSROOT5
```

If the KAVS1133-W message is not output during execution of the `jajs_setup` command, skip step 4 and step 5 and go to step 6.

If the KAVS1133-W message is output during execution of the `jajs_setup` command, check the setting name indicated in the message. If `Local date and time` is indicated, go to step 4. If `Suspend feature` is indicated, go to step 5, and then proceed to step 6.

Cautionary note:

Before you rename a scheduler service for which the local date and time is set, obtain the difference between the local date and time for the scheduler service and the system date and time. Use the `ajslocaldate` command to obtain the scheduler service local date and time.

For details about how to obtain the system date and time, see the documentation for your OS.

If an attempt to set the scheduler service local date and time fails and the KAVS1133-W message appears, use the time difference obtained above to set the scheduler service local date and time in step 4.

4. Set the scheduler service local date and time again.

Execute the `ajslocaldate` command to set the scheduler service local date and time for the renamed scheduler service.

Example: To set the local date and time for the scheduler service AJSROOT5 forward five minutes (300 seconds) from the current time, execute the command as follows:

```
ajslocaldate -F AJSROOT5 -s 300
```

For details about the `ajslocaldate` command, see *ajslocaldate* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Set the suspend function again.

Execute the `ajssetup` command to enable the suspend function for the renamed scheduler service.

Example: To enable the suspend function for the scheduler service AJSROOT5, execute the command as follows:

```
ajssetup -F AJSROOT5 -m
```

For details about the `ajssetup` command, see *ajssetup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. If the scheduler service name before the change is set for the following environment setting parameters, use the `jajs_config` command to change them to the new scheduler service name.

Table 6–1: Environment setting parameters whose settings need to be changed

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"DEFAULTSERVICENAME"=	Default scheduler service name

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"REMNETSERVICENAME"=	Name of the scheduler service that executes a remote jobnet

Example: To change the default scheduler service name to AJSROOT5, execute the command as follows:

```
jajs_config -k
[JP1_DEFAULT\JP1AJSMANAGER] "DEFAULTSERVICENAME"="AJSROOT5"
```

Example: To change the name of the scheduler service that executes remote jobnets to AJSROOT5, execute the command as follows:

```
jajs_config -k [JP1_DEFAULT\JP1AJSMANAGER] "REMNETSERVICENAME"="AJSROOT5"
```

7. If a trace log has been output per scheduler service, change the name of the trace log file used for each scheduler service before changing the scheduler service name.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, change the `scheduler-service-name` part from the scheduler service name before the change to the new scheduler service name.

8. Start the services that were stopped in step 2.

9. In either of the following cases, after the scheduler services start, change or set the scheduler service settings if necessary:

- The scheduler service name before the change is specified in the unit definition.
- The JP1/AJS3 linkage facility was monitoring or collecting information from the scheduler service before it was renamed.

(c) Notes on renaming scheduler services

The following environment setting parameters for scheduler services use the directory path that contains the scheduler service name as a standard:

- AJSSYSDIR
- AJSLOGDIR
- AJSDBDIRECTORY
- AJSLOGFILE1
- AJSLOGFILE2
- AJSREPORTDIR

Operation is not affected even if the environment setting parameters are not changed after the scheduler service is renamed. However, if necessary, consider changing the directory path that contains the new scheduler service name.

When you change the setting of the `AJSDBDIRECTORY` environment setting parameter in an environment using the `suspend` function or `queueless jobs`, you must set up the `suspend` or `queueless job` function again after changing the parameter setting.

Use the `jajs_config` command to change the environment setting parameters. For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the parameters, see [20.4 Setting up the scheduler service environment](#).

6.1.2 Changing the level of messages output from scheduler services to the integrated trace log

You can specify the level of messages output from scheduler services to the integrated trace log. The specification procedure is as follows.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.
The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–2: Environment setting parameter used to change the level of messages output from scheduler services to the integrated trace log

Definition key	Environment setting parameter	Explanation
[{ JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"HNTRLOGLEVEL"=	Specifies the level of messages to be output to the integrated trace log.

#:

The specification of the { JP1_DEFAULT | *logical-host* } part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(56\) HNTRLOGLEVEL](#).

6.1.3 Changing the method for outputting the schedule rule when outputting nested-jobnet definition parameters

You can specify that a jobnet's schedule rule be enabled so that the jobnet does not depend on the upper-level jobnet's schedule. Alternatively, you can specify that a jobnet's schedule rule be deleted so that the jobnet depends on the upper-level jobnet's schedule.

This option is effective when `ajsprint`, `ajsbackup`, or `ajsexport` command is executed or a backup operation is performed from JP1/AJS3 - View for a nested jobnet created by copying a root jobnet that has a schedule rule.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–3: Environment setting parameter used to change the method for outputting the schedule rule when outputting nested-jobnet definition parameters

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJSMANAGER\scheduler-service]#	"AJSPRINTNETSCHPRF"=	Specifies how the schedule rule of a nested jobnet is treated.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(79\) AJSPRINTNETSCHPRF](#).

6.1.4 Changing the name of a scheduler trace log file

The default trace log file name for the scheduler service is as follows:

If the installation folder is the default installation folder or is in a folder protected by the system:

%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog

The default %ALLUSERSPROFILE% value is *system-drive*\ProgramData.

A *folder protected by the system* is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

If the installation folder is other than the above:

JP1/AJS3-Manager-installation-folder\log\tracelog

You can change the name of a scheduler trace log file by using the following procedure.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–4: Environment setting parameter used to change the name of a scheduler trace log file

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"TRACELOGFILE"=#	Specifies the name of a scheduler trace log file.

#:

The scheduler trace information for the physical host and all logical hosts is recorded in the file specified by this parameter. To ensure that the trace information is recorded, always specify the name of a file on a local disk.

Note that the specified file is created when trace information is output. Do not specify the name of an existing file.

For details about the definition of this environment setting parameter, see [20.4.2\(3\) TRACELOGFILE](#).

6.1.5 Setting to output a scheduler trace log per scheduler service

If you activate multiple scheduler services concurrently, we recommend that you specify settings to output a scheduler trace log for individual scheduler services.

The following describes the setting procedure to output a scheduler trace log for individual scheduler services.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–5: Environment setting parameters to output a scheduler trace log per scheduler service

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"TRACELOGDIV"=	Specifies the method to output a scheduler trace log (whether to output a trace log per scheduler service).
[{JP1_DEFAULT logical-host}\JP1AJSMANAGER\scheduler-service]#1	"TRACELOGDIR"=#2	Specifies the folder to store the scheduler trace log files for scheduler services.

#1:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

#2:

The scheduler trace information of the specified scheduler is recorded for each scheduler service under the folder specified in this parameter. Make sure that you specify a directory on the local disk to infallibly record the trace information.

When trace information is output, each trace log file is newly generated with the file name `tracelog_scheduler-service-name`. Make sure that no other file with the same name as a trace log file is found under the specified directory.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(4\) TRACELOGDIV](#)
- [20.4.2\(113\) TRACELOGDIVDIR](#)

(3) Changes the size of the scheduler trace log file

Execute the `ajstrsetsz` command to change the size of the scheduler trace log file per scheduler service. The default size of the trace log file is 102,400 kilobytes.

For example, execute the `ajstrsetsz` command as follows.

(Example) Setting the size of the trace log file for scheduler service `AJSROOT1`

```
ajstrsetsz -F AJSROOT1 -s 3072
```

For details about the `ajstrsetsz` command, see `ajstrsetsz` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.1.6 Enabling the suspend function

When you edit the definition of a subunit of a root jobnet during registration for execution, you need to enable the suspend function so that the root jobnet can be suspended.

Initially, the suspend function of `JP1/AJS3` is disabled. Use the `ajssetup` command to enable it.

To enable the suspend function:

1. Execute the following command to set up the environment for using the suspend function.

```
ajssetup [-F scheduler-service-name] -m
```

For details about the syntax of the `ajssetup` command and notes on the command, see `ajssetup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

You can enable the suspend function without stopping `JP1/AJS3` services or scheduler services. (The setting takes effect immediately.) However, after you enable the suspend function, you will need to log in to `JP1/AJS3 - View` before you can perform operations in `JP1/AJS3 - View`.

For details about changing the definition of a subunit of a root jobnet during registration for execution, see *4.5.17 Changing job and jobnet definitions without unregistering the jobnet* in the manual *JP1/Automatic Job Management System 3 Overview*.

6.1.7 Changing the mode in which unregistration or generation management deletes the generations of a jobnet

The number of generations to be saved for a root jobnet or root remote jobnet can be set to a value from 1 to 99 (the maximum can be increased to 999). However, if an attempt is made to unregister the execution of a jobnet that satisfies either of the following conditions, the unregistration processing takes a long time:

- Jobnet whose number of generations to be saved is 30 or more
- Jobnet for which the number of generations to be saved is 10 or more and a start condition (`LEGACY` is set for the `SAVEGENTYPE` environment setting parameter) is used

If processing to unregister the execution of a jobnet takes a long time, the status of the start-condition monitoring of other jobnets might become *Monitor terminated* or execution of the jobnet might fail.

These problems occur because the unregistration mode set in the scheduler service is *synchronous*. If the unregistration mode is *synchronous*, the time required to cancel registration depends on the number of generations to be deleted. If there are many generations for which execution needs to be unregistered, a long time is required, with adverse effects on the execution of other jobnets.

To prevent these problems, change the unregistration mode to *asynchronous*. Note that the procedure for changing the unregistration mode to *asynchronous* differs depending on whether the registration information for the jobnet being executed before the mode is changed is necessary.

When JP1/AJS3 is initially installed and set up, you do not need to change the unregistration mode because *asynchronous* (`yes`) is specified for the `BACKGROUNDLEAVE` environment setting parameter. However, if JP1/AJS3 is installed as an upgrade installation, unregistration mode might be set to *synchronous* (`no`).

If *synchronous* is set for the `BACKGROUNDLEAVE` environment setting parameter or if `BACKGROUNDLEAVE` has not been set, we recommend that you change the unregistration mode to *asynchronous* due to the time required to unregister execution. If you change the mode to *synchronous*, note that registration information is deleted for the jobnets being executed before the mode is changed.

Before you change the unregistration mode of a scheduler service, make sure that the scheduler service is not running.

Use the procedures below to change the unregistration mode of a scheduler service.

(1) Procedure for changing the unregistration mode from synchronous to asynchronous

The following operation is unnecessary if the `BACKGROUNDLEAVE` environment setting parameter is already set to *asynchronous* (`yes`).

(a) When the registration information for the jobnet that was being executed is not necessary

To change the unregistration mode from synchronous to asynchronous when the registration information for the jobnet that was being executed is not necessary:

1. Execute the following command to stop the scheduler service:

```
jajs_spmd_stop -n jajs_schd -F scheduler-service
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
jajs_spmd_stop -n jajs_schd -F AJSROOT1
```

2. Execute the following command:

```
jajs_config -k [{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\scheduler-service] "BACKGROUNDLEAVE"="yes"
```

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

Example:

When the scheduler service is AJSROOT1 on the JP1_DEFAULT physical host, execute the command as follows:

```
jajs_config -k [JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1] "BACKGROUNDLEAVE"="yes"
```

3. Execute the following command to cold-start the scheduler service:

```
jajs_spmd -n jajs_schd -F scheduler-service -cold
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
jajs_spmd -n jajs_schd -F AJSROOT1 -cold
```

(b) When registration information for the jobnet that was being executed is necessary

To change the unregistration mode from synchronous to asynchronous when the registration information for the jobnet that was being executed is necessary:

Important

You cannot use this procedure when the backup enhancement function is enabled. Use the procedure in [\(a\) When the registration information for the jobnet that was being executed is not necessary](#) to change the unregistration mode from synchronous to asynchronous.

1. Execute the following command to stop the scheduler service:

```
jajs_spmd_stop -n jajs_schd -F scheduler-service
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
jajs_spmd_stop -n jajs_schd -F AJSROOT1
```

2. Execute the following command:

```
jajs_config -k [{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\scheduler-service] "BACKGROUNDLEAVE"="yes"
```

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

Example:

When the scheduler service is AJSROOT1 on the JP1_DEFAULT physical host, execute the command as follows:

```
jaajs_config -k [JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1] "BACKGROUNDLEAVE"="yes"
```

3. Convert the information about registration for execution to asynchronous type.

Execute the following command:

```
JP1/AJS3-installation-folder\tools\ajsregcnv -F scheduler-service
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
JP1/AJS3-installation-folder\tools\ajsregcnv -F AJSROOT1
```

4. Execute the following command to start the scheduler service:

```
jaajs_spmd -n jaajs_schd -F scheduler-service
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
jaajs_spmd -n jaajs_schd -F AJSROOT1
```

(2) Procedure for changing the unregistration mode from asynchronous to synchronous

To change the unregistration mode from asynchronous to synchronous:

1. Execute the following command to stop the scheduler service:

```
jaajs_spmd_stop -n jaajs_schd -F scheduler-service
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
jaajs_spmd_stop -n jaajs_schd -F AJSROOT1
```

2. Execute the following command:

```
jaajs_config -k [{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\scheduler-service] "BACKGROUNDLEAVE"="no"
```

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

Example:

When the scheduler service is AJSROOT1 on the JP1_DEFAULT physical host, execute the command as follows:

```
jaajs_config -k [JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1] "BACKGROUNDLEAVE"="no"
```

3. Execute the following command to cold-start the scheduler service:

```
jaajs_spmd -n jaajs_schd -F scheduler-service -cold
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
jajs_spmd -n jajs_schd -F AJSROOT1 -cold
```

6.1.8 Settings for using wait conditions

When you use wait conditions to control the execution order of units that are in different jobnets, you need to enable wait conditions.

Wait conditions are disabled by default. To use wait conditions, you need to set the PREWAITUSE environment setting parameter.

Use the PREWAITEXTEND environment setting parameter to extend the wait condition function.

The following describes the procedure for using wait conditions.

(1) Definition procedure

1. Execute the following command to stop the scheduler service:

```
jajs_spmd_stop -n jajs_schd -F scheduler-service
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Execute the following command to start the scheduler service:

```
jajs_spmd -n jajs_schd -F scheduler-service
```

(2) Environment setting parameter

Table 6–6: Environment setting parameter for specifying whether to use wait conditions

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \JP1AJSMANAGER \scheduler-service] #	"PREWAITUSE"=	Specifies whether to use wait conditions.
	"PREWAITEXTEND"=	Extends the wait condition function.

#:

The specification of the {JP1_DEFAULT | logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(95\) PREWAITUSE](#)
- [20.4.2\(96\) PREWAITEXTEND](#)

6.1.9 Settings for using the temporary change operation management function

When you display a list of information about operations such as **Change Plan** and **Change Hold Attribute** performed on jobnets, or re-execute a temporary change operation selected from the temporary change information list, you need to enable the temporary change operation management function.

The temporary change operation management function is disabled by default. To use this function, enable the `SAVEPLANINFO` environment setting parameter.

The following describes the procedure for using the temporary change operation management function.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–7: Environment setting parameter that specifies whether to use the temporary change operation management function

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"SAVEPLANINFO"=	Enables or disables the temporary change operation management function.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(102\) SAVEPLANINFO](#).

6.1.10 Settings for preventing scheduler services for which the user does not have access permission from appearing in JP1/AJS3 - View

You can prevent scheduler services for which the user does not have access permission from appearing in JP1/AJS3 - View (scheduler service reference restriction function).

The access permission for a scheduler service indicates the access permission of a JP1 user for the JP1 resource group of the root job group of the scheduler service. If the scheduler service reference restriction function is enabled, scheduler services do not appear if a JP1 user without access permission for the JP1 resource group of the root job group starts JP1/AJS3 - View.

The scheduler service reference restriction function is disabled by default. To use the function, enable the `HIDEOTHERSERVICE` environment setting parameter.

The following is the procedure for using the scheduler service reference restriction function.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–8: The environment setting parameter for setting whether the scheduler service reference restriction function is to be used

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJSMANAGER]#	"HIDEOTHERSERVICE"=	Sets whether the scheduler service reference restriction function is to be used.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(25\) HIDEOTHERSERVICE](#).

(3) Notes

- If you enable the scheduler service reference restriction function, define the JP1 resource groups of all the root job groups. If there is a root job group whose JP1 resource group is not defined, its scheduler service will not be displayed in JP1/AJS3 - View even if a JP1 user has access permission for all JP1 resource groups.
- If you enable the scheduler service reference restriction function, specify a separate directory for each scheduler service as the backup information directory for that scheduler service. If a backup information directory is shared by multiple scheduler services, any user with access permission for any of the scheduler service can access all of the backup information stored in the common backup information directory.

Use the `-b` option of the `jajs_setup` command to specify a backup information directory for scheduler services.

6.1.11 Settings for restricting the maximum number of allowed concurrent sessions for scheduler services

You can specify the maximum number of allowed concurrent sessions for each scheduler service in JP1/AJS3 - View.

This setting is not in effect by default. To set it, specify it based on how the scheduler services operate.

Note that when you set the maximum number of allowed concurrent sessions, also consider whether you need to change the setting of the `MAXSESSION` environment setting parameter. For details, see [20.4.2\(107\) SERVICEMAXSESSION](#).

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–9: The environment setting parameter for setting the maximum number of allowed concurrent sessions for scheduler services

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"SERVICEMAXSESSION"=	Sets the maximum number of allowed concurrent sessions for each scheduler service.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(107\) SERVICEMAXSESSION](#).

6.1.12 Setting to reduce the number of ports used for internal communications by the scheduler service at job execution

You can reduce the number of ports that are used for internal communications by the scheduler service at job execution. If you do so, you can reduce the delays in job execution due to depletion of ports even during operation in which many jobs are executed.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–10: Environment setting parameter to specify whether to reduce the number of ports used for internal communications by the scheduler service at job execution

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJS2\HOST]#	"REDUCEUSEPORT"=	Specifies whether to reduce the number of ports used for internal communications by the scheduler service at job execution

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.8.2\(9\) REDUCEUSEPORT](#).

6.1.13 Settings to change the last schedulable year for jobs

You can change the last schedulable year for jobs (maximum value: 2099).

The last schedulable year for jobs differs depending on the method that was used to install JP1/AJS3 - Manager.

The following table shows the last schedulable year for jobs in each case.

Table 6–11: Last schedulable year for jobs

No.	Installation method	Last schedulable year set by default
1	New installation of JP1/AJS3 - Manager 13-00 or later	2043
2	Upgrade installation from JP1/AJS3 - Manager 12-60 or earlier	2036

You can use the SCHEDULELIMIT environment setting parameter to change the schedulable range. This section describes the procedures for extending and for reducing the range.

Cautionary notes:

- We recommend that you do not reduce the schedulable range because this requires a complex procedure.
- In a cluster environment, set the same value for the SCHEDULELIMIT environment setting parameter on the active and standby servers.

(1) Procedure for extending the schedulable range

1. Terminate all JP1/AJS3 - View instances that are connected to the JP1/AJS3 - Manager for which you want to change the schedulable range.

You can check whether there are JP1/AJS3 - View instances connected to the JP1/AJS3 - Manager instance for which you want to change the schedulable range. To do this, execute the `ajsstatus -v` command on the target JP1/AJS3 - Manager host.

2. Stop the `ajsinetd` and `ajscdinetd` processes.

Execute the following commands to stop the `ajsinetd` and `ajscdinetd` processes of the JP1/AJS3 - Manager instance for which you want to change the schedulable range:


```
jajs_hstd_stop -n ajsinetd
jajs_hstd_stop -n ajscdinetd
```

3. Stop the scheduler service.

Stop the scheduler service for which you want to change the schedulable range.

4. Execute the following command to set the environment setting parameter described in (3) below:

```
jajs_config -k definition-key "parameter-name"=value
```

5. Start the scheduler service.

Start the scheduler service for which you changed the schedulable range.

6. Start the ajsinetd and ajscdinetd processes.

Execute the following commands to start the ajsinetd and ajscdinetd processes of the JP1/AJS3 - Manager instance for which you changed the schedulable range:

```
jajs_hstd -n ajsinetd
jajs_hstd -n ajscdinetd
```

(2) Procedure for reducing the schedulable range

(a) Tasks required before changing the environment setting parameter

1. Modify the JP1/AJS3 definitions.

If you reduce the schedulable range, information about times beyond the new range might be included in the following definitions. If such information is included, you must modify the definitions.

- Calendar definition
- Unit definition

2. Obtain the JP1/AJS3 definition information.

Obtain the following types of definition information:

- Calendar definition
- Unit definition
- Release information[#]
- Temporary change information[#]

#

Obtain this information only if the relevant functions are used.

3. Cancel execution registration of root jobnets.

If there are root jobnets that are scheduled to run at a time beyond the new schedulable range, cancel execution registration of the root jobnets.

You can search for such root jobnets by using the following command:

```
ajsshow -i "%JJ %Pt"
-b day-next-to-last-day-of-new-extent-to-which-jobs-can-be-scheduled
-e current-extent-to-which-jobs-can-be-scheduled -T -R /*
```

4. Back up the registered execution-schedule information for jobnets.

(b) Changing the environment setting parameter

1. Terminate all JP1/AJS3 - View instances that are connected to the JP1/AJS3 - Manager for which you want to change the schedulable range.

You can check whether there are JP1/AJS3 - View instances connected to the JP1/AJS3 - Manager instance for which you want to change the schedulable range. To do this, execute the `ajsstatus -v` command on the target JP1/AJS3 - Manager host.

2. Stop the `ajsinetd` and `ajscdinetd` processes.

Execute the following commands to stop the `ajsinetd` and `ajscdinetd` processes of the JP1/AJS3 - Manager instance for which you want to change the schedulable range:

```
jajs_hstd_stop -n ajsinetd
jajs_hstd_stop -n ajscdinetd
```

3. Stop the scheduler service.

Stop the scheduler service for which you want to change the schedulable range.

4. Execute the following command to set the environment setting parameter described in (3) below:

```
jajs_config -k definition-key "parameter-name"=value
```

5. Start the scheduler service.

Cold-start the scheduler service for which you changed the schedulable range.

6. Start the `ajsinetd` and `ajscdinetd` processes.

Execute the following commands to start the `ajsinetd` and `ajscdinetd` processes of the JP1/AJS3 - Manager instance for which you changed the schedulable range:

```
jajs_hstd -n ajsinetd
jajs_hstd -n ajscdinetd
```

(c) Tasks required after changing the environment setting parameter

1. Overwrite the unit definition.

Use the following command to overwrite the unit definition by using the definition information that you obtained in [\(a\) Tasks required before changing the environment setting parameter](#):

```
ajsdefine -F scheduler-service-name -f file-name
```

Before executing the command, confirm that `yes` is set for the `UNITDEFDIVIDEUPDATE` environment setting parameter. If `no` is set, overwriting a large unit definition might result in insufficient memory area for controlling locks. In such a case, divide the data and register it as multiple definitions.

2. Register the calendar definition.

Use the following command to register the calendar definition by using the definition information that you obtained in [\(a\) Tasks required before changing the environment setting parameter](#):

```
ajscalendar -c -df file-name
```

3. Register the release information.

Reregister the release information by using the definition information that you obtained in (a) *Tasks required before changing the environment setting parameter*.

4. Import registered execution-schedule information.

Import registered execution-schedule information from the registered execution-schedule information that you backed up in (a) *Tasks required before changing the environment setting parameter*.

5. Reregister the root jobnets for execution.

Reregister execution of the root jobnets that you unregistered in step 3 in (a) *Tasks required before changing the environment setting parameter*. If there were root jobnets that were registered for immediate execution, also reregister them for immediate execution.

6. Temporarily change the execution registration.

Use a temporary change history to reperform a temporary change.

For root jobnets that were registered for fixed execution, the temporary change information will have been restored by importing the registered execution-schedule information. Therefore, perform this operation for only the jobnets that were registered for planned execution and for immediate execution.

(3) Environment setting parameter

Table 6–12: Environment setting parameter for changing the last year of the schedulable range

Definition key	Environment setting parameter	Explanation
[{ JP1__DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"SCHEDULELIMIT"=	Last year of the extent to which jobs can be scheduled

#:

The specification of the { JP1__DEFAULT | *logical-host* } part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1__DEFAULT. For a logical host, specify the logical host name.

For details about the SCHEDULELIMIT environment setting parameter, see [20.4.2\(123\) SCHEDULELIMIT](#).

6.2 Settings for controlling job execution

This section describes how to change the settings for controlling job execution.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.2.1 Defining variables for work paths used during job execution

You can define variables for the work paths of the following items that are displayed in the Define Details dialog box for a PC job, Unix job, HTTP connection job, or a queue job. Because specific values can be set for these variables for each agent host, the same job definition can be used to execute a job on all agent hosts.

Table 6–13: List of job definition items for which variables can be defined

Job definition item	Whether variable can be defined
Command statement (UNIX only)	Y
File name (Windows only)	Y
Script file name (UNIX only)#	Y
Parameters	Y
Environment variables	--
Environment file	--
Working path	--
Standard input	Y
Standard output	Y
Standard error output	Y
File to transfer	--
Destination file	--

Legend:

Y: A variable can be defined for this item.

--: A variable cannot be defined for this item.

#:

The variables discussed in this subsection have no effect in a script file.

The following describes how to define variables for the work paths used during job execution.

(1) Definition procedure

To define a variable for a job definition item:

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following services:
 - JP1/AJS3 service

- JP1/AJS3 Queueless Agent service#

#:

This service needs to be stopped only if queueless jobs are used.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameter

Table 6–14: Environment setting parameter used to define a variable for a work path

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Variable]#	" <i>variable-name</i> "=	Specifies the work path for a variable name.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(72\) variable-name](#).

(3) Definition example

The following shows an example of specifying the job definition and commands when the prog1.exe job program is in c:\pp1\bin on the Agent1 host and in d:\pp1\bin on the Agent2 host.

- Job definition

```
file-name=$pp1_inst$\prog1.exe
```

- Command to be executed on the Agent1 host

```
jajs_config -k [{JP1_DEFAULT|logical-host}\JP1NBQAGENT\Variable]
"pp1_inst"="c:\pp1\bin"
```

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

- Command to be executed on the Agent2 host

```
jajs_config -k [{JP1_DEFAULT|logical-host}\JP1NBQAGENT\Variable]
"pp1_inst"="d:\pp1\bin"
```

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

With the above definition and commands, c:\pp1\bin\prog1.exe is executed on the Agent1 host and d:\pp1\bin\prog1.exe is executed on the Agent2 host.

(4) Note

Do not use a character string that begins with JP1, a character string that begins with JP1 is used by the system.

6.2.2 Defining search paths for a file to be transferred

When you have defined search paths for a file that is to be transferred, the location of the file can also be resolved from a relative path.

This subsection describes how to define a search path.

(1) Definition procedure

To define a search path:

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following services:

- JP1/AJS3 service
- JP1/AJS3 Queueless File Transfer service[#]

[#]:

This service needs to be stopped only if queueless jobs are used.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameters

Table 6–15: Environment setting parameters used to define the search path for a file that is to be transferred

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \JP1NBQCLIENT\PathEnv]#	"All Users"=	Specifies the search path for the file to be transferred.
	"JP1-user-name"=	Specifies the search path for the file to be transferred.

[#]:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(73\) All Users](#)
- [20.5.2\(74\) JP1-user-name](#)

(3) Definition example

Conditions:

Name of the JP1 user that will execute the job: `user1`

Search paths for `user1` only: `\home\user1\trans1` and `\home\user1\trans2`

Search paths common to all JP1 users: `\tmp` and `\usr\tmp`

Name of the file to be transferred: `\home\user1\trans1\TransFile1`

Definition example:

- Definition of the file to be transferred in the job

Name of the file to be transferred: `TransFile1`

- Definition of the search paths on the host sending the submit request

```
jajs_config -k [{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\SCHEDULER\scheduler-
service\QUEUE\CLIENT\PathEnv]
```

```
"user1"="\home\user1\trans1::\home\user1\trans2"
```

```
"All Users"="\tmp::\usr\tmp"
```

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

When these settings are specified, on the host that sends a submit request, `\home\user1\trans1\TransFile1` is set as the file to be transferred.

6.2.3 Customizing the execution agent or agent attribute values created by the automatic agent definition function

You can customize the execution agent or agent attribute values created by the automatic agent definition function in advance by using the common definition information.

The applicable objects and job types differ according to the definition key.

Table 6–16: Objects and job types to which customization is applicable

No.	Definition key	Object	Job type
1	[{JP1_DEFAULT logical-host}\JP1AJS2\SCHEDULER\QUEUE\MANAGER\Agent]#1	All execution agents	<ul style="list-style-type: none"> • PC job • Unix job • Flexible job#2 • HTTP connection job • Action job
2	[{JP1_DEFAULT logical-host}\JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Agent]#1	Execution agent for the scheduler service specified by the definition key	<ul style="list-style-type: none"> • PC job • Unix job • Flexible job#2 • HTTP connection job • Action job
3	[{JP1_DEFAULT logical-host}\JP1NBQMANAGER\Agent]#1	All agents and default queue	<ul style="list-style-type: none"> • Submit job

#1:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

#2:

For a flexible job, replace *execution agent* with *relay agent*.

To customize the execution agent or agent attribute values created by the automatic agent definition function can be customized by using the common definition information, execute the `jaajs_config` command.

The following describes the customization procedure.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jaajs_config -k definition-key "parameter-name-1"=value-1
["parameter-name-2"=value-2]
["parameter-name-3"=value-3]
["parameter-name-4"=value-4]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6–17: Environment setting parameters used to customize the attribute values set by the automatic agent definition function

Definition key	Environment setting parameter	Applicable manager	Explanation
<ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Agent]# 	"AutoCreateExecJobs"=	C, S	Specifies the maximum number of concurrently executable jobs set by the automatic agent definition function.
<ul style="list-style-type: none"> • For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Agent]# 	"AutoCreateMaxJobs"=	C	Specifies the maximum number of jobs set by the automatic agent definition function.
<ul style="list-style-type: none"> • For submit jobs [{JP1_DEFAULT logical-host} \JP1NBQMANAGER\Agent]# 	"AutoCreateWarnJobs"=	C	Specifies the number of jobs set by the automatic agent definition function as the threshold value for warning.
	"AutoCreatePriority"=	C	Specifies the agent priority set by the automatic agent definition function.

Legend:

C: Job execution control manager for submit jobs

S: Job execution control manager for scheduler services

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(31\) AutoCreateExecJobs](#)
- [20.5.2\(32\) AutoCreateMaxJobs](#)
- [20.5.2\(33\) AutoCreateWarnJobs](#)
- [20.5.2\(34\) AutoCreatePriority](#)

(3) Note

When you use the agent automatic definition function and the execution agent restriction function, an execution agent that is automatically defined during job execution needs to be set in the execution agent profile before execution of the job. If the execution agent has not been set in the execution agent profile, the job is placed in the *Failed to start* status, in which case the execution agent will not be added.

6.2.4 Checking the messages output at the same time by a job to the standard output and standard error output

The messages displayed in the Execution Result Details dialog box of JP1/AJS3 - View are the messages output by a job to the standard error output. If you also want to check the messages output at the same time by the job to the standard output in this dialog box, the following setting is necessary.

- For PC jobs, Unix jobs, and HTTP connection jobs
Specify the same file name in both the **Standard output** and **Standard error** text boxes in the Define Details - [PC Job] dialog box, the Define Details - [UNIX Job] dialog box, or the Define Details - [HTTP Connection Job] dialog box.

Cautionary notes:

- For PC and Unix jobs, if you specify the same file name in the **Standard output** and **Standard error** text boxes, specify the same **Append** option setting for **Standard output** and **Standard error**. If you execute a job when check box for one selected and check box for the other cleared, the following message will be output to the integrated trace log and the status of the job will be *Failed to start*.
 - When **Standard** is specified as **Exec. Service** of the job
KAVU0201-E *function-name*: The parameter is specified incorrectly.
 - When **Queueless Agent** is specified as **Exec. Service** of the job (when the job is a queueless job)
KAVS1846-E The job definition (*job-name*) is invalid.
- If you execute a queueless job with the same file name specified for both **Standard output** and **Standard error**, the messages that are output to the standard output and the standard error output are first saved in a temporary file. The specified file is not updated until execution of the job is completed.

6.2.5 Changing the interval and number of resend attempts for job result files

When a job being executed on an agent host has ended, the agent host transfers job result files to the manager host, and if the files are transferred successfully, reports termination to the manager host. However, if the transfer fails, the agent host normally retries the transfer at five-minute intervals until the termination status is reported to the manager host. However, if the files are large, analysis of the files burdens the manager host. Normally, if the manager host does not respond within ten minutes of transferring the job result files to the agent host, the agent host assumes a timeout error and tries to send the files again. Repeated resend attempts, however, will cause the manager host to repeatedly perform file analysis, a burden that causes CPU usage to soar. At this point, the manager might no longer be able to accept any other requests.

You can reduce the load on the manager host by changing the interval and the number of resend attempts applied when the transfer of job result files fails.

The following describes how to change the interval and number of resend attempts for job result files.

Note that the procedure described below is not necessary if you use the queueless job execution facility, because the facility does not resend job result files.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6–18: Environment setting parameters used to change the interval and number of resend attempts for job result files

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Network]#	"NotifyJobStateInterval"=	Specifies the interval for attempts to resend job result files.
	"NotifyJobStateCount"=	Specifies the maximum number of resend attempts for job result files.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(65\) NotifyJobStateInterval](#)
- [20.5.2\(66\) NotifyJobStateCount](#)

(3) Note

When a transfer of result files is successful, the agent host reports termination. If termination reporting fails, the agent host tries again according to the specified settings. The retry begins with a retransfer of result files.

6.2.6 Preventing duplicated reception of job result files

When a standard job or action job being executed on an agent host has ended, the agent host transfers job result files (standard output and standard error output files) to the manager host. Normally, when the agent host has transferred the files, it waits 10 minutes for a response from the manager host. However, if the files are large, file analysis on the manager host takes time, and the wait for a response from the manager host times out. If a timeout occurs, the agent host tries to resend the files until they are transferred successfully. Repeated resend attempts, however, will cause the manager host to repeatedly perform file analysis, a burden that causes CPU usage to soar. At this point, the manager might no longer be able to accept any other requests.

You can use an environment setting parameter to prevent the manager host from receiving job result files resent by agent hosts, thereby reducing the load on the manager. Although the setting for enabling the resending of job result files can also be specified on the agent host side, using that setting is not suitable for a large-scale configuration that includes many agent hosts. This is because the setting must be specified on each agent host. For details about how to specify the setting on the agent host side, see also [6.2.5 Changing the interval and number of resend attempts for job result files](#).

The environment setting parameter described in this subsection allows you to stop all agent hosts from resending job result files by simply changing the definition on the manager host.

The following describes how to prevent the duplicated reception of job result files.

Note that the procedure described below is not necessary if you use the queueless job execution facility, because the facility does not resend job result files.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–19: Environment setting parameter used to prevent duplicated reception of job result files

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">• For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]#• For a specific scheduler service	"ReceiveFileOption"=	Specifies whether to prevent duplicated reception of job result files.

Definition key	Environment setting parameter	Explanation
<pre>[{JP1_DEFAULT logical- host}\JP1AJSMANAGER\scheduler- service\QUEUE\MANAGER\Job]#</pre> <ul style="list-style-type: none"> For submit jobs <pre>[{JP1_DEFAULT logical- host}\JP1NBQMANAGER\Job]#</pre>	"ReceiveFileOption"=	Specifies whether to prevent duplicated reception of job result files.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(17\) ReceiveFileOption](#).

6.2.7 Placing restrictions on file reception

Setting restrictions on file reception allows you to restrict the size of files that can be received by a manager host or agent host when a job is executed. This subsection describes how to set restrictions on file reception.

Using restrictions on file reception in version 11-00 or later

You can use restrictions on file transfer for agent hosts for JP1/AJS3 version 11-00 or later. If a job is executed on an agent host of version 11-00 or later, use restrictions on file transfer on the agent host in addition to restrictions on file reception on the manager host.

For details about restrictions on file transfer, see [6.2.27 Placing restrictions on file transmission](#).

When a job[#] has been executed in JP1/AJS3, result files (standard output and standard error output files) and transfer files are transferred between the manager and agent hosts, or between the client and manager hosts. If the size of these files exceeds a few megabytes, data analysis and transfer of the files places a burden on the manager host. As a result, CPU and memory usage increases, and other problems that delay job execution and degrade overall system performance can occur.

#:

The description in this subsection applies to only PC jobs, Unix jobs, custom jobs, QUEUE jobs executed by JP1/AJS3, and submit jobs. The description does not apply to event jobs, custom event jobs, passing information setting jobs, HTTP connection jobs, flexible jobs, and queueless jobs.

The restrictions on file reception described in this subsection allow you to set the maximum size for these types of files that are transferred after a job is executed. You can set maximums for the total size of result files (standard output and standard error output files) received by the manager host and for the total size of transfer files received by an agent host.

The restrictions on file reception also allow you to specify the status in which the job will be placed and the message that will be output if the size of the received files exceeds the maximum.

The following table describes the type of operation that is performed and how file data is handled when the size of received files exceeds the maximum.

Table 6–20: Type of operation performed and how file data handled if the size of received files exceeds the maximum

File type	Category	Value of the ReceiveFileSizeStatus environment setting parameter			
		0	1	2	3
Result file	Status in which job is placed	Actual termination status of the job	Ended abnormally	Ended with warning [#]	Actual termination status of the job
	Type of message output	Information	Error	Warning	Information
	Handling of file data	All file data is received.	File data exceeding the maximum is discarded.	File data exceeding the maximum is discarded.	File data exceeding the maximum is discarded.
Transfer file	Status in which job is placed	Actual termination status of the job	Failed to start	Failed to start	Actual termination status of the job
	Type of message output	Information	Error	Error	Information
	Handling of file data	All file data is received.	No file data is received.	No file data is received.	No file data is received.

#:

If status of the job is *Ended abnormally* on the agent host, that status is inherited.

(1) Definition procedure

1. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

2. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6–21: Environment setting parameter used to place restrictions on file reception

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# • For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]# • For submit jobs [{JP1_DEFAULT logical-host} \JP1NBQMANAGER\Job]# 	"ReceiveFileSizeStatus"=	Specifies the restrictions applied if the size of received files reaches the maximum.
	"LimitReceiveFileSize"=	Specifies the maximum for the size of received files.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(15\) ReceiveFileSizeStatus](#)
- [20.5.2\(16\) LimitReceiveFileSize](#)

(3) Operation performed if the size of received files exceeds the maximum

The following describes the operation performed if the size of received files exceeds the maximum.

- Result files
 - If the maximum is reached when the value of the `ReceiveFileSizeStatus` environment setting parameter is 1, 2, or 3, no more data is output to the standard output and standard error output files on the manager host. Because the result files are not complete, confirm that the incomplete result files will not cause any problems in cases such as when a succeeding job references these files.
 - For the return code and end status of a job when the size of received result files reaches the maximum, see the following table.

Table 6–22: End status and return code when the size of received result files exceeds the maximum

Actual job status	Category	Value of the <code>ReceiveFileSizeStatus</code> environment setting parameter		
		1	2	0 or 3
Ended normally (Includes cases when <i>Always normal</i> is specified.)	Status	Ended abnormally	Ended with warning	Ended normally
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Ended with warning	Status	Ended abnormally	Ended with warning	Ended with warning
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Ended abnormally	Status	Ended abnormally	Ended abnormally	Ended abnormally
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Killed	Status	Killed	Killed	Killed
	Return code	PC job: -1 Unix job: -1	PC job: -1 Unix job: -1	PC job: -1 Unix job: -1
Failed to start	Status	Failed to start	Failed to start	Failed to start

#:

Return code of the job process executed as a job

- Transfer files
 - If the maximum is reached when the value of the `ReceiveFileSizeStatus` environment setting parameter is 1, 2, or 3, none of the transfer files are received, and all the data received as the specified transferred files is discarded.
 - For the return code and end status of a job when the size of received transfer files reaches the maximum, see the following table.

Table 6–23: End status and return code when the size of received transfer files exceeds the maximum

Actual job status	Category	Value of the ReceiveFileSizeStatus environment setting parameter		
		1	2	0 or 3
None ^{#1}	Status	Failed to start	Failed to start	Actual job termination status
	Return code	PC job: -1 Unix job: -1	PC job: -1 Unix job: -1	Return value of the job ^{#2}

#1:

Because transfer files are processed before a job is registered, the status of the job is *None*, which is the status of a job before its status becomes *Now queuing*.

#2:

Return code of the job process executed as a job

(4) Note

If you place restrictions on file reception when the host that sends and receives files is in a Japanese environment that is not Shift-JIS, the actual file size might be different from the specified maximum file size.

When a result file is received or when a transfer file is sent, the size of the file is checked as Shift-JIS file data. After the check, the file is created on the host receiving the result file or the host receiving the transfer file by converting the data to the character code set used by the receiving host.

For both transfer files and result files, the character code set of the applicable file is converted to Shift-JIS before the file size is checked. Therefore, if the file sender host is in a Japanese environment that is not Shift-JIS and the character code set is changed to Shift-JIS, the file size might be reduced by the change. In this case, restrictions on file reception are disabled on the file sender host even if the file size is greater than the maximum.

If the host on which a file is created is in a Japanese environment that is not Shift-JIS, the Shift-JIS data is converted to the character codes of the host after the size is checked. Therefore, the file size after conversion might be greater than the size reported by the size check. In this case, even if you place restrictions on file reception to prevent files greater than the maximum from being received, a file greater than the maximum will be created. Note that such a large file could consume more disk area than you are expecting.

When executing a passing information setting job, set an appropriate value for the `LimitReceiveFileSize` environment setting parameter. If the preceding job outputs a standard output file whose file size is larger than the value of the `LimitReceiveFileSize` environment setting parameter, the passing information setting job might fail when retrieving information from the standard output file.

6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections

As job execution control, TCP/IP is used to pass information between the processes. However, if the host to be connected to is not running or if a network error has occurred, TCP/IP connection fails.

If the other host does not respond to a TCP/IP connection request, job execution control first waits for a maximum of 90 seconds for a response, and then makes two retry attempts at 20-second intervals (under the default settings). If both attempts fail, four or five minutes might pass before the connection finally resulted in an error.

If a communication error occurs during the following operations, detection might take more time:

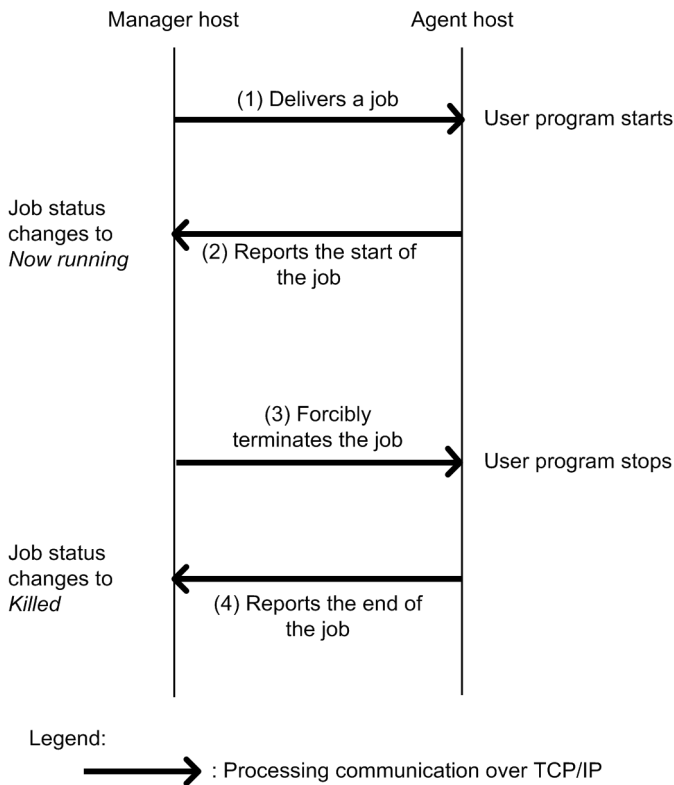
- Delivering jobs
- Reporting the job status
- Checking the job status
- Checking the agent host status
- Transferring a result file
- Reporting the start of a job
- Reporting the end of a job

This delay might result in a further delay in changing the job status.

If TCP/IP connection errors are frequent, you can set smaller values for the connection timeout value, the number of retry attempts, and the retry interval to speed up the detection of an error.

The following figure shows an example of processing (from executing a job to forcibly terminating it) with communication over a TCP/IP connection between the manager and agent hosts.

Figure 6–1: Example of processing with communication over a TCP/IP connection between the manager and agent hosts



For connections (1) and (3) in the above figure, the timeout period, number of retries, and interval of retries are controlled by using the environment setting parameters for TCP/IP communication from the manager host to the agent host. For connections (2) and (4) in the above figure, the timeout period, number of retries, and interval of retries are controlled by using the environment setting parameters for TCP/IP communication from the agent host to the manager host.

The following describes these two types of environment setting parameters.

Environment setting parameters for TCP/IP communication from the manager host to the agent host:

TCP/IP communication from the manager host to the agent host is used when the following operations are performed:

- Delivering jobs
- Killing jobs
- Checking the job status
- Checking the agent host status

For details about checking the status of a job or agent, see *5.4.8 Monitoring the status of registered jobs* in the manual *JP1/Automatic Job Management System 3 Overview*.

The following table lists the environment setting parameters that are used to set the timeout period, number of retries, and interval of retries for TCP/IP communication from the manager host to the agent host.

Table 6–24: Environment setting parameters that are used for TCP/IP communication from the manager host to the agent host

No.	Definition key#	Environment setting parameter	Definition
1	[{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2\HOST\NETWORK],	"ClientConnectTimeout"=	Connection timeout
2	[{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2\HOST\NETWORK\QUEUEMANAGER], and	"ClientRetryInterval"=	Connection retry interval
3	[{JP1_DEFAULT <i>logical-host</i> }\JP1AJSMANAGER\scheduler-service-name\NETWORK\QUEUEMANAGER]	"ClientRetryCount"=	Number of connection retries

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see *20.8 Setting up the communication control environment*.

Environment setting parameters for TCP/IP communication from the agent host to the manager host:

TCP/IP communication from the agent host to the manager host is used when the following operations are performed:

- Reporting the start of a job
- Reporting the end of a job
- Transferring a result file

The following table lists the environment setting parameters that are used to set the timeout period, number of retries, and interval of retries for TCP/IP communication from the agent host to the manager host.

Table 6–25: Environment setting parameters that are used for TCP/IP communication from the agent host to the manager host

No.	Definition key	Environment setting parameter	Definition
1	[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Network]#	"ConnectTimeout"=	Defines the timeout value for a TCP/IP connection attempted by the job execution control agent.
2		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the job execution control agent.

No.	Definition key	Environment setting parameter	Definition
3	[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Network]#	"CommunicateRetryInterval" "="	Defines the retry interval for a TCP/IP connection attempted by the job execution control agent.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see [20.5 Setting up the job execution environment](#).

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1
["parameter-name-2"=value-2]
["parameter-name-3"=value-3]
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jajs_config` command for each definition key.

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

The following table lists the definition keys for which values are to be changed, and their purpose.

Table 6–26: Definition keys for which values are to be changed

Definition key	Purpose
<ul style="list-style-type: none"> • JP1AJS2\HOST\NETWORK • JP1AJS2\HOST\NETWORK\QUEUEMANAGER • JP1AJSMANAGER\<i>scheduler-service-name</i>\NETWORK\QUEUEMANAGER 	<ul style="list-style-type: none"> • Delivering jobs • Killing jobs • Checking the job status • Checking the agent host status
<ul style="list-style-type: none"> • For all scheduler services JP1AJS2\SCHEDULER\QUEUE\MANAGER\Network • For a specific scheduler service JP1AJSMANAGER\<i>scheduler-service</i>\QUEUE\MANAGER\Network • For submit jobs JP1NBQMANAGER\Network 	Reporting the job status
JP1NBQAGENT\Network	<ul style="list-style-type: none"> • Reporting the start of a job • Reporting the end of a job • Transferring a result file
JP1NBQCLIENT\Network	Registering a job from the scheduler and executing a job from a command

Definition key	Purpose
<ul style="list-style-type: none"> For all scheduler services JP1AJS2\SCHEDULER\QUEUE\NOTIFY\Network For a specific scheduler service JP1AJSMANAGER\<i>scheduler-service</i>\QUEUE\NOTIFY\Network For submit jobs JP1NBQNOTIFY\Network 	Checking the job status on another system (such as JP1/OJE) and reporting the status

The following table describes the definition keys and corresponding environment setting parameters. Note that you do not need to set these environment setting parameters for the queueless job execution facility.

Table 6–27: Environment setting parameters for communication control

No.	Definition key#	Environment setting parameter	Definition	Reference
1	[{JP1_DEFAULT <i>logical-host</i>]	"ClientConnectTimeout"=	Connection timeout	20.8.2(1) <i>ClientConnectTimeout (communication control)</i>
2	\JP1AJS2\HOST\NETWORK], [{JP1_DEFAULT <i>logical-host</i>]	"ClientRetryInterval"=	Connection retry interval	20.8.2(2) <i>ClientRetryInterval</i>
3	\JP1AJS2\HOST\NETWORK\QUEUEMANAGER], and [{JP1_DEFAULT <i>logical-host</i>] \JP1AJSMANAGER\ <i>scheduler-service-name</i> \NETWORK\QUEUEMANAGER]	"ClientRetryCount"=	Number of connection retries	20.8.2(3) <i>ClientRetryCount</i>

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

Table 6–28: Environment setting parameters for job execution control

No.	Definition key	Environment setting parameter	Definition	Reference
1	<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i>] \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Network]# For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i>] \JP1AJSMANAGER\<i>scheduler-service</i>\QUEUE\MANAGER\Network]# 	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection from the job execution control manager process to the status reporting process for job execution control.	20.5.2(25) <i>ConnectTimeout (for job execution control manager)</i>
2		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection from the job execution control manager process to the status reporting process for job execution control.	20.5.2(26) <i>CommunicateRetryCount (for job execution control manager)</i>
3	<ul style="list-style-type: none"> For submit jobs [{JP1_DEFAULT <i>logical-host</i>] 	"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection from the job	20.5.2(27) <i>CommunicateRetryInterval (for job execution control manager)</i>

No.	Definition key	Environment setting parameter	Definition	Reference
3	\JP1NBQMANAGER\Network]#	"CommunicateRetryInterval"=	execution control manager process to the status reporting process for job execution control.	20.5.2(27) <i>CommunicateRetryInterval (for job execution control manager)</i>
4	[{JP1_DEFAULT logical-host} \JP1NBQAGENT\Network]#	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection attempted by the job execution control agent.	20.5.2(67) <i>ConnectTimeout (for job execution control agent)</i>
5		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the job execution control agent.	20.5.2(68) <i>CommunicateRetryCount (for job execution control agent)</i>
6		"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the job execution control agent.	20.5.2(69) <i>CommunicateRetryInterval (for job execution control agent)</i>
7	[{JP1_DEFAULT logical-host} \JP1NBQCLIENT\Network]#	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection attempted by job execution commands and the scheduler.	20.5.2(75) <i>ConnectTimeout (for the command and scheduler to be used for job execution)</i>
8		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by job execution commands and the scheduler.	20.5.2(76) <i>CommunicateRetryCount (for the command and scheduler to be used for job execution)</i>
9		"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by job execution commands and the scheduler.	20.5.2(77) <i>CommunicateRetryInterval (for the command and scheduler to be used for job execution)</i>
10	<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\QUEUE\NOTIFY\Network]# For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\QUEUE\NOTIFY\Network]# For submit jobs [{JP1_DEFAULT logical-host} \JP1NBQNOTIFY\Network]# 	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection attempted by the process that reports the job execution control status.	20.5.2(82) <i>ConnectTimeout (for the status reporting process for job execution control)</i>
11		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the process that reports the job execution control status.	20.5.2(83) <i>CommunicateRetryCount (for the status reporting process for job execution control)</i>
12		"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the process that reports the job execution control status.	20.5.2(84) <i>CommunicateRetryInterval (for the status reporting process for job execution control)</i>

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

(3) Notes on communication errors caused by insufficient socket ports

When a system has a large number of jobs to execute per unit of time, the number of socket ports used for TCP/IP communication increases. This can result in insufficient socket ports being available. For communication errors that result from insufficient socket ports, the system retries communication at regular intervals. However, failure to resolve the situation by the time communication is retried may cause delays in job execution, or result in the abnormal termination of jobs, scheduler services, and commands.

If you encounter an error related to insufficient socket ports, refer to *3.1.1(5) OS tuning* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide* and adjust the operating system parameters as needed.

The retry behaviour of JP1/AJS3 in the event of a communication error related to insufficient socket ports depends on your operating system.

The environment setting parameters (for communication control) listed in *Table 6-28* and *20.8 Setting up the communication control environment* apply when a communication error related to insufficient socket ports occurs.

6.2.9 Setting the method for determining the agent host to which a job will be delivered

JP1/AJS3 allows you to specify a group of execution agents as the agent host on which to execute a job (PC job other than a queueless job, Unix job other than a queueless job, flexible job[#], HTTP connection job, action job other than a queueless job, or custom job) or jobnet. This allows the processing load to be distributed among the execution agents in the group.

For details about how to distribute the processing load among the execution agents by specifying a group of execution agents, see *2.3.1 Processing with a distributed load* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

When a job is to be delivered to one of the agents, the system determines the destination agent based on priority and usage rate. However, if there are agents that have the same priority and usage rate, from a viewpoint of equally distributing the load, it is recommended to select the agent whose idle time is longest.

#:

For a flexible job, replace *execution agent* with *relay agent*.

The following describes how to set the method for determining the agent host to which a job will be delivered.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jaajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–29: Environment setting parameter used to set the method for determining the agent host to which a job will be delivered

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Agent]#For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Agent]#	"LeastRecentlyUsed"=	Defines a method for determining the agent host to which a job will be delivered.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(35\) LeastRecentlyUsed](#).

6.2.10 Setting the action to be taken if the value of a macro variable cannot be passed

If the value of a macro variable cannot be passed to a job in a jobnet being executed, you can take either of two actions for the jobnet. One is to place the jobnet in *Failed to start* status, and the other is to continue execution by using the macro variable name as a string value.

The following describes how to set the action to be taken if the value of a macro variable cannot be passed when execution of a jobnet is attempted.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–30: Environment setting parameter used to set the action to be taken if the value of a macro variable cannot be passed

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2COMMON]#	"MACROCHANGEFAIL"=	Defines the action to be taken if the value of a macro variable specified in an event job, custom event job or specified during registration for execution cannot be passed.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.11.2\(3\) MACROCHANGEFAIL](#).

6.2.11 Setting the handling of a macro variable when the value is a NULL string

The value of a macro variable can be used as event information received by an event job and a custom event job. For details about macro variables, see [2.2.6 Considerations regarding the use of macro variables](#) in the *JPI/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For examples of defining macro variables in event jobs and custom event jobs, [2.4.4\(6\) Passing information received by an event job and a custom event job](#) in the *JPI/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

If the passing information is a NULL string and only the macro variable name is specified without any prefixed or suffixed characters, you can select either of the following methods handling the macro variable:

- The macro variable name itself is used as a string value (default)
- The macro variable name is replaced with a NULL string

These methods for handling a macro variable whose value is a NULL string are described below with the use of examples.

When the macro variable name itself is used as a string value:

- When no characters are prefixed or suffixed to the macro variable name:
[?AJS2xxxxx?] → [?AJS2xxxxx?]
- When characters are prefixed or suffixed to the macro variable name:
[aaa?AJS2xxxxx?bbb] → [aaabbb]
[ccc?AJS2xxxxx?] → [ccc]
[?AJS2xxxxx?ddd] → [ddd]

When the macro variable name is replaced with a NULL string:

- When no characters are prefixed or suffixed to the macro variable name:
[?AJS2xxxxx?] → []
- When characters are prefixed or suffixed to the macro variable name:
[aaa?AJS2xxxxx?bbb] → [aaabbb]
[ccc?AJS2xxxxx?] → [ccc]

[?AJS2xxxxx?ddd] → [ddd]

The setting described in this subsection applies to jobs for which **Standard** is specified for **Exec. Service**. If **Queueless Agent** is specified, the macro variable name is always replaced with a NULL string. Note that this setting applies only to the following definition items, for which a macro variable could be used in JP1/AJS2 07-11 and earlier versions:

Unix job:

- Command statement
- Script file name
- Parameter
- Environment variable

PC job or Flexible job:

- Executable file name
- Parameter
- Environment variable

Note that this setting is not necessary when characters are always prefixed or suffixed to macro variable names, and when operation expects that macro variable names will be used as string values.

The following describes how to set the handling of a macro variable when the value is a NULL string.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–31: Environment setting parameter used to set the handling of a macro variable when the value is a NULL string

Definition key	Environment setting parameter	Explanation
{ {JP1_DEFAULT <i>logical-host</i> } \JP1NBCLIENT\Process}#	"MacroOptionReplaceMode"=	Specifies the handling of a macro variable whose value is a NULL string.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(79\) MacroOptionReplaceMode](#).

6.2.12 Changing the wait time for recovery when an agent has failed

This subsection discusses JP1/AJS3 behavior when an agent host executing a job (PC job other than a queueless job, Unix job other than a queueless job, flexible job#, HTTP connection job, queue job running on JP1/AJS3, action job other than a queueless job, or custom job) fails or a communication error occurs. In such situations, JP1/AJS3 does not immediately assume a failure, and retries communication after waiting a specified time for recovery. The purpose of waiting is to prevent operation from stopping due to a temporary, recoverable failure. The default wait time is 10 minutes. However, depending on the operation, you might want to determine the failure location and take corrective action immediately rather than waiting for recovery. You can do this by reducing the wait time for recovery.

#:

For a flexible job, replace *agent host* with *relay agent*.

The following describes how to change the wait time for recovery when an agent host has failed.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jaajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6–32: Environment setting parameters used to set the amount of time to wait for recovery when an agent has failed

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">• For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]#• For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]#• For submit jobs [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQMANAGER\Job]#	"QueuingJobRecoveryTime"=	Specifies in seconds how long to wait for recovery from an agent failure related to a queued job.
	"ExecutingJobRecoveryTime"=	Specifies in seconds how long to wait for recovery from an agent failure related to a job being executed.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- 20.5.2(18) *QueuingJobRecoveryTime*
- 20.5.2(19) *ExecutingJobRecoveryTime*

6.2.13 Outputting a message that reports that the maximum number of concurrently executable jobs has been reached

If the number of jobs (PC jobs other than queueless jobs, Unix jobs other than queueless jobs, flexible jobs[#], HTTP connection jobs, action jobs other than queueless jobs, or custom jobs) that are being executed concurrently on an agent host has reached the maximum, the succeeding jobs might remain queued, delaying their execution.

#:

For a flexible job, replace *agent host* with *relay agent*.

JP1/AJS3 provides a setting that outputs the following message to the integrated trace log when the number of jobs being executed concurrently reaches the maximum. By enabling the setting, you can confirm that job execution was delayed because the maximum was reached.

```
KAVU4310-I The number of executing jobs reaches the concurrently-executable
-job-limit (maximum-number-of-concurrently-executable-jobs) at the agent (ag
ent-host-name). (host name: host-name, job number: job-number)
```

If this message is not output even when this setting is enabled and the status of jobs is *Now queuing*, various causes are possible. Accordingly, check the setting of the maximum number of concurrently executable jobs, the job transfer restriction status, and the job execution host status for the execution agent or execution agent group.

1. The maximum number of concurrently executable jobs is 0.

Use the `ajsagtshow` command to check the maximum number of concurrently executable jobs (CON-EXE) on the execution agent.

For details about the `ajsagtshow` command, see *ajsagtshow* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. The job transfer restriction status of the execution agent group is *Hold* or *Blockade*. Alternatively, the job transfer restriction status of the execution agent is *Ineffective*, *Hold*, or *Blockade*.

Use the `ajsagtshow` command to check the job transfer restriction status of the execution agent group or execution agent.

For details about the `ajsagtshow` command, see *ajsagtshow* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. The agent host has stopped or failed.

Use the integrated trace log on the agent host to check for stoppage of the JP1/AJS3 service or the occurrence of an error on the agent host. Also check whether the agent host is able to communicate with the manager host.

If queue or submit jobs are used, check the agent, agent group, or job execution host for the following possible causes:

1. The maximum number of concurrently executable jobs is 0.

Use the `jpgagtshow` command to check the maximum number of concurrently executable jobs (CUREXEGHNUM).

For details about the `jpgagtshow` command, see *jpgagtshow* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. In the settings for queues (including the default queue), the job exit is closed.

Use the `jpqqqeshow` command to check the job exit status (EXITSTATUS).

For details about the `jpqqqeshow` command, see *jpqqqeshow* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. The agent host has stopped or failed.

Use the integrated trace log on the agent host to check for stoppage of the JP1/AJS3 service or the occurrence of an error on the agent host. Also check whether the agent host is able to communicate with the manager host.

4. A necessary resource has been locked by another job.

Use the `jpqresshow` command to check for jobs whose status is EXECUTING.

For details about the `jpqresshow` command, see *jpqresshow* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the maximum number of concurrently executable jobs when queue or submit jobs are used, see 2.5.4 *Maximum number of concurrently executable jobs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The following describes how to set output of a message that reports that the maximum number of concurrently executable jobs has been reached.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6–33: Environment setting parameters used to set output of the message that reports that the maximum number of concurrently executable jobs has been reached

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# 	"MaximumExecJobLogOption"=	Specifies output of the message that reports that the maximum number of concurrently executable jobs has been reached.
<ul style="list-style-type: none"> • For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]# 	"MaximumExecJobLogInterval"=	Specifies the interval for re-output of the message that reports that the maximum number of concurrently executable jobs has been reached.
<ul style="list-style-type: none"> • For submit jobs [{JP1_DEFAULT logical-host} \JP1NBQMANAGER\Job]# 		

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(20\) MaximumExecJobLogOption](#)
- [20.5.2\(21\) MaximumExecJobLogInterval](#)

6.2.14 Changing the timeout value for the job execution control manager process

When the job execution control manager process is requested to perform any of the following operations, the timeout period (default: 10 minutes) for communication with the manager process is set by the requester:

- Registration, cancellation, or status checking of a job by the scheduler
- Performing an operation on a job by using a job execution command (`jpqxxx`)

If communication with the job execution control manager process takes too much time and a timeout occurs, job execution or the command request fails.

The major causes of a communication timeout are as follows:

- The size of the transfer files or result files for the executed job is large.
- Many jobs are listed by the `jpqendjobshow` command, which lists information about terminated jobs.
For details about the `jpqendjobshow` command, see `jpqendjobshow` in *4. Commands Used for Special Operation* in the manual *JPI/Automatic Job Management System 3 Command Reference*.
- Many jobs are listed by the `jpqjobshow` command, which lists information about jobs that have not terminated yet.
For details about the `jpqjobshow` command, see `jpqjobshow` in *4. Commands Used for Special Operation* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

If communication times out while the scheduler is registering or canceling a job or checking the status of a job, the job[#] ends abnormally, and the following message is output to the integrated trace log:

#:

Event jobs, custom event jobs and jobs for which **Queueless Agent** is specified for **Exec. Service** are exceptions.

```
KAVU0220-E function-name: There is no response from the manager.
```

If communication times out during processing of a `jpqxxx` command, the following message is output:

```
KAVU0953-E No response from the manager.
```

You might be able to prevent a command request or job execution failure due to a communication timeout by increasing the communication timeout value. If communication times out while the scheduler is registering or canceling a job, or checking the status of a job, increase the timeout value on the manager host. If communication times out while the command that is used to execute a job is being executed, increase the timeout value on the client host where the command is executed.

The following describes how to change the communication timeout value.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–34: Environment setting parameter used to change the timeout value for the job execution control manager process

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQCLIENT\Network]#	"CommunicateTimeout"=	Specifies the timeout value (in milliseconds) for the job execution control manager process.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(78\) CommunicateTimeout](#).

(3) Note

Increasing the communication timeout value also increases the time required to detect an error that has occurred in a command or job during communication processing. As a result, succeeding jobs can easily be delayed. Before changing the communication timeout value, carefully consider the best value to be set.

6.2.15 Executing a job by using a long file name

Normally, the executable file name of a job^{#1} is converted to a short file name generated for a file on an NTFS (NT File System) or FAT (File Allocation Table) volume. If you want to execute the executable file of a job by using a long file name without conversion to a short file name, use the procedure described below.

Note that a queueless job is executed by using a long file name^{#2}. No conversion of the executable file name of a queueless job to a short file name takes place.

#1:

Refers to PC jobs and queue jobs executed on JP1/AJS3, and submit jobs executed by the `jpqjobs` command.

#2:

Depending on the conditions, a queueless job could be executed under a short file name. For details, see [\(4\) Note](#).

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–35: Environment setting parameter used to execute a job under a long file name

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Job]#	"IsExecFindExecutable"=	Specifies whether a job is executed under a long file name.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(39\) IsExecFindExecutable](#).

(3) How to specify executable file names

- If 1 is specified for the environment setting parameter `IsExecFindExecutable`, regardless of whether the file name is a long file name, specify an executable file name whose extension is `.exe`, `.bat`, `.cmd`, or `.com` by using an absolute path name that includes a drive name (from A: to Z:), for all path names.
- If you specify an executable file name that contains space characters, enclose the entire file name (from the drive name to the extension) in double quotation marks ("").

If you specify an executable file name in the `jpqjobsub` command, make sure that the file name is first enclosed in `\` and then enclosed in double quotation marks (""). The following shows an example of executing the `jpqjobsub` command when the executable file name is `C:\Program Files\test.exe`.

```
jpqjobsub -ah logical-host -sc "\"C:\Program Files\test.exe\""
```

- You cannot specify any arguments after an executable file name.
- If you specify an executable file name whose extension is `.exe`, `.bat`, `.cmd`, or `.com` and that includes halfwidth parentheses (`()`), you must specify the following settings:
 - Specify 1 in the environment setting parameter `IsExecFindExecutable`.
 - Enclose the whole executable file name (from *drive-name* to *extension*) with double quotation marks ("").

The following shows an example of the executable file name:

```
"C:\temp\test(test).bat"
```

(4) Note

If a job satisfying both of the following conditions is executed, the executable file name of the job is converted to a short file name even if the `IsExecFindExecutable` environment setting parameter is set to 1. This is also true for queueless jobs.

1. In **File name**, a file name whose extension is `.exe`, `.bat`, `.cmd`, or `.com` is specified as a relative path name.
2. The file path name in condition 1 is specified for **Working path** in the job definition.

If you want the job to be executed under a long file name, perform either of the following operations:

- In **File name**, specify the file name as an absolute path.
- Specify the file path in a system environment variable, and do not specify a file path in **Working path**.

6.2.16 Executing a job that requires a user profile

Normally, the process execution environment in which jobs can be executed requires only system environment settings. However, some jobs require the loading of user profile information from the OS user's logon session for correct execution.

This subsection describes the setting for correctly executing a job that requires user profile information. If this setting is enabled, user profile information is loaded for all PC jobs[#] executed on the specified agent host.

#:

Jobs for which **Queueless Agent** is specified for **Exec. Service** are exceptions.

The following describes how to specify the setting for executing a job that requires a user profile. This setting must be specified on the agent host on which the job will be executed.

For details about how to specify the setting for executing a job requiring a user profile in a queueless job execution environment, see [6.4.2 Executing a job that requires a user profile in a queueless job execution environment](#).

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameter described in (2) below:

```
jaajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

Important

If you want to disable this setting, you must restart the OS after changing the parameter value.

(2) Environment setting parameter

Table 6–36: Environment setting parameter used to enable execution of a job that requires a user profile

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Job]#	"LoadUserProfile"=	Defines whether user profile information is loaded.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(40\) LoadUserProfile](#).

(3) Note

If a job is executed after this setting is enabled, the job might end abnormally with either of the following messages output to the integrated trace log. JP1/AJS3 provides a setting that prevents the errors reported by these messages from occurring easily when this setting is enabled. For details about the setting, see [6.2.17 Reusing access tokens for job execution](#).

- KAVU3549-E A system call (*function-name*) error occurred in a job execution process. (*reason-code*)
- KAVU3577-W A system call (*function-name*) error occurred in a job execution process. (*reason-code*)

For details about specifying the setting for reusing an access token during job execution, see [5.4.1 User account for job execution](#) in the manual *JP1/Automatic Job Management System 3 Overview*.

Even when this setting is enabled, user environment variables are not loaded. For details about the environment variables that are set when a job is executed, see [1.4.2 Environment variables set when a job is executed from JP1/AJS3](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.2.17 Reusing access tokens for job execution

This subsection describes how to specify the setting for reusing access tokens when a job is executed. This setting must be specified on a job execution host. For details, see [5.4.1 User account for job execution](#) in the manual *JP1/Automatic Job Management System 3 Overview*.

Note that this setting is not necessary when the queueless job execution facility is used. This is because access tokens are reused when a queueless job is executed by the facility.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameter described in (2) below:


```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–37: Environment setting parameter for enabling the reuse of access tokens when a job is executed

Definition key	Environment setting parameter	Explanation
{ {JP1_DEFAULT logical-host} \JP1NBQAGENT\Job}#	"IsAccessTokenCache"=	Specifies whether access tokens are to be reused when a job is executed.

#:

The specification of the {JP1_DEFAULT | logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(41\) IsAccessTokenCache](#).

(3) Notes

1. If the reuse of access tokens is enabled, access tokens are released as follows:

- When the password for the OS user who executes the job is changed
The user releases the current access token and acquires an access token with new user information.

Cautionary note:

If password information managed by the OS is changed, the password management information for the OS user mapped in JP1/Base must also be changed. If the password management information for the OS user mapped in JP1/Base is not changed, the job is started by reusing the access token that was used before the password was changed. For notes on specifying the JP1/Base user management settings, see the chapter that contains notes on user management in the *JP1/Base User's Guide*. When you change the password, if you set the current password again as the new password, the access token is not released. To obtain a new access token, restart the JP1/AJS3 service.

- When the JP1/AJS3 service is stopped
All users release their own access tokens.

2. If the value of the IsAccessTokenCache environment setting parameter is 1, all jobs share one desktop heap secured when the JP1/AJS3 service is started. Therefore, if there are many jobs that run concurrently, the desktop heap might no longer be sufficient.

3. If the value of the IsAccessTokenCache environment setting parameter is 2, a desktop heap area is created for each user. For example, if 10 users execute jobs, 10 desktop heap areas are created. Therefore, if there are many users, the many desktop heaps that are created might compromise the availability of the space that can be used as desktop heaps by the OS.

4. If the reuse of access tokens is enabled, jobs started by a user share the same desktop heap that was secured the first time that the user acquired an access token. That is, a new desktop heap is not created each time a job is started. If the JP1/AJS3 service account is changed from the system account to a user account, and jobs are executed by that user, new desktop heaps are not created because an access token is not acquired. For details about changing the JP1/AJS3 service account, see [4.2.3 Changing the JP1/AJS3 service settings \(Windows only\)](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

6.2.18 Executing a job whose executable file name has an extension longer than three bytes

Normally, the executable file specified for a job is executed by the application (.exe) associated with the executable file's extension, the maximum length of which is three bytes. Therefore, if the extension is four or more bytes, the executable file for the job[#] might be opened by the wrong application or the job might not be able to start.

To correctly run a job whose executable file has an extension longer than three bytes, specify the appropriate setting by using the procedure described below.

Note that the setting must be specified on the host on which the job is executed.

#:

Refers to PC jobs and queue jobs executed on the Windows version of JP1/AJS3, and submit jobs executed by the `jpqjobs` command.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- When **Standard** is specified for **Exec. Service** of the job
JP1/AJS3 service
- **Queueless Agent** is specified for **Exec. Service** of the job
JP1/AJS3 Queueless Agent service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jajs_config` command for each definition key.

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameters

Table 6–38: Environment setting parameters used to enable execution of an executable file with an extension longer than three bytes

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job]#1	"ENABLE_LONG_EXT"=	This parameter applies when Standard is specified for Exec. Service of the job. The parameter specifies whether the job is to be executed by an associated application whose extension is longer than three bytes.
[JP1_DEFAULT\JP1QLAGENT]#2	"ENABLE_LONG_EXT"=	This parameter applies when Queueless Agent is specified for Exec. Service of the job. The parameter specifies whether the job is to be executed by an associated application whose extension is longer than three bytes.

#1:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

#2:

This setting applies to both physical and logical hosts.

For details about the definition of this environment setting parameter, see the following:

- 20.5.2(42) *ENABLE_LONG_EXT (for job)*
- 20.10.2(12) *ENABLE_LONG_EXT (for queueless job)*

(3) Notes

- If this setting is enabled, you cannot specify any arguments following an executable file name in the Define Details dialog box for a job. If you specify arguments, the job might terminate abnormally.
- Before enabling this setting, make sure that the applicable extensions of more than three bytes have been associated with applications.

The following describes how to associate an extension with an application:

1. Use the `ftype` command to register the application with which you want to associate an extension.
2. Use the `assoc` command to associate the extension with the application you registered in step 1.
3. Restart the OS.

For details about the `ftype` and `assoc` commands, see Windows Help.

6.2.19 Changing the settings for logon retries when a job is executed

In JP1/AJS3, a job[#] might be executed with a user account that is different from the account used to start the JP1/AJS3 service. When a job is executed with a different user account, user information called an *access token* must be acquired. An access token includes the information about the security group to which the user belongs and permission information, and is acquired by using a Win32 API function. In JP1/AJS3, if the function has temporarily failed, logon is not possible, and the status of the job becomes *Failed to start (Abnormal end)*. For example, if the domain controller on the authentication server has stopped because of a shutdown or for another reason, the job is unable to start because the domain cannot be authenticated.

Retrying the function at regular intervals prevents temporary errors of this type, and reduces the frequency at which factors causing job abnormal termination occur.

#:

Refers to PC jobs, flexible jobs, HTTP connection jobs, action jobs, custom jobs, queue jobs executed on the Windows version of JP1/AJS3, and submit jobs executed by the `jpqjobsub` command.

The following describes how to specify the setting. Note that the setting must be specified on the host on which the job will be executed.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameters

Table 6–39: Environment setting parameters used to retry acquisition of an access token when a job is executed

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \JP1NBQAGENT\Network]#	"LogonUserRetryCount"=	This parameter applies when Standard is specified for Exec. Service of the job. The parameter specifies the maximum number of times acquisition of an access token is retried.
	"LogonUserRetryInterval"=	This parameter applies when Queueless Agent is specified for Exec. Service of the job. The parameter specifies the interval at which acquisition of an access token is retried.

#:

The specification of the {JP1_DEFAULT | logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(70\) LogonUserRetryCount](#)
- [20.5.2\(71\) LogonUserRetryInterval](#)

(3) Notes

- The logon retry function described above is based on only the number of retry attempts and interval, and is therefore not a complete preventive measure. For example, the time required to switch the domain controller might be longer than the time calculated by multiplying the number of retries by the retry interval.
- If the password of the OS user who attempts to execute the job is invalid, the account might be locked, depending on the OS security policy settings.
Note that if the account of a user has been locked, the user cannot execute any jobs.
- The logon retries described above are also performed if a logon attempt fails for the reasons listed below. That is, a job might take a long time until it actually ends. Similarly, a job being forced to terminate might take a long time until it actually ends.
 - No domain controller on any authentication server is running when an attempt is made to execute a job.
 - An attempt is made to execute a job by a user whose password is invalid.
 - An attempt is made to execute a job by an unregistered user.
 - An attempt is made to execute a job by a user whose account is locked.

- An attempt is made to execute a job by a user whose account is no longer valid.

6.2.20 Placing all running jobs in an end status when a communication error occurs

JP1/AJS3 periodically (at five-minute intervals) performs polling to monitor running jobs (PC jobs other than queueless jobs, Unix jobs other than queueless jobs, flexible jobs[#], HTTP connection jobs, queue jobs running on JP1/AJS3, action jobs other than queueless jobs, or custom jobs).

#:

For flexible jobs, polling is performed between the manager host and relay agent to monitor jobs.

If a communication error occurs during the monitoring on the agent host on which a job is to be executed, JP1/AJS3 does not immediately declare an abnormal end. Instead, it retries communication for a specified period of time (default: 10 minutes) while waiting for recovery from the system or communication error on the agent host. If the error is a temporary, recoverable error, then operation is not stopped needlessly.

If there has been no recovery on the agent host when the polling period ends, jobs are placed in an end status[#] one by one in order by expiration of a job's wait time for recovery. However, if many jobs are being executed, a long time might be required before all jobs have been placed in an end status. In some cases, therefore, depending on the operation, immediate recovery will have precedence over waiting for recovery in the event of an error. For these cases, you can specify settings so that all jobs being executed on the same agent host are immediately placed in an end status[#] if there has been no error recovery on the agent host when the polling period ends. For the jobs in an execution agent group, these settings are applied to the jobs that are running on the same agent host. Immediately placing jobs in an end status enables recovery action to be taken sooner.

#:

For a job defined in a jobnet, the job status changes to *Killed*, and `-1` is set as the return code. For a submit job executed by the `jpqjobs` command, the job status changes to the status specified by the `-rs` option (the default is *Hold*).

The following describes how to specify the settings for placing all running jobs in an end status when a communication error occurs.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jaajs_config -k definition-key "parameter-name"=value
```

3. Restart the service that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameter

Table 6–40: Environment setting parameter used to place all running jobs in an end status when a communication error occurs

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]# For submit jobs [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQMANAGER\Job]# 	"ExecutingJobChangeStatus"=	Specifies that all running jobs are placed in an end status when a communication error occurs.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(24\) ExecutingJobChangeStatus](#).

6.2.21 Settings for enabling an environment variable in a job definition when the name is the same as a system environment variable name

If an environment variable^{#2} specified in a job^{#1} definition contains lower-case alphabetic characters and a system environment variable uses the same spelling but the use of case is different, an environment variable containing lower-case alphabetic characters might not take effect.

#1

A PC job (except a queueless job) or a submit job to be executed by the `jpqjjobsub` command.

#2

One of the following applies:

- An environment variable specified in the **Environment variables** field in the JP1/AJS3 - View Define Details - [PC Job] dialog box, or specified for the `-env` option of the `jpqjjobsub` command.
- An environment variable in the environment variable file specified either in the **Environment variable file** field in the JP1/AJS3 - View Define Details - [PC Job] dialog box, or specified for the `-ev` option of the `jpqjjobsub` command.

The following table describes the relationship between the presence of lower-case alphabetic characters and the environment variables that take effect.

Table 6–41: Relationship between the presence of lower-case alphabetic characters and the environment variables that take effect

	Environment variable defined in the job definition	System environment variable	Environment variable setting that takes effect
Example when there are lower-case alphabetic characters	Aa=www AB=yyy	AA=xxx AB=zzz	AA=xxx AB=yyy
Example when there are no lower-case alphabetic characters	AA=www AB=yyy	AA=xxx AB=zzz	AA=www AB=yyy

In the table, in the first-row example, environment variable `Aa` contains lower-case alphabetic character `a`. The system environment variable `AA` has the same spelling but its case is different. As a result, the system environment variable `AA` takes effect but the environment variable `Aa` in the job definition does not.

To enable the specification of environment variables containing lower-case alphabetic characters in job definitions, enable the setting described here according to the procedure below. Note, however, that this setting need not be enabled if there are no environment variables that duplicate the spelling of system environment variables, with upper or lower cases.

This setting must be specified on the host on which the jobs will be executed.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

Cautionary note:

For a cluster system, check the cluster settings and stop the JP1/AJS3 service on the logical host.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–42: Environment setting parameter used to enable an environment variable in a job definition when its name duplicates the name of a system environment variable

Definition key	Environment setting parameter	Explanation
{ {JP1_DEFAULT logical-host} \JP1NBQAGENT\Job}#	"MergeEnvMode"=	Specifies whether to enable an environment variable in a job definition when its name duplicates a system environment variable name.

#:

The specification of the {JP1_DEFAULT | logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(86\) MergeEnvMode](#).

6.2.22 Settings for executing jobs as a user with administrator permissions when the UAC is enabled

When the Windows UAC function is enabled, all OS users who belong to the Administrator group, with the exception of the built-in Administrator, execute operations with the Administrator permissions disabled. In JP1/AJS3, however, jobs that require administrator permissions[#] might not be executable.

#

These jobs include PC jobs, action jobs, custom jobs, and QUEUE jobs that are executed in Windows versions of JP1/AJS3. Also included are submit jobs executed by the `jpqjobs sub` command.

One example of a job that requires administrator permissions is starting a service by using the `net start` command. When the UAC function is enabled, jobs that require administrator permissions can be executed by the built-in Administrator and an OS user whose account is the same as the JP1/AJS3 service account.

Enabling the *settings for executing jobs as a user with administrator permissions when the UAC is enabled* allows OS users in the Administrator group to execute jobs that require administrator permissions even when the UAC function is enabled.

The following table describes the relationship between the type of OS user when a job is executed and whether the job can be executed when the UAC function is enabled.

Table 6–43: Relationship between type of OS user when a job is executed and whether the job can be executed when the UAC function is enabled

Job execution service	OS user type when the job is executed		Whether a job that requires administrator permissions can be executed		
			Setting disabled (default)	Setting enabled	
Standard specified	OS user who is a member of the Administrator group	Built-in Administrator		Y	Y
		User other than the built-in Administrator	OS user who is the same as the service account's OS user	Y	Y
			OS user who is different from the service account's OS user	N	Y
	OS user who is not a member of the Administrator group		N	N	
Queueless Agent specified	OS user who is a member of the Administrator group	Built-in Administrator		Y	Y
		User other than the built-in Administrator	OS user who is the same as the service account's OS user	N	Y
			OS user who is different from the service account's OS user	N	Y
	OS user who is not a member of the Administrator group		N	N	

Legend:

Y: Can be executed.

N: Cannot be executed.

Cautionary note:

To enable the setting, first check all OS users who have been registered on the execution host by the JP1/Base user mapping function, and who execute jobs. Next, set the *Log on as a batch job* permission in the security policy settings for these OS users. If an OS user without this permission attempts to execute a job, even when the job does not require administrator permissions, job startup will fail and the KAVU7201-E or KAVS1880-E message is output.

When the *Deny logon as a batch job* permission has been set, an attempt to start the job also fails and the KAVU7201-E or KAVS1880-E message is output.

Use the following procedure to enable the setting.

Note that the setting must be enabled on the host on which the jobs will be executed.

(1) Definition procedure

1. In Windows Control Panel, open the **Local Security Policy** administrative tool, and then set the *Log on as a batch job* permission for all OS users who execute jobs.

For domain users, you can also set the permission in the domain security policy settings. Also make sure that the *Deny logon as a batch job* permission has not been set.

2. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- When **Standard** is specified as **Exec. Service** of the job
JP1/AJS3 service
- When **Queueless Agent** is specified as **Exec. Service** of the job
JP1/AJS3 Queueless Agent service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

3. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jajs_config` command for each definition key.

4. Restart the services that you stopped in step 2.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–44: Environment setting parameter used to execute jobs as a user with administrator permissions when the UAC function is enabled

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job]#1	"UACAdministratorsExec" "	Setting for executing a job as a user with administrator permissions when Standard is specified for the job execution service and the UAC function is enabled

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1QLAGENT]#2	"UACAdministratorsExec" "="	Setting for executing a job as a user with administrator permissions when Queueless Agent is specified for the job execution service and the UAC function is enabled

#1:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

#2:

This setting applies to both physical and logical hosts.

For details about the definition of these environment setting parameters, see the following:

- *20.5.2(87) UACAdministratorsExec (for job)*
- *20.10.2(16) UACAdministratorsExec (for queueless job)*

6.2.23 Settings for re-executing the dependent units

This subsection describes how to configure the settings for re-executing dependent units. For details about how to re-execute dependent units, see *4.5.11(4) Re-executing the dependent unit of a judgment job* in the manual *JP1/Automatic Job Management System 3 Overview*.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–45: Environment setting parameter for re-executing dependent units

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i>] \JP1AJSMANAGER\scheduler- service]#	"RERUNSUBORDINATE"=	Specifies whether dependent units are to be re-executed.

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(106\) RERUNSUBORDINATE](#).

6.2.24 Operation settings when job result file transfer fails

In JP1/AJS3, the job result file (standard output file or standard error output file) is transferred from the agent host to the manager host when a job process finishes.

If the transfer fails, the job status is set to *Ended abnormally* because the job result file cannot be checked on the manager host. Therefore, even though the job process has finished normally, the job status is treated as *Ended abnormally* because of the failure to transfer the job result file. However, note that in this state, you can set the job status to *Ended normally* by changing the operation settings after the failure.

The following is the procedure for specifying the settings.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- When **Standard** is specified for **Exec. Service** of the job JP1/AJS3 service
- **Queueless Agent** is specified for **Exec. Service** of the job JP1/AJS3 Queueless Agent service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jajs_config` command for each definition key.

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameters

Table 6–46: Environment setting parameter for operation settings when the transfer of job result files fail

Definition key	Environment setting parameter	Explanation
<code>[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job]#1</code>	<code>"IgnoreResultFileError"=</code>	Operation to be executed if an error occurs during the transfer processing for a job result file if Basic is specified for the service that is to execute the job
<code>[JP1_DEFAULT\JP1QLAGENT]#2</code>	<code>"IgnoreResultFileError"=</code>	Operation to be executed if an error occurs during the transfer processing of a job result file if Queueless is specified for the service that is to execute the job

#1:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

#2:

This setting applies to both physical and logical hosts.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(90\) IgnoreResultFileError \(for job\)](#)
- [20.10.2\(19\) IgnoreResultFileError \(for queueless job\)](#)

(3) Notes

- If you execute a job by using a jobnet and the standard error output file is not defined in the detailed definition of the job, a temporary standard error output file is created and transferred to the manager host. For details about the standard error output file, see [7.11.1 Notes on the standard output file and standard error output file](#) in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.
- If the transfer of the job result file fails when 1 is specified for the IgnoreResultFileError environment setting parameter, the setting values of the NotifyJobStateInterval and NotifyJobStateCount environment setting parameters used to set the resending interval and the number of times for a job result file is resent do not take effect. This is because the job result file is not resent and completion of the job has priority. Also, for the same reason, you cannot view the contents of the standard error output file in the Execution result details dialog box in JP1/AJS3 - View.
- For passing information setting jobs, the required information is retrieved from the standard output file of the preceding job and passed to the succeeding job. Therefore, if 1 is set for the IgnoreResultFileError environment setting parameter and an error occurs during transfer of the result file for the preceding job, a message (KAJS7622-E) is output and the passing information setting job might abnormally terminate.
- If 0 is set for the IgnoreResultFileError environment setting parameter and a job result file transfer fails, -1 is set as the return code of the job and the job status is set to *Ended abnormally*. Therefore, even if you have set that the job is to be retried, the job is not retried automatically.

If 1 is set for the IgnoreResultFileError environment setting parameter and a job result file transfer fails, the return code of the job process is set as the return code of the job and the job status is set to *Ended normally*, *Ended with warning*, or *Ended abnormally*. Which value is set depends on how the end of processing is judged. If the job status is set to *Ended abnormally* and the condition for automatic job retry is satisfied, the job is retried automatically. For details about automatic retrying, see [2.4.13 Automatic retry for abnormally ending jobs](#) in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

- If you specify 1 for the IgnoreResultFileError environment setting parameter, note the following:
If the size of transmitted files exceeds the upper limit, the running job ends abnormally when 1 is set for the SendFileSizeStatus setting environment parameter or ends with a warning when 2 is set for the SendFileSizeStatus environment setting parameter. Therefore, when you want to enable the IgnoreResultFileError environment setting parameter and prevent the data that exceeded the upper limit of the transmitted-file size from being transmitted, specify 3 for the SendFileSizeStatus environment setting parameter.

For details about the upper limit of the size of transmitted files, see [6.2.27 Placing restrictions on file transmission](#).

6.2.25 Settings for using the return value of the preceding job in the passing information setting jobs

If the preceding jobs of a passing information setting job ended with a return value other than 0, the return value of the preceding job is set for the return value of the passing information setting job. If you want to set the return value of the passing information setting job, and not the return value of the preceding job, set 0 for the option by using the procedure described below.

Set this option on the host where the passing information setting job is defined.

(1) Definition procedure

1. In Windows Control Panel, open the Services administrative tool, and stop the following service:

- JP1/AJS3 service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–47: Environment setting parameter for using the return value of the preceding job in the passing information setting jobs

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Process]#	"PassingInfoUsePreRc"=	Settings for using the return value of the preceding job in the passing information setting jobs

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(81\) PassingInfoUsePreRc](#).

(3) Notes

- If the preceding jobs of a passing information setting job ended with a return value other than 0, the return value of the preceding job is set for the return value of the passing information setting job (If there are multiple preceding jobs, the logical OR of all the return values is set. If the passing information setting job is re-executed, the return value of the preceding job from the last time that the passing information setting job was executed is set). Therefore, if you set 1 for environment setting parameter `PassingInfoUsePreRc`, and the return value of the preceding job exceeds the warning threshold or abnormal threshold defined for the passing information setting job, the passing information setting job will either end with warning or end abnormally. If you do not want the passing information setting job to end with warning or to end abnormally, either set a value higher than the return value of the preceding job for the

warning threshold and abnormal threshold of the passing information setting job, or set 0 for environment setting parameter `PassingInfoUsePreRc`.

- If you set 1 for environment setting parameter `PassingInfoUsePreRc`, and the return code of the preceding job is a negative value, the passing information setting job will end abnormally. If the return code of the preceding job is a negative value, set 0 for environment setting parameter `PassingInfoUsePreRc`.
- If you set 1 for environment setting parameter `PassingInfoUsePreRc`, and the preceding jobs of a passing information setting job ended with a return value other than 0, the cause of the error that occurred in the passing information setting job cannot be determined from the return value set for the passing information setting job. Therefore, in JP1/AJS3 - View, in the Execution Result Details dialog box, check the execution results of the passing information setting job.

6.2.26 Setting for ensuring that data generated by jobs is output to result files

In JP1/AJS3, the executable file specified in the detailed definition of a job and the programs started as an extension of that executable file (user job) output data to the standard output or standard error output. The output data is written to a result file (standard output file or standard error output file). The result file is transferred from the agent host to the manager host when the job[#] terminates.

#:

The job here means a PC job, flexible job, HTTP connection job, action job, custom job, QUEUE job executed in JP1/AJS3, submit job, or passing information setting job, and does not mean an event job, custom event job or queueless job.

In Windows, however, data output by jobs might not be written to a result file if disk access or restart of processing takes time. For example, restart of processing takes time if the memory used by JP1/AJS3 is swapped output when data is written to a result file.

If data output by jobs is not written to a result file, the following phenomena might occur:

- No value is set for an output macro variable of the passing information setting job, causing the job to terminate abnormally.
- Information in the Execution Result Details dialog box of JP1/AJS3 - View cannot be viewed.
- Data in the standard output file and standard error output file cannot be obtained by using the `jpqjobget` command.

To prevent the above phenomena from occurring, set the `PreventResultFileLack` environment setting parameter to ensure that data output by jobs is output to result files.

Before you use a passing information setting job, make sure that this setting is enabled. For details about passing information setting jobs, see the following: *2.4.9 Passing information that changes dynamically to a succeeding unit (example of defining a jobnet that uses a passing information setting job)* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

Note that this setting must be enabled on the host on which the job is executed.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service

Cautionary note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–48: Environment setting parameter for ensuring that data generated by jobs is output to result files

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job]#	"PreventResultFileLack"=	Setting for ensuring that data generated by jobs is output to result files

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(91\) PreventResultFileLack](#).

(3) Notes

The following notes apply when the PreventResultFileLack environment setting parameter is set to 1:

- The data output to the standard output and standard error output is written to result files by user jobs rather than JP1/AJS3. Therefore, JP1/AJS3 cannot detect any errors occurring while data is being written to a result file. If an error occurs while data is being written to a result file, check for the cause of the error in the user jobs.
- If programs started as an extension of an executable file do not end before the executable file ends, a temporary file named A_JPQ*_job-number might remain in a work directory for the job execution environment on the agent host. If this temporary file remains in the work directory even after JP1/AJS3 has terminated, you can delete the temporary file. Deleting it causes no problems.
If a remaining temporary file adversely affects operation, specify NUL for the standard output file name and standard error output file name. Alternatively, specify CON for the standard input file name, standard output file name, and standard error output file name. Note that, if you do so, if you want to check the detailed execution results of a job in JP1/AJS3 - View, data is no longer output to the job's standard error output. Similarly, you can no longer obtain the data in the standard output file and standard error output file by using the jpqjobget command.
- The job result file is transferred to the manager host when the executable file specified in the detailed job definition ends. If programs started as an extension of an executable file output data to the standard output or standard error output after the executable file ends, that data is written to a result file. However, the result file is not transferred to the manager host.

6.2.27 Placing restrictions on file transmission

When a job[#] has been executed in JP1/AJS3, result files (standard output and standard error output files) are transferred between the manager and agent hosts. If the size of these files exceeds a few megabytes, file data analysis and file data transfer impose a load on the manager host. As a result, CPU and memory usages increase, and job execution is delayed, which might degrade overall system performance.

#:

The description in this subsection applies to only PC jobs, Unix jobs, custom jobs, QUEUE jobs executed by JP1/AJS3, and submit jobs. The description does not apply to event jobs, custom event jobs, passing information setting jobs, HTTP connection jobs, flexible jobs, and queueless jobs.

Placing restrictions on file transmission enables you to set an upper limit on the total size of the results files (standard output and standard error output files) that are transmitted by the agent host when a job is executed.

You can also specify the behavior (that is, the status of job termination) and the message to be output when the size of the transmitted files exceeds the upper limit.

The following table describes the behavior and how file data is handled when the size of transmitted files exceeds the upper limit.

Table 6–49: Behavior and how file data is handled when the size of transmitted files exceeds the upper limit

File type	Category	Value of the SendFileSizeStatus environment setting parameter			
		0	1	2	3
Result file	Job status	Actual termination status of the job	Ended abnormally	Ended with warning [#]	Actual termination status of the job
	Type of message to be output	Information	Information Error	Information Warning	Information
	Handling of file data	Sending all file data	Discards the file data that exceeds the upper limit for a file size	Discards the file data that exceeds the upper limit for a file size	Discards the file data that exceeds the upper limit for a file size

#:

If the job status on the agent host is *Ended abnormally*, that status is inherited.

(1) Definition procedure

1. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

2. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 6–50: Environment setting parameters to place restrictions on file transmission

Definition key	Environment setting parameter	Explanation
[<code>{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job</code>] [#]	"SendFileSizeStatus"=	Specifies the behavior when the file size reaches the upper limit.
	"LimitSendFileSize"=	Specifies the upper limit for a file size.

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(92\) SendFileSizeStatus](#)
- [20.5.2\(93\) LimitSendFileSize](#)

(3) Behavior when the size of transmitted files exceeds the upper limit

The following describes the behavior when the size of transmitted files exceeds the upper limit:

- Result files
 - Assume that the size of transmitted files reaches the upper limit when the value of the `SendFileSizeStatus` environment setting parameter is 1, 2, or 3. Then, the standard output and standard error output files up to the total size as large as the upper-limit size are transmitted to the agent host. Because the result files are not complete, make sure that the incomplete result files will not cause any problems in cases such as when a succeeding job will reference the result files.
 - The following table describes the return codes and end status of a job in the case when the size of its result files exceeds the upper limit.

Table 6–51: End status and return codes when the size of result files exceeds the upper limit

Actual job status	Category	Value of SendFileSizeStatus environment setting parameter		
		1	2	0 or 3
Ended normally (Including cases when <i>Always normal</i> is specified)	Status	Ended abnormally	Ended with warning	Ended normally
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Ended with warning	Status	Ended abnormally	Ended with warning	Ended with warning
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Ended abnormally	Status	Ended abnormally	Ended abnormally	Ended abnormally
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Killed	Status	Killed	Killed	Killed
	Return code	PC job (-1), Unix job (255)	PC job (-1), Unix job (255)	PC job (-1), Unix job (255)
Failed to start	Status	Failed to start	Failed to start	Failed to start

#:

Return code of the job process executed as a job

(4) Note

When executing a passing information setting job, set an appropriate value for the `LimitSendFileSize` environment setting parameter. If the preceding job outputs a standard output file whose file size is larger than the value of the `LimitSendFileSize` environment setting parameter, the passing information setting job might fail in retrieving information from the standard output file.

6.2.28 Setting to increase the maximum number of execution agents that can be registered in a manager host

By default, the maximum number of execution agents that can be registered in a manager host is set to 1,024. If you want to register more than 1,024 execution agents in the manager host, you can increase the maximum number of execution agents that can be registered in a manager host to 2,048.

This subsection describes how to increase the maximum number of execution agents that can be registered in a manager host.

Note that, if you cancel the increase of the maximum number of execution agents later, you will have to re-create the embedded database. Therefore, give due consideration before changing the setting of the maximum number. For details about how to cancel increasing the maximum number of execution agents, see [\(3\) Procedure for canceling the increase of the maximum number of execution agents](#).

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6–52: Environment setting parameter to set restrictions on file transmission

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJS2\HOST]#	"AGENTLIMITEXTEND"=	Specifies settings to increase the maximum number of execution agents that can be registered in a manager host

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.3.2\(16\) AGENTLIMITEXTEND](#).

(3) Procedure for canceling the increase of the maximum number of execution agents

If you cancel the increase of the maximum number of execution agents, you must re-create the embedded database.

The following describes how to re-create the embedded database and cancel the increase of the maximum number of execution agents:

1. Delete execution agents so that the total number of registered agents is reduced to 1,024 or less.
2. Back up the unit definition and execution agent information.
If multiple scheduler databases are set up in one embedded database environment, back up all those scheduler databases.
For details about how to perform the backup, see *2.2.3 Backing up the JP1/AJS3 - Manager setup information in the JP1/Automatic Job Management System 3 Administration Guide*.
3. Stop all the services that access the scheduler database. Such services include the JP1/AJS3 on the physical host and all logical hosts.
4. Execute the following command to set 1 in the AGENTLIMITEXTEND environment setting parameter.

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AJS2\HOST]" "AGENTLIMITEXTEND"=dword:00000001
```

5. Use the `ajsembdbunset -e` command to delete the embedded database environment.
In a single embedded database environment, if you execute the `ajsembdbunset` command when multiple scheduler databases are set up, information about all the scheduler databases is deleted.
6. Use the `ajsembdbbuild` command to create an embedded database.
In the `ajsembdbbuild` command, specify arguments appropriately so that the embedded database environment to be built will be the same as the original environment (built before cancellation of the increase of the maximum number of execution agents).
7. Use the `ajsembdbsetup` command to set up the embedded database.
In the `ajsembdbsetup` command, specify arguments appropriately so that the embedded database environment to be set up will be the same as the original environment (set up before cancellation of the increase of the maximum number of execution agents).
If you set up multiple scheduler databases for one embedded database environment, execute the `ajsembdbsetup` command repeatedly until all those scheduler databases are set up.
8. Use the `ajsembdbstop` command to stop the embedded database.
9. Start the JP1/AJS3 service.
10. Restore the unit definition and execution agent information you backed up in step 2.
If you have set up multiple scheduler databases for one embedded database environment, restore the unit definition and execution agent information for all those scheduler databases.
For details, see *2.3.4 Recovering the JP1/AJS3 - Manager setup information in the JP1/Automatic Job Management System 3 Administration Guide*.
11. Register the required jobnet for execution.

If jobnets have been registered for execution before cancellation of the increase of the maximum number, start the scheduler service (in cold-start mode) corresponding to the re-created embedded database.

(4) Notes

If you register additional execution agents after increasing the maximum number of execution agents, the time required to start the JP1/AJS3 service extends. If JP1/AJS3 startup time is being monitored by cluster software, you need to review the timeout setting in the cluster software. Therefore, after registering additional execution agents, check the startup time of the JP1/AJS3 service, and appropriately adjust the timeout setting in the cluster software.

6.3 Changing the settings related to event/action control

This section describes how to change the settings related to event/action control.

When you set environment setting parameters, use the `jaajs_config` command or `jbssetcnf` command.

For details about the `jaajs_config` command, see *jaajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details on the `jbssetcnf` command, see the *JP1/Base User's Guide*.

6.3.1 Changing the settings related to the size of the log for event jobs and custom event jobs to match operational requirements

This subsection describes how to change the settings related to the size of the log for event jobs and custom event jobs to match operational requirements. We recommend that you specify the settings so that log data for two or three days is saved. Log data for at least 24 hours must be saved.

For details about estimating the size of log data, see *3.4.3 Estimating the size of the log information output by event jobs and custom event jobs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The following describes how to change the settings related to the size of the log for event jobs and custom event jobs.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set environment setting parameters:

```
jaajs_config -k definition-key "parameter-name-1"=value-1  
["parameter-name-2"=value-2]  
["parameter-name-3"=value-3] ...
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jaajs_config` command for each definition key.

For the environment setting parameters to be set, see *3.4.3 Estimating the size of the log information output by event jobs and custom event jobs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

3. Restart JP1/AJS3.

The new settings are applied.

6.3.2 Setting the event order option

When an event job or a custom event job has start conditions, events that trigger the job might occur in succession but be processed in a different order, depending on the communication conditions. You might want to preserve the actual order of events that satisfied the start conditions if, for example, the event information will be passed to the job. To do this, use the event order option. The following describes how to enable the event order option.

Note that you must enable the event order option on all the agent hosts for which you want to use the function of the event order option.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jaajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–53: Environment setting parameter used to set the event order option

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1AOMAGENT]#	"EventSequential"=	Specifies whether the event order option is enabled.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(23\) EventSequential](#).

6.3.3 Setting the status passing option for the file monitoring job

While the file monitoring job is monitoring target files, the monitoring information can be saved continuously so that the monitoring status of the job can be inherited if the JP1/AJS3 service temporarily stops.

Note that the monitoring status can be inherited only if the file monitoring job is operating continuously. Whether the monitoring status can be inherited depends on whether the file monitoring job is operating continuously.

For details about the conditions under which the monitoring status can be inherited, see [7.6.2 Notes on the Monitoring Files job](#) in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

The function that inherits the monitoring status of the file monitoring job is disabled by default. Note, however, that the function is enabled when JP1/AJS3 is installed as a new installation and set up. The following describes how to set the status passing option.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–54: Environment setting parameter used to set the status passing option for the file monitoring job

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AOMAGENT]#	"FilewatchinfContinue"=	Specifies whether the status passing option for the file monitoring job is enabled.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(20\) FilewatchinfContinue](#).

6.3.4 Passing event data containing double quotation marks

Data containing double quotation marks (") can be passed as is to an event job and a custom event job. For details, see [4.3.1\(5\) Passing event data containing double quotation marks](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The following describes how to set the option that enables the passing of data containing double quotation marks (").

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–55: Environment setting parameter used to enable passing of data containing double quotation marks to an event job and a custom event job

Definition key	Environment setting parameter	Explanation
• For all scheduler services	"MacVarDQuotation"=	Specifies whether to enable passing of data containing double quotation marks (").

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2\SCHEDULER\EV\MANAGER]#	"MacVarDQuotation"=	Specifies whether to enable passing of data containing double quotation marks (").

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(3\) MacVarDQuotation](#).

6.3.5 Using fully qualified domain names (FQDN) when using event jobs and custom event jobs during DNS operation

This subsection describes how to specify the settings for using domain names in FQDN format when using event jobs and custom event jobs during DNS operation. The procedure for specifying these settings when JP1/AJS3 is installed as a new installation is described below. Note that specification of these settings is required only if event jobs and custom event jobs are used. Standard, action, and custom jobs are already supported.

If you want to change environment settings during operation, see [7.9.5 Changing to FQDN host names for event jobs and custom event jobs in a DNS environment](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

Note that these settings must be specified on the manager host.

The following describes the procedure for specifying these settings.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–56: Environment setting parameter used to enable the use of fully qualified domain names (FQDN) when event jobs and custom event jobs are used during DNS operation

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2\SCHEDULER\EV\MANAGER]#	"DNSEstablish"=	Specifies whether to enable the use of domain names in FQDN format when event jobs and custom event jobs are used during DNS operation.

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(4\) DNSEstablish](#).

6.3.6 Resuming event jobs and custom event jobs that stopped when the JP1/AJS3 service stopped

For event jobs and custom event jobs, JP1/AJS3 provides an option that enables event jobs and custom event jobs that have stopped when the JP1/AJS3 service stopped to resume in the same status from the point at which they stopped.

The following describes how to enable this option. For details about the functionality of this option, see [8.2.1 Continuing the execution of event jobs and custom event jobs if the JP1/AJS3 service stops](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.
The new settings are applied.

(2) Environment setting parameter

Table 6–57: Environment setting parameter used to enable event jobs and custom event jobs that have stopped when the JP1/AJS3 service stopped to resume

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">• For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\EV\MANAGER]#• For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\EV\MANAGER]#	"EvJobExecContinue"=	Specifies whether to enable the execution of stopped event jobs and custom event jobs to resume.

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(6\) EvJobExecContinue](#).

6.3.7 Retrying startup notification of the event/action control agent

When an event job, a custom event job or a jobnet with start conditions is registered for execution from a manager host, the name of the manager host is set in JP1/AJS3 on the execution host (target host). When JP1/AJS3 starts, it notifies the event/action control manager that it has started. This notification is called the *startup notification of the event/action control agent* (abbreviated here to *startup notification*).

When the manager receives the notification, the manager communicates with the agent to synchronize the execution status of the event job and custom event job (or jobnet with start conditions) running on the agent between the manager and agent.

If startup notification from the agent to the manager fails, the execution status of the event job and custom event job (or jobnet with start conditions) might become inconsistent between the manager and agent. If an inconsistency occurs, the jobnet with start conditions might be displayed as a jobnet being monitored (*Now monitoring* status) in JP1/AJS3 - View even if the agent is no longer actually monitoring the jobnet. If a monitored event then occurs, the event will not be detected, preventing the event job and the custom event job from ending on the manager or the jobnet with start conditions from starting.

If the JP1/AJS3 service on the agent host will be restarted under either of the following conditions while an event job, a custom event job or a jobnet with start conditions is running, set an environment parameter as described in (1) below:

- The agent restarts the JP1/AJS3 service on the agent host when the load on the overall system from programs other than JP1/AJS3 is excessive.
- The JP1/AJS3 service on the agent host is restarted when a temporary communication error occurs on the network.

To check the manager host names set, you can use the `jpoagoec` command. If there are unnecessary manager hosts, use the command to delete them, and then set the environment setting parameter. For details about the `jpoagoec` command, see `jpoagoec` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Cautionary note:

If you set the environment setting parameter and then start the JP1/AJS3 service on the agent when unnecessary manager hosts are set on the agent, startup notification will fail for those hosts, resulting in retries. These unnecessary retries could delay the starting of an event job, a custom event job or a jobnet with start conditions executed from another manager as well as the detection of events.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–58: Environment setting parameter used to enable retrying of startup notification of the event/action control agent after a notification failure

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1AOMAGENT]#	"RetryAgtStartNotification"=	Specifies whether to enable retrying of startup notification of the event/action control agent after a notification failure.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(24\) RetryAgtStartNotification](#).

6.3.8 Applying a timeout for receiving data in inter-process communication by event/action control

If event/action control cannot perform inter-process communication normally due to heavy network load or a line error, the following problems could occur:

- The status of a job does not change when, for example, the job is registered for execution or forcibly terminated.
- A jobnet does not start at the scheduled time.
- An event monitored by an event job, a custom event job or start condition is not detected.
- The scheduler service does not stop when the `jajs_spm�_stop` or `ajsstop` command is executed.
- The JP1/AJS3 service takes a long time to stop.

You can prevent these problems from occurring by enabling the option that applies a timeout for receiving data in inter-process communication by event/action control.

The following describes how to enable this option.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–59: Environment setting parameter used to apply a timeout for receiving data

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AOMAGENT]#	"RecvTimeout"=	Specifies whether to apply the timeout for receiving data in event job and custom event job socket communication.

#: The specification of this parameter is effective on the physical host and all logical hosts.

For details about the definition of this environment setting parameter, see [20.6.2\(37\) RecvTimeout](#).

6.3.9 Setting the period of time for monitoring event jobs and custom event jobs in the blocked status

An event job, a custom event job or a jobnet with start conditions is said to be in *blocked status* when event/action control regards the job or jobnet as running, but the scheduler service regards the job or jobnet as having ended.

The blocked status arises when, for example, temporary files required for processing are lost because disk space is temporarily insufficient or a disk error occurs at the same time that the status of an event job or a custom event job changes.

If event jobs, custom event jobs or jobnets with start conditions are in the blocked status, information about the events detected by these jobs or jobnets can accumulate in event/action control, where it consumes system resources such as disk space and memory. The accumulation of information in event/action control can delay the processing of other event jobs, custom event jobs or jobnets with start conditions.

To prevent an accumulation of information, JP1/AJS3 checks for event jobs, custom event jobs and jobnets with start conditions in the blocked status when the specified period of time since JP1/AJS3 service startup has elapsed. If event jobs, custom event job and jobnets with start conditions in the blocked status are found, they are forcibly terminated and the accumulated event information is discarded.

You change this period of time in an environment setting parameter.

The following describes how to set the environment setting parameter.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.
The new settings are applied.

(2) Environment setting parameter

Table 6–60: Environment setting parameter used to set the period of time for monitoring event jobs or custom event jobs in the blocked status

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]#For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]#	"BlockadeTimeoutInterval"=	Specifies the period of time for monitoring event jobs or custom event jobs in the blocked status.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see [20.6.2\(7\) BlockadeTimeoutInterval](#).

6.3.10 Setting the binding method applied to the outgoing communication used in the execution of event jobs and custom event jobs

By default, the ANY binding method is set as the binding method applied to the communication used in the execution of event jobs and custom event jobs to match the JP1/Base communication settings. In a cluster configuration, the IP binding method is automatically set for both physical and logical hosts when the cluster system is set up. The IP binding method is also set for both outgoing communication and incoming communication.

If multi-LAN connection is used, separate binding methods can be set in the JP1/Base communication settings for outgoing communication and incoming communication.

However, you can explicitly ensure that the binding method applied to incoming communication is always applied to the outgoing communication used in the execution of event jobs and custom event jobs, regardless of the JP1/Base communication settings, by using the procedure described below.

Note, however, that if you install JP1/AJS3 as a new installation, you must set the binding method in the JP1/Base communication settings without using the procedure described below. If JP1/AJS3 is installed as an upgrade from 06-51 or earlier version of JP1/AJS2 in which the binding method applied to outgoing communication used in the execution of event jobs is set, that setting is inherited. Note, however, that if JP1/AJS3 is re-installed, the inherited settings are lost. If you still want to use the same settings that were used in JP1/AJS2 06-51 or earlier, you will have to specify the settings manually.

The following describes the procedure for setting the binding method applied to the outgoing communication used in the execution of event jobs and custom event jobs. Note that the procedure must be performed on the manager host and all agent hosts on which event jobs and custom event jobs will be executed.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–61: Environment setting parameter used to set the binding method for outgoing communication

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]# For an event/action control agent [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]# 	"ClientBindFlag"=	Specifies the binding method applied to outgoing communication.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see [20.6.2\(14\) ClientBindFlag](#).

6.3.11 Settings for ensuring that the sending of unreported information is retried at regular intervals

If inter-process communication between the event/action control manager and the event/action control agent fails for a reason such as a busy network or a defective line, the information that could not be sent is managed as *unreported information*.

The following describes the default values for the send retry interval and the maximum send retry count.

- When connection to the agent host times out
The send retry interval is 300 seconds for the first retry, 600 seconds for the second retry, 900 seconds for the third retry, 1,800 seconds for the fourth retry, and 3,600 seconds for the fifth and subsequent retries. The maximum number of retries is 27 (24 hours).
- In all other cases
The send retry interval is 30 seconds, and the maximum number of send retries is 2,880 (24 hours).

As described above, when a connection to the agent host times out, the sending of unreported information is not retried at regular intervals. However, an option for ensuring that the sending of unreported information is retried at regular intervals (the `NotificationConstantRetry` environment parameter) is provided. If this option is used, a send retries apply for any network error. Note, however, that if this option is used and the timeout status of the connection to the agent continues for a long time, send retries could cause many timeouts, resulting in processing delays.

If you want to mitigate processing delays when this option is used, also increase the value of the environment setting parameter for the timeout value to a tolerable level for processing delays.

For details about the environment setting parameter for the timeout value, see [6.3.13 Setting the connection timeout for communication between the event/action control manager and agent](#).

In addition to setting the above environment setting parameter, also adjust the other environment setting parameters related to communication for event/action control. For details, see [6.3.14 Environment setting parameters related to communication for event/action control](#).

Use the procedure below for ensuring that the sending of unreported information is retried at regular intervals.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–62: Environment setting parameter for ensuring that the sending of unreported information is retried at regular intervals

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]# • For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]# 	"NotificationConstantRetry"=	Option ensuring that the sending of unreported information is retried at regular intervals

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameters, see [20.6.2\(8\) NotificationConstantRetry \(for communication from a manager host to an agent host\)](#).

6.3.12 Changing the send retry interval and the number of retries for sending unreported information

If inter-process communication between the event/action control manager and the event/action control agent fails for a reason such as a busy network or a defective line, the information that could not be sent is managed as *unreported information*.

The following describes the default values for the send retry interval and the maximum number of retries.

For a resend from the manager host to the agent host:

The values for the send retry interval and the maximum number of retries vary according to the type of error that has occurred.

Error 1: When connection to the agent host times out

The send retry interval is 300 seconds for the first retry, 600 seconds for the second retry, 900 seconds for the third retry, 1,800 seconds for the fourth retry, and 3,600 seconds for the fifth and subsequent retries. The maximum number of retries is 27 (24 hours).

Error 2: In all other cases

The send retry interval is 30 seconds, and the maximum number of send retries is 2,880 (24 hours).

For the resending of information from the agent host to the manager host (resending information when a monitoring condition for an event job and a custom event job is satisfied, including event jobs and custom event jobs defined as start conditions):

Irrespective of the type of error, the send retry interval is 10 seconds, and the maximum number of send retries is 8,640 (for a total of 24 hours).

You can change the send retry interval and the maximum number of retries for resending unreported information both from the manager host to the agent host due to error 2, and from the agent host to the manager host. Note, however, that changing these settings changes the resend processing from the manager host to the agent host as described below.

Before the settings are changed:

Regardless of the type of error that has occurred, send retries end after 24 hours.

After the settings are changed:

Send retries end when either of the following occurs:

- Error 1 repeats during the 24 hours.
- Error 1 or Error 2 occurs and the number of send retries has reached the maximum.

Therefore, if the settings are changed when both Error 1 and Error 2 have occurred, the completion of a resend operation could take a long time. This problem can be prevented by specifying the settings that apply the same send retry interval and maximum number of send retries regardless of whether Error 1 or Error 2 occurs.

For details, see [6.3.11 Settings for ensuring that the sending of unreported information is retried at regular intervals](#).

Use the procedure below for changing the settings.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameter described in (2) below:


```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–63: Environment setting parameters for setting the send retry interval and number of retries for sending unreported information

Definition key	Environment setting parameter	Explanation
Communication from the manager host to the agent host: <ul style="list-style-type: none"> For all scheduler services <code>[{JP1_DEFAULT logical-host}\JP1AJS2\SCHEDULER\EV\MANAGER]#</code> For a specific scheduler service <code>[{JP1_DEFAULT logical-host}\JP1AJS2\MANAGER\scheduler-service\EV\MANAGER]#</code> 	"NotificationRetryInterval" "="	Interval for retrying the sending of unreported information
Communication from the agent host to the manager host: <code>[{JP1_DEFAULT logical-host}\JP1AOMAGENT]#</code>	"NotificationRetryCount"=	Maximum number of retries for sending unreported information

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about defining the environment setting parameters for communication from the manager host to the agent host, see the following:

- [20.6.2\(9\) NotificationRetryInterval \(when sending information from the manager host to the agent host\)](#)
- [20.6.2\(10\) NotificationRetryCount \(when sending information from the manager host to the agent host\)](#)

For details about defining the environment setting parameters for communication from the agent host to the manager host, see the following:

- [20.6.2\(28\) NotificationRetryInterval \(when sending information from the agent host to the manager host\)](#)
- [20.6.2\(29\) NotificationRetryCount \(when sending information from the agent host to the manager host\)](#)

6.3.13 Setting the connection timeout for communication between the event/action control manager and agent

When an event job, a custom event job or a jobnet with start conditions is executed, the event/action control manager and the event/action control agent communicate with each other. Because the timeout for connection between the manager and the agent depends on the OS, a wait of 20 to 30 seconds is possible in the following cases:

- The host at the destination has stopped.
- A non-existent IP address in the network is specified as the destination.

- The manager or agent is not registered in the firewall exceptions list between the manager and agent.

If the above cases occur frequently, the process freezes intermittently because there is a long wait for each connection. As a result, an event job, a custom event job or a jobnet with start conditions executed on another agent the manager can communicate with might be delayed for a long time or detection of an event might take an extremely long time. In such cases, adjust the connection timeout value by using the environment setting parameter described in (2) *Environment setting parameter*.

Use the procedure below for setting the environment setting parameter.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–64: Environment setting parameter for the connection timeout between the event/action control manager and agent

Definition key	Environment setting parameter	Explanation
Event action control manager <ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\HOST\NETWORK\EVMANAGER]# • For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\NETWORK\EVMANAGER]# 	"ClientConnectTimeout" =	Connection timeout between the event/action control manager and agent
Event action control agent [{JP1_DEFAULT logical-host} \JP1AOMAGENT]#		

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about defining the environment setting parameters for the event/action control manager, see the following:

- [20.8.2\(1\) ClientConnectTimeout \(communication control\)](#)

For details about defining the environment setting parameters for the event/action control agent, see the following:

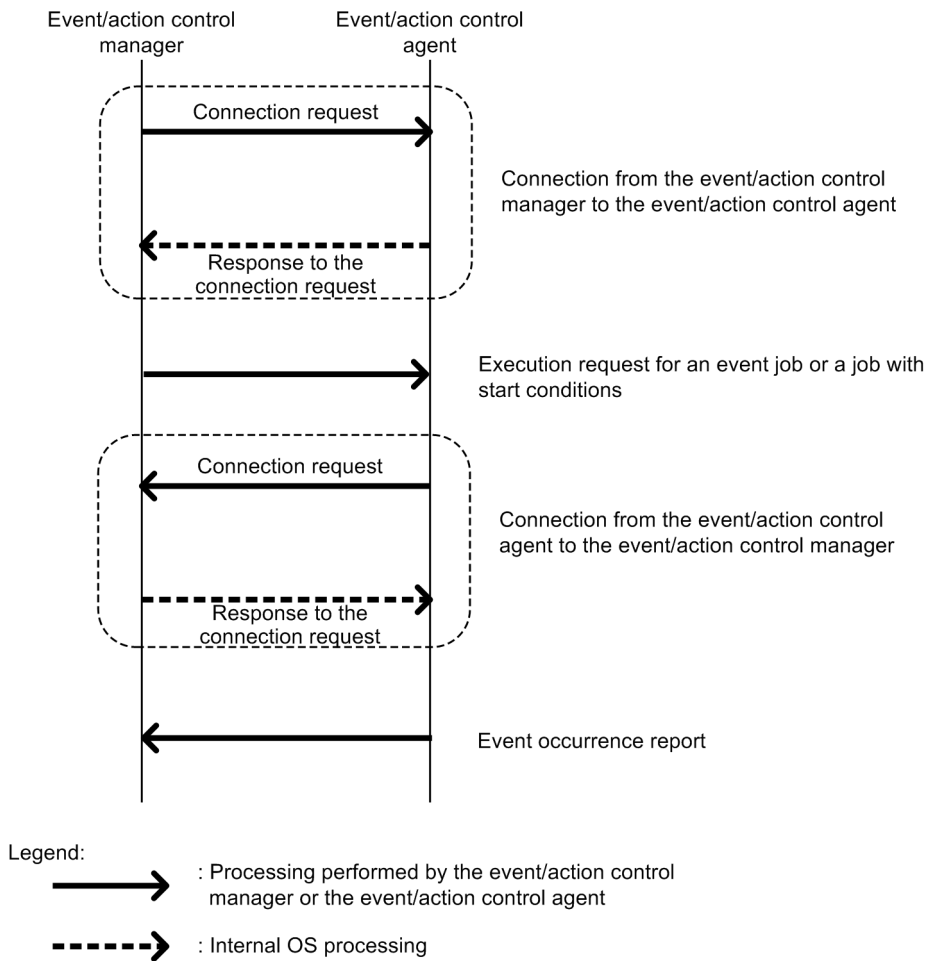
- [20.6.2\(25\) ClientConnectTimeout \(event/action control\)](#)

6.3.14 Environment setting parameters related to communication for event/action control

When an event job, a custom event job or a jobnet with start conditions is executed, the event/action control manager and the event/action control agent communicate with each other. To initiate communication, the event/action control manager and agent establish a connection over which an execution or kill request for the event job, custom event job or jobnet with start conditions and an event occurrence report can be exchanged.

The following figure shows the communication that occurs when an event job, a custom event job or a jobnet with start conditions is executed.

Figure 6–2: Communication when an event job, a custom event job or a jobnet with start conditions is executed



If an error occurs during communication, the information that could not be sent is saved in a file to prepare for a retry. This information is called *unreported information*.

If a communication error occurs, communication is retried as defined in the environment setting parameters.

The following table describes the environment setting parameters related to communication retries for event/action control.

Table 6–65: Environment setting parameters related to communication retries for event/action control.

Definition key	Environment setting parameter	Explanation
<p>For the manager host: <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\NETWORK\EVMANAGER]#</code></p> <p>For the agent host: <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#</code></p>	"ClientConnectTimeout"=	Connection timeout period
<p>For the manager host:</p> <ul style="list-style-type: none"> For all scheduler services <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]#</code> For a specific scheduler service <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]#</code> <p>For the agent host: <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#</code></p>	"NotificationConstantRetry"=	Option for resending unreported information at regular intervals
<p>For the manager host:</p> <ul style="list-style-type: none"> For all scheduler services <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]#</code> For a specific scheduler service <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]#</code> <p>For the agent host: <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#</code></p>	"NotificationRetryInterval"=	Interval for retrying to send unreported information
	"NotificationRetryCount"=	Maximum number of retries for sending unreported information
<code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#</code>	"NotificationAlarmCount"=	The threshold for outputting a message if resending to the manager occurs frequently

#:

The specification of the `{JP1_DEFAULT | logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

The following describes the relationship between the environment setting parameters, and provides examples of setting these parameters.

(1) About ClientConnectTimeout

When the event/action control manager sends a connection request to the event/action control agent, or when the event/action control agent sends a connection request to the event/action control manager, the sender waits for a response.

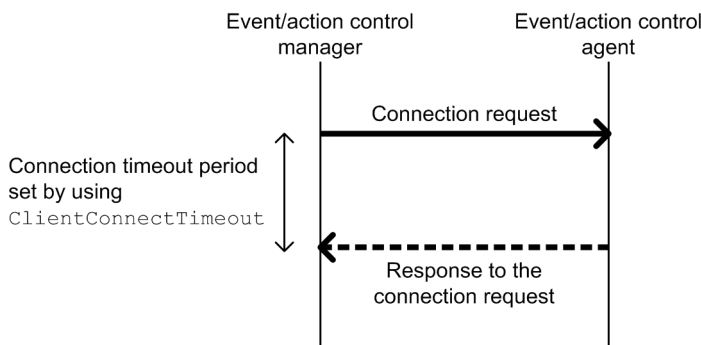
If no response is returned within a predefined time, the wait times out so that other processing can be performed. The time during which the manager or agent waits for a response to a connection request is called the *connection timeout period*.

Use the `ClientConnectTimeout` environment setting parameter to set the connection timeout period.

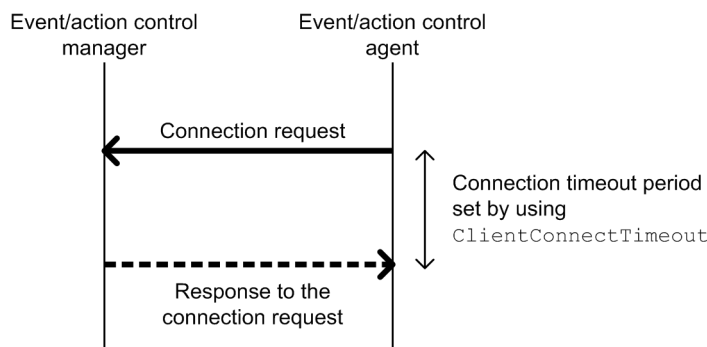
The following figure shows the connection timeout period set by using the `ClientConnectTimeout` environment setting parameter.

Figure 6–3: Connection timeout period set by using the `ClientConnectTimeout` environment setting parameter



■ Connection from the event/action control manager to the event/action control agent



■ Connection from the event/action control agent to the event/action control manager



Legend:

-  : Processing performed by the event/action control manager or the event/action control agent
-  : Internal OS processing

Increasing the value of the `ClientConnectTimeout` environment setting parameter also increases the connection timeout period. Accordingly, connection timeouts might not occur very often even when a long time is required to receive a response due to communication load.

However, if no response has been sent from a connection request for a long time because of a network device failure or similar reason, the time that elapses before the timeout also increases. Accordingly, the time during which neither an execution registration or kill request for an event job, a custom event job or a jobnet with start conditions nor an event occurrence report is processed also increases. When the manager or agent is waiting for a timeout, an attempt to kill or register an event job, a custom event job or a jobnet with start conditions for execution on another agent available for communication cannot be processed immediately. As a result, changing the job status will take a long time. Therefore, if a connection timeout occurs, the manager or agent with default settings gradually increases the interval for each retry, instead of using the regular interval, in order to gradually reduce the retry frequency. For details, see (2) [About NotificationConstantRetry](#).

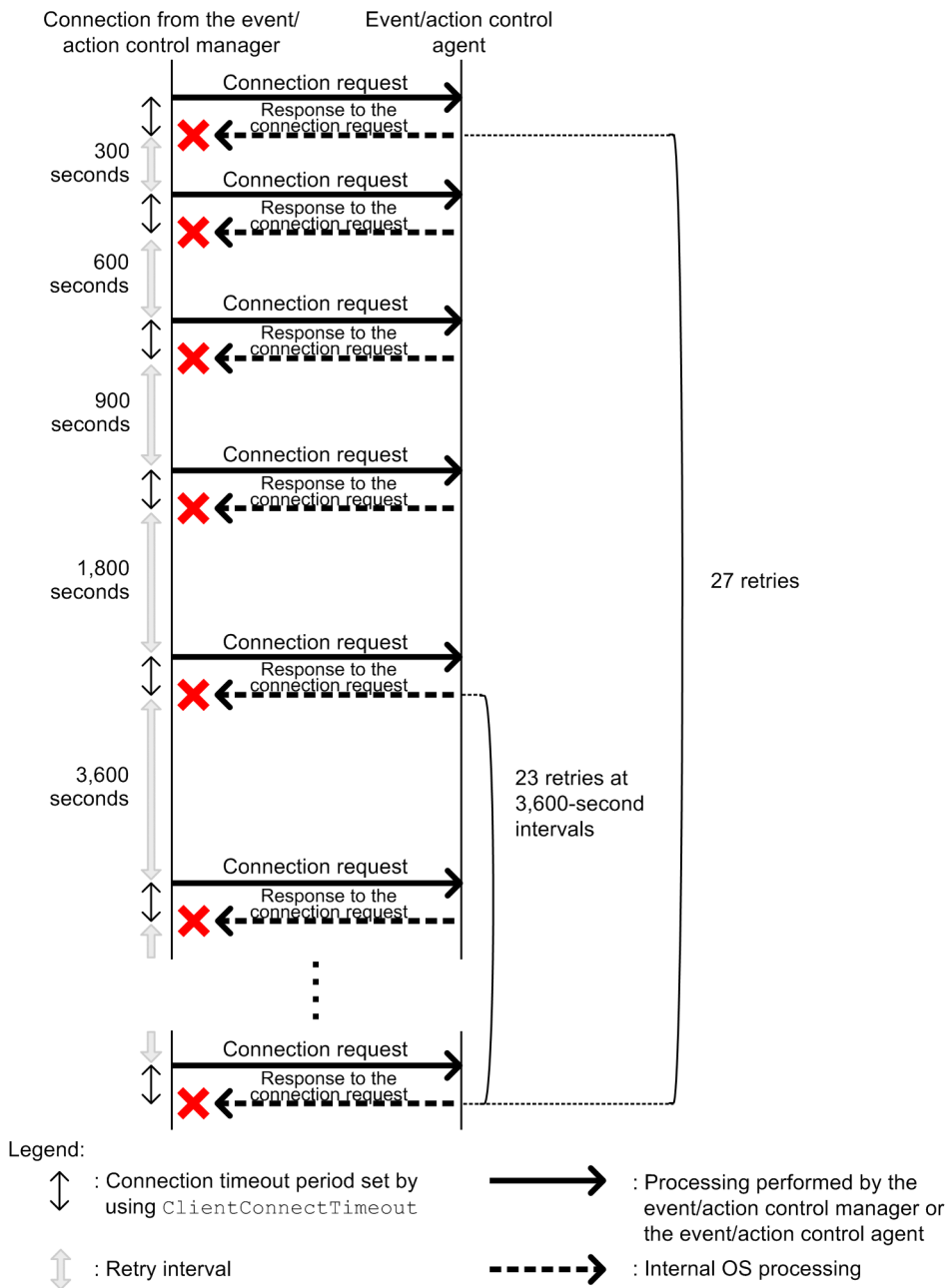
(2) About NotificationConstantRetry

(a) Communication from the event/action control manager to the event/action control agent

Depending on the value of the `ClientConnectTimeout` environment setting parameter, a long time is required before the response to a connection request is sent if a network device failure or other problem occurs. In such cases, there is a long delay before an event job, a custom event job or a jobnet with start conditions is registered for execution or killed. To reduce the frequency of processing delays, unlike a regular interval, the communication retry interval used when a connection timeout occurs gradually increases by default. On the manager host, the settings are specified so that a retry is performed at an interval that gradually becomes longer as follows: 300, 600, 900, 1,800, and 3,600 seconds (max). A retry can be performed a maximum of 27 times (24 hours).

The following figure shows how communication is performed from the event action control manager to the event action control agent if a connection error occurs.

Figure 6–4: Communication from the event/action control manager to the event/action control agent when a connection timeout occurs



However, if a connection timeout is due to a temporary cause such as a high communication load, the retry process described above takes more time, delaying the execution of an event job, a custom event job or a jobnet with start conditions on the execution agent. For such cases, you can also use a regular interval for retries.

Set `Y` for the `NotificationConstantRetry` environment setting parameter to use a regular interval for retries, irrespective of whether retries are due to connection timeouts or other types of errors. For details about the retry interval, see (3) *About NotificationRetryInterval and NotificationRetryCount*.

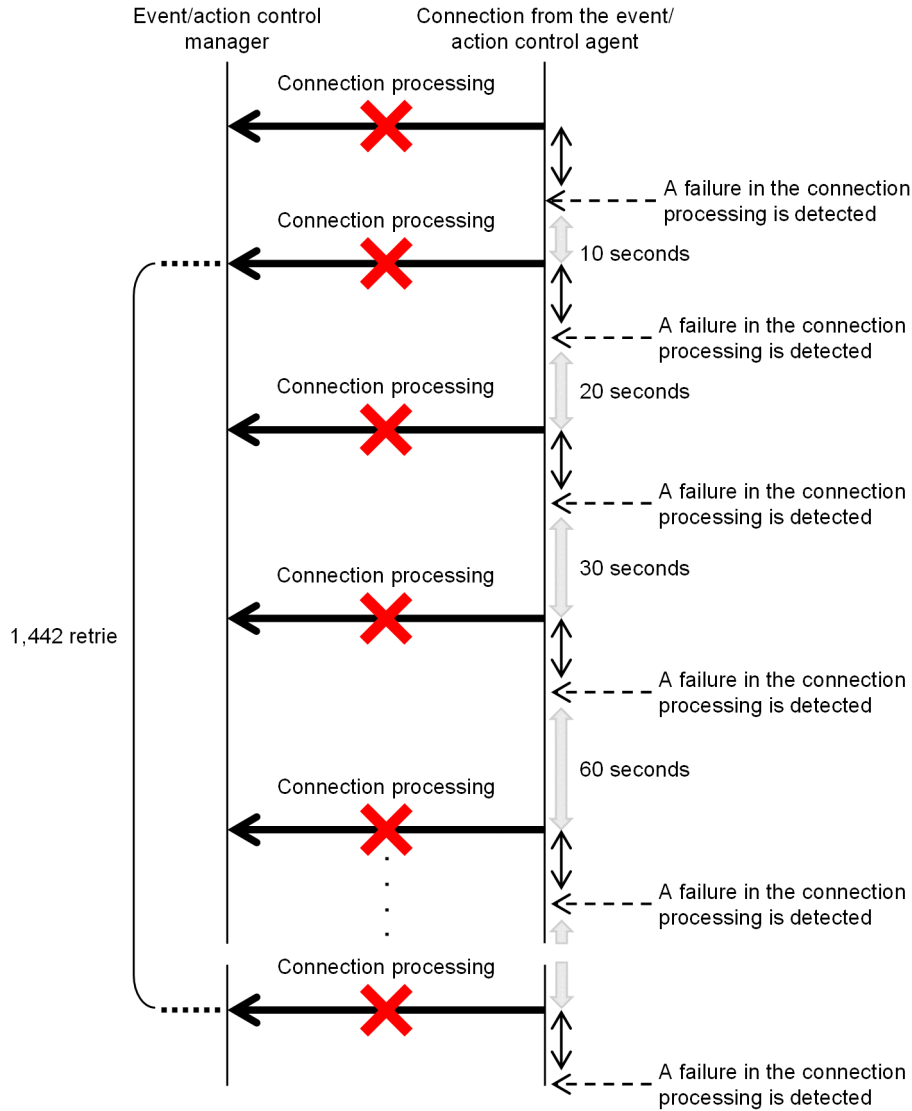
(b) Communication from the event/action control agent to the event/action control manager

If a connection error occurs due to reasons such as a high load on the network or a problem with communication lines, the event action control agent performs a retry 8,640 times (for 24 hours) at a fixed 10-second communication interval by

default. If you specify N for this environment setting parameter, a retry is performed at an interval that gradually becomes longer as follows: 10, 20, 30, and 60 seconds (max) a maximum of 1,442 times (24 hours). The maximum retry count if N is specified for this environment setting parameter is $value-of-NotificationRetryCount / 6 + 2$. The retry interval gradually becomes longer in four steps: (1) $value-of-NotificationRetryInterval \times 1$, (2) $value-of-NotificationRetryInterval \times 2$, (3) $value-of-NotificationRetryInterval \times 3$, and (4) $value-of-NotificationRetryInterval \times 6$ (max).

The following figure shows how communication is performed from the event action control agent to the event action control manager if a connection error occurs.

Figure 6–5: Communication from the event/action control agent to the event/action control manager when a connection error occurs



- Legend:
- :Period until a failure in the connection processing is detected
 - :Retry interval
 - :Processing performed by the event/action control manager or the event/action control agent
 - :The time when a failure in the connection processing is detected

(3) About NotificationRetryInterval and NotificationRetryCount

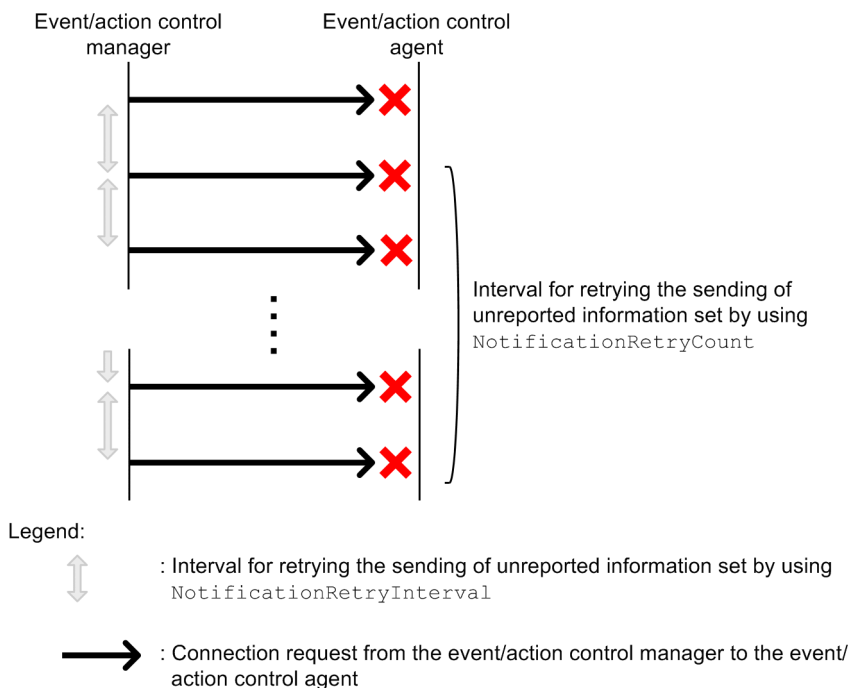
In addition to a connection timeout, a communication error might also be caused by the following problems:

- The execution agent host name cannot be resolved.
- The event/action control agent is busy and cannot accept an execution or kill request.

For retries performed for an error other than a connection timeout that occurs during communication between the event/action control manager and event/action control agent, you can set the retry interval by using the `NotificationRetryInterval` environment setting parameter (the default is 30 seconds). Similarly, you can set the maximum number of retries by using the `NotificationRetryCount` environment setting parameter (the default is 2,880).

The following figure shows an example of an error that is not a timeout error.

Figure 6–6: When an error other than a connection timeout occurs



Note that if you want to change only the retry interval or only the number of retries, the retry period (the period during which retries can be performed) also changes. If you want to retain a retry period, you need to adjust the values of both environment setting parameters. For example, if you change the retry interval to 15 seconds, which is half the default value, the number of retries that preserves the retry period is 5,760 (twice the default value).

(4) About NotificationAlarmCount

If a notification is not sent to the manager even after repeated resending of the notification, you can set a threshold for outputting the message KAVT0669-E, so you will be able to notice that the notification has not reached the manager for an extended period. In JP1/AJS3 13-10 or later, the initial setting value for a new installation and new setup is 24 times[#] for Windows and 29 times[#] for UNIX. If the `NotificationConstantRetry` environment setting parameter is set to N, the retry interval gradually becomes longer. In this case, perform calculation using the following expression, round up the result to the nearest integer, and use the resulting value as a guideline of the retry count to be specified.

#:

If notification continues to fail due to a pending connection timeout as a result of specifying Y for the environment setting parameter `NotificationConstantRetry` to perform retries at a regular interval and specifying 10 seconds for the environment setting parameter `NotificationRetryInterval`, an output will be made approximately 10 minutes after the notification to the manager fails for the first time (this might vary depending on the cause of the communication error, the load on the system and network, etc.).

$$\text{Guideline-value-for-NotificationAlarmCount-environment-setting-parameter} = (n - 6 \times b) / (a + 6 \times b) + 2$$

Legend:

n:

The time in seconds before failure in communication is detected (units: seconds)

a:

The value set in the `ClientConnectTimeout` environment setting parameter or the OS default time before a wait for connection times out, whichever is shorter^{#1} (units: seconds)

b:

The value of the environment setting parameter `NotificationRetryInterval`^{#2} (units: seconds)

#1:

This is a value to be specified if resending fails due to a connection timeout.

#2:

If the resending fails due to a connection timeout, in Windows, if a is greater than b, estimate the value of b to be less than the set value.

Note that the KAVT0669-E message is not output if this environment setting parameter is set to 0 or omitted.

(5) Guideline for environment setting parameter settings

The following table provides the guidelines for environment setting parameter settings based on what is most important for communication.

Table 6–66: Guidelines for environment setting parameter settings (manager)

		Environment setting parameters requiring adjustment				Cautionary note
		"ClientConnectTimeout" (in milliseconds)	"NotificationConstantRetry"	"NotificationRetryInterval" (in seconds)	"NotificationRetryCount"	
Default value		Windows: 30,000 UNIX: 1,000 ^{#1}	N	30	2,880 or 27 ^{#2}	N/A
Most important consideration	Suppress processing delays for other agents when timeouts occurs for an agent during communication	3,000 to 10,000	N	N/A	N/A	Because the retry interval gradually increases by 300, 600, 900, 1,800, and 3,600 seconds even when

		Environment setting parameters requiring adjustment				Cautionary note
		"ClientConnectTimeout" (in milliseconds)	"NotificationConstantRetry"	"NotificationRetryInterval" (in seconds)	"NotificationRetryCount"	
Most important consideration	Suppress processing delays for other agents when timeouts occurs for an agent during communication	3,000 to 10,000	N	N/A	N/A	communication with the agent no longer times out, a long time is still required before sending is retried.
	Prevent timeouts for agents during communication	10,000 to 60,000	N	N/A	N/A	If timeout occurs for an agent during communication, processing for other agents might be delayed and event detection might be disabled.
	Suppress processing delays with a quick recovery response for the communication environment if a temporary communication error occurs in an otherwise stable communication environment	3,000 to 10,000	Y	3 to 10	2,880 ^{#2}	If timeouts occur for an agent in rapid succession or continue over a long time during communication, processing for other agents might be delayed and event detection might be disabled.
	Ensure communication in an unstable communication environment even if communication is delayed	10,000 to 60,000	Y	3 to 10	8,640 to 28,800	If timeouts occur for an agent in rapid succession or continue over a long time during communication, processing for other agents might be delayed and event detection might be disabled.
	Detecting errors at an early stage	3,000 to 10,000	Y	3 to 10	30 to 100	An event job and a custom event job might end abnormally, in which case the KAVT0103-E message is output to the integrated trace log. Monitoring for this message allows environment errors to be detected.

Legend:

N/A: Not applicable.

#1

The default values are very different for Windows and UNIX because the default values in UNIX have backward compatibility with the settings of JP1/AJS2 version 8.

In version 8, the `ClientConnectTimeout` environment setting parameter does not exist, but the operation is the same as when the environment setting parameter is set to 1,000. The UNIX default value is based on this value.

#2

Use 2,880 for errors that are not timeout errors. Use 27 for timeout errors that continue to occur.

Table 6–67: Guidelines for environment setting parameter settings (agent)

		Environment setting parameters requiring adjustment				Cautionary note
		"ClientConnectTimeout" (in milliseconds)	"NotificationConstantRetry"	"NotificationRetryInterval" (in seconds)	"NotificationRetryCount"	
Default value		Windows: 30,000 UNIX: 1,000	Y	10	8,640	N/A
Most important consideration	Prevent timeouts for managers during communication	10,000 to 60,000	N	N/A	N/A	If communications to some manager hosts time out, processing assigned to those hosts does not start, causing delay in detection of job start or event occurrence.

Legend:

N/A: Not applicable.

For details about the definition of each environment setting parameter, see the following documentation:

- [20.6.2\(8\) NotificationConstantRetry \(for communication from a manager host to an agent host\)](#)
- [20.6.2\(26\) NotificationConstantRetry \(for communication from an agent host to a manager host\)](#)
- [20.8.2\(1\) ClientConnectTimeout \(communication control\)](#)

For details about the definition of the environment setting parameters related to communication between the event/action control manager and the event/action control agent, see the following documentation:

- [20.6.2\(9\) NotificationRetryInterval \(when sending information from the manager host to the agent host\)](#)
- [20.6.2\(10\) NotificationRetryCount \(when sending information from the manager host to the agent host\)](#)

For details about the definition of the environment setting parameter related to communication from the event/action control agent to the event/action control, see the following documentation:

- [20.6.2\(27\) NotificationAlarmCount](#)
- [20.6.2\(28\) NotificationRetryInterval \(when sending information from the agent host to the manager host\)](#)
- [20.6.2\(29\) NotificationRetryCount \(when sending information from the agent host to the manager host\)](#)

6.3.15 Settings for ensuring that a fixed manager host name is used when event jobs and custom event jobs are executed

When an event job or a custom event job is executed, the event/action control manager communicates with the agent on which the job is executed. In the communication, the manager sends its own name to the agent so that the agent can distinguish the manager from other agents. The manager host name is acquired when the JP1/AJS3 service on the manager is started.

Normally, unless the host name is changed intentionally, the acquired host name never changes when the JP1/AJS3 service on the manager is restarted. However, case for alphabetic characters (upper or lower case) used in the acquired host name might change for some reason when the JP1/AJS3 service is restarted. For example, a change in the case might occur if the OS settings related to DNS name resolution are changed.

Because event job and custom event job execution agents treat manager host names as being case-sensitive, a change in the case, which is equivalent to a change in the manager host name, might cause the following problems:

- If the JP1/AJS3 service on the manager is restarted while a jobnet with start conditions is being executed, a duplication of monitored events might be detected after the restart.
- When the option for continuing execution of active event jobs is enabled, if the JP1/AJS3 service is restarted in hot-start mode on the manager while an event job or a custom event job is being executed, multiple occurrences of the same event are detected.

For details about the option for continuing the execution of active event jobs, see [6.3.6 Resuming event jobs and custom event jobs that stopped when the JP1/AJS3 service stopped](#).

To avoid these problems, enable the option for using a fixed manager host name (the `FixedHostnameForAgent` environment setting parameter). If this option is enabled, the event/action control manager always sends the host name in all lower case.

Cautionary note:

Be careful when you change the settings of the option for using a fixed manager host name while executing jobnets with start conditions or executing event jobs or custom event jobs with the option for continuing the execution of active event jobs enabled. If you make a change, the case of the alphabetic characters of the manager host name might change.

Making such a change might cause inconsistencies in the management status of jobnets with start conditions, event jobs or custom event jobs that have already been executed. For example, multiple jobnets might be incorrectly started for one event.

To avoid these types of problems, make sure you use the following procedure when enabling the option for using a fixed manager host name or changing the option settings:

1. Stop the JP1/AJS service on the agent host on which jobnets with start conditions, event jobs or custom event jobs are being executed.
2. On the agent host in step 1, execute the `jpoagoc` command to delete the manager host name for which the option for using a fixed manager host name is to be enabled.
For details about the `jpoagoc` command, see *jpoagoc* in [3. Commands Used for Normal Operations](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.
3. On the manager host, enable the option for using a fixed manager host name.
For details about how to enable the option, see (1) below.
4. Cold-start the JP1/AJS service on the agent host in step 2.

The following describes the procedure for enabling the option.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.
The new settings are applied.

(2) Environment setting parameter

Table 6–68: Environment parameter for the option for using a fixed manager host name

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">• For all scheduler services [{JP1_DEFAULT <i>logical-host</i>} \JP1AJS2\SCHEDULER\EV\MANAGER]#	"FixedHostnameForAgent"=	Option for using a fixed manager host name

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameters, see [20.6.2\(5\) FixedHostnameForAgent](#).

6.3.16 Enabling monitoring of a large file

This subsection describes how to specify the settings for large-file monitoring (monitoring of files that are 2 GB or larger) by using a file monitoring job.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.
The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–69: Environment setting parameters used to monitor and judge a large file

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2COMMON]#	"LARGEFILEUSE"=	Specifies the operation for a large file

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.11.2\(1\) LARGEFILEUSE](#).

6.3.17 Setting the event server name in the system using DNS

When you want to use JP1/AJS3 and JP1/Base in a network environment consisting of multiple domains to send and receive JP1 events across the domains, you must consider that there might be hosts that have the same name in different domains. If you use JP1/Base event servers with the default settings on hosts that have the same name, it is not possible to determine from the host name whether a JP1 event registered in the JP1/Base event server was transferred from another host or generated on the local host. As a result, problems could arise, such as a JP1 event reception monitoring job seeming to detect events incorrectly.

To prevent these problems, specify FQDN event server names instead of using the default event server settings in a multiple-domain system.

When JP1/AJS3 and an event server that has an FQDN event server name are operating on the same host, you can execute a log file monitoring job by using JP1/AJS3 on the host as the execution agent. To do so, define the FQDN event server name option (`EventServerName` environment setting parameter) for the JP1/AJS3 that will be used as the execution agent, and specify the event server name (FQDN format) that will be used by the log file monitoring job.

Cautionary note:

If the log file monitoring job is executed when the event server specified by this option is not running, the following message is output to the integrated trace log, after which connection processing is retried internally: KAVT1068-W The specified event server is inactive. (`EventServerName=even-server-name`). If the event server is successfully connected during retry, the following message is output to the integrated trace log: KAVT1069-I The specified event server was connected. (`EventServerName=event-server-name`). Accordingly, the log file monitoring job cannot monitor events during the time from output of KAVT1068-W message to output of the KAVT1069-I message.

The following describes the procedure for setting the FQDN event server name option.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–70: Environment setting parameter used to set an FQDN event server name

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AOMAGENT]#	"EventServerName"=	FQDN event server name

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(30\) EventServerName](#).

6.3.18 How to set the option for changing the agent information to be used for name resolution

The manager host that communicates with an agent host stores the IP address resolved from the agent host name. If the IP address of an agent host is changed, a manual operation on the manager host is required to update the stored IP address by, for example, restarting the JP1/AJS3 service.

This operation can be omitted by enabling the option for changing the agent information used for name resolution.

The option for changing the agent information used for name resolution must be set on both the manager and agent hosts. If this option is not set on both hosts, it does not take effect.

Notes:

- This option can be used only if the JP1/AJS3 database is in the standard configuration.
- This option can be used if the versions of both JP1/AJS3 - Manager and JP1/AJS3 - Agent are 10-50 or later. If the version of either JP1/AJS3 - Manager or JP1/AJS3 - Agent is 10-10 or earlier, this option cannot be used.

(1) Definition procedure

The option for changing the agent information used for name resolution must be set on both the manager and agent hosts. The following subsections describe the procedure for setting this option on each host. The same procedure can be used regardless of the option value set.

(a) Procedure on the manager host

This subsection describes the procedure that must be performed on the manager host for defining the option for changing the agent information used for name resolution.

If neither jobnets with start conditions, event jobs nor custom event jobs have been executed previously, skip steps 1 to 4.

1. Make sure that the IP address of the agent host can be resolved from the host name on the manager host.
2. Forcibly terminate all jobnets with start conditions, event jobs and custom event jobs that are currently running.

3. Execute the following command to stop all scheduler services with which event jobs and custom event jobs were executed:

```
jajs_spmd_stop [-h logical-host] -n jajs_schd [-F scheduler-service]
```

4. Execute the following command for each of the agent hosts on which event jobs and custom event jobs were executed with the scheduler services stopped in step 3:

```
jpomanevreset [-h logical-host] [-F scheduler-service] -a agent-host
```

5. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

6. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k [{JP1_DEFAULT|logical-host}\JP1AOMMANAGER] "ResolveAgentInfo"=value
jajs_config -k [{JP1_DEFAULT|logical-host}\JP1AJS2\SCHEDULER\EV\MANAGER] "ResolveAgentInfo"=value
```

7. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(b) Procedure on the agent host

This subsection describes the procedure that must be performed on the agent host for defining the option for changing the agent information used for name resolution.

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k [{JP1_DEFAULT|logical-host}\JP1AOMAGENT] "ResolveAgentInfo"=value
```

3. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–71: Environment setting parameter that sets the option for changing the agent information used for name resolution

Definition key	Environment setting parameter	Explanation
For the manager host: [{JP1_DEFAULT <i>logical-host</i> }\JP1AOMMANAGER] [{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2\SCHEDULER\EV\MANAGER] For the agent host: [{JP1_DEFAULT <i>logical-host</i> }\JP1AOMAGENT]	"ResolveAgentInfo"=	Option for changing the agent host information used for name resolution

For details about the definition of this environment setting parameter, see [20.6.2\(15\) ResolveAgentInfo](#).

6.3.19 Settings for monitoring a network file by using a file monitoring job

This section describes the procedure for specifying the settings for monitoring a file by using a file monitoring job via a network. For notes on configuring these settings, see [7.6.2 Notes on the Monitoring Files job](#) in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–72: Environment setting parameters for monitoring a network file by using a file monitoring job

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT] #	"NetworkFilewatch"=	Sets whether to monitor a file by using a file monitoring job via a network.
	"NetworkFilewatchTimeout"=	Timeout period before a monitoring files job cancels the processing for acquiring information on a monitoring target file when monitoring network files.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.6.2\(32\) NetworkFilewatch](#)
- [20.6.2\(33\) NetworkFilewatchTimeout](#)

6.4 Changing the settings related to queueless job execution control

This section describes how to change the settings related to queueless job execution control.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.4.1 Executing jobs with a class specified in a queueless job environment

In a queueless job environment, you can define classes and set for each class the maximum number of concurrently executable jobs and the maximum number of waiting jobs.

If an attempt is made to concurrently execute more jobs in a class than the maximum number of concurrently executable jobs, only as many jobs as the maximum are executed. The rest of the jobs are stacked in memory on the queueless agent. If an attempt is made to execute a job when the number of stacked jobs has reached the maximum number of waiting jobs, the attempt fails, and the status of the job becomes *Failed to start*.

For example, assume that there is a class whose number of concurrently executable jobs is 10 and whose maximum number of waiting jobs is 5, and that 15 jobs are concurrently in the *Now running* status. In this class, if an attempt is made to execute other jobs, the status of the 16th and subsequent jobs becomes *Failed to start*.

In addition to the two types of limitation on a specific class described above, the same two types of limitation are also set for the entire queueless agent. Even if the maximum number of concurrently executable jobs for a class has not been reached, the maximum number of concurrently executable jobs for the queueless agent might have already been reached. In that state, if an attempt is made to execute more jobs in the class, they are stacked in memory on the queueless agent. Similarly, even if the maximum number of waiting jobs for a class has not been reached, the maximum number of waiting jobs for the queueless agent might have already been reached. In that state, if an attempt is made to execute more jobs in the class, the status of the jobs becomes *Failed to start*, although the maximum for the class has not been reached.

When you execute jobs with a class specified, specify the execution host name and class name in **Exec-agent** in the following format, using an exclamation mark (!) as a separator:

execution-host-name!class-name

Supplementary note:

Because queueless jobs do not use an execution agent, the execution host name and class name are specified in **Exec-agent**.

You can specify only one separator (!) and one class name without specifying the host name on which jobs will be executed. If you do not specify the host name, the local host is assumed.

If you omit both the execution host name and class name for a job, the execution host specified in **Exec-agent** for the jobnet to which the job belongs is assumed.

You cannot specify a class name in **Exec-agent** for a jobnet. If you attempt to execute a jobnet specified in this way, the status of the jobs in the jobnet becomes *Failed to start*.

If you attempt to execute a job with a non-existent class specified, the status of the job becomes *Failed to start*.

The following describes how to set a class.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 Queueless Agent service

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jaajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart the service that you stopped in step 1.
The new settings are applied.

(2) Environment setting parameters

Table 6–73: Environment setting parameters used to execute jobs with a class specified in a queueless job environment

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1QLAGENT\AJSQL_CLASS\class]#	"AJSQL_CJOBMAX"=	Specifies the maximum number of concurrently executable jobs for a class.
	"AJSQL_CJOBWAITMAX"=	Specifies the maximum number of waiting jobs for a class.

#:

The specification of the {JP1_DEFAULT | *logical-host* } part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.10.2\(31\) AJSQL_CJOBMAX](#)
- [20.10.2\(32\) AJSQL_CJOBWAITMAX](#)

(3) Definition example

- Definition in **Exec-agent** for a job

```
agent1!class1
```

- Class definition on the job execution host (agent1)

```
jaajs_config -k [JP1_DEFAULT\JP1QLAGENT\AJSQL_CLASS\class1] "AJSQL_CJOBMAX"=dword:3 "AJSQL_CJOBWAITMAX"=dword:1000
```

In this definition example, the maximum number of concurrently executable jobs in class `class1` on execution host `agent1` is 3. The maximum number of waiting jobs in class `class1` on execution host `agent1` is 4,096.

When three jobs are running concurrently, if an attempt is made to execute additional jobs, a maximum of 4,096 jobs can be stacked in memory on the agent. If 4,096 jobs are stacked and an attempt is made to execute additional jobs, the status of the additional jobs becomes *Failed to start* status.

(4) Notes

- Multi-byte characters cannot be used for a class name.
- The maximum length of the class name that can be specified in **Exec-agent** is 63 bytes. If you specify a class name longer than 63 bytes, the class name is truncated at the 63rd byte.
- If a class is defined without defining an environment setting parameter, the environment setting parameter for the defined class is automatically generated with default values when the `ajsqlsetup` command is executed.

6.4.2 Executing a job that requires a user profile in a queueless job execution environment

Normally, the process execution environment in which jobs can be executed requires only system environment settings. However, some jobs require user profile information that is loaded from the OS user's logon session for correct execution. This subsection describes the setting for correctly executing a job that requires user profile information. If this setting is enabled, user profile information is loaded for all PC jobs executed on the specified agent host. The following describes how to change the settings for executing a job that requires a user profile.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 Queueless Agent service
2. Execute the following command to set the environment setting parameters described in (2) below:

```
jaajs_config -k definition-key "parameter-name"=value
```

3. Restart the service that you stopped in step 1.
The new settings are applied.

(2) Environment setting parameter

Table 6–74: Environment setting parameter used to execute a job that requires a user profile in a queueless job execution environment

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1QLAGENT]#	"AJSQL_LOADUSERPROFILE"=	Specifies whether the user profile is to be loaded.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.10.2\(27\) AJSQL_LOADUSERPROFILE](#).

6.4.3 Preventing a queueless job from ending abnormally with return value 128

If all of the following conditions are satisfied when a queueless job is executed, the job might end abnormally with return value 128:

1. There is an OS user who is not currently executing any jobs.
2. The OS user in condition 1 executes a job.
3. At the moment the job in condition 2 terminates, the OS user executes another job.

If a job ends abnormally when the above conditions are satisfied, you can prevent the abnormal termination and have the job end normally by setting the `AJSQL_CREATEWINDOWSTATION` environment setting parameter. The following describes how to set this environment setting parameter.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 Queueless Agent service

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart the service that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameter

Table 6–75: Environment setting parameter used to prevent a queueless job from ending abnormally with return value 128

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1QLAGENT]	"AJSQL_CREATEWINDOWSTATION"=	Specifies whether to prevent a job from ending abnormally with return value 128.

For details about the definition of this environment setting parameter, see [20.10.2\(13\) AJSQL_CREATEWINDOWSTATION](#).

(3) Notes

- If this setting is enabled, the first time that an OS user executes a job, the queueless agent service secures a desktop heap for job execution for that OS user. The queueless agent service then caches the heap in the user mapping cache. The desktop heap that has been secured is not released when the job ends. If the same user subsequently executes jobs, the applicable desktop heap in the user mapping cache is reused. Accordingly, if many OS users are executing jobs, it might not be possible to secure desktop heaps for all of them. If a user executes a job, but a desktop heap cannot be secured, the following message is output and the status of the job becomes *Failed to start*:

```
KAVS1829-E A system call (CreateDesktop) error occurred in the Queueless Agent service. : xxxxxxxx 8
```

If this message is output, execute the `ajsqlalter` command or restart the queueless agent service to clear the user mapping cache and reduce the number of OS users that are used to execute jobs. For details about the `ajsqlalter`

command, see *ajsqlalter* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

If it is not possible to reduce the number of OS users used to execute jobs, reduce the size of the desktop heaps used by applications. For details about how to change the size of desktop heaps, see the documentation for the OS.

- Enabling this setting will not prevent abnormal end of a job with return value 128 caused by insufficient desktop heap space.

6.5 Changing the settings related to the definition pre-check function

This section describes how to change the settings related to the definition pre-check function.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.5.1 Setting up the JP1/AJS3 definition pre-check function

As a protection against failures during live operation, JP1/AJS3 can check for problems in the definition of a job before live operation of the job starts. This subsection describes how to set up this function.

(1) Procedure for setting up the function

To set up the JP1/AJS3 definition pre-check function:

1. Execute the following command:

For JP1/AJS3 - Manager:

```
ajschksetup -m -a
```

For JP1/AJS3 - Agent:

```
ajschksetup -a
```

For details about the `ajschksetup` command, see *ajschksetup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. In Windows Control Panel, open the **Services** administrative tool, and start the following services:
 - JP1/AJS3 Check Manager service
 - JP1/AJS3 Check Agent service

(2) Procedure for changing the function settings

To change the settings of the JP1/AJS3 definition pre-check function:

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following services:
 - JP1/AJS3 Check Manager service
 - JP1/AJS3 Check Agent service
2. Execute the following command to set the environment setting parameters described in (3) below:

```
jajs_config -k definition-key "parameter-name-1"=value-1  
["parameter-name-2"=value-2]  
["parameter-name-3"=value-3]  
["parameter-name-4"=value-4]  
["parameter-name-5"=value-5]
```

3. Restart the services that you stopped in step 1.

The new settings are applied.

(3) Environment setting parameters

Table 6–76: Environment setting parameters used to specify the settings of the JP1/AJS3 definition pre-check function

No.	Definition key	Environment setting parameter	Explanation
1	[JP1_DEFAULT\JP1AJS2\CHECK]	"AJSCHK_CHECKFILE"#=	Specifies the name of the file where the definition pre-check results will be stored.
2		"AJSCHK_LOGDIR"=	Specifies the name of the definition check log folder.
3		"AJSCHK_LOGSIZE"=	Specifies the size of the definition check log files.
4		"AJSCHK_TRACELOGFILE"=	Specifies the name of the trace log file for the definition pre-check function.
5		"AJSCHK_CHARCODE"=	Specifies the character encoding used to display job information and the definition pre-check results.

#:

This parameter can be set only in JP1/AJS3 - Manager.

For details about the definition of these environment setting parameters, see the following:

1. [20.7.2\(1\) AJSCHK_CHECKFILE](#)
2. [20.7.2\(2\) AJSCHK_LOGDIR](#)
3. [20.7.2\(3\) AJSCHK_LOGSIZE](#)
4. [20.7.2\(4\) AJSCHK_TRACELOGFILE](#)
5. [20.7.2\(5\) AJSCHK_CHARCODE](#)

6.6 Settings related to the output of performance reports

This section describes the procedure for changing the settings related to the output of performance reports.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.6.1 Settings for the performance report output function

In JP1/AJS3, you can output performance reports that detail the processing amounts and job execution statuses for each scheduler service, to gain an accurate understanding of the operating status of JP1/AJS3. The following procedure describes how to enable the performance report output function.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameters

Table 6–77: Environment setting parameters for setting up the performance report output function

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"AJSREPORTUSE"=	Enables or disables the performance report output function.
	"AJSREPORTDIR"=	Specifies the directory to which performance log files are to be output.
	"AJSREPORTSTOREDAYPERIOD"=	Specifies the minimum retention period (in days) for performance log files.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(114\) AJSREPORTUSE](#)
- [20.4.2\(115\) AJSREPORTDIR](#)
- [20.4.2\(116\) AJSREPORTSTOREDAYPERIOD](#)

6.7 Settings related to the Web GUI (Management Portal)

This section describes the procedure for changing the settings for the Web GUI (Management Portal).

Use the `jajs_config` command to set environment setting parameters.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.7.1 Additional settings to be specified for using the Web GUI (Management Portal)

If you use the Web GUI (Management Portal), specify the settings described in the following sections to obtain the JP1/AJS3 status information:

- *6.6 Settings related to the output of performance reports*
- *21.5 Setting up the job distribution delay reduction function*
- *21.7 Settings for detecting factors that might stop job execution*

The Web GUI (Management Portal) can be used even if the preceding three additional settings are not specified. However, if these additional settings are not specified, some of the JP1/AJS3 operating information will not be displayed with the Web GUI (Management Portal). The following table lists the items that will not be displayed.

Table 6–78: Items of JP1/AJS3 operating information requiring additional settings for display with the Web GUI (Management Portal)

No.	Relevant screen	Operating information item	Required setting
1	Scheduler Service Details screen	Number of jobs that are in queue or running	<ul style="list-style-type: none">• Settings related to the output of performance reports• Settings for detecting factors that might stop job execution
2		Number of execution generations	
3		Number of unreported information items	
4	Target Host screen	Execution agent status	Settings for reducing a delay in job distribution

6.7.2 Settings for the Web GUI (Management Portal)

To use the Web GUI (Management Portal), you must set it up on both the manager host and agent host.

(1) Procedure for setup on the manager host

Use the following procedure to set up the Web GUI (Management Portal) on the manager host:

1. Stop the JP1/AJS3 service if it is running.
2. Register a JP1 user to use the Web GUI (Management Portal), and then map that user to an OS user[#] who has administrator permissions.

3. Set up the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service by executing the `ajssysctlsetup` command.

For details about the `ajssysctlsetup` command, see *ajssysctlsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Restart the JP1/AJS3 service.

#

- UAC function is enabled
Built-in Administrator
- UAC function is disabled
OS user who is a member of the Administrator group

(2) Procedure for setup on the agent host

Use the following procedure to set up the Web GUI (Management Portal) on the agent host:

1. Stop the JP1/AJS3 service if it is running.

2. Register a JP1 user to use the Web GUI (Management Portal), and then map that user to an OS user[#] who has administrator permissions.

3. Set up the JP1/AJS3 System Control Agent service by executing the `ajssysctlsetup` command.

For details about the `ajssysctlsetup` command, see *ajssysctlsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Restart the JP1/AJS3 service.

#

- UAC function is enabled
Built-in Administrator
- UAC function is disabled
OS user who is a member of the Administrator group

(3) Changing the settings for the Web GUI (Management Portal)

Use the following procedure to change the settings for the Web GUI (Management Portal):

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following services:

- JP1/AJS3 service
- JP1/AJS3 System Control Manager service
- JP1/AJS3 System Control Agent service

2. Execute the `jajs_config` command to set the environment setting parameter described in (4) below:

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Restart JP1/AJS3.

The new settings are applied.

(4) Environment setting parameters

Table 6–79: Environment setting parameters for setting up the Web GUI (Management Portal)

No.	Definition key	Environment setting parameter	Explanation
1	[JP1_DEFAULT\JP1AJS2\CONTROL]	"AUTHSYSLOG"=	Sets whether messages related to user authentication are output to the Windows event log and integrated trace log.
2	[JP1_DEFAULT\JP1AJS2\CONTROL\MANAGER]	"CONRESTRICTSYSLOG"=	Sets whether messages related to connection-source restriction are output to the Windows event log.
3		"AJSSYSCTLDLOGSIZE"=	Sets the size of the internal log file for the ajssysctld process.
4		"LOGSIZE"=	Sets the size of the log file for the ajssysctld process.
5		"MAXOPEEXEC"=	Sets the maximum number of on-screen operations that can concurrently be performed using the Web GUI (Management Portal).
6		"MAXAGGEXEC"=	Sets the maximum number of threads to perform aggregation concurrently.
7		[JP1_DEFAULT\JP1AJS2\CONTROL\AGENT]	"AJSSYSCTLDLOGSIZE"=
8	"LOGSIZE"=		Sets the size of the log file for the ajssysctld process.
9	"MAXOPEEXEC"=		Sets the maximum number of on-screen operations that can concurrently be performed using the Web GUI (Management Portal).
10	[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"PERIODICJOBAGG"=	Sets whether the number of job executions is automatically aggregated.
11		"JOBAGGSTARTTIME"=	Sets the time at which aggregation of the number of job executions starts.
12		"JOBAGGLOGDIR"=	Sets the name of the directory for containing job execution count aggregation log files.
13		"JOBAGGRESULTSSTOREDAYPERIOD"=	Sets the number of days for which the aggregation results of the number of job executions are stored.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

1. 20.15.2(1) *AUTHSYSLOG*
2. 20.15.2(3) *CONRESTRICTSYSLOG*
3. 20.15.2(4) *AJSSYSCTLDLOGSIZE* (for manager process)
4. 20.15.2(5) *LOGSIZE* (for manager process)
5. 20.15.2(6) *MAXOPEEXEC* (for manager process)
6. 20.15.2(7) *MAXAGGEXEC*

7. *20.15.2(9) AJSSYSCTLDLOGSIZE (for agent process)*
8. *20.15.2(10) LOGSIZE (for agent process)*
9. *20.15.2(11) MAXOPEEXEC (for agent process)*
10. *20.15.2(12) PERIODICJOBAGG*
11. *20.15.2(13) JOBAGGSTARTTIME*
12. *20.15.2(14) JOBAGGLOGDIR*
13. *20.15.2(15) JOBAGGRESULTSSTOREDAYPERIOD*

6.8 Settings related to database maintenance

This section describes the procedure for changing the settings related to maintenance of embedded databases of JP1/AJS3 - Manager.

To set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.8.1 Setting up the automatic maintenance function for embedded databases

For an embedded database of JP1/AJS3 - Manager, you must perform maintenance at regular intervals by using one of the following three methods:

- Enable the automatic maintenance function.
- Make database areas usable by using the `ajsembdbreclaim` command.
- Reorganize the database.

This subsection describes the setup procedure when you want to use the automatic maintenance function. For details about maintenance tasks, see *6.1.1 Flow of maintenance tasks* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(1) Setting up the automatic maintenance function for embedded databases

To enable the automatic maintenance function:

1. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k definition-key-name "environment-setting-parameter-name-1"=
definition-1 ["environment-setting-parameter-name-2"]=definition-2]
```

The new settings are applied.

2. If you perform an upgrade installation of JP1/AJS3 - Manager whose version is earlier than 10-00, enhance the embedded database management function.

For details about the settings for enhancing the embedded database management function, see *3.6.1 Settings for enhancing the embedded database management function*.

(2) Environment setting parameters

Table 6–80: Environment setting parameters for setting up the automatic maintenance function for embedded databases

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \JP1AJS2\HOST] #	"DBAUTOMAINTENANCE"=	Whether to enable the automatic

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\HOST]#	"DBAUTOMAINTENANCE"=	maintenance function for embedded databases
	"DBAUTOMAINTENANCETIME"=	Time when maintenance is to be performed for the embedded database

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.3.2\(17\) DBAUTOMAINTENANCE](#)
- [20.3.2\(18\) DBAUTOMAINTENANCETIME](#)

(3) If you want to stop the automatic maintenance function

If you want to stop automatic maintenance during operation because, for example, a failure occurs, use the `ajajs_config` command to specify `no` for the `DBAUTOMAINTENANCE` environment setting parameter. The value of this environment setting parameter is applied immediately. Therefore, automatic maintenance stops as soon as you change the setting.

(4) Notes

- If JP1/AJS3 is not running at the maintenance time specified for the `DBAUTOMAINTENANCETIME` environment setting parameter, maintenance is not performed.
- If automatic maintenance fails, maintenance for that time period is not retried. Maintenance is performed at the specified time on the next day. If maintenance is successful the next time and later, no action is needed. If maintenance fails repeatedly, check the error message output to the log file, and then take corrective action. The log file name is `dbautomaintenance[host-name].log`. For the log file storage location, see [1.2.5 List of log files and directories](#) in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.
- If maintenance starts at a time when the execution of jobs and jobnets creates a heavy load or when a command or JP1/AJS3 - View is operating on a unit, a timeout error might occur during maintenance. Make sure that the maintenance time specified for the `DBAUTOMAINTENANCETIME` environment setting parameter is different from such times.
- If maintenance by using the automatic maintenance function and maintenance by using the `ajsembdbreclaim` command are performed concurrently, either maintenance might terminate abnormally. If you enable the automatic maintenance function, do not execute the `ajsembdbreclaim` command while maintenance is being performed.

6.9 Other settings

This section describes how to change settings that have not been covered in earlier sections.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6.9.1 Canceling and re-setting service dependencies

If the JP1/Base event server name is not a default name such as an FQDN, an attempt to start a JP1/AJS3 service results in output of a message reporting that the dependent service or group could not be started. If this message appears, the JP1/AJS3 service can no longer be started. In addition, a message explaining that the JP1/AJS3 service depends on the JP1/Base Event service that could not be started due to the indicated error is output to the Windows event log.

To set an event server name in JP1/Base that is not the default name, cancel the JP1/AJS3 service dependencies as described below.

If no dependencies have been set, make sure that the JP1/Base and JP1/Base Event services are running, and then start the JP1/AJS3 service.

For details about how to set an event server name that is not the default value, see the *JP1/Base User's Guide*.

(1) Procedure for canceling dependencies

To cancel dependencies:

1. If the JP1/AJS3 service is running, stop it.
2. Execute the following command to cancel the JP1/AJS3 service dependencies:

```
SpmSetSvcAjs.exe -setdepend no
```

3. Restart the JP1/AJS3 service.

To resume operation that uses the default event server, set the dependencies among the JP1/AJS3, JP1/Base, and JP1/Base Event services again.

(2) Procedure for setting dependencies

To set dependencies:

1. If the JP1/AJS3 service is running, stop it.
2. Execute the following command to set the JP1/AJS3 service dependencies:

```
SpmSetSvcAjs.exe -setdepend yes
```

3. Restart the JP1/AJS3 service.

(3) Note

Before you execute `SpmSetSvcAjs.exe` on a host running Windows, make sure that you open the Command Prompt window as an administrator. If the UAC function is disabled, you do not need to open the Command Prompt window as an administrator.

6.9.2 Changing the JP1/AJS3 database configuration to the standard configuration without ISAM

This subsection describes how to change the JP1/AJS3 database configuration from the *standard configuration* to the *standard configuration without ISAM*. In JP1/AJS3 - Manager installed as a new installation, the database configuration is the standard configuration, not the standard configuration without ISAM.

To change the database configuration to the standard configuration without ISAM, edit the `jplajs_hstd.conf` file in the service configuration file storage folder.

- If you updated the `jplajs_hstd.conf` file during configuration of a queueless job execution environment or during configuration of scheduler status monitoring:

Back up the `jplajs_hstd.conf` file, and then delete the following line from the `jplajs_hstd.conf` file:

```
submitqueue|jppqman.exe|||1800|
```

- For any other cases:

Back up the `jplajs_hstd.conf` file, and then delete it. Next, copy the `jplajs_hstd.conf.isamless.model` file, and then rename the copy to `jplajs_hstd.conf`. In addition, assign read permissions to the JP1/AJS3 service account.

To return the database configuration to the standard configuration, overwrite the `jplajs_hstd.conf` file with a copy of the backup file. In addition, assign read permissions to the JP1/AJS3 service account.

In a physical host environment, the service configuration file storage directory is *JP1/AJS3-Manager-installation-folder*\conf. In a logical host environment, the service configuration file storage directory is *shared-disk-folder-specified-by-the-jajs_setup_cluster-command*\jplajs2\conf.

Cautionary note:

If you change the database configuration to the standard configuration without ISAM, some functions are no longer available. For details, see *1.4 JP1/AJS3 database configurations* in the manual *JP1/Automatic Job Management System 3 Overview*.

6.9.3 Settings for permitting changing JP1 user passwords in JP1/AJS3 - View

To be able to change the password of a logged-in JP1 user in the connected JP1/AJS3 - View, enable the change password functionality for JP1 users in that JP1/AJS3 - View.

When this functionality is enabled, you can change the password of a JP1 user by selecting **Options** and then **Change Password** in the connected JP1/AJS3 - View.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jaajs_config -k definition-key "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6–81: The environment setting parameter for permitting changing JP1 user passwords in JP1/AJS3 - View

Definition key	Environment setting parameter	Explanation
[{ JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER]#	"CHANGEPASSWORD"=	Sets whether the change password functionality for JP1 users is to be used in JP1/AJS3 - View.
	"CHANGEPWDLOG"=	Sets whether messages related to changing of the JP1 user password are to be output in JP1/AJS3 - View.

#:

The specification of the { JP1_DEFAULT | *logical-host* } part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(26\) CHANGEPASSWORD](#)
- [20.4.2\(27\) CHANGEPWDLOG](#)

(3) Notes

- If you use this functionality to change the password of a JP1 user, the password used by that JP1 user to log in to other JP1 products also changes. We recommend that you disable the change password functionality for JP1 users used for products other than JP1/AJS3.
- Only standard users can change their passwords by using the change password functionality. A JP1 user (linkage user) whose password is managed on the directory server cannot change the user password.

For details about standard users and linkage users, see the *JP1/Base User's Guide*.

- Only the password for the primary authentication server can be changed by using this functionality. The password for the secondary authentication server cannot be changed. If you use this functionality to change the password, the passwords for the two servers will not match immediately after the change. Accordingly, the administrator of the authentication server needs to copy the setting information of the primary authentication server to the secondary authentication server.

If you are unable to configure and run the facility for copying the setting information of the primary authentication server to the secondary authentication server, disable this functionality.

For details about the primary and secondary authentication servers, see *6.2 Ranges for setting access permissions* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For details about how to copy the setting information of the primary authentication server, see the *JP1/Base User's Guide*.

7

Collecting Log Data

This chapter describes how to collect log data useful for investigating and analyzing failures that occur in JP1/AJS3.

7.1 Collecting log data

This section describes the settings for collecting log information, which can be used to investigate failures.

7.1.1 Setting up the data collection tools

The Windows versions of JP1/AJS3 - Manager, JP1/AJS3 - Agent, JP1/AJS3 - View, and JP1/AJS3 - Web Console provide *data collection tools* that can be used for collecting log data.

There are two data collection tools:

- *jajs_log.bat*
Use this tool if you did not change the output destinations of log files and other data from their default values, or if you need to collect standard data items only. You cannot customize this tool.
- *_04.bat*
Use this tool if you changed the output destinations of log files and other data from their default values, or if you need to collect non-standard data items. You can customize this tool to change the output destinations of log data and the storage locations of data to be collected.
Note that *_04.bat* is not provided by JP1/AJS3 - Web Console.

After installing JP1/AJS3 - Manager, JP1/AJS3 - Agent, or JP1/AJS3 - View, copy the data collection tool (*_04.bat*) to another folder and use it from that folder.

You can also collect only the log data you need by using Windows Explorer to copy a folder.

To set up the environment needed to use the data collection tool (*_04.bat*):

1. Use Explorer or another means to copy the data collection tool (*_04.bat*) to any folder. The location of the tool is as follows.
 - For JP1/AJS3 - Manager or JP1/AJS3 - Agent
JP1/AJS3-Manager-or-JP1/AJS3-Agent-installation-folder\tools_04.bat
This data collection tool also allows you to collect log data for JP1/AJS3 - View on the same host.
 - For JP1/AJS3 - View
JP1/AJS3-View-installation-folder\tools_04.bat
This data collection tool also allows you to collect log data for JP1/AJS3 - Manager or JP1/AJS3 - Agent on the same host.
2. Edit the copied data collection tool, and then change the file name to any convenient name.
Use a text editor to edit the data collection tool.
The table below lists the initial values specified in the data collection tool. You can change any inappropriate initial values to the appropriate values. If you change a value, do not use characters and symbols that have special meanings in a batch file. If you use such characters and symbols, an error might occur.

Table 7–1: Initial values specified in the data collection tool

No.	Item	Initial value
1	HNTRLlib installation folder	@set INST_DIR_HNTRLIB=%PROGRAMFILES_DIR%\hitachi\HNTRLlib

No.	Item	Initial value
2	HNTRLlib2 installation folder	@set INST_DIR_HNTRLIB2=%PROGRAMFILES_DIR%\hitachi\HNTRLlib2
3	JP1/AJS3 database storage folder ^{#1}	@set INST_DIR_DATABASE=%INST_DIR_MANAGER%\hitachi\JP1AJS2\database
4	Folder for storing JP1/AJS3 temporary files	@set LOG_DIR_AJSPDDIR=%INST_DIR_MANAGER%\tmp\schedule
5	JP1/AJS3 job error information folder	@set LOG_DIR_JOBINF=%INST_DIR_MANAGER%\jobinf
6	Folder in which data collected by the data collection tool will be saved ^{#2}	@set DIR_BACKLOG=%TEMP%\jplajs2\backlog
7	Folder used for storing data other than the above	@rem @set DIR_ADD= Delete @rem, and then specify the absolute path to the folder. Use this item if you have changed the log file destinations from the default ^{#3,#4} or if you want to collect other information. To specify multiple folders, use spaces as delimiters as shown in the example below. If the absolute path contains a space character, you must enclose the entire path in double quotation marks ("). Example: @set DIR_ADD=new-scheduler-log-output-folder "new-scheduler-trace-log-output-folder"

#1:

Data will not be collected if directories in a location not under this directory are set for the scheduler service and the job execution environment database.

Place each database file under the desired directory, and specify the absolute path to that directory.

#2:

If the path of the backup destination for data collected by the data collection tool is too long, data collection might fail. If data collection fails, try again by specifying a shorter path. When specifying the backup-destination path for collected data, do not enclose the path in double quotation marks (").

#3:

For details about the log file storage folders initially specified in the data collection tool, see *1.2.5 List of log files and directories* in the manual *JP1/Automatic Job Management System 3 Troubleshooting* and the list of files or folders in the appendix of the *JP1/Base User's Guide*.

#4:

The following table lists the output destinations that can be changed after JP1/AJS3 is installed.

Table 7–2: List of output destinations that can be changed after JP1/AJS3 is installed

Control	Output destination that can be changed	Environment setting parameter
System management	System directory	AJSSYS DIR
	Log directory	AJSLOGDIR
	Host-based scheduler log file 1	HOSTLOGFILE1
	Host-based scheduler log file 2	HOSTLOGFILE2
Scheduler service	Scheduler trace log file	TRACELOGFILE
	Scheduler trace log file per scheduler service	TRACELOGDIVDIR
	Scheduler log file 1	AJSLOGFILE1
	Scheduler log file 2	AJSLOGFILE2
	Job error information directory	JOBINFDIR

Control	Output destination that can be changed	Environment setting parameter
Scheduler service	Database directory	AJSDBDIRECTORY
	System directory	AJSSYSDIR
	Log directory	AJSLOGDIR
JP1/AJS3 definition pre-check function	Definition check log directory	AJSCHK_LOGDIR
	Trace log file	AJSCHK_TRACELOGFILE
Queueless job execution environment	Trace log file	AJSQL_TRACELOGFILE
	Storage directory for internal log data output by the queueless file transfer service	AJSQL_EXECLOG_FTTPATH
	Storage directory for internal log data output by the queueless agent service	AJSQL_EXECLOG_AGTPATH
	Work path for queueless jobs or directory for temporary files	AJSQL_AGTWORKPATH

Cautionary note on the data collection tool (_04.bat):

The data collection tool (_04.bat) of JP1/AJS3 09-00 or later does not require the following modification:

When you use 64-bit Windows and the JP1/AJS3 data collection tool (_04.bat) in the WOW64 (Windows On Windows 64) environment to collect data, you need to modify the data collection tool (_04.bat).

The following describes the procedure for modifying the data collection tool (_04.bat):

1. Copy the data collection tool (_04.bat) to any folder.
2. Use a text editor to edit the copied batch file as follows, and then save the file with any file name.

● Before a revision

```
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1BASE\PathName
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2\PathName
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2V\PathName
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2V
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2C\PathName
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2C
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2CM\PathName
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2\PathName
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2WOA\PathName
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2WOA
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2DA\PathName
@regedit /e "%reg_temp%" %REG_KEYNAME%\JP1AJS2DA
@set REG_NAME=%REG_KEYNAME%\JP1
@set REG_NAME_BASE=%REG_KEYNAME%\JP1BASE
@set REG_NAME_MANAGER=%REG_KEYNAME%\JP1AJS2
@set REG_NAME_VIEW=%REG_KEYNAME%\JP1AJS2V
@set REG_NAME_CLIENT=%REG_KEYNAME%\JP1AJS2C
@set REG_NAME_WOA=%REG_KEYNAME%\JP1AJS2WOA
@set REG_NAME_DA=%REG_KEYNAME%\JP1AJS2DA
```

● After a revision

```
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1BASE\PathName
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2\PathName
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2V\PathName
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2V
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2C\PathName
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2C
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2CM\PathName
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2\PathName
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2WOA\PathName
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2WOA
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2DA\PathName
@regedit /e "%reg_temp%" HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2DA
@set REG_NAME=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1
@set REG_NAME_BASE=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1BASE
@set REG_NAME_MANAGER=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2
@set REG_NAME_VIEW=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2V
@set REG_NAME_CLIENT=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2C
@set REG_NAME_WOA=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2WOA
@set REG_NAME_DA=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2DA
```

7.1.2 Procedure for setting the outputting of a dump file

If a problem occurs, a dump file (memory dump, crash dump and user-mode process dump) might be necessary for troubleshooting. Before you start operation, we recommend that you specify the setting so that a dump file is output if a problem occurs.

For details about how to acquire dump files, see *1.4.1 Collecting data for troubleshooting in Windows* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

(1) Setting for outputting a memory dump

1. In Control Panel, click **System**.
The System dialog box opens.
2. Click **Advanced system settings**.
The System Properties dialog box opens.
3. On the **Advanced** page, in **Start and Recovery**, click the **Settings** button.
The Startup and Recovery dialog box opens.

4. In **Write Debugging Information**, select **Complete Memory Dump**, and then specify the output destination file in **Dump File**.

Depending on the size of installed memory, **Complete Memory Dump** might not be displayed. In this case, select **Kernel Memory Dump**.

Cautionary note:

The size of the memory dump varies according to the amount of memory actually installed. The greater the amount of installed physical memory, the larger the size of the memory dump. Therefore, ensure that there is sufficient free space on the disk to collect a memory dump. For details, see the documentation provided by Microsoft.

(2) Setting for outputting a crash dump

To output a crash dump, you need to set information in the Windows registry. For details about how to set the information, see the technical support information related to Microsoft Windows Error Reporting (WER). Specify the settings so that a complete dump will be output.

Cautionary note:

A crash dump is also output when application programs other than JP1 crash. Output of a crash dump requires a large amount of disk capacity. When you set a crash dump to be output, ensure that there is sufficient free disk capacity.

(3) Setting for outputting a user-mode process dump

In JP1/AJS3 - View, specify the settings for outputting user mode process dumps. For details about the setting method, see the JP1/AJS3 - View *Release Notes*.

8

Setup for Operation in a Cluster System

This chapter describes the setup required to use JP1/AJS3 in a cluster system.

Note that previous editions of JP1 manuals referred to a cluster system as a *node switching system*.

8.1 Installation and setup required for cluster system operation

This section describes the installation and setup required to enable cluster system operation.

For an overview of cluster system operation, see *10.1 Overview of cluster systems* in the *JP1/Automatic Job Management System 3 Administration Guide*.

8.1.1 Installation required for cluster system operation

Install JP1/AJS3 on the local disks of the primary and secondary nodes. The drives must have the same name on both nodes. Similarly, the folders must have the same names on both nodes.

Important

Do not install JP1/AJS3 on a shared disk.

8.1.2 Setup required for cluster system operation

This subsection describes the procedure for setting up a Windows host when you are constructing a system that uses JP1/AJS3 for cluster operation.

(1) Points to be noted when setting up a cluster system

- Verify that the cluster system is compatible with the cluster software to be used before starting setup and operation. For details about the setup of a cluster system, see the documentation for the cluster system to be used.
- Before setting up a cluster system for JP1/AJS3, set up a cluster system for JP1/Base. For JP1/AJS3 - Web Console, however, you do not have to set up JP1/Base.
- On the primary and secondary nodes, install JP1 series programs in the same folders in the same drive.
- For the setup required for JP1/AJS3, also see [3. Setup](#).

(2) Setup of JP1/AJS3 - Manager

The following figure shows the procedure to set up JP1/AJS3 - Manager for cluster operation.

Figure 8–1: Setup procedure to enable cluster operation (in Windows version of JP1/AJS3 - Manager)

(1) Preparing to set up a cluster system

Install the cluster system.

Install JP1/Base and set up cluster operation.

Install JP1/AJS3 - Manager in the same folders on the primary and secondary nodes.

Prepare a shared disk that can be used by the logical hosts.

(2) Setting up the primary node

Set up the environment for cluster operation.

Set up the embedded database for cluster operation if the scheduler database will be used.

(3) Setting up the secondary node

Copy the configuration definition information from the primary node to the secondary node.

Set up the environment for cluster operation.

Set up the embedded database for cluster operation if the scheduler database will be used.

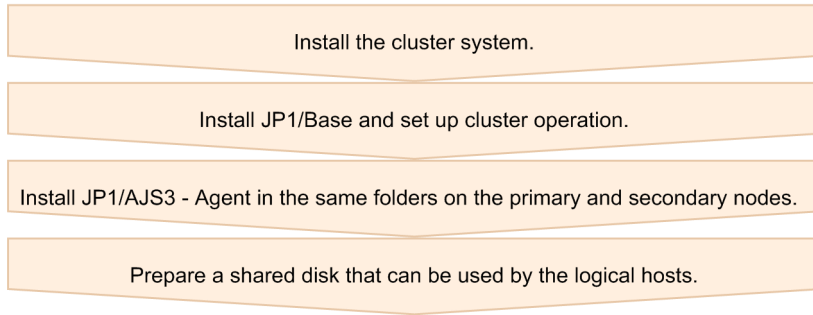
Start operation.

(3) Setup of JP1/AJS3 - Agent

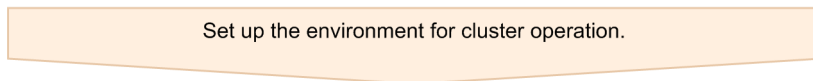
The following figure shows the procedure to set up JP1/AJS3 - Agent for cluster operation.

Figure 8–2: Setup procedure to enable cluster operation (in Windows version of JP1/AJS3 - Agent)

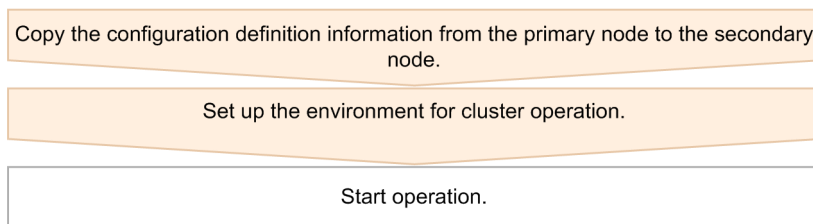
(1) Preparing to set up a cluster system



(2) Setting up the primary node



(3) Setting up the secondary node

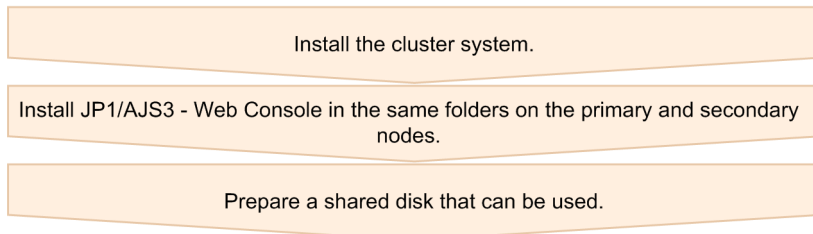


(4) Setup of JP1/AJS3 - Web Console

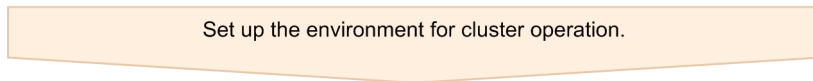
The following figure shows the procedure to set up JP1/AJS3 - Web Console for cluster operation.

Figure 8–3: Setup procedure to enable cluster operation (in Windows version of JP1/AJS3 - Web Console)

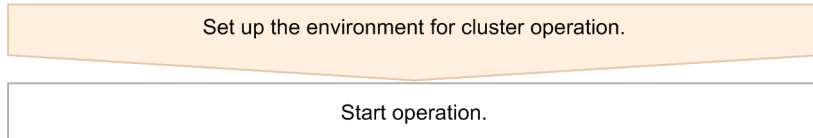
(1) Preparing to set up a cluster system



(2) Setting up the primary node



(3) Setting up the secondary node



8.2 Setting up the operating environment for cluster system operation

This section describes how to set up the JP1/AJS3 environment to support cluster operation.

For details about the commands shown in the description in this section, see 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference* and 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

8.2.1 Environment setup items for a cluster system

This subsection describes each of the items related to environment setup. For details about the specific setup procedure, see the following:

- 8.2.2 *Procedure for setting up a cluster system environment (in Windows version of JP1/AJS3 - Manager)*
- 8.2.3 *Procedure for setting up a cluster system environment (in Windows version of JP1/AJS3 - Agent)*
- 8.2.4 *Procedure for setting up a cluster system environment (in Windows version of JP1/AJS3 - Web Console)*

For JP1/AJS3 - Web Console, you only have to perform the operations in (1) *Creating shared files on the shared disk* and (5) *Registering services*.

(1) Creating shared files on the shared disk

To inherit information when the primary and secondary nodes are switched, create folders and files on the shared disk. The table below lists the information that is created in the shared folders on the shared disk and the names of the folders.

Table 8–1: Information created in the shared folders and the names of the folders (JP1/AJS3 - Manager)

Information created in the shared folders	Folder name ^{#1}
Environment settings file	<i>shared-folder-name</i> \jp1ajs2\conf
Job execution environment file	<i>shared-folder-name</i> \jp1ajs2\database
Job information file	<i>shared-folder-name</i> \jp1ajs2\jobinf
Log file	<i>shared-folder-name</i> \jp1ajs2\log
System file	<i>shared-folder-name</i> \jp1ajs2\sys
Work file	<i>shared-folder-name</i> \jp1ajs2\tmp
Backup file	<i>shared-folder-name</i> \jp1ajs2\backup
Embedded database data area file	<i>shared-folder-name</i> \jp1ajs2\embdb ^{#2}

#1:

These folders are automatically generated when the `jajs_setup_cluster` command is executed in the shared folder specified in the `-d` option of the `jajs_setup_cluster` command.

#2:

This folder is not created when the `-S` option is specified for the `jajs_setup_cluster` command.

Table 8–2: Information created in the shared folders and the names of the folders (JP1/AJS3 - Agent)

Information created in the shared folders	Folder name#
Environment settings file	<i>shared-folder-name</i> \jplajs2\conf
Log file	<i>shared-folder-name</i> \jplajs2\log
System file	<i>shared-folder-name</i> \jplajs2\sys
Work file	<i>shared-folder-name</i> \jplajs2\tmp

#:

These folders are automatically generated when the `jajs_setup_cluster` command is executed in the shared folder specified in the `-d` option of the `jajs_setup_cluster` command.

Table 8–3: Information created in the shared folders and the names of the folders (JP1/AJS3 - Web Console)

Information created in the shared folders	Folder name#
User environment settings file	<i>shared-folder-name</i> \jplajs3web\sys\user
Environment settings file	<i>shared-folder-name</i> \jplajs3web\conf
Log file	<i>shared-folder-name</i> \jplajs3web\log
Work file	<i>shared-folder-name</i> \jplajs3web\tmp

#:

These folders are automatically generated when the `ajswbsetup` command is executed in the shared folder specified in the `-d` option of the `ajswbsetup` command.

As the shared folder, specify one of the folders specified during setup of the logical host environment for JP1/Base. Do not assign the same folder to more than one logical host. Create the folders and files to be shared under the folder assigned to each logical host.

Example:

The following example shows the folders created when the shared folder of logical host `node0` is `e:\shdsk\node0`.

```
e:\shdsk\node0\jplajs2\conf
e:\shdsk\node0\jplajs2\database
e:\shdsk\node0\jplajs2\jobinf
e:\shdsk\node0\jplajs2\log
e:\shdsk\node0\jplajs2\sys
e:\shdsk\node0\jplajs2\tmp
e:\shdsk\node0\jplajs2\backup
e:\shdsk\node0\jplajs2\embdb
```

(2) Setting the communication method

Select the method to be used to bind an IP address to the TCP/IP socket that will be used for communication. To start multiple scheduler services in the cluster system, use the method that binds all hosts, including the physical hosts, to one IP address. For the operation described in [8.2.2 Procedure for setting up a cluster system environment \(in Windows version of JP1/AJS3 - Manager\)](#), the method used to bind to an IP address can be set automatically.

Set the port number when you are using the multi-startup setting of the scheduler service to add a port number for the service name of the job-status notification port.

(3) Settings for configuring a physical host environment and a logical host environment on the same host

To configure a physical host environment and a logical host environment on the same host in a Windows environment, you need to set up JP1/Base communication for both the physical and logical host environments.

For details about how to set up and check JP1/Base communication, see the description about the settings for configuring a physical host environment and a logical host environment on the same host in the *JP1/Base User's Guide*.

(4) Setting common definition information

JP1/AJS3, JP1/Base, and JP1/IM have information specific to each logical host on the local disks of both physical hosts. Because the information is used as common definition information, it must be identical on both physical hosts.

The common definition information includes the environment settings file and job execution environment file.

(5) Registering services

In the cluster software to be used, register the services corresponding to the logical hosts.

The services to be registered are as follows:

For JP1/AJS3 - Manager or JP1/AJS3 - Agent

- JP1/AJS3 service
Use the following names to register the JP1/AJS3 service:
Display name: JP1/AJS3_logical-host-name
Service name: JP1_AJS2_logical-host-name

For JP1/AJS3 - Web Console

- JP1/AJS3 HTTP Server service
Use the following names to register the JP1/AJS3 HTTP Server service:
Display name: JP1/AJS3 HTTP Server
Service name: JP1_AJS3_HTTP_Server
- JP1/AJS3 Web Application Server service
Use the following names to register the JP1/AJS3 Web Application Server service:
Display name: JP1/AJS3 Web Application Server
Service name: JP1_AJS3_Web_Application_Server

(6) Obtaining server certificates

To use SSL communication on the logical hosts in a cluster system, obtain a server certificate for each logical host under the name of the host name of the logical host. If the host name of a physical host is used to obtain a server certificate, the server certificate cannot be used for the corresponding logical host. Note, however, that the same server certificate can be used for both a physical host and a logical host in the following cases:

- When the logical host name of the logical host is written as a subject alternative name (SAN) in the server certificate for the physical host

- When the server certificate for the physical host is a wildcard certificate and the host name written in the certificate is the same as the logical host name of the logical host

For details about how to set up SSL communication for, for example, obtaining server certificates, see [21.4 Setting up the communication using SSL](#).

8.2.2 Procedure for setting up a cluster system environment (in Windows version of JP1/AJS3 - Manager)

To set up a cluster system environment in JP1/AJS3 - Manager, define the items described in [8.2.1 Environment setup items for a cluster system](#) on both the primary and secondary nodes. Stop all JP1 services before performing this definition operation.

The following figure provides an overview of setting up the environment.

Figure 8–4: Overview of setting up the environment (JP1/AJS3 - Manager)



Legend: : Operation on the physical host
: Operation on the logical host

(1) Tasks required on the primary node

To set up a cluster system environment for JP1/AJS3 - Manager on the primary node:

1. Perform the JP1/Base tasks required on the primary node.

For details about the JP1/Base tasks, see the *JP1/Base User's Guide*.

When you use `jp1hosts2` information, use the physical merge mechanism to apply the `jp1hosts2` information set in the physical host to the logical host. For details about the physical merge mechanism, see the *JP1/Base User's Guide*.

Note that, when starting the physical and logical hosts concurrently, you must set the IP address of the physical host in the `jp1hosts` information on the physical and logical hosts or in the `jp1hosts2` information on the physical host.

Note that you might also need to set the `jp1hosts` or `jp1hosts2` information in other cases, depending on the network configuration or the operating environment. Specify the necessary settings by referring to the notes on cluster system operation and the procedure for setting the `jp1hosts` or `jp1hosts2` information in the *JP1/Base User's Guide*.

2. Set up JP1/AJS3 - Manager on the physical host.

Set up JP1/AJS3 - Manager on the physical host. When you use JP1/AJS3 - Web Console on the same host where JP1/AJS3 - Manager is installed, set up also JP1/AJS3 - Web Console.

For details, see [3. Setup](#).

3. Execute the `jaajs_setup_cluster` command to set up the logical host, and create the shared files and folder on the shared disk.

Stop the JP1/AJS3 services on all logical hosts and physical hosts. Enable communication by using the IP address of the logical host that is being set up, and then execute the `jaajs_setup_cluster` command.

The following shows the format of the `jaajs_setup_cluster` command you execute:

```
jaajs_setup_cluster
[-h logical-host-name]
-F scheduler-service-name
-d shared-folder-name
[-n scheduler-service-ID]
[-m {cold|warm|hot}]
{-P port-number-for-the-embedded-database
-I embedded-database-setup-ID
[-M {s|m|l}] |
[-B]
-S
}
```

For details about the `jaajs_setup_cluster` command, see `jaajs_setup_cluster` in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- For the `-h` option, specify the logical host name set in JP1/Base.
- The `-F` option is required.
- The `-d` option must be specified during setup of the primary node environment. For this option, specify a folder on the shared disk in which the shared folder and files will be created. As the shared folder, `specified-folder-name\jp1ajs2\` is created, and the definition files on the local disk (files in `JP1/AJS3-Manager-installation-folder\conf\`) are copied to the folder that is created. Before you execute the command, make sure that the shared disk is mounted. If the `-d` option is omitted, the secondary node environment is set up.
- If the `-n` option is omitted, the smallest available ID is assumed.
- For the `-m` option, specify the scheduler service start mode. The specification of this option takes effect only during setup of the primary node environment. If this option is omitted, the value for the scheduler service specified in the `DEFAULTSERVICENAME` environment setting parameter is inherited.
- Specify the `-P` and `-I` options only if you set up the embedded database when you set up the logical host.

For the `-P` option, specify the port number for the embedded database used by the logical host.

For the `-I` option, specify the setup ID of the embedded database used by the logical host.

When the `-P` and `-I` options have been specified, the embedded database is set up with the following settings:

- System logging: Not performed
- System file duplication: Not performed
- Unload log file: Not used
- Data area directory: *shared-folder\jplajs2\embddb\value-specified-for-the-I-option\dbarea*
- Work area directory: *JP1/AJS3-Manager-installation-folder\embddb\value-specified-for-the-I-option\dbarea*
- Embedded database practical directory: *JP1/AJS3-Manager-installation-folder\embddb\value-specified-for-the-I-option*
- Database area auto-increment: Enabled
- System log auto-increment: Enabled

For the other items, the default values are set.

- For the `-M` option, specify the database model. If this option is omitted, `s` (small scale) is assumed. You can use this option only when the JP1/AJS3 version is 10-00 or later.
- Specify the `-B` option if the backup enhancement function is to be enabled. For details about the backup enhancement function, see [5.2.5 Backing up and recovering an embedded database by using the backup enhancement function](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
- Specify the `-S` option only if advanced setup is to be performed for the embedded database. If the `-S` option is specified, setup of the embedded database is skipped during setup of the logical host. Accordingly, the embedded database must be set up separately.

4. Execute the following command to create the environment for executing jobs:

```
jpqimport -dt isam -ci execution-environment-configuration-definition-file  
-for-queue-and-submit-jobs [-mh logical-host-name]
```

For details about the `jpqimport` command, see `jpqimport` in [4. Commands Used for Special Operation](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 3, perform advanced setup for the embedded database.

For details about advanced setup for the embedded database, see [23.5 Advanced setup for the embedded database \(in a cluster configuration\)](#).

6. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqlsetup -h logical-host-name -F scheduler-service-name
```

For details about the `ajsqlsetup` command, see `ajsqlsetup` in [4. Commands Used for Special Operation](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Cautionary note:

Executing the `ajsqlsetup` command causes the files needed for queueless job execution to be created on the shared disk. Because the files are then checked, make sure that the shared disk is mounted before you attempt to execute this command.

7. Setting the restrictions for connection sources.

If the setting for whether the connection source restriction function is enabled or the IP addresses permitted to connect are different from those on the physical host, set restrictions for connection sources on the logical host.

Even if there is no problem if the connection source restriction setting is the same on the physical and logical hosts, the IP address of the logical host is required in the connection permission configuration files of the physical host and the logical host on which the connection source restriction function is enabled. The reason for adding the specifications is that the IP address for the logical host is newly assigned as the IP address of the local host.

For details about how to set the connection source restriction function, see [21.2 Restricting connections to JP1/AJS3](#).

8. Make sure that the service settings on the logical host are specified correctly.

For example, make sure that the option appropriate for system operation is set for the `STARTMODE` environment setting parameter.

9. Stop all embedded database services.

If `JP1/AJS3 Database _JFn#` services have been added, check whether the added `JP1/AJS3 Database _JFn` services have stopped. If these services are running, stop them.

#:

`_JFn` is the embedded database setup identifier used by `JP1/AJS3` services on a logical host.

10. Change the value of the environment setting parameter `EventServerName` on the logical host.

If a physical host name is specified in FQDN format for the environment setting parameter `EventServerName` on the physical host, change the value of the logical host's parameter `EventServerName` to a logical host name in FQDN format.

For details about the environment setting parameter `EventServerName`, see [6.3.17 Setting the event server name in the system using DNS](#).

This completes the tasks required on the primary node.

Cautionary notes:

- Setup must be performed on each logical host.
- When the logical host for the primary node is set up by using the `jaajs_setup_cluster` command, the environment of the scheduler service specified in the `DEFAULTSERVICENAME` environment setting parameter is copied to create the logical host environment.
- If you need to add a scheduler service on the logical host, see [8.2.10\(1\) Adding scheduler services on a logical host](#).
- When the `jaajs_setup_cluster` command is executed to set up a logical host on the primary node, a logical host settings file is created in the `conf` folder within the shared folder. If you want to change the logical host settings, edit the logical host settings file.

(2) Tasks required on the secondary node

To set up a cluster system environment for `JP1/AJS3 - Manager` on the secondary node:

1. Set up `JP1/Base` and `JP1/AJS3 - Manager` on the physical host.

Set up `JP1/Base` and `JP1/AJS3 - Manager` on the physical host. When you use `JP1/AJS3 - Web Console` on the same host where `JP1/AJS3 - Manager` is installed, set up also `JP1/AJS3 - Web Console`.

For details, see [3. Setup](#).

2. After completing the `JP1/Base`, `JP1/AJS3`, and `JP1/IM` tasks on the primary node, save the common definition information to the primary node and then set up the common definition information on the secondary node.

After completing these tasks on the primary node, execute the `jbsgetcnf` command on the primary node to save the common definition information. Copy the backup file to the secondary node, specify the backup file as an argument of the `jbssetcnf` command, and then execute the command. The commands to be executed are as follows:

On the primary node:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

On the secondary node:

```
jbssetcnf backup-file-name
```

3. Perform the JP1/Base tasks required on the secondary node.

For details about the JP1/Base tasks, see the *JP1/Base User's Guide*.

When you use `jp1hosts2` information, use the physical merge mechanism to apply the `jp1hosts2` information set in the physical host to the logical host. For details about the physical merge mechanism, see the *JP1/Base User's Guide*. Also, in the physical host on the secondary node, set the `jp1hosts2` information that has the same content as the `jp1hosts2` information in the physical host on the primary node.

Note that, when starting the physical and logical hosts concurrently, you must set the IP address of the physical host in the `jp1hosts` information on the physical and logical hosts or in the `jp1hosts2` information on the physical host.

4. Execute the `jaajs_setup_cluster` command to set up the logical host.

The following shows the format of the `jaajs_setup_cluster` command you execute:

```
jaajs_setup_cluster  
[-h logical-host-name]  
-F scheduler-service-name  
[-S|-C embedded-database-settings-file-name]
```

- For the `-h` option, specify the logical host name set in JP1/Base.
- For the `-F` option, always specify the scheduler service name that was specified on the primary node.
- Specify the `-S` option only if advanced setup is performed for the embedded database.

If the `-S` option is specified, setup of the embedded database is skipped during setup of the logical host. Accordingly, the embedded database must be set up separately.

- Specify the `-C` option if you performed advanced setup during creation of an embedded database on the primary node or if you executed the `jaajs_setup_cluster` command with the `-M` option specified on the primary node. Before you execute the command with this option specified, you need to copy the embedded database settings file to the secondary node from the primary node.

Also, for an advanced setup of the embedded database on the executing host, before executing the `jaajs_setup_cluster` command, on the standby host, create the following directories specified when the `ajsembdbinstl` and `ajsembdbbuild` commands are executed.

- Unload log file creation directory
- Embedded database work area directory
- Embedded database installation directory

Note that the unload log file creation directory must also be created on the standby host if you specify a directory on the local disk when setting up the executing host.

When this option is specified, the embedded database on the logical host is set up with the same settings as for the primary node.

The following indicates the output destination of the embedded database settings file.

```
embedded-database-practical-directory\conf\ajsdbst\ajsembdbsetup-identifier.conf
```

You cannot specify this option for an embedded database created in JP1/AJS3 whose version is 09-50 or earlier.

5. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 4, perform advanced setup for the embedded database.

For details about advanced setup for the embedded database, see [23.5 Advanced setup for the embedded database \(in a cluster configuration\)](#).

6. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqlsetup -h logical-host-name -F scheduler-service-name -nc
```

For details about the `ajsqlsetup` command, see `ajsqlsetup` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. Stop all embedded database services.

If JP1/AJS3 Database `_JFn` services have been added, check whether the added JP1/AJS3 Database `_JFn` services have stopped. If these services are running, stop them.

#:

`_JFn` is the embedded database setup identifier used by JP1/AJS3 services on a logical host.

This completes the tasks required on the secondary node.

Cautionary notes:

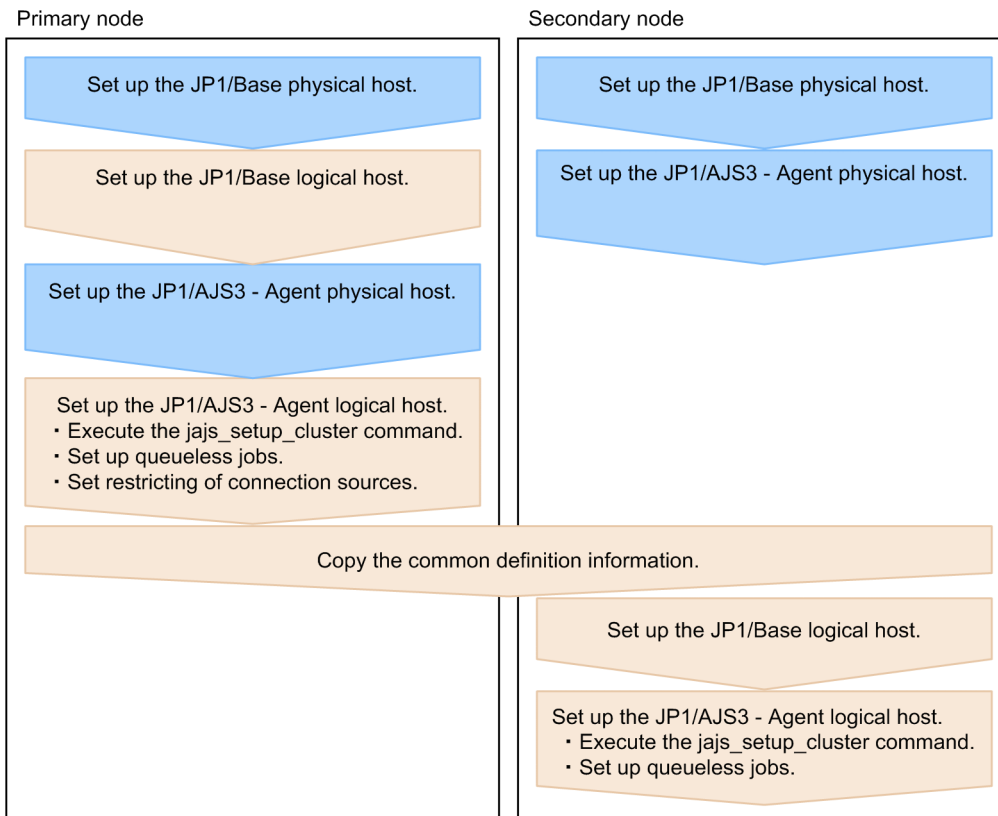
- Setup must be performed on each logical host.
- If the setting for adding scheduler services is required on a logical host, see [8.2.10\(1\) Adding scheduler services on a logical host](#).
- When backing up the definitions of the active server in a cluster configuration, make sure that the logical host name you specify for the `jbsgetcnf` command is identical (including letter case) to the logical host name that was specified when the logical host was defined.

8.2.3 Procedure for setting up a cluster system environment (in Windows version of JP1/AJS3 - Agent)

To set up a cluster system environment in JP1/AJS3 - Agent, define the items described in [8.2.1 Environment setup items for a cluster system](#) on both the primary and secondary nodes. Stop all JP1 services before performing this definition operation.

The following figure provides an overview of setting up the environment.

Figure 8–5: Overview of setting up the environment (JP1/AJS3 - Agent)



Legend:  : Operation on the physical host
 : Operation on the logical host

(1) Tasks required on the primary node

To set up a cluster system environment for JP1/AJS3 - Agent on the primary node:

1. Perform the JP1/Base tasks required on the primary node.

For details about the JP1/Base tasks, see the *JP1/Base User's Guide*.

When you use `jp1hosts2` information, use the physical merge mechanism to apply the `jp1hosts2` information set in the physical host to the logical host. For details about the physical merge mechanism, see the *JP1/Base User's Guide*.

Note that, when starting the physical and logical hosts concurrently, you must set the IP address of the physical host in the `jp1hosts` information on the physical and logical hosts or in the `jp1hosts2` information on the physical host.

Note that you might also need to set the `jp1hosts` or `jp1hosts2` information in other cases, depending on the network configuration or the operating environment. Specify the necessary settings by referring to the notes on cluster system operation and the procedure for setting the `jp1hosts` or `jp1hosts2` information in the *JP1/Base User's Guide*.

2. Setup JP1/AJS3 - Agent on the physical host.

Set up JP1/AJS3 - Agent on the physical host.

For details, see 3. *Setup*.

3. Execute the `jajs_setup_cluster` command to set up the logical host, and create the shared files and folder on the shared disk.

The following shows the format of the `jajs_setup_cluster` command you execute:


```
jajs_setup_cluster -h logical-host-name [-d shared-folder-name]
```

- For the `-h` option, specify the logical host name set in JP1/Base.
 - The `-d` option must be specified during setup of the primary node environment. For this option, specify a folder on the shared disk in which the shared folder and files will be created. As the shared folder, `specified-folder-name\jp1ajs2\` is created, and the definition files on the local disk (files in `JP1/AJS3-installation-folder\conf\`) are copied to the folder that is created. Before you execute the command, make sure that the shared disk is mounted. If the `-d` option is omitted, the secondary node environment is set up.
4. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqlsetup -h logical-host-name
```

For details about the `ajsqlsetup` command, see `ajsqlsetup` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Cautionary note:

Executing the `ajsqlsetup` command causes the files needed for queueless job execution to be created on the shared disk. Because the files are then checked, make sure that the shared disk is mounted before you attempt to execute this command.

5. Specify the settings for restricting connection sources.

If the setting for whether the connection source restriction function is enabled or the IP addresses permitted to connect are different from those on the physical host, set restrictions for connection sources on the logical host.

If the setting for restricting connection sources is the same on the physical and logical host, you do not need to specify this setting on the logical host.

For details about how to set the connection source restriction function, see *21.2 Restricting connections to JP1/AJS3*.

6. Change the value of the environment setting parameter `EventServerName` on the logical host.

If a physical host name is specified in FQDN format for the environment setting parameter `EventServerName` on the physical host, change the value of the logical host's parameter `EventServerName` to a logical host name in FQDN format.

For details about the environment setting parameter `EventServerName`, see *6.3.17 Setting the event server name in the system using DNS*.

This completes the tasks required on the primary node.

Cautionary note:

Setup must be performed on each logical host.

(2) Tasks required on the secondary node

To set up a cluster system environment for JP1/AJS3 - Agent on the secondary node:

1. Set up JP1/Base and JP1/AJS3 - Agent on the physical host.
Set up JP1/Base and JP1/AJS3 - Agent on the physical host.
For details, see *3. Setup*.
2. After completing the JP1/Base, JP1/AJS3, and JP1/IM tasks on the primary node, save the common definition information to the primary node and then set up the common definition information on the secondary node.

After completing these tasks on the primary node, execute the `jbsgetcnf` command on the primary node to save the common definition information. Copy the backup file to the secondary node, specify the backup file as an argument of the `jbssetcnf` command, and then execute the command. The commands to be executed are as follows:

On the primary node:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

On the secondary node:

```
jbssetcnf backup-file-name
```

3. Perform the JP1/Base tasks required on the secondary node.

For details about the JP1/Base tasks, see the *JP1/Base User's Guide*.

When you use `jp1hosts2` information, use the physical merge mechanism to apply the `jp1hosts2` information set in the physical host to the logical host. For details about the physical merge mechanism, see the *JP1/Base User's Guide*. Also, in the physical host on the secondary node, set the `jp1hosts2` information that has the same content as the `jp1hosts2` information in the physical host on the primary node.

Note that, when starting the physical and logical hosts concurrently, you must set the IP address of the physical host in the `jp1hosts` information on the physical and logical hosts or in the `jp1hosts2` information on the physical host.

4. Execute the `jajs_setup_cluster` command to set up the logical host.

The following shows the format of the `jajs_setup_cluster` command you execute:

```
jajs_setup_cluster -h logical-host-name
```

For the `-h` option, specify the logical host name set in JP1/Base.

5. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqlsetup -h logical-host-name
```

For details about the `ajsqlisetup` command, see `ajsqlisetup` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

This completes the tasks required on the secondary node.

Cautionary note:

Setup must be performed on each logical host.

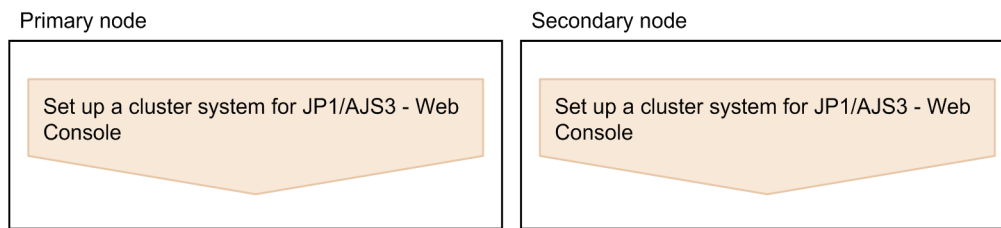
8.2.4 Procedure for setting up a cluster system environment (in Windows version of JP1/AJS3 - Web Console)

This subsection describes how to set up a cluster system environment for JP1/AJS3 - Web Console.

To set up a cluster system environment in JP1/AJS3 - Web Console, define the items described in *8.2.1 Environment setup items for a cluster system* on both the primary and secondary nodes.

The following figure provides an overview of setting up the environment.

Figure 8–6: Overview of setting up the environment (JP1/AJS3 - Web Console)



(1) Tasks required on the primary node

Execute the `ajswbsetup` command to generate shared files and folders on the shared disk.

Execute the following command:

```
ajswbsetup -d shared-folder -m
```

For the `-d` option, specify a folder on the shared disk in which the shared folder and files will be created. The shared folder `shared-folder\jp1ajs3web\` is created, and the definition files on the local disk are copied to the created folder. Before you execute the command on the primary node, make sure that the shared disk is mounted.

For details about the `ajswbsetup` command, see *ajswbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

This completes the tasks required on the primary node.

(2) Tasks required on the secondary node

Execute the `ajswbsetup` command to set up the cluster environment for JP1/AJS3 - Web Console.

Execute the following command:

```
ajswbsetup -d shared-folder -s
```

For the `-d` option, be sure to specify the shared folder that was specified on the primary node.

For details about the `ajswbsetup` command, see *ajswbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

This completes the tasks required on the secondary node.

8.2.5 Changing the common definition information

Cluster operation requires that the common definition information for JP1/Base, JP1/AJS3, and JP1/IM be the same on each physical host. After setting up JP1/Base, JP1/AJS3, and JP1/IM on the primary node physical host, and then changing the common definition information[#], execute the following command to ensure that the information matches on both physical hosts.

Note that this operation affects all JP1/Base, JP1/AJS3, and JP1/IM products.

On the primary node:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

On the secondary node:

```
jbssetcnf backup-file-name
```

#:

While JP1/AJS3 is being used, the common definition information for JP1/Base, JP1/AJS3, and JP1/IM is updated at the following times:

- When the common definition information is changed by using the JP1/Base `jbssetcnf` command. (This command adds the information in the environment settings files to the registry.)
- When the JP1/AJS3 settings are changed by using either of the following JP1/AJS3 commands:
 - `jpgreguestuser`
 - `jpgreguser`
- When JP1/AJS3 is set up by using any of the following JP1/AJS3 commands:
 - `jajs_setup`
 - `jajs_config`
 - `jajs_setup_cluster`
 - `ajsembdbsetup`
- When settings in the Manager Environment Settings dialog box or in the Agent Environment Settings dialog box of JP1/AJS2 are changed
- When linkage with JP1/AJS3 is set by using the JP1/Power Monitor `jaomajs2confset` command. (This command sets up the environment for controlling the host power in collaboration with JP1/AJS3.)

8.2.6 Registering the JP1/AJS3 service in the cluster software

This subsection describes the information to be set in the cluster software and how to operate services.

(1) For JP1/AJS3 - Manager and JP1/AJS3 - Agent

Register the JP1/AJS3 service for the logical host in the cluster software that will be used. For details about how to register the service, see the documentation for the cluster software.

Information to set in the cluster software

- The service name you register in the cluster software is `JP1_AJS2_`*logical-host-name*, which is registered in the environment settings.
- Set the cluster software so that the secondary node can inherit the IP address and shared disk together with the service from the primary node. In addition, set the cluster software so that the application program is also inherited.
- Set the cluster software so that JP1/AJS3 starts after the secondary node has inherited the IP address and shared disk, and JP1/Base has started on the secondary node.

Starting and stopping the JP1/AJS3 services

- The JP1/AJS3 services registered in the cluster software must be started and stopped by using the cluster software.

Monitoring JP1/AJS3 operation

- The cluster software monitors whether the JP1/AJS3 service is running.
- When the following environment setting parameter is set, the JP1/AJS3 services are stopped whenever the embedded database service is stopped due to an irrecoverable error, so that the cluster software can detect the error.

environment setting parameter	Explanation
"RDBCHECKINTERVAL"=	Checks the connection with the embedded database service, and automatically stops the scheduler service whenever disconnection is detected.

For details about these environment parameters, see [20.4 Setting up the scheduler service environment](#).

Cautionary notes:

- If you use queueless jobs, see [8.2.7 Setting up the queueless job execution environment](#).
- After setup required for cluster system operation has been completed, before you start the first JP1/AJS3 service, check whether JP1/AJS3 Database _JFn# services have stopped. If JP1/AJS3 Database _JFn services are running, stop them, and then start the first JP1/AJS3 service. You do not need to stop JP1/AJS3 Database _JFn services again after cluster system operation has started.
- You do not have to register JP1/AJS3 Database _JFn# services for the cluster software that will be used. If the JP1/AJS3 - Manager version is earlier than 10-00, you do not have to register JP1/AJS3 Database ClusterService _JFn# services.

#:

_JFn is the embedded database setup identifier used by JP1/AJS3 services on a logical host.

(2) For JP1/AJS3 - Web Console

Register JP1/AJS3 - Web Console services in the cluster software to be used. For details about the procedure for registration, see the documentation for the cluster software to be used.

Before registering the services in the cluster software, in Windows Control Panel, open the **Services** administrative tool, and then change the **Startup Type** setting for the services to be registered from **Automatic** to **Manual**.

Services to be registered in the cluster software

Register the services in the cluster software as follows:

1. In Windows Control Panel, open the **Services** administrative tool.
2. In the **Startup Type** setting for the services to be registered, change **Automatic** to **Manual**.

The following services must be registered in the cluster software:

- JP1/AJS3 HTTP Server service
- JP1/AJS3 Web Application Server service

Change the **Startup Type** setting for these services from **Automatic** to **Manual**.

3. Register the JP1/AJS3 HTTP Server service and JP1/AJS3 Web Application Server service in the cluster software.

Cautionary notes

- Make sure that the secondary node can inherit the IP address and shared disk together with the JP1/AJS3 - Web Console services from the primary node.
- Make sure that the JP1/AJS3 - Web Console services start after the secondary node has inherited the IP address and shared disk.

- For other notes, see *Installation Procedures and System Generation Precautions* in the *Release Notes*.

Starting and stopping the services

The services registered in the cluster software must be started and stopped by using the cluster software.

Monitoring service operations

The cluster software monitors whether the services are running.

8.2.7 Setting up the queueless job execution environment

When queueless jobs are used and the nodes are switched, the logical hosts that are currently attached to the currently active node must be detached, and then re-attached to the node that will become active.

To ensure that the detachment and re-attachment of the logical hosts is performed automatically when the nodes are switched, use the applicable procedure described below.

(1) Procedure used when JP1/AJS3 - Manager or JP1/AJS3 - Agent is installed and set up as a new installation

If you install and set up JP1/AJS3 - Manager or JP1/AJS3 - Agent as a new installation, perform the following procedure on both the primary and secondary nodes.

To ensure that logical hosts are automatically detached and re-attached:

1. Install JP1/AJS3 - Manager or JP1/AJS3 - Agent as a new installation.

For details about the installation procedure, see [2.2.3 Installing a JP1/AJS3 series program](#).

2. Set up the physical host.

For details about the setup procedure, see [3. Setup](#).

3. Set up the logical hosts.

For details about the setup procedure, see [8.2.2 Procedure for setting up a cluster system environment \(in Windows version of JP1/AJS3 - Manager\)](#) and [8.2.3 Procedure for setting up a cluster system environment \(in Windows version of JP1/AJS3 - Agent\)](#).

4. Edit the `jplajs_hstd.conf` file.

Edit the `jplajs_hstd.conf` file that was set up in step 3.

- If you have installed JP1/AJS3 - Manager and have updated the `jplajs_hstd.conf` file during, for example, setting of a standard configuration without ISAM or during configuration of scheduler status monitoring
Back up the `jplajs_hstd.conf` file, and then add the following line to the beginning of the `jplajs_hstd.conf` file.

```
qlcltd|ajsqlcltd.exe|||1800|
```

- If you have installed JP1/AJS3 - Manager but have not updated the `jplajs_hstd.conf` file
After creating a backup of the `jplajs_hstd.conf` file, delete the `jplajs_hstd.conf` file. Next, copy the `jplajs_hstd_ql.conf.model` file, and then rename the copy to `jplajs_hstd.conf`.
- If you have installed JP1/AJS3 - Agent

After creating a backup of the `jp1ajs_spmd.conf` file, delete the `jp1ajs_spmd.conf` file. Next, copy the `jp1ajs_spmd_q1.conf.model` file, and then rename the copy to `jp1ajs_spmd.conf`. You do not need to edit the `jp1ajs_hstd.conf` file.

The `jp1ajs_hstd.conf` and `jp1ajs_hstd_q1.conf.model` files are located in the *shared-folder-name*\jp1ajs2\conf folder.

5. Start the queueless agent service and the queueless file transfer service.

Start the queueless agent service. If you have installed JP1/AJS3 - Manager, also start the queueless file transfer service.

(2) Procedure used when JP1/AJS3 - Manager or JP1/AJS3 - Agent is installed and set up as an upgrade installation

If you install and set up JP1/AJS3 - Manager or JP1/AJS3 - Agent as an upgrade installation of version 7 of JP1/AJS2 - Manager or JP1/AJS2 - Agent, perform the following procedure on both the primary and secondary nodes.

To ensure that the logical hosts are automatically detached and re-attached:

1. Install JP1/AJS3 - Manager or JP1/AJS3 - Agent as an upgrade installation.

For details about the installation procedure, see [2.2.3 Installing a JP1/AJS3 series program](#).

If JP1/AJS3 - Manager or JP1/AJS3 - Agent has already been installed as an upgrade installation, skip this step.

2. Set up the queueless job execution environment on the physical host.

If the queueless job execution environment has not been set up on the physical host, use the `ajsqlsetup` command to set it up. For details about the `ajsqlsetup` command, see *ajsqlsetup* in [4. Commands Used for Special Operation](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Set up the logical hosts.

If you have not set up the logical hosts yet, set them up.

For details about the setup procedure, see [8.2.2 Procedure for setting up a cluster system environment \(in Windows version of JP1/AJS3 - Manager\)](#) and [8.2.3 Procedure for setting up a cluster system environment \(in Windows version of JP1/AJS3 - Agent\)](#).

If the queueless job execution environment has not been set up when you are ready to set up the logical hosts, use the `ajsqlsetup` command to set up the queueless job execution environment. For details about the `ajsqlsetup` command, see *ajsqlsetup* in [4. Commands Used for Special Operation](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Edit the `jp1ajs_hstd.conf` file.

Edit the `jp1ajs_hstd.conf` file of the logical hosts for which you want to enable automatic attachment and detachment.

- If you have installed JP1/AJS3 - Manager as an upgrade installation

Check whether the `jp1ajs_hstd.conf` file contains the line shown below. If this line is not found, back up the `jp1ajs_hstd.conf` file, and then add the following line to the beginning of the `jp1ajs_hstd.conf` file:

```
qlcltd|ajsqlcltd.exe|||1800|
```

- If you have installed JP1/AJS3 - Agent as an upgrade installation

After creating a backup of the `jplajs_spmd.conf` file, delete the `jplajs_spmd.conf` file. Next, copy the `jplajs_spmd_ql.conf.model` file, and then rename the copy to `jplajs_spmd.conf`. You do not need to edit the `jplajs_hstd.conf` file.

The `jplajs_hstd.conf` and `jplajs_hstd_ql.conf.model` files are located in the *shared-folder-name*\jplajs2\conf folder.

5. Start the queueless agent service and the queueless file transfer service.

Start the queueless agent service. If you have installed JP1/AJS3 - Manager, also start the queueless file transfer service.

After the above settings have been specified, the queueless cluster process is started when the JP1/AJS3 service is started on the logical hosts. The queueless cluster process automatically attaches the logical hosts. When the JP1/AJS3 service stops on the logical hosts, the queueless cluster process also stops and the queueless cluster process automatically detaches the logical hosts.

(3) Notes on automatic attachment and detachment of logical hosts performed when queueless jobs are used

- This function must be set on each logical host. A queueless cluster process is generated for each logical host. You do not need to set this function on logical hosts that do not use queueless jobs.
- You can also set this function on the logical hosts that are not in a cluster system.
- If you do not use this function during cluster system operation, manually execute the `ajsqlattach` command and the `ajsqldetach` command when nodes are switched to attach and detach logical hosts.
- Before you use this function, you must start the queueless agent service on both the primary and secondary nodes. You do not need to start and stop the queueless agent service when nodes are switched.
- This function cannot be used on physical hosts.
- By default, the queueless cluster process does not terminate abnormally even if automatic attachment fails and the startup processing of the JP1/AJS3 service on logical hosts continues. If you want to terminate the queueless cluster process abnormally to cancel the startup processing of the JP1/AJS3 service, set `error` for the `AJSQL_CLUSTERREQ` environment setting parameter. For details about `AJSQL_CLUSTERREQ`, see [20.10 Setting up the queueless job execution environment](#).
- If automatic detachment fails, the queueless cluster process terminates abnormally. The processing to stop the JP1/AJS3 service on logical hosts also terminates abnormally.
- If this function is used, the status of the queueless cluster process is also output in the execution result of the `jajs_spmd_status` command. If this function is not used, the execution result of the `jajs_spmd_status` command does not include this status.

Output example when the function is not used:

```
c:\>jajs_spmd_status -h LHOST1
KNAD3690-I Processing to report the status of JP1/AJS3 has started.
Running processes are as follows:
Process name      Scheduler service name      Process ID
      jajs_dbmd                301
      ajsdbmgrd                310
      ...
      jpomanager              AJSROOT1                557
      ajsmasterd              AJSROOT1                565
KNAD3691-I All the processes have started.
```

Output example when the function is used:


```

c:\>jajs_spmd_status -h LHOST1
KNAD3690-I Processing to report the status of JP1/AJS3 has started.
Process name      Scheduler service name      Process ID
    jajs_dbmd                301
    ajsdbmgrd                310
    ...
    qlcltd                    320
    ...
    jpomanager                AJSROOT1                    557
    ajsmasterd                AJSROOT1                    565
KNAD3691-I All the processes have started.

```

(4) Other notes

- This note applies when a logical host is attached with the `AJSQL_ATTACH` environment setting parameter set to `yes`. If the nodes are switched in this state, cluster software or another means must be used to stop the queueless agent service on the active node and to start the queueless agent service on the standby node.

In this case, the status of the queueless jobs running on the physical host or on other logical hosts attached to the queueless agent service on the active node might become *Failed to start*, *Ended abnormally*, or *Unknown end status*. If queueless jobs must be executed on multiple hosts, use this function without enabling `AJSQL_ATTACH`.

For details about the `AJSQL_ATTACH` environment setting parameter, see [20.10 Setting up the queueless job execution environment](#).

- Do not allow operation with only logical hosts when physical hosts have been detached from the queueless agent service.

If you do so, an error message output when startup of a queueless job fails and information output to the standard error output during job execution might not be reported to the manager host.

8.2.8 Deleting logical hosts

In Windows, if you want to delete a logical host, you must do so on both the primary and secondary nodes. The following describes how to delete a logical host.

Most of the procedures described in this subsection must be performed on both the primary and secondary nodes. Procedures to be performed on only one node or only under certain conditions are noted accordingly.

(1) JP1/AJS3 - Manager

To delete the JP1/AJS3 - Manager logical host:

1. Stop the JP1/AJS3 service.

If the following services are running, stop them:

- All JP1/AJS3 services on the physical host and all logical hosts
- JP1/AJS3 System Control Manager service
- JP1/AJS3 System Control Agent service

Stop all JP1/AJS3 services on the physical host and all logical hosts.

2. Uninstall the database environment set up on the logical host.

Execute the `ajsembdbuninstl` command to uninstall the database environment set up on the logical host. If you delete the logical host without also uninstalling the database environment, you will be no longer able to uninstall the database environment. For details about the `ajsembdbuninstl` command, see *ajsembdbuninstl* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

The command is executed in the following format:

```
ajsembdbuninstl -mh logical-host-name
```

3. Delete the logical hosts for JP1/Base.

For details about how to delete the logical hosts, see the *JP1/Base User's Guide*.

Cautionary note:

To delete only the JP1/AJS3 logical host information without deleting the JP1/Base logical host, perform the following procedure:

1. Delete the JP1/AJS3 logical host service.

Execute the following command to delete the logical host service:

```
sc delete JP1_AJS2_logical-host-name
```

The `sc` command is a Windows command. For details about the `sc` command, see the Microsoft documentation.

2. Delete the environment setting parameters related to the logical host.

Execute the following commands to delete these parameters:

```
jbsunsetcnf -i -h logical-host-name -c JP1AJS2
jbsunsetcnf -i -h logical-host-name -c JP1NBQAGENT
jbsunsetcnf -i -h logical-host-name -c JP1NBQMANAGER
jbsunsetcnf -i -h logical-host-name -c JP1NBQCLIENT
jbsunsetcnf -i -h logical-host-name -c JP1NBQNOTIFY
jbsunsetcnf -i -h logical-host-name -c JP1AOMMANAGER
jbsunsetcnf -i -h logical-host-name -c JP1AOMAGENT
jbsunsetcnf -i -h logical-host-name -c JP1AJSMANAGER
jbsunsetcnf -i -h logical-host-name -c JP1AJS2COMMON
jbsunsetcnf -i -h logical-host-name -c JP1QLAGENT
```

If a command attempts to delete a parameter that does not exist and the following message is output, ignore the message:

```
KAVA0405-I The specified string-specified-in-the-c-option does not exist [logical-host-name]. Processing Stops.
```

4. Delete the shared files and directories on the shared disk.

When you delete the logical hosts, the logical host information and services for JP1/Base, JP1/IM, and JP1/AJS3 are also deleted. However, the shared files and shared folders on the shared disk are not deleted, and must be deleted manually.

Perform this step on either the primary node or the secondary node that can access the shared disk.

5. Change the environment setting parameter on the JP1/AJS3 physical host so that cluster operation is not set.

If you have deleted all logical hosts, change the environment setting parameter on the JP1/AJS3 physical host so that cluster operation is not set. Note that, after deleting all logical hosts, if you immediately rebuild logical hosts without starting the physical host even once, this step is unnecessary.

To do this, execute the following command to set the environment setting parameters described in (3) below.

```
jajs_config -k definition-key "parameter-name"=value
```

Cautionary note:

The `jajs_config` command must be executed for each definition key.

6. Delete the `JP1_HOSTNAME` environment variable.

(2) JP1/AJS3 - Agent

To delete the JP1/AJS3 - Agent logical host:

1. Stop the JP1/AJS3 service.

If the following services are running, stop them:

- All JP1/AJS3 services on the physical host and all logical hosts
- JP1/AJS3 System Control Agent service

2. Delete the logical hosts for JP1/Base.

For details about how to delete the logical hosts, see the *JP1/Base User's Guide*.

Cautionary note:

To delete only the JP1/AJS3 logical host information without deleting the JP1/Base logical host, perform the following procedure:

1. Delete the JP1/AJS3 logical host service.

Execute the following command to delete the logical host service:

```
sc delete JP1_AJS2_logical-host-name
```

The `sc` command is a Windows command. For details about the `sc` command, see the Microsoft documentation.

2. Delete the environment setting parameters related to the logical host.

Execute the following commands to delete these parameters:

```
jbsunsetcnf -i -h logical-host-name -c JP1AJS2
jbsunsetcnf -i -h logical-host-name -c JP1NBQAGENT
jbsunsetcnf -i -h logical-host-name -c JP1NBQCLIENT
jbsunsetcnf -i -h logical-host-name -c JP1NBQNOTIFY
jbsunsetcnf -i -h logical-host-name -c JP1AOMAGENT
jbsunsetcnf -i -h logical-host-name -c JP1AJS2COMMON
jbsunsetcnf -i -h logical-host-name -c JP1QLAGENT
```

If a command attempts to delete a parameter that does not exist and the following message is output, ignore the message:

```
KAVA0405-I The specified string-specified-in-the-c-option does not exist [logical-host-name]. Processing Stops.
```

3. Delete the shared files and directories on the shared disk.

When you delete the logical hosts, the logical host information and services for JP1/Base, JP1/IM, and JP1/AJS3 are also deleted. However, the shared files and shared folders on the shared disk are not deleted, and must be deleted manually.

Perform this step on either the primary node or the secondary node that can access the shared disk.

4. Change the environment setting parameter on the JP1/AJS3 physical host so that cluster operation is not set.

If you have deleted all logical hosts, change the environment setting parameter on the JP1/AJS3 physical host so that cluster operation is not set. Note that, after deleting all logical hosts, if you immediately rebuild logical hosts without starting the physical host even once, this step is unnecessary.

To do this, execute the following command to set the environment setting parameters described in (3) below.

```
jajs_config -k definition-key "parameter-name"=value
```

Cautionary note:

The `jajs_config` command must be executed for each definition key.

5. Delete the `JP1_HOSTNAME` environment variable.

(3) Environment setting parameters

Table 8–4: Environment setting parameters to set when deleting JP1/AJS3 - Manager and JP1/AJS3 - Agent logical hosts

Definition key	Environment setting parameter	Value
[JP1_DEFAULT\JP1NBQAGENT\Process]	IsHA	dword:00000000
[JP1_DEFAULT\JP1NBQCLIENT\Process]	IsHA	dword:00000000
[JP1_DEFAULT\JP1NBQMANAGER\Process]#	IsHA	dword:00000000
[JP1_DEFAULT\JP1NBQNOTIFY\Process]	IsHA	dword:00000000

#:

Because this is a JP1/AJS3 - Manager environment setting parameter, change the setting only in JP1/AJS3 - Manager. You do not need to change this setting in JP1/AJS3 - Agent.

For details about these environment parameters, see [20.5 Setting up the job execution environment](#).

8.2.9 Canceling the setup of a cluster system (Windows version of JP1/AJS3 - Web Console)

This section describes the procedure for unsetting up the cluster system of JP1/AJS3 - Web Console.

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 HTTP Server service
- JP1/AJS3 Web Application Server service

Perform this step on both the primary and secondary nodes.

2. Execute the `ajswbsetup` command to cancel the setup of the cluster environment.

To return operation control from the shared directory in the shared disk to the local disk where JP1/AJS3 - Web Console has been installed, execute the following command:

```
ajswbsetup -p
```

Perform this step on both the primary and secondary nodes.

For details about the `ajswbsetup` command, see *ajswbsetup* in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Delete the shared files and directories on the shared disk.

The shared files and shared folders on the shared disk are not deleted, and must be deleted manually.

Perform this step on either the primary node or the secondary node that can access the shared disk.

8.2.10 Setting startup of multiple scheduler services on a logical host

To start multiple scheduler services, first set information such as the names of the scheduler services to be added and then create databases for those scheduler services.

The following describes the procedure for adding scheduler services on a logical host and the procedure for deleting scheduler services that have been added.

(1) Adding scheduler services on a logical host

The following describes the procedure for adding scheduler services on a logical host.

(a) Tasks required on the primary node

To specify the necessary settings on the primary node:

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - The JP1/AJS3 service on the logical host to which you want to add a scheduler service

Important

All embedded databases configured on the target logical host must be operating. Make sure that the applicable JP1/AJS3 Database `_JFn` (n : 1 to 9 or A to Z) services are running. Start any JP1/AJS3 Database `_JFn` services that are not running.

Execute the `ajsembdbstatus` command with `-s ust -id _JFn` (n : 1 to 9 or A to Z) specified to confirm that the embedded database is operating (UNIT-STAT is ONLINE). If the database is not operating, use the `ajsembdbstart` command with `-id _JFn` specified to activate it.

Execute the `ajsembdbidlist` command to check the setup identifier (`_JFn`) of the embedded database to be activated.

2. Use Explorer or another means to create the following folders on the shared disk:

- Database folder
- Folder for temporary files
- Job information folder
- Backup information folder

Make sure that the above folders, other than the backup information folder, are neither folders used by other scheduler services set on the local hosts (the physical host and all logical hosts) nor subfolders of those folders.

3. Execute the `jajs_setup` command to add the scheduler service.

```
jajs_setup -a -h logical-host
-F scheduler-service
-p service-for-the-port-reporting-the-job-status
-d database-folder
-t folder-for-temporary-files
-j job-information-folder
```

```

-b backup-information-folder
-n scheduler-service-ID-number
-D logical-host-shared-folder
[[-I setup-identifier
  -P embedded-database-port-number]
 [-M {s|m|l}]
 [-B]
 |-S]

```

Example of adding a scheduler service named AJSROOT3 to the logical host LHOST whose shared folder is x:\products:

```

jajs_setup -a -h LHOST
-F AJSROOT3
-p jplajs2report3
-d "x:\products\jplajs2\database\schedule\AJSROOT3"
-t "x:\products\jplajs2\tmp\schedule3"
-j "x:\products\jplajs2\jobinf\schedule3"
-b "x:\products\jplajs2\backup\schedule3"
-n 3
-D "x:\products"
-I _JF3
-P 22222

```

When you add the scheduler service in an embedded database whose installation directory has been changed from the default path, execute the `jajs_setup` command with the `-S` option specified.

For details about the `jajs_setup` command, see *jajs_setup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Important

The port numbers of the embedded database port and job status notification port must be unique within the system. Therefore, you must specify different values for the `-P` option (*embedded-database-port-number*) and the `-p` option (*service-for-the-port-reporting-the-job-status*).

4. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 3, perform advanced setup for the embedded database. For details about advanced setup for the embedded database, see [23.5 Advanced setup for the embedded database \(in a cluster configuration\)](#).

When the embedded-database installation directory has been changed from the default path, execute the `ajsembdbsetup` command. For details, see [23.5.1\(5\)\(b\) Setting up multiple scheduler databases in one embedded database environment](#).

5. Open the following file with a text editor such as Notepad:

`system-folder\system32\drivers\etc\Services`

6. For the service name of the port that reports the job status specified in step 3, set the port number.

Example of setting 20248 as the port number:

```
jplajs2report3 20248/tcp
```

Important

When you add a scheduler service to a logical host, make sure that the scheduler service does not use a port number that is used by another scheduler service that runs on the logical host. However, this note does not apply if you add a new logical host and add a scheduler service to the logical host. In this case, no problems occur if the scheduler services on different logical hosts use the same port number. To use JP1/AJS3 in an environment with a Windows Firewall, register the port number you specified (in the above example, service name `jp1ajs2report3` and port number 20248) in the Windows Firewall rules so that data will be able to pass through the firewall.

7. If you want to use queueless jobs, you must perform the setup required for using queueless jobs.

Execute the following command:

```
ajsqlsetup -F scheduler-service -h logical-host
```

For details about the `ajsqlsetup` command, see `ajsqlsetup` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

8. Stop the embedded database.

Stop the JP1/AJS3 Database `_JFn` service for the embedded database on the logical host to which you want to add the scheduler service.

9. Restart the JP1/AJS3 service on the logical host to which you have added the scheduler service.

The scheduler service is added and started with the specified settings. After the JP1/AJS3 service has been restarted, use JP1/AJS3 - View to confirm that the root job group is displayed with the name of the added scheduler service attached.

(b) Tasks required on the secondary node

To specify the necessary settings on the secondary node:

1. Set up the embedded database on the secondary node.

This step is required only if a new embedded database is created (the setup identifier of an existing embedded database is not specified for the `-I` option of the command) during setup on the primary node. You can check the setup identifier of the embedded database by using the `ajsembdbidlist` command.

Execute the following commands:

```
ajsembdbinstl
-s directory-containing-the-embedded-database-installation-media
-id setup-identifier
-mh logical-host-name

ajsembdbbuild
-conf embedded-database-settings-file-name
```

For `setup-identifier`, specify the value you specified on the primary node.

For the embedded database settings file, copy the file that was output when the embedded database was created on the primary node to the secondary node.

The following indicates the output destination of the embedded database settings file:

```
embedded-database-practical-directory\conf\ajsdbst\ajsembdbsetup-identifier.conf
```


For details about the commands executed in this step, see 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For example, if the setup identifier is `_JF3` and the embedded database settings file is placed in `C:\tmp\ajsembdb_JF3.conf`, execute commands as follows to set up the embedded database on logical host `LHOST`:

```
ajsembdbinstl
-s "c:\Program Files\HITACHI\jp1ajs2\tools\AJS3DB"
-id _JF3
-mh LHOST

ajsembdbbuild
-conf "C:\tmp\ajsembdb_JF3.conf"
```

2. Set the common definition information of the primary node on the secondary node.

When you have completed the tasks for the primary node, execute the `jbsgetcnf` command on the primary node to save the common definition information. Copy the saved file to the secondary node, specify the name of the saved file as an argument, and execute the `jbssetcnf` command.

Execute the commands as follows:

On the primary node:

```
jbsgetcnf -h logical-host > backup-file
```

On the secondary node:

```
jbssetcnf backup-file
```

3. Open the following file with a text editor such as Notepad:

```
system-folder\system32\drivers\etc\Services
```

4. On the secondary host, set the port number that you set in step 6 in (a) above.

Example of setting 20248 as the port number:



Important

Set the same port number as that used on the primary node. To use JP1/AJS3 in an environment with a Windows Firewall, register the port number you specified (in the above example, service name `jp1ajs2report3` and port number 20248) in the Windows Firewall rules so that data will be able to pass through the firewall.

5. If you want to use queueless jobs, you must perform the setup required for using queueless jobs.

Execute the following command:

```
ajsqlsetup -F scheduler-service -h logical-host -nc
```

For details about the `ajsqlsetup` command, see *ajsqlsetup* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(2) Deleting an added scheduler service

When you delete a scheduler service that has been added, you must delete it from both the primary node and the secondary node.

To delete an added scheduler service:

1. Stop the JP1/AJS3 services.

Stop all the JP1/AJS3 services on the physical and logical hosts.

Important

All embedded databases configured on the target logical host must be operating. Make sure that the applicable JP1/AJS3 Database `_JFn` (n : 1 to 9 or A to Z) services are running. Start any JP1/AJS3 Database `_JFn` services that are not running.

Execute the `ajsembdbstatus` command with `-s ust -id _JFn` (n : 1 to 9 or A to Z) specified to confirm that the embedded database is operating (UNIT-STAT is ONLINE). If the database is not operating, use the `ajsembdbstart` command with `-id _JFn` specified to activate it.

To check the setup identifier (`_JFn`) of the target embedded database, execute the `ajsembdbidlist` command.

2. Execute the `jaajs_setup` command to delete the scheduler service.

```
jaajs_setup -e -F scheduler-service
```

Example of the command executed when the scheduler service to be deleted is AJSROOT3:

```
jaajs_setup -e -F AJSROOT3
```

For details about the `jaajs_setup` command, see `jaajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

On the secondary node, use the `jbsunsetcnf` command instead of the `jaajs_setup` command.

```
jbsunsetcnf -i -h logical-host-name -c JP1AJSMANAGER -n scheduler-service  
-name
```

Example of the command for deleting the scheduler service AJSROOT3:

```
jbsunsetcnf -i -h LHOST -c JP1AJSMANAGER -n AJSROOT3
```

3. Delete the folders that you created when you added the scheduler service.

Delete the following folders that were created when you executed the `jaajs_setup` command:

- Database folder specified in the `-d` option
- Folder for temporary files specified in the `-t` option
- Job information folder specified in the `-j` option
- Backup information folder specified in the `-b` option

Important

Do not delete the logical host shared folder specified in the `-D` option.

4. If a trace log has been output per scheduler service, delete the trace log file for the deleted scheduler service.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, delete the trace log file for the deleted scheduler service.

5. Stop the embedded databases.

Stop the JP1/AJS3 Database `_JFn` services for all embedded databases.

6. Start the JP1/AJS3 services.

Restart the JP1/AJS3 services that you stopped in step 1, and confirm that the scheduler service has been deleted.

(3) Uninstalling a database environment that is no longer necessary

For details about how to uninstall a database environment that is no longer necessary, see [6.1.1\(3\) Uninstalling an unnecessary database environment](#).

(4) Renaming a scheduler service

Renaming a scheduler service affects many types of JP1/AJS3 functions. For example, a unit might end abnormally or might not be executed properly. To prevent such problems, we recommend that you rename a scheduler service before operation starts.

To rename a scheduler service in a cluster environment, you must execute the `jajs_setup` command on both the primary node and secondary node. You must execute the `jajs_setup` command on the secondary node before the common definition information for the primary node is applied to the secondary node.

To rename a scheduler service in a cluster environment:

1. On the primary node, rename the scheduler service.

The procedure varies depending on whether you rename the scheduler service before or after operation starts. For details about this procedure, see [\(a\) How to rename a scheduler service before operation starts](#) or [\(b\) How to rename a scheduler service after operation starts](#).

2. On the primary node, execute the following command to save the common definition information for the logical host that contains the new scheduler service name.

```
jbsgetcnf -h logical-host > backup-file
```

For details on the `jbsgetcnf` command, see the *JP1/Base User's Guide*.

3. On the secondary node, rename the scheduler service.

The procedure varies depending on whether you rename the scheduler service before or after operation starts. For details about this procedure, see [\(a\) How to rename a scheduler service before operation starts](#) or [\(b\) How to rename a scheduler service after operation starts](#).

4. On the secondary node, execute the following command to apply the logical host common definition information you saved in step 2.

```
jbssetcnf backup-file
```

For details on the `jbssetcnf` command, see the *JP1/Base User's Guide*.

The following describes how to rename a scheduler service before and after operation starts.

(a) How to rename a scheduler service before operation starts

To rename a scheduler service before operation starts:

1. Execute the `jajs_setup` command to rename the scheduler service.

Execute the following command:

```
jajs_setup -r -F scheduler-service-name-before-the-change -A new-scheduler-service-name
```

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

(b) How to rename a scheduler service after operation starts

To rename a scheduler service after operation starts:

1. Stop the scheduler service to be renamed, and then cold-start the scheduler service.
After the cold-start, do not register a jobnet for execution until the renaming procedure is finished.
2. Stop the JPI/AJS3 services on the physical host and all logical hosts.
3. Execute the `jajs_setup` command to rename the scheduler service.

Example: To change AJSROOT2 to AJSROOT5:

```
jajs_setup -r -F AJSROOT2 -A AJSROOT5
```

If the KAVS1133-W message is not output during execution of the `jajs_setup` command, skip step 4 and step 5 and go to step 6.

If the KAVS1133-W message is output during execution of the `jajs_setup` command, check the setting name indicated in the message. If `Local date and time` is indicated, go to step 4. If `Suspend feature` is indicated, go to step 5, and then proceed to step 6.

Cautionary note:

Before you rename a scheduler service for which the local date and time is set, obtain the difference between the local date and time for the scheduler service and the system date and time. Use the `ajslocaldate` command to obtain the scheduler service local date and time.

For details about how to obtain the system date and time, see the documentation for your OS.

If an attempt to set the scheduler service local date and time fails and the KAVS1133-W message appears, use the time difference obtained above to set the scheduler service local date and time in step 4.

4. Set the scheduler service local date and time again.

Execute the `ajslocaldate` command to set the scheduler service local date and time for the renamed scheduler service.

Example: To set the local date and time for the scheduler service AJSROOT5 forward five minutes (300 seconds) from the current time, execute the command as follows:

```
ajslocaldate -F AJSROOT5 -s 300
```

For details about the `ajslocaldate` command, see `ajslocaldate` in *4. Commands Used for Special Operation* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

5. Set the suspend function again.

Execute the `ajssetup` command to enable the suspend function for the renamed scheduler service. For a cluster environment, perform this step on either the primary node or the secondary node that can access the shared disk.

Example: To enable the suspend function for the scheduler service AJSROOT5, execute the command as follows:

```
ajssetup -F AJSROOT5 -m
```

For details about the `ajssetup` command, see `ajssetup` in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

6. If the scheduler service name before the change is set for the following environment setting parameters, use the `jajs_config` command to change them to the new scheduler service name.

Table 8–5: Environment setting parameters whose settings need to be changed

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"DEFAULTSERVICENAME"=	Default scheduler service name
	"REMNETSERVICENAME"=	Name of the scheduler service that executes a remote jobnet

Example: To change the default scheduler service name to AJSROOT5, execute the command as follows:

```
jajs_config -k [JP1_DEFAULT\JP1AJSMANAGER] "DEFAULTSERVICENAME"="AJSROOT5"
```

Example: To change the name of the scheduler service that executes remote jobnets to AJSROOT5, execute the command as follows:

```
jajs_config -k [JP1_DEFAULT\JP1AJSMANAGER] "REMNETSERVICENAME"="AJSROOT5"
```

7. If a trace log has been output per scheduler service, change the name of the trace log file used for each scheduler service before changing the scheduler service name.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, change the `scheduler-service-name` part from the scheduler service name before the change to the new scheduler service name.

8. Start the JP1/AJS3 services.

9. In either of the following cases, after the scheduler services start, change or set the scheduler service settings if necessary:

- The scheduler service name before the change is specified in the unit definition.
- The JP1/AJS3 linkage facility was monitoring or collecting information from the scheduler service before it was renamed.

(c) Notes on renaming scheduler services

The following environment setting parameters for scheduler services use the directory path that contains the scheduler service name as a standard:

- AJSSYSDIR
- AJSLOGDIR
- AJSDBDIRECTORY
- AJSLOGFILE1
- AJSLOGFILE2
- AJSTMPDIR
- JOBINFDIR
- AJSREPORTDIR

Operation is not affected even if the environment setting parameters are not changed after the scheduler service is renamed. However, if necessary, consider changing the directory path that contains the new scheduler service name.

When you change the setting of the `AJSDBDIRECTORY` environment setting parameter in an environment using the `suspend` function or `queueless` jobs, you must reset the `suspend` or `queueless` job function after changing the parameter setting. Perform resetting on one of the primary and secondary nodes in which the shared disk can be referenced.

Use the `jajs_config` command to change the environment setting parameters. For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the parameters, see *20.4 Setting up the scheduler service environment*.

8.2.11 Settings for using the host connected from the Web GUI (Management Portal) in a cluster environment

The host connected from the Web GUI (Management Portal) can be used in a cluster environment. In this case, however, the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service are excluded from the failover-target resources. Therefore, you must specify the settings to achieve either of the following statuses:

- The JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service are running on both the active and standby server machines.
- The cluster software or other settings are configured so that the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service automatically start when the logical hosts of the active and standby servers start.

8.3 Notes on cluster operation

For notes that apply during cluster operation, see *10.6 Cautionary notes on using a cluster system* in the *JP1/Automatic Job Management System 3 Administration Guide*.

9

Setup Required for Disaster Recovery Operation

This chapter describes how to set up a Windows host when you are building a system that uses JP1/AJS3 for disaster recovery.

9.1 Overview of the setup required for disaster recovery operation

This section provides an overview of the setup required to use JP1/AJS3 for disaster recovery operation.

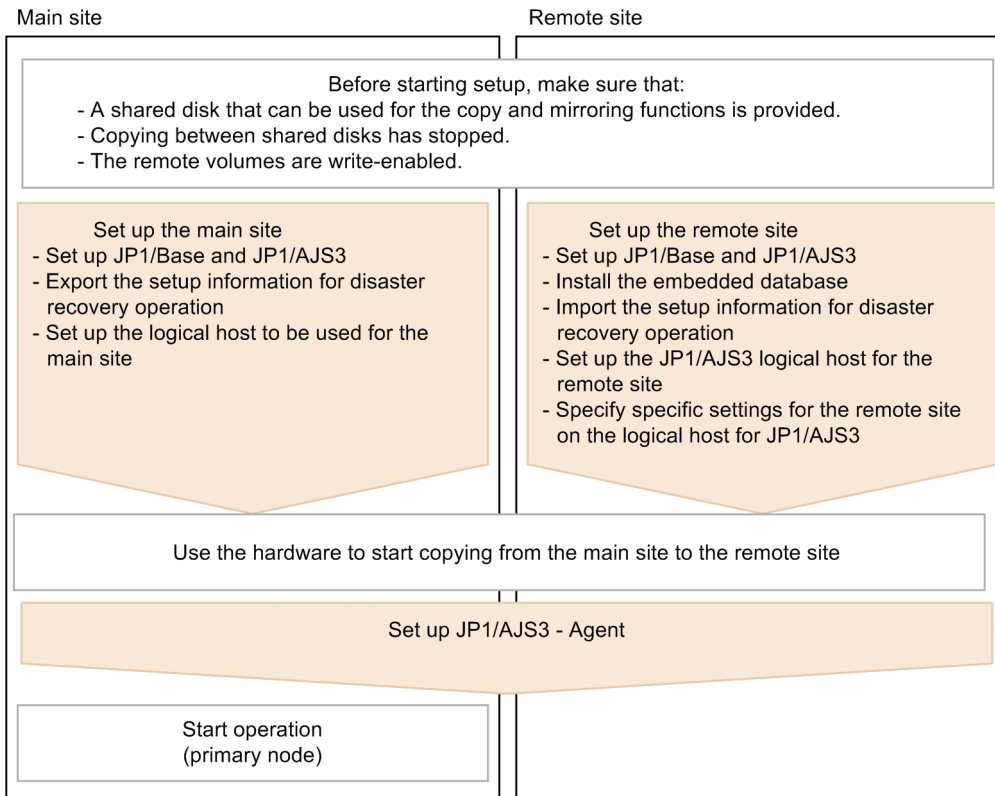
The setup procedure varies depending on whether you use the same names for the main-site and remote-site logical hosts.

For an overview of disaster recovery operation, see *11.1 Disaster recovery in JP1/AJS3* in the *JP1/Automatic Job Management System 3 Administration Guide*.

9.1.1 Overview of the setup required for disaster recovery operation (when using different names for the main-site and remote-site logical hosts)

The following figure gives an overview of the setup required for disaster recovery operation when using different names for the main-site and remote-site logical hosts.

Figure 9–1: Overview of the setup required for disaster recovery operation (when using different names for the main-site and remote-site logical hosts)



Before starting setup, check the following:

- Make sure there are available shared disks that can be used for the copy and mirroring functions.
When you set up prerequisite products and related products in the logical host environment at the main site and the remote site, select only products that support the disk copy and mirroring for the copy destination.
- Make sure that copying between shared disks has stopped.
If copying between shared disks is in progress, use the hardware to stop it.

- Make sure that remote volumes are write-enabled.
For details about the procedure, see the hardware documentation.

For details about how to set up the main site and the remote site, see the following subsections:

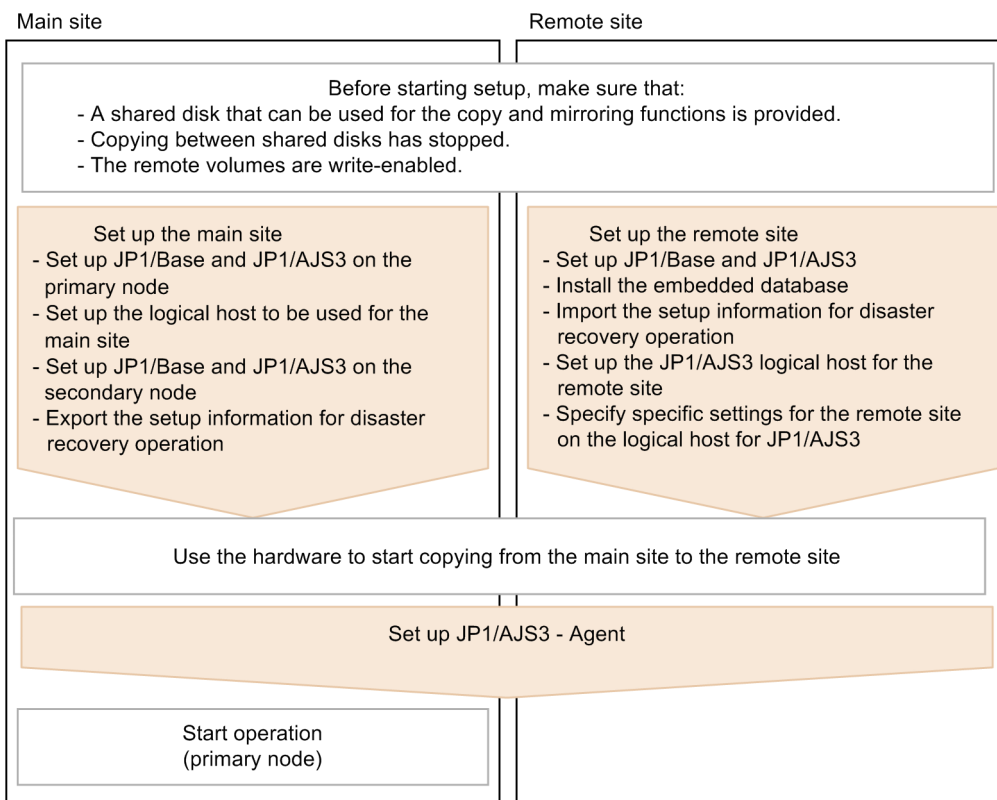
- To set up the main site:
9.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts
- To set up the remote site:
9.2.3 Setting up the remote site

For details about how to set up JP1/AJS3 - Agent, see *9.3 Setting up JP1/AJS3 - Agent* if necessary.

9.1.2 Overview of the setup required for disaster recovery operation (when using the same name for the main-site and remote-site logical hosts)

The following figure gives an overview of the setup required for disaster recovery operation when using the same name for the main-site and remote-site logical hosts.

Figure 9–2: Overview of the setup required for disaster recovery operation (when using the same name for the main-site and remote-site logical hosts)



Before starting setup, check the following:

- Make sure there are available shared disks that can be used for the copy and mirroring functions.
When you set up prerequisite products and related products in the logical host environment at the main site and the remote site, select only products that support the disk copy and mirroring for the copy destination.

- Make sure that copying between shared disks has stopped.
If copying between shared disks is in progress, use the hardware to stop it.
- Make sure that remote volumes are write-enabled.
For details about the procedure, see the hardware documentation.

For details about how to set up the main site and the remote site, see the following subsections:

- To set up the main site:
9.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts
- To set up the remote site:
9.2.3 Setting up the remote site

For details about how to set up JP1/AJS3 - Agent, see *9.3 Setting up JP1/AJS3 - Agent* if necessary.

9.2 Setting up the main site and remote site

This section describes how to set up the main site and the remote site to enable disaster recovery operation.

9.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts

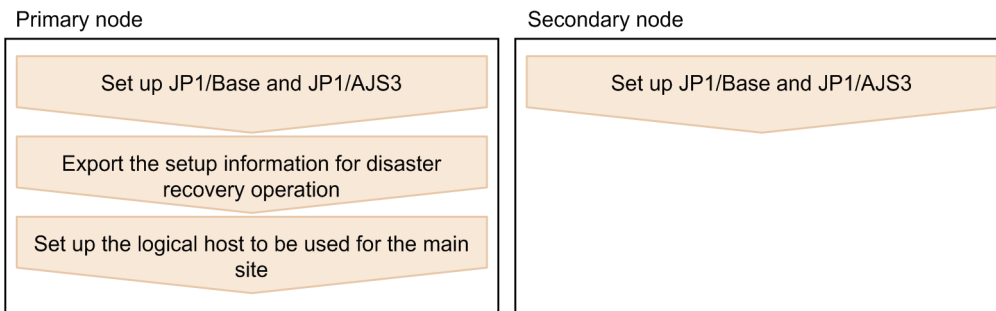
This subsection describes the procedure for setting up the main site when using different names for the main-site and remote-site logical hosts.

For a non-cluster environment, perform the procedure only on the primary node.

Cautionary note:

The procedure described here applies only when different names are to be used for the main-site and remote-site logical hosts. For the procedure when the same name is to be for these hosts, see [9.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts](#).

Figure 9–3: Main site setup procedure



1. Set up the following hosts on the primary and secondary nodes:

- JP1/Base physical host^{#1}
- JP1/Base logical host
- JP1/AJS3 physical host^{#1}
- JP1/AJS3 logical host^{#2}

#1

If the host has already been set up, no action is required.

#2

For the JP1/AJS3 logical host, use a shared disk that can be used by the hardware disk copy and mirroring functionalities.

The procedure for setting up is the same as the procedure used for cluster system operation. For details about the setup procedure, see [8. Setup for Operation in a Cluster System](#).

! Important

- To execute submit jobs or QUEUE jobs when JP1/AJS3 is in a standard configuration, add the manager host of the remote site as a job execution agent to the configuration definition file for the

execution environment for submit jobs. The manager host must be added before you execute the `jpgimport` command for JP1/AJS3 - Manager on the primary node.

By setting the manager hosts at the main and remote sites as job execution agents in advance, you can execute submit jobs and QUEUE jobs on the manager host of the remote site after operation switches to the remote site. There is no need to set up anything on the manager host of the remote site.

For details about the `jpgimport` command and the configuration definition file for the execution environment for submit jobs, see `jpgimport` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- If the manager connection-source restriction function is enabled and if the IP addresses of the main-site and remote-site logical hosts are different, you must also specify the IP address of the remote-site logical host in the manager connection permission configuration file.

If the agent connection-source restriction function is enabled and if the IP addresses of the main-site and remote-site logical hosts are different, note the following: To execute jobs on the local host, you must also specify the IP address of the remote-site logical host in the agent connection permission configuration file.

If you set the IP addresses of both the main and remote sites, you do not need to respecify the settings in the connection permission configuration file on the remote site after performing failover to the remote site.

For details about the settings for restricting connections to JP1/AJS3, see *21.2 Restricting connections to JP1/AJS3*.

- When you use the communication encryption function, obtain separate private keys and server certificates for the main and remote sites. However, the same private key and server certificate can be used for the main and remote sites in the following cases:
 - When the logical host name of the remote site is written as a subject alternative name (SAN) in the server certificate for the main site
 - When the logical hosts of both the main and remote sites are in the same domain and the server certificates are obtained as wildcard certificates

2. On the primary node, execute the command `ajsembdbidlist`, and then record the information about the embedded database on the JP1/AJS logical host.

The information to be recorded is as follows:

- Embedded database installation folder
- Setup identifier

These values will be used when you set up the remote site.

For details about the `ajsembdbidlist` command, see `ajsembdbidlist` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. On the primary node, export the disaster recovery operation setup information.

Execute the following command:

```
jajs_rpenvexport -h logical-host-name-of-the-main-site -d output-directory  
-name
```

4. On the primary node, set the JP1/AJS3 logical host as the main site.

Execute the following command:

```
jajs_rpsite -h logical-host-name-of-the-main-site -m SET
```

9.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts

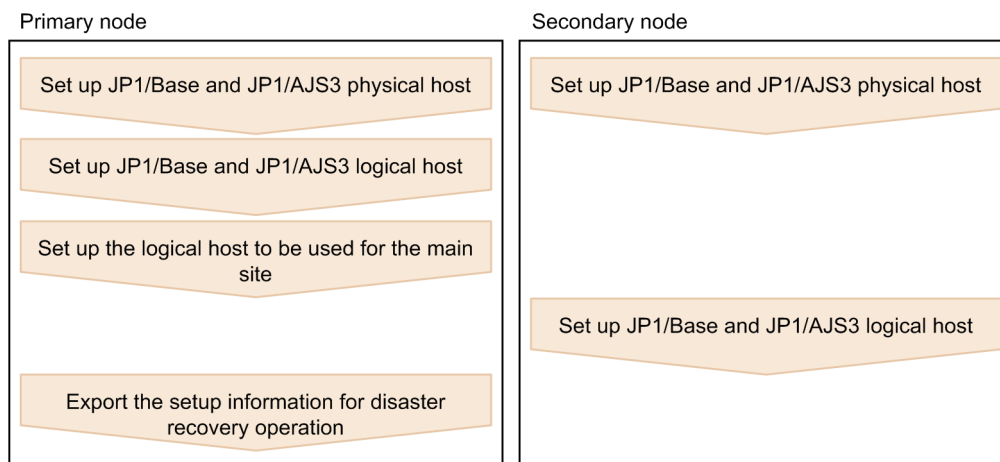
This subsection describes the procedure for setting up the main site when using the same name for the main-site and remote-site logical hosts.

For a non-cluster environment, perform the procedure only on the primary node.

Cautionary notes:

- The procedure described here applies only when the same name is to be used for the main-site and remote-site logical hosts. For the procedure when different names are to be used for these hosts, see [9.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts](#).
- For example, if you change the settings for disaster recovery operation, the logical hosts are already set up. In such a case, perform the following procedure:
 1. On the primary node, set the JP1/AJS3 logical host as the main site. To do this, execute the following command:
`jaajs_rpsite -h logical-host-name -m SETSAME`
 2. Back up the common definition information on the primary node by copying the information to the secondary node. To do this, execute the following command:
`jbsgetcnf -h logical-host-name > backup-file-name`
 3. Confirm that the backup file was copied to the secondary node. Then, execute the command `jbssetcnf` by specifying the backup file as an argument as follows:
`jbssetcnf backup-file-name`
 4. Change the settings for disaster recovery operation. For details about the procedure, see [11.3.2 Changing the settings of a disaster recovery environment](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

Figure 9–4: Main site setup procedure



1. Set up the following hosts on the primary node:

- JP1/Base physical host^{#1}
- JP1/Base logical host
- JP1/AJS3 physical host^{#1}
- JP1/AJS3 logical host^{#2}

#1

If the host has already been set up, no action is required.

#2

For the JP1/AJS3 logical host, use a shared disk that can be used by the hardware disk copy and mirroring functionalities.

The procedure for setting up is the same as the procedure used for cluster system operation. For details about the setup procedure, see [8.2.2\(1\) Tasks required on the primary node](#).

Important

If the manager connection-source restriction function is enabled and if the IP addresses of the main-site and remote-site logical hosts are different, you must also specify the IP address of the remote-site logical host in the manager connection permission configuration file.

If the agent connection-source restriction function is enabled and if the IP addresses of the main-site and remote-site logical hosts are different, note the following: To execute jobs on the local host, you must also specify the IP address of the remote-site logical host in the agent connection permission configuration file.

If you set the IP addresses of both the main and remote sites, you do not need to respecify the settings in the connection permission configuration file on the remote site after performing failover to the remote site.

For details about the settings for restricting connections to JP1/AJS3, see [21.2 Restricting connections to JP1/AJS3](#).

2. On the primary node, execute the command `ajsembdbidlist`, and then record the information about the embedded database on the JP1/AJS logical host.

The information to be recorded is as follows:

- Embedded database installation folder
- Setup identifier

These values will be used when you set up the remote site.

For details about the `ajsembdbidlist` command, see `ajsembdbidlist` in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Set up the following hosts on the secondary node:

- JP1/Base physical host[#]
- JP1/AJS3 physical host[#]

#

If the host has already been set up, no action is required.

4. On the primary node, set the JP1/AJS3 logical host as the main site.

Execute the following command:

```
jajs_rpsite -h logical-host-name -m SETSAME
```

5. Set up the following hosts on the secondary node:

- JP1/Base logical host
- JP1/AJS3 logical host[#]

#

For the JP1/AJS3 logical host, use a shared disk that can be used by the hardware disk copy and mirroring functionalities.

The procedure for setting up is the same as the procedure used for cluster system operation. For details about the setup procedure, see *8.2.2(2) Tasks required on the secondary node*.

6. On the primary node, export the disaster recovery operation setup information.

Execute the following command:

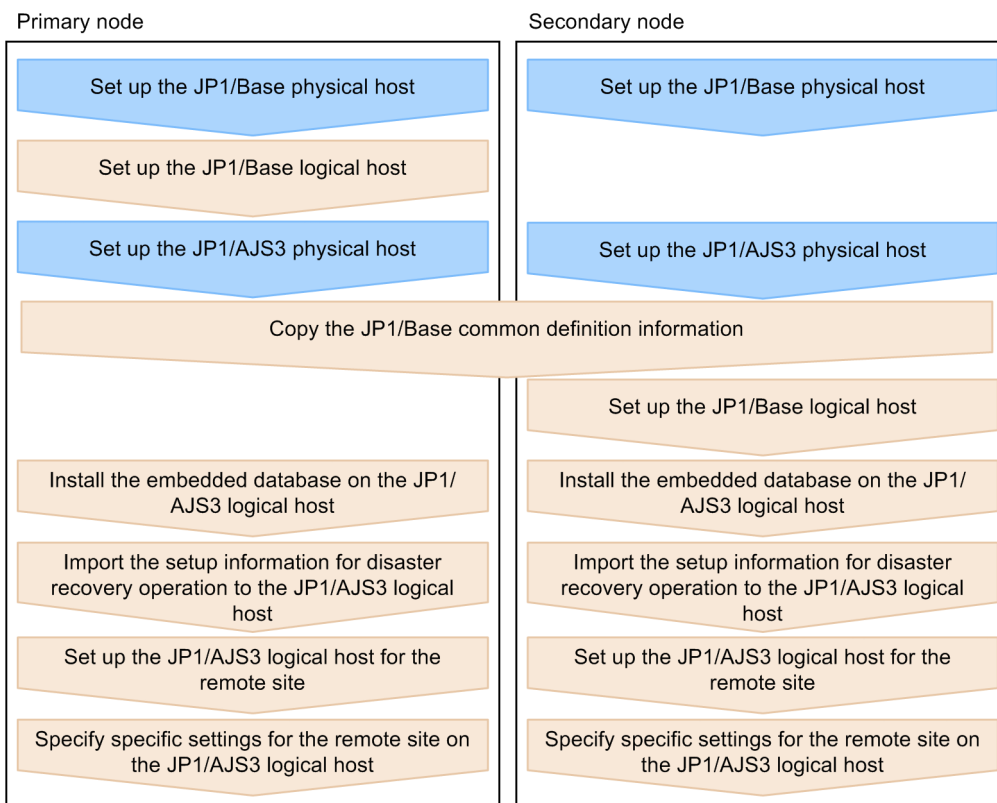
```
jajs_rpenvexport -h logical-host-name -d output-directory-name
```

9.2.3 Setting up the remote site

This subsection describes how to set up the remote site.

For a non-cluster environment, perform the procedure only on the primary node.

Figure 9–5: Remote site setup procedure



Legend:  : Operation on the physical host
 : Operation on the logical host

(1) Remote site setup procedure

The following describes the procedure for setting up the remote site:

Cautionary notes:

- The procedure described here applies regardless of whether you use the same name or different names for the main-site and remote-site logical hosts.
- If you use the same name for the main-site and remote-site logical hosts, the value of *logical-host-name-of-the-remote-site* to be specified as a command argument in the procedure is the same as the main-site logical host name.

1. Set up the JP1/Base physical hosts on the primary and secondary nodes.

If JP1/Base has already been set up, you do not need to perform this step.

The procedure for setting up JP1/Base is same as the procedure used for cluster system operation. For details, see [8. Setup for Operation in a Cluster System](#).

2. Set up the JP1/Base logical host on the primary node.

The procedure for setting up JP1/Base is same as the procedure used for cluster system operation. For details, see [8. Setup for Operation in a Cluster System](#).

Note that, when you use the communication encryption function, you need to specify one of the following settings:

- When different server certificates are used separately for the main and remote sites, allocate the main and remote site private key and server certificate to the remote site.
- When the same server certificate is used for the main and remote sites, allocate the same private key and server certificate as those for the main site to the remote site.

3. Set up the JP1/AJS3 physical hosts on the primary and secondary nodes.

During setup, specify the same options specified for the main site.

If JP1/AJS3 has already been set up, you do not need to perform this step.

The procedure for setting up the JP1/AJS3 physical host is same as the procedure used for cluster system operation. For details, see [8. Setup for Operation in a Cluster System](#).

4. On the primary node, save the JP1/Base common definition information, and then set up the common definition information on the secondary node.

After completing the tasks required on the primary node, execute the `jbsgetcnf` command on the primary node to save the JP1/Base common definition information. Copy the backup file to the secondary node, specify the backup file as an argument of the `jbssetcnf` command, and then execute the command. The following are the commands to execute.

On the primary node:

```
jbsgetcnf -h logical-host-name-of-the-remote-site > backup-file-name
```

On the secondary node:

```
jbssetcnf backup-file-name
```

5. Set up the JP1/Base logical host on the secondary node.

The procedure for setting up JP1/Base is same as the procedure used for cluster system operation. For details, see [8. Setup for Operation in a Cluster System](#).

6. On the primary node, install the embedded database of the JP1/AJS3 logical host.

Execute the following command:

```
ajsembdbinstl
-s directory-containing-the-embedded-database-installation-media
-mh logical-host-name-of-the-remote-site
-i embedded-database-installation-directory
-id setup-identifier
```


For the `-i` and `-id` options, specify the recorded values as described in the sections listed below.

If you are assigning the remote-site logical host a name that is different from the main-site logical host:

Step 2 in [9.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts](#)

If you are assigning the remote-site logical host the same name as the main-site logical host:

Step 2 in [9.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts](#)

For details about the `ajsembdbinstl` command, see `ajsembdbinstl` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. Import the setup information for disaster recovery operation to the primary node.

Execute the command `jajs_rpenvimport` to import the settings for disaster recovery operation from the main site to the remote site.

Before executing the command, make sure that the same disaster recovery operation setup information does not exist on any other host at the remote site. Also see the precautionary notes in `jajs_rpenvimport` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

The format of the command `jajs_rpenvimport` is as follows:

```
jajs_rpenvimport -e executing-physical-host-at-the-remote-site
                 -h logical-host-name-of-the-remote-site
                 -d input-directory-name
```

For the `-d` option, specify the same value as the output directory name that you specified as described in the sections listed below.

When setting up a new remote site (if you are assigning the remote-site logical host a name that is different from the main-site logical host):

Step 3 in [9.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts](#)

When setting up a new remote site (if you are assigning the remote-site logical host the same name as the main-site logical host):

Step 6 in [9.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts](#)

To reconfigure the main site:

Perform step 1 in [11.2.2 Rebuilding the main site](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

8. Set up the JP1/AJS3 logical host for the remote site on the primary node.

Execute the following command:

```
jajs_setup_cluster -h logical-host-name-of-the-remote-site
                  -F scheduler-service-name
                  -R
```

9. If necessary, specify individual settings on the primary node.

Some information is not set by importing the setup information for disaster recovery operation. If you need the information that is not imported, specify the individual settings as described in [\(3\) Specifying specific settings on the remote site](#).

10. Perform steps 6 to 9 on the secondary node.

(2) Importing and exporting the setup information for disaster recovery operation

When you perform one of the following operations, the JP1/AJS3 - Manager settings must be the same on both the main and the remote sites. To ensure that the settings are the same, export the setup information for disaster recovery operation on either site, and then import that information to the other site.

1. Build a new main site environment, and apply it to the remote site.
2. After the site stops, apply the remote site settings during rebuilding of the main site environment.
3. During operation, change the settings or configuration of the main site, and apply the changes to the remote site.

The following table describes the information set by exporting and importing the setup information for disaster recovery operation.

Table 9–1: Information set by exporting and importing the setup information for disaster recovery operation

No.	Information to be set
1	All environment setting parameters for the following definition keys, including subkeys: <ul style="list-style-type: none"> • [logical-host-name\JP1AJS2] • [logical-host-name\JP1AJS2COMMON] #1 • [logical-host-name\JP1AJSMANAGER] #2 • [logical-host-name\JP1AOMMANAGER] • [logical-host-name\JP1AOMAGENT] • [logical-host-name\JP1NBQAGENT] • [logical-host-name\JP1NBQMANAGER] • [logical-host-name\JP1NBQCLIENT] • [logical-host-name\JP1NBQNOTIFY] • [logical-host-name\JP1QLAGENT] #1
2	Embedded database definition file

#1

This definition key is used by optional functions and might not exist.

#2

If this definition key does not exist, information will not be exported because the system assumes that no logical host has been created.

(3) Specifying specific settings on the remote site

You need to manually set information on the remote site that is not set by exporting and importing the setup information for disaster recovery operation.

The following table describes the information that is not set.

Table 9–2: Information that is not set by exporting and importing the setup information for disaster recovery operation

No.	Type of information	Information that is not set	Required settings
1	System settings	Port number	Set the port number in the <code>services</code> file.

No.	Type of information	Information that is not set	Required settings
2	System settings	Firewall settings	Set up a firewall for the port.
3		Name resolution settings	Specify <code>jp1hosts</code> or <code>jp1hosts2</code> information, <code>hosts</code> file, and DNS settings.
4	General	Trace log file size	Set the sizes of the following trace log files: <ul style="list-style-type: none"> • JP1/AJS3 trace log file • Trace log file for the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service • Trace log file for the queueless job function
5		Environment setting parameters	Set the environment setting parameters for physical hosts.
6		Cancellation or resetting of service dependencies	Change the dependencies between the JP1/AJS3 service and JP1/Base Event service.
7	Scheduler	Adding or deleting a scheduler service	If a scheduler service was added or deleted, install or uninstall the corresponding embedded database.
8		Local date and time for the JP1/AJS3 scheduler service	Use the <code>ajslocaldate</code> command to change the local date and time for the JP1/AJS3 scheduler service.
9	Events and actions	Destination host for the JP1 event-sending job	Set up communication when the JP1 event-sending job is used to send JP1 events to another host.
10		Linkage with mail systems	Set up the mail system linkage function.
11	Definition pre-check	Definition pre-check function	Either set up or remove the setup of the definition pre-check function.
12	Queueless job	Queueless job function	Either set up or remove the setup of the queueless job function.
13	JP1/AJS3 - View	Function for disabling specific menus in JP1/AJS3 - View	Allocate the settings file on the manager host.
14	Prerequisite products, related products, and linkage products	Transfer destination host for the JP1 event service	Specify the settings when you use the JP1 event reception monitoring job to monitor JP1 events transferred from other hosts.
15		Linkage with HP NNM	Set up the HP NNM linkage function.

The following describes the specific information that you need to set.

(a) Port number

Set the port number used at the other site.

Change the port number set in the `services` file.

(b) Firewall settings

Specify the firewall settings for the port number that was specified at the other site.

For details, see *2.3.4 Communications in firewall environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(c) Name resolution settings

When the main site and the remote site use the same agent host, make sure to set the same `jp1hosts` or `jp1hosts2` information, `hosts` file, and DNS settings for both sites.

If these sites use different agent hosts, set up the `jp1hosts` or `jp1hosts2` information, `hosts` file, or DNS at the remote site so that agent host names used at the main site can be resolved at the remote site.

If agent host names used at the main site cannot be resolved at the remote site, the startup of disaster recovery after operation is switched to the remote site might take a long time, or a connection timeout might occur. To prevent such problems, you need to set up the `jp1hosts` or `jp1hosts2` information, `hosts` file, or DNS at the remote site so that name resolution can be performed correctly.

For details about the `jp1hosts` or `jp1hosts2` information, see the *JP1/Base User's Guide*.

(d) Trace file size

Set the sizes of the following trace log files to the settings used at the other site:

- JP1/AJS3 trace log file
- Trace log file for the JP1/AJS3 Check Manager service or JP1/AJS3 Check Agent service
- Trace log file for the queueless job function

To change the size of the trace log file for JP1/AJS3, the JP1/AJS3 Check Manager service, or the JP1/AJS3 Check Agent service, use the `ajstrsetsz` or `ajschktrsetsz` command. For details about these commands, see *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

To change the trace log file size for the queueless job function, use the `ajsqltrsetsz` and `ajsqlxecsetsz` commands. For details about these commands, see *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(e) Environment setting parameters

Set the environment setting parameters for physical hosts to the settings used at the other site. These environment setting parameters exist for definition keys that the physical host and logical host do not share (that is, a definition key beginning with `[JP1_DEFAULT\ . . .]`). For details about how to set the environment setting parameters, see *4.2 Environment setting parameter settings*.

Note that the environment setting parameters for logical hosts are imported when the setup information for disaster recovery operation is imported.

(f) Cancellation or resetting of service dependencies

If the JP1/Base event server name is not a default name such as an FQDN, you need to cancel the dependencies between the JP1/AJS3 service and JP1/Base Event service. For details about how to set service dependencies and the applicable cautionary notes, see *6.9.1 Canceling and re-setting service dependencies*.

(g) Adding or deleting a scheduler service

If a scheduler service was added or deleted, install or uninstall the corresponding embedded database. To install an embedded database, execute the `ajsembdbinstl` command. To uninstall an embedded database, execute the `ajsembdbuninstl` command.

For details about these commands, see *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(h) Local date and time for the JP1/AJS3 scheduler service

Set the same local date and time for the JP1/AJS3 scheduler service that is set at the other site. If you use the `ajslocaldate` command to change the local date and time, you also need to execute the `ajslocaldate` command at the remote site before starting JP1/AJS3 at the remote site.

For details about the `ajslocaldate` command, see *7.6 Defining a local date and time for the scheduler service* in the *JP1/Automatic Job Management System 3 Administration Guide*.

(i) Destination host for the JP1 event-sending job

When you use the JP1 event-sending job to send JP1 events to another host, specify the setting so that communication with the destination host is possible at both the main site and the remote site.

(j) Linkage with mail systems

Set up linkage with mail systems in accordance with the settings at the other site.

For details about linkage with mail systems, see *2. Linking Mail Systems* in the *JP1/Automatic Job Management System 3 Linkage Guide*.

If you change the linkage of a mail system, you need to restart the JP1/AJS3 Mail service on the physical host.

(k) Definition pre-check function

Set up the definition pre-check function if it has been set up at the other site.

Use the `ajschksetup` command to set up the definition pre-check function. For details, see *6.5.1 Setting up the JP1/AJS3 definition pre-check function*.

Note that if you change the definition pre-check function setting, you need to restart the following services on the physical host:

- JP1/AJS3 Check Manager service
- JP1/AJS3 Check Agent service

(l) Queueless job function

Set up the queueless job function if it has been set up at the other site. To set up the queueless job function at the remote site, execute the `ajsqlsetup` command with the `-nc` option specified.

For details about the `ajsqlsetup` command, see *ajsqlsetup* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Note that if you change the queueless job setting, you need to restart the queueless agent service on the physical host.

(m) Function for disabling specific menus in JP1/AJS3 - View

Enable the function for disabling specific menus in JP1/AJS3 - View if the function is enabled at the other site.

For details, see *11.3.9 Disabling menus* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

(n) Transfer destination hosts for the JP1 event service

When you use the JP1 event-reception monitoring job to monitor JP1 events transferred from hosts not at the main site, set up transfer to both the main site and the remote site on the transfer source.

(o) Linkage with HP NNM

Set up linkage with NNM at both the main site and the remote site. The same symbol cannot be used twice for monitoring, so create symbols for the main site and the remote site on NNM.

For details about linking JP1/AJS3 with HP NNM, see the following:

- *A. Monitoring Jobnets Using HP NNM in the JP1/Automatic Job Management System 3 Linkage Guide*
- *B. Events Reported to HP NNM in the JP1/Automatic Job Management System 3 Linkage Guide*
- *C. Commands Used When Linking with HP NNM in the JP1/Automatic Job Management System 3 Linkage Guide*

9.3 Setting up JP1/AJS3 - Agent

This section describes how to set up JP1/AJS3 - Agent to enable disaster recovery operation.

When the main site and the remote site share JP1/AJS3 - Agent:

Make sure that setup of a JP1/AJS3 - Agent environment has been completed.

Cautionary note:

If the IP addresses of the main-site and remote-site logical hosts are different, make sure that the following conditions are also met:

- The agent host can communicate with the manager hosts on both the main and remote sites.
- (If the setting to restrict connections to JP1/AJS3 is enabled) The IP addresses of the manager hosts on both the main and remote sites are set in the agent connection permission configuration file.
- When you use the communication encryption function, the root certificates corresponding to the appropriate server certificates for the main and remote sites are associated with the corresponding server certificates and separately allocated to the main and remote sites.

When the main site and the remote site do not share JP1/AJS3 - Agent:

Make sure that setup of a JP1/AJS3 - Agent environment has been completed.

10

Uninstallation

This chapter describes how to uninstall JP1/Base and JP1/AJS3.

10.1 Precautions for uninstallation

- Uninstall JP1/Base after you uninstall JP1/AJS3. If you uninstall JP1/Base first, you will not be able to uninstall JP1/AJS3 because the definition files shared by JP1/Base and JP1/AJS3 are deleted.
- If you uninstalled JP1/Base before JP1/AJS3, re-install JP1/Base, delete information about the embedded database, and then uninstall JP1/AJS3. Note that, when you uninstall JP1/AJS3 - Agent, you do not need to delete information about the embedded database.

The following describes how to delete information about the embedded database.

If a value other than `_JF0` is used for the embedded database setup identifier, replace the portion `_JF0` in the command name and in the folder path with the value used for the embedded database setup identifier, and then execute the following operations on all the embedded database setup identifiers.

1. Execute the following command.

```
JP1/AJS3-installation-folder\embdb\_JF0\PDISTUP\bin\pdirst JP1/AJS3-Manager-installation-  
folder\embdb\_JF0
```

2. Execute the following command.

```
embdbuninst1__JF0.cmd
```

3. Delete all of the following folders and files.

Under `JP1/AJS3-Manager-installation-folder\embdb_JF0` folders and files

`Embdbuninst1__JF0.cmd` exists in the following location.

If the installation destination folder is the default folder or a folder under a folder protected by the system

```
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\sys\install
```

The default for `%ALLUSERSPROFILE%` is `system-drive\ProgramData`.

Folders protected by the system use the path to one of the following folders:

- Folder in `system-drive\Windows`
- Folder in `system-drive\Program Files (x86)`

If the installation target folder is none of the above

```
JP1/AJS3-Manager-installation-folder\sys\install
```

- If a user who does not have administrator privileges is to perform operations to install, setup, or uninstall JP1/AJS3 in an environment in which the UAC function is enabled, assign administrator privileges to that user. If the UAC function is disabled, a user who belongs to the administrators group must perform such operations.
- Uninstall JP1/AJS3 using the same language setting as when the product was installed.
- Don't cancel the uninstallation processing. If you canceled the uninstallation, the files and registry required for processing might be removed. Make sure to redo the uninstallation after an overwrite installation.

If uninstallation is performed without an overwrite installation, the following issues might occur:

- An error occurs during the uninstallation and the uninstallation fails.
- Uninstallation will complete although files and registries which should be deleted are remained.

10.2 Uninstalling JP1/AJS3 series programs

This section describes how to uninstall JP1/AJS3.

Important

- Because uninstalling JP1/AJS3 also causes the JP1/AJS3 programs to be deleted, the user environment (such as the database and environment settings files) is also deleted. Therefore, if you uninstall and then reinstall JP1/AJS3, you must specify all the settings again.
- If you perform uninstallation while the **Services** administrative tool in Control Panel is open, the startup type for the services provided by JP1/AJS3 might change to *Disabled*, preventing the services from being uninstalled. Before you perform uninstallation, make sure that the **Services** administrative tool in Control Panel is closed. If uninstallation of services has failed because the **Services** administrative tool was not closed, restart the system. When the system is restarted, these services are uninstalled. Note that if you perform re-installation while the startup type of the services provided by JP1/AJS3 is *Disabled*, these services will not be installed.
- Before you start uninstallation, make sure that the Event Viewer administrative tool in the Control Panel is closed. If this tool is open, uninstallation might fail.
- In a cluster system, use JP1/Base to delete logical hosts before you uninstall JP1/AJS3. For details about deleting logical hosts, see [8.2.8 Deleting logical hosts](#).
- If you are using JP1/AJS3 for disaster recovery operation, you need to cancel disaster recovery operation at the main site and at the remote site before you uninstall JP1/AJS3. For details, see [11.4 Exiting disaster recovery mode](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.
- When JP1/AJS3 - View is uninstalled, only files and folders installed during installation are deleted. Some files installed during installation, and the files and folders created after installation are treated as user data, and therefore not deleted.
They may remain where the installation path of this product has specified them to be installed.
After uninstallation, manually delete the files and folders that remain where the install path of this product has specified them to be installed.
- When JP1/AJS3 - View is uninstalled, a program folder may remain in the Start menu. If the program folder is unnecessary, delete the program folder. For details about the deletion procedure, see the Windows Help.
- When you uninstall JP1/AJS3 - View, the *JP1/AJS3-View-installation-folder\bin* folder might remain. Delete manually if remaining.

To uninstall JP1/AJS3 series programs from a Windows host:

1. Log in as a user with administrator privileges to the host from which you want to uninstall the JP1/AJS3 series programs.
2. Terminate all programs.
If existing JP1 series programs are running, always stop them.
3. In Windows Control Panel, double-click **Add/Remove Programs**.
A dialog box for selecting the programs to be uninstalled appears.
4. Select the JP1/AJS3 series programs you want to uninstall, and then click the **Remove** button.
A dialog box asking you to confirm that you want to delete the program appears.

5. Click the **OK** button.

The selected programs are uninstalled.

If a dialog box displaying the message `An attempt to delete the JP1/AJS3 database failed. Try uninstalling again.` appears while JP1/AJS3 - Manager is being uninstalled, take action based on the KAVS2128-E message output to the Windows event log.

6. Delete any user files created by JP1/AJS3 and the JP1/AJS3 installation folder as required.

10.3 Uninstalling JP1/Base

To uninstall JP1/Base, use the automatic uninstallation function. This function also uninstalls the integrated trace log function (HNTRLib2). However, if JP1/AJS3 - View or another product is using the function, the function is uninstalled when the product is uninstalled.

For details about JP1/Base uninstallation, see the *JP1/Base User's Guide*.



Important

Before you uninstall JP1/Base, make sure that JP1/AJS3 has been uninstalled. If you uninstall JP1/Base before you uninstall JP1/AJS3, you might no longer be able to uninstall JP1/AJS3.

If you uninstall and then re-install JP1/Base, you must also uninstall and then re-install JP1/AJS3. The common definition information used by JP1/AJS3 is deleted when JP1/Base is uninstalled. Therefore, if JP1/Base is uninstalled, JP1/AJS3 will no longer be able to operate.

11

Types of JP1/AJS3 System Configuration and System Setup Procedures

A JP1/AJS3 system can be set up in various configurations. For example, a small configuration might have only one host that is used to define and execute jobs, whereas a large configuration might have several hosts that execute many jobs. In a JP1/AJS3 system, the functions of other products can also be used by linking JP1/AJS3 to those products. This chapter describes the JP1/AJS3 system configurations you can create, and the necessary setup procedures.

11.1 Overview of setting up JP1/AJS3

This section describes the JP1/AJS3 system configurations you can create and the necessary setup procedures.

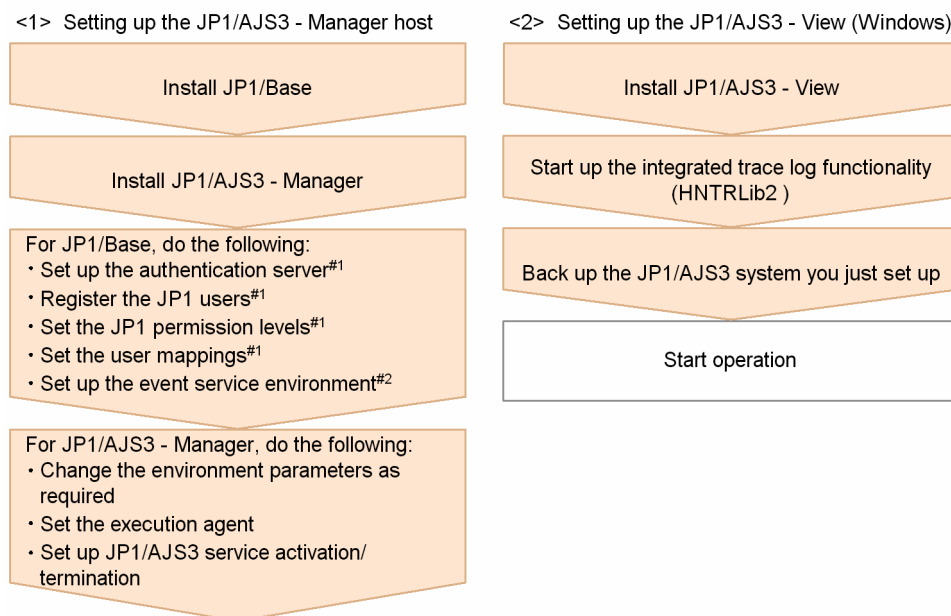
For details about JP1/AJS3 series programs and the prerequisites for setting up a JP1/AJS3 system, see *2.1 Checking the operating environment* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

11.1.1 Procedure for setting up a system with JP1/AJS3 - Manager and JP1/AJS3 - View

Prepare a host machine and install JP1/AJS3 - Manager. If necessary, prepare another host (Windows) machine and install JP1/AJS3 - View. Multiple JP1/AJS3 - View hosts (Windows) can connect to the JP1/AJS3 - Manager host.

The following figure shows the procedure for setting up a system with JP1/AJS3 - Manager and JP1/AJS3 - View.

Figure 11–1: Procedure for setting up a system with JP1/AJS3 - Manager and JP1/AJS3 - View



#1 If automatic setup is selected during a new installation of JP1/Base, this setup operation is automatically performed with the defaults. If it is not necessary to change the defaults, you do not need to perform the operation. If automatic setup is not selected during a new installation of JP1/Base or if JP1/Base is remotely installed as a new installation by using JP1/Software Distribution, you need to perform this operation manually.

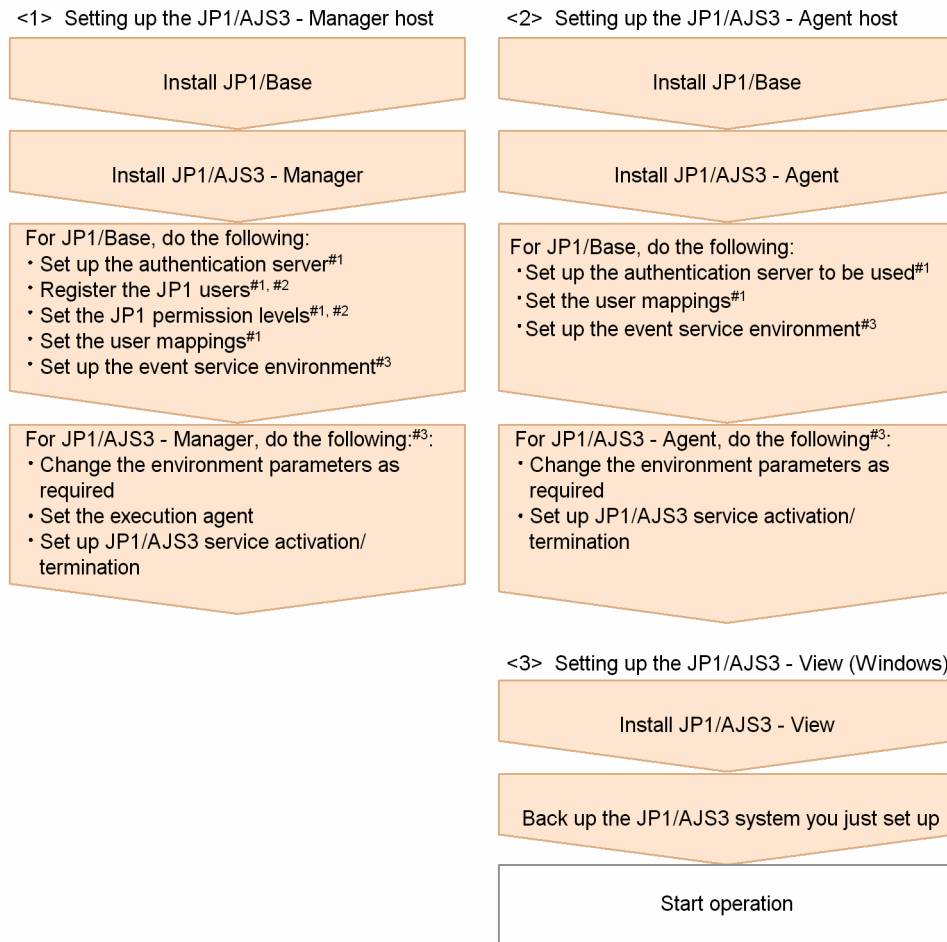
#2 Change settings as needed for your operating requirements.

11.1.2 Procedure for setting up a system in a manager/agent configuration that uses only one JP1/AJS3 - Manager host

Prepare a host for installing JP1/AJS3 - Manager, and hosts for installing JP1/AJS3 - Agent. If necessary, also prepare a host (Windows) for installing JP1/AJS3 - View.

The following figure shows the procedure for setting up a system in a manager/agent configuration that uses only one JP1/AJS3 - Manager host.

Figure 11–2: Procedure for setting up a system in a manager/agent configuration that uses only one JP1/AJS3 - Manager host



- #1 If automatic setup is selected during a new installation of JP1/Base, this setup operation is automatically performed with the defaults. If it is not necessary to change the defaults, you do not need to perform the operation. If automatic setup is not selected during a new installation of JP1/Base or if JP1/Base is remotely installed as a new installation by using JP1/Software Distribution, you need to perform this operation manually.
- #2 You can omit this operation when you have defined the JP1/Base authentication server on another host.
- #3 Change settings as needed for your operating requirements.

11.1.3 Procedure for setting up a system in a manager/agent configuration that uses several JP1/AJS3 - Manager hosts

Prepare hosts for installing JP1/AJS3 - Manager and for installing JP1/AJS3 - Agent. If necessary, also prepare a host (Windows) for installing JP1/AJS3 - View.

Although the procedure for setting up a system that uses several JP1/AJS3 - Manager hosts is the same as that for setting up a system that uses only one JP1/AJS3 - Manager host, the procedure in *Figure 11-2* must be performed for each JP1/AJS3 - Manager host.

After live operation starts, define a manager job group or manager jobnet so that multiple managers can be managed centrally.

12

Installation

This chapter describes how to install JP1/AJS3.

12.1 Required task before installing JP1/AJS3 series programs

This section describes the following task that is required before you can install JP1/AJS3 on a UNIX host:

- Installing JP1/Base

Important

Before you perform a new installation of JP1/AJS3, you must install JP1/Base. Before you perform an upgrade installation of JP1/AJS3, you must upgrade JP1/Base.

12.1.1 Installing JP1/Base

Make sure that JP1/Base has been installed on the hosts on which JP1/AJS3 - Manager will be installed.

Note that if you select automatic setup when performing a new installation of JP1/Base, the following user information is automatically set. If this information is appropriate, you do not need to set any user information.

- Authentication server: local host
- JP1 user: jpladmin
- JP1 user's password: jpladmin
- OS user mapped to the JP1 user: root
- Server host name: *

For details about installing and setting up JP1/Base, see the *JP1/Base User's Guide*.

12.2 Installing JP1/AJS3 series programs

This section describes how to install JP1/AJS3 series programs (JP1/AJS3 - Manager, JP1/AJS3 - Agent, and JP1/AJS3 - Web Console) for each OS of the target host. You can install JP1/AJS3 - Web Console only in Linux.

Note that JP1/Base must already be installed before you install JP1/AJS3 - Manager and JP1/AJS3 - Agent. Also make sure that the installed version of JP1/Base is the prerequisite version for JP1/AJS3.

For details about installing JP1/Base, see the *JP1/Base User's Guide*.

Supplementary note:

After installing JP1/AJS3 - Manager or JP1/AJS3 - Agent on a virtual machine, you can replicate the virtual machine. For an overview of replicating a virtual machine, see *2.8 Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *22. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up*.

12.2.1 Points you must check before installation

This subsection describes the points that you must check before installing JP1/AJS3 series programs.

- To install JP1/AJS3 on a physical host, set the host name by using 1 to 63 bytes. To install JP1/AJS3 on a logical host, set the host name by using 1 to 32 bytes.
- JP1/AJS3 supports Japanese, English, Simplified Chinese, Korean, German, French, Spanish, and Russian. If JP1/AJS3 is to be used in a particular language (Japanese, English, Simplified Chinese, Korean, German, French, Spanish, or Russian), before installing JP1/AJS3, make sure that the language settings are the same on all of the hosts on which JP1/AJS3 is to be installed.

For details about how to specify the settings for using the desired language, see *2.4.2(11) About the operations in multiple language environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(1) For JP1/AJS3 - Manager and JP1/AJS3 - Agent

- Do not install JP1/AJS3 - Manager as a super user with one of the following names:
 - ALL
 - HiRDB
 - MASTER
 - PUBLIC
 - AJS2

If you install JP1/AJS3 - Manager as a super user with one of the preceding names, a problem occurs. For example, the JP1/AJS3 service might fail to start or setup of the embedded database might fail. Note that the case of letters in the super user name is not distinguished. Therefore, any strings obtained by converting from uppercase the strings above into lowercase such as "all" cannot be used.

- If you are performing a new installation of JP1/AJS3 - Manager, make sure that the port number 22220, which is to be used for communicating with the embedded database, is available before performing the installation. If port number 22220 is to be used for a purpose other than for JP1/AJS3 - Manager, make sure that port number 22220 is available during installation of JP1/AJS3 - Manager. After JP1/AJS3 is installed, perform setup of the embedded

database again to change the port number. For details about how to re-perform setup of the embedded database, see [23.4.1\(6\) Setting up an embedded database again](#).

(2) For JP1/AJS3 - Web Console

- In accordance with the format specified in the RFC2609 standards, use only the following types of characters for the host name of the host to be installed:
 - Alphabetic characters (A to Z, a to z)
 - Numbers (0 to 9)^{#1}
 - Hyphen (-)^{#2}
 - Period (.)^{#3}
- #1
Do not use a number directly after the last period.
- #2
Do not use a hyphen for the first or last character of the host name.
- #3
Do not use a period for the first or last character of the host name.
- When performing a new installation of JP1/AJS3 - Web Console, make sure port numbers 22254, 22255 and 23152 can be used as the ports for internal communication. To use the port numbers for a purpose other than for JP1/AJS3 - Web Console, use the port numbers during installation of JP1/AJS3 - Web Console, and then change the port numbers.

12.2.2 Notes on installation

This subsection provides notes on the host on which JP1/AJS3 - Manager will be installed, and notes on upgrade installation of JP1/AJS3 - Manager. This subsection also describes remote installation (software distribution) using JP1/Software Distribution.

(1) Host on which JP1/AJS3 - Manager and JP1/AJS3 - Agent is installed

- You cannot install JP1/AJS3 - Manager and JP1/AJS3 - Agent on the same host.
- When performing a new installation of JP1/AJS3 - Manager, make sure that the local host name is resolved, and then install JP1/AJS3 - Manager. If JP1/AJS3 - Manager is newly installed without resolving the local host name, creation of the job execution environment database might fail, and the JP1/AJS3 service might not start.

(2) Notes on upgrade installation

(a) About customizable files

JP1/AJS3 files include files that can be customized by users. Because an upgrade installation does not replace existing customizable files, current user-customized settings are retained.

Note that the directory that contains the customized files also contains model files (files ending with `.model`) from which the customized files were created. These model files are updated in an upgrade installation. After an upgrade installation has been completed, check whether the files in the directories listed below have been customized. For any customized configuration files you find, make the same customization to the copies of the model files you have made. Next, delete all the existing configuration files, and rename the copies of the model files so that they become the new

configuration files. If no files have been customized, you need only to delete all the existing configuration files and rename the copies of the model files.

For JP1/AJS3 - Manager:

- /etc/opt/jp1ajs2
- /etc/opt/jp1ajs2/conf

For JP1/AJS3 - Agent:

- /etc/opt/jp1ajs2
- /etc/opt/jp1ajs2/conf

Cautionary notes:

- When JP1/AJS3 is operating in a cluster system, the model files in the `conf` directory within the `jp1ajs2` shared directory are not updated. Therefore, if the files in the shared directory have been customized, perform the same customization for the copies of the model files in the directories described above instead of customizing the model files in the shared directory. If the files have not been customized, you need only to overwrite files of the same name with the copies of the model files.

Note that the `conf` files used for logical hosts are stored in the `conf` directory within the `jp1ajs2` shared directory.

- During upgrade installation, both data collection tools and model files are updated. If you need to customize the data collection tool `_04` after upgrade installation, back up the tool before performing upgrade installation.

You cannot customize the data collection tool `jajs_log`.

If JP1/AJS2 - Manager is upgraded to JP1/AJS3 - Manager, the process management definition files and extended startup process definition files (`jp1ajs_xxxd.conf` and `jp1ajs_xxxx_0700.conf` in the directories listed above) are automatically updated for a JP1/AJS3 - Manager process configuration. If linkage with HP NNM or a queueless job execution environment was set up in JP1/AJS2 - Manager, check whether the settings in these files have been inherited after the upgrade installation and setup has been completed. If these settings have not been inherited, re-specify them. If the restart settings were customized (for example, so that abnormally terminated JP1/AJS2 processes are restarted), the restart settings are reset to the defaults. If you want to disable the restart settings or change the maximum number of restart attempts, customize the settings again after the upgrade installation and setup have been completed.

(b) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent

- Stop all of the following services and processes that are running on the host on which you want to install JP1/AJS3, and then perform the installation:
 - JP1/AJS3 or JP1/AJS2
 - Products prerequisite for JP1/AJS3 or JP1/AJS2
 - Products linked with JP1/AJS3 or JP1/AJS2
- Make sure that the following types of processing are not executed until installation is complete:
 - Processing requests for products linked with JP1/AJS3 or JP1/AJS2
 - Processing that executes JP1/AJS3 or JP1/AJS2 functions or commands
- We recommend that you back up necessary definition files before the upgrade installation. For the objects to be backed up, see 5.2.2 *Target files and backup timing* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
- Upgrade installation of JP1/AJS3 - Manager or JP1/AJS3 - Agent fails in the following cases:
 - A process of JP1/AJS3 - Manager or JP1/AJS3 - Agent that has already been installed is running.

- JP1/Base has not been installed or the version of the installed JP1/Base is not appropriate.
- A product with which JP1/AJS3 - Manager or JP1/AJS3 - Agent is not compatible has been installed.
- To perform an upgrade installation of JP1/AJS3 - Manager version 10-00 or later from a version earlier than 10-00, you need to migrate the embedded database to the format for version 10-00 and later. For details about how to migrate the embedded database, see *13.5.1 Settings for enhancing the embedded database management function*.
- To perform an upgrade installation of JP1/AJS3 - Manager or JP1/AJS3 - Agent in a cluster configuration, see *12.2.7 Upgrade installation in a cluster configuration*.
- After upgrading JP1/AJS3 - Manager in the standard configuration, check whether the version of the embedded database is the same as the version indicated in *Installation Procedures and System Generation Precautions* in the *Release Notes*. If these versions are different, upgrade the embedded database.

(c) About upgrade installations of JP1/AJS3 - Web Console

- Clear your web browser cache. If you do not clear the cache, the web browser will reference the cache of the previous version, and the upgraded content will not be applied.
- Stop all of the following services and processes that are running on the host on which you want to install JP1/AJS3 - Web Console, and then perform the installation:
 - JP1/AJS3
 - Products prerequisite for JP1/AJS3
 - Products linked with JP1/AJS3
- Make sure that the following types of processing are not executed until installation is complete:
 - Processing requests for products linked with JP1/AJS3
 - Processing that executes JP1/AJS3 functions or commands
- If you upgrade JP1/AJS3 - Web Console from a version earlier than 13-00 to version 13-00 or later, the settings in the environment setting files will be changed. For details, see *13.3.11 Setup required to upgrade the version of JP1/AJS3 - Web Console*.

(d) When IPv6 addresses are being used for communication

To upgrade JP1/Base or JP1/AJS3 to version 10 or later from version 9 or earlier, and to enable communication using IPv6 addresses, you need to specify settings for communicating using IPv6 addresses.

For details, see *13.4.6 Settings for communication using IPv6 addresses*.

(3) Remote installation (software distribution) using JP1/Software Distribution

JP1/AJS3 supports remote installation by JP1/Software Distribution.

The following types of remote installation are supported:

- New installation
JP1/AJS3 can be installed as a new installation on target hosts.
- Upgrade installation
The version of JP1/AJS3 or JP1/AJS2 installed on target hosts can be updated. Note, however, that setup must be performed on each host if JP1/AJS2 - Manager is upgraded to JP1/AJS3 - Manager.

For details about the actual procedure for remote installation when JP1/Software Distribution is used, see the *Job Management Partner 1/Software Distribution Client Description and User's Guide* (For UNIX Systems).

For details about how to perform the required setup after JP1/AJS2 - Manager has been upgraded to JP1/AJS3 - Manager, see *8.5 Upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) Upgrade installation from JP1/AJS2 - Manager to JP1/AJS3 - Manager

Because JP1/AJS3 - Manager requires more disk space and memory than JP1/AJS2 - Manager, accurately estimate how much disk space and memory will be required before upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager. Note that operation of JP1/AJS3 - Manager following an upgrade from JP1/AJS2 - Manager cannot start until setup has been completed after the upgrade installation. Because the time required for the setup to finish depends on the amount of data and other factors, the upgrade installation and setup must be performed according to a suitable plan. For details about the setup procedure required after an upgrade installation from JP1/AJS2 - Manager to JP1/AJS3 - Manager, see *8.5 Upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(5) Note on setting an AJS administrator

Set an AJS administrator when you perform a new installation of JP1/AJS3. You cannot set an AJS administrator in an environment in which JP1/AJS3 has already been installed.

For details about how to set an AJS administrator, see *D. Installation and Setup for Operation by AJS Administrators (UNIX only)*.

(6) Notes on upgrade installation of JP1/AJS3 - Manager when upgrading to version 13-00 or later

When you perform an upgrade installation from version 12-60 or earlier, you must also perform the following tasks:

- Upgrade installation of embedded database
- Convert the scheduler services databases to the format compatible with version 13-00 or later

If there are multiple embedded databases, perform upgrade installation and database conversion for all of them. For details about the procedure for upgrade installation of an embedded database, see *12.2.8 Upgrade installation of embedded database*. For details about the procedure for converting the database format, see *13.5.3 Settings required when JP1/AJS3 - Manager is upgraded to version 13-00 or later*.

12.2.3 Installation in HP-UX

This subsection describes the installation procedure in HP-UX.

Note that the names of files and directories on the installation media might be different from the names used in this subsection, depending on the hardware environment. Use the actual file and directory names displayed by the `ls` command.

To install a JP1/AJS3 series program in HP-UX:

1. Log in as a superuser to the host on which you want to install the JP1/AJS3 series program. Alternatively, use the `su` command to become superuser.

2. Stop the programs linked with JP1/AJS3.

- New installation:

If a program linked with JP1/AJS3 is running on the host on which you want to install JP1/AJS3, stop it.

- Upgrade installation

For details, see *12.2.2(2)(b) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent*.

3. Specify the character encoding set to be used for JP1/AJS3 in the LANG environment variable.

For the character encoding sets available to JP1/AJS3, see *2.4.2(2) Values that can be specified in the LANG environment variable* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

4. Set the JP1AJS3_EMBDB_SETUP environment variable.

Set the environment variable only when performing a new installation of JP1/AJS3 - Manager. By setting the JP1AJS3_EMBDB_SETUP environment variable before installation, you can specify whether to automatically set up a scheduler service and an embedded database during installation. When automatic setup is to be performed, you can specify the scale of the embedded database to be set up.

You can skip this step if you are going to set up a scheduler service and configure a small-scale embedded database.

The scheduler service and the embedded database are not automatically set up at installations other than a new installation. For this reason, this procedure is unnecessary other than for when a new installation is performed.

You can specify one of the following values for the JP1AJS3_EMBDB_SETUP environment variable:

s

Specify this value to automatically set up an embedded database in a small-scale model.

m

Specify this value to automatically set up an embedded database in a medium-scale model.

l

Specify this value to automatically set up an embedded database in a large-scale model.

skip

Specify this value if an embedded database is not to be set up automatically.

5. Insert the media containing the JP1/AJS3 series program you want to install.

6. Execute the following command to mount the installation media:

```
/usr/sbin/mount -F cdfs -r device-special-file /dvdrom
```

In the above command, /dvdrom is the mount point directory of the device special file for the installation media. If there is no mount point directory, create one.

Note that the device special file name and mount point directory name might differ, depending on the user environment.

7. Execute the following command to start Hitachi Program Product Installer:

```
/dvdrom/IPFHPUX/SETUP /dvdrom#
```

Hitachi Program Product Installer starts, and the initial screen appears.

#:

This example assumes that the mount point directory is /dvdrom.

8. On the initial screen, enter I.

A list of programs that can be installed is displayed.

9. Select the JP1/AJS3 series program you want to install, and then enter `I`.

The selected program is installed.

You can select a program by moving the cursor to the program, and then pressing the space bar.

10. When installation of the program has been completed, enter `Q`.

The Hitachi Program Product Installer initial screen is displayed again.

After JP1/AJS3 - Manager has been installed, check syslog for the KAVS2128-E message. If this message has been output, setup of the scheduler service has failed, in which case take action based on the KAVS2128-E message.

If a scheduler service and an embedded database are not to be automatically set up during installation of JP1/AJS3 - Manager, you need to manually set up a scheduler service and an embedded database after installation has finished. For details about setup of an embedded database, see [23. Setting Up an Embedded Database](#).

If automatic setup of an embedded database during installation is enabled, the setup of user information (authentication server and JP1 user information) and of the database will be complete when installation finishes. In this state, you can execute a job simply by starting the JP1/AJS3 service. Note, however, that the job will be executed with all of the default settings. For changing these settings, see [13. Setup](#).

12.2.4 Installation in Solaris

This subsection describes the installation procedure in Solaris.

Note that the names of files and directories on the installation media might be different from the names used in this subsection, depending on the hardware environment. Use the actual file and directory names displayed by the `ls` command.

To install a JP1/AJS3 series program in Solaris:

1. Log in as superuser to the host on which you want to install the JP1/AJS3 series program. Alternatively, use the `su` command to become superuser.

2. Stop the programs linked with JP1/AJS3.

- New installation:

If a program linked with JP1/AJS3 is running on the host on which you want to install JP1/AJS3, stop it.

- Upgrade installation

For details, see [12.2.2\(2\)\(b\) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent](#).

3. Specify the character encoding set to be used for JP1/AJS3 in the LANG environment variable.

For the character encoding sets available to JP1/AJS3, see [2.4.2\(2\) Values that can be specified in the LANG environment variable](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

4. Set the `JP1AJS3_EMBDB_SETUP` environment variable.

Set the environment variable only when performing a new installation of JP1/AJS3 - Manager. By setting the `JP1AJS3_EMBDB_SETUP` environment variable before installation, you can specify whether to automatically set up a scheduler service and an embedded database during installation. When automatic setup is to be performed, you can specify the scale of the embedded database to be set up.

You can skip this step if you are going to set up a scheduler service and configure a small-scale embedded database.

The scheduler service and the embedded database are not automatically set up at installations other than a new installation. For this reason, this procedure is unnecessary other than for when a new installation is performed.

You can specify one of the following values for the `JP1AJS3_EMBDB_SETUP` environment variable:

`s`

Specify this value to automatically set up an embedded database in a small-scale model.

`m`

Specify this value to automatically set up an embedded database in a medium-scale model.

`l`

Specify this value to automatically set up an embedded database in a large-scale model.

`skip`

Specify this value if an embedded database is not to be set up automatically.

5. Insert the media containing the JP1/AJS3 series program you want to install.
6. Execute the following command to start Hitachi Program Product Installer.

```
/dvdrom/solaris/setup /dvdrom#
```

Hitachi Program Product Installer starts, and the initial screen appears.

`#:`

This example assumes that the mount point directory is `/dvdrom`.

7. On the initial screen, enter `I`.
A list of programs that can be installed is displayed.
8. Select the JP1/AJS3 series program you want to install, and then enter `I`.
The selected program is installed.
You can select a program by moving the cursor to the program, and then pressing the space bar.
9. When installation of the program has been completed, enter `Q`.
The Hitachi Program Product Installer initial screen is displayed again.

After JP1/AJS3 - Manager has been installed, check syslog for the KAVS2128-E message. If this message has been output, setup of the scheduler service has failed, in which case take action based on the KAVS2128-E message.

If a scheduler service and an embedded database are not to be automatically set up during installation of JP1/AJS3 - Manager, you need to manually set up a scheduler service and an embedded database after installation has finished. For details about setup of an embedded database, see [23. Setting Up an Embedded Database](#).

If automatic setup of an embedded database during installation is enabled, the setup of user information (authentication server and JP1 user information) and of the database will be complete when installation finishes. In this state, you can execute a job simply by starting the JP1/AJS3 service. Note, however, that the job will be executed with all of the default settings. For changing these settings, see [13. Setup](#).

12.2.5 Installation in AIX

This subsection describes the installation procedure in AIX.

Note that the names of files and directories on the installation media might be different from the names used in this subsection, depending on the hardware environment. Use the actual file and directory names displayed by the `ls` command.

To install a JP1/AJS3 series program in AIX:

1. Log in as superuser to the host on which you want to install the JP1/AJS3 series program. Alternatively, use the `su` command to become superuser.

2. Stop the programs linked with JP1/AJS3.

- New installation:

If a program linked with JP1/AJS3 is running on the host on which you want to install JP1/AJS3, stop it.

- Upgrade installation

For details, see *12.2.2(2)(b) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent*.

3. Specify the character encoding set to be used for JP1/AJS3 in the LANG environment variable.

For the character encoding sets available to JP1/AJS3, see *2.4.2(2) Values that can be specified in the LANG environment variable* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

4. Set the `JP1AJS3_EMBDB_SETUP` environment variable.

Set the environment variable only when performing a new installation of JP1/AJS3 - Manager. By setting the `JP1AJS3_EMBDB_SETUP` environment variable before installation, you can specify whether to automatically set up a scheduler service and an embedded database during installation. When automatic setup is to be performed, you can specify the scale of the embedded database to be set up.

You can skip this step if you are going to set up a scheduler service and configure a small-scale embedded database.

The scheduler service and the embedded database are not automatically set up at installations other than a new installation. For this reason, this procedure is unnecessary other than for when a new installation is performed.

You can specify one of the following values for the `JP1AJS3_EMBDB_SETUP` environment variable:

`s`

Specify this value to automatically set up an embedded database in a small-scale model.

`m`

Specify this value to automatically set up an embedded database in a medium-scale model.

`l`

Specify this value to automatically set up an embedded database in a large-scale model.

`skip`

Specify this value if an embedded database is not to be set up automatically.

5. Insert the media containing the JP1/AJS3 series program you want to install.

6. Execute the following command to mount the installation media:

```
/usr/sbin/mount -r -v cdrfs device-special-file /dvdrom
```

In the above command, `/dvdrom` is the mount point directory of the device special file for the installation media. If there is no mount point directory, create one.

Note that the device special file name and mount point directory name might differ, depending on the user environment.

7. Execute the following command to start Hitachi Program Product Installer:

```
/dvdrom/AIX/SETUP /dvdrom#
```

Hitachi Program Product Installer starts, and the initial screen appears.

#:

This example assumes that the mount point directory is /dvdrom.

8. On the initial screen, enter I.

A list of programs that can be installed is displayed.

9. Select the JP1/AJS3 series program you want to install, and then enter I.

The selected program is installed.

You can select a program by moving the cursor to the program, and then pressing the space bar.

10. When installation of the program has been completed, enter Q.

The Hitachi Program Product Installer initial screen is displayed again.

After JP1/AJS3 - Manager has been installed, check syslog for the KAVS2128-E message. If this message has been output, setup of the scheduler service has failed, in which case take action based on the KAVS2128-E message.

If a scheduler service and an embedded database are not to be automatically set up during installation of JP1/AJS3 - Manager, you need to manually set up a scheduler service and an embedded database after installation has finished. For details about setup of an embedded database, see [23. Setting Up an Embedded Database](#).

If automatic setup of an embedded database during installation is enabled, the setup of user information (authentication server and JP1 user information) and of the database will be complete when installation finishes. In this state, you can execute a job simply by starting the JP1/AJS3 service. Note, however, that the job will be executed with all of the default settings. For changing these settings, see [13. Setup](#).

12.2.6 Installation in Linux

This subsection describes the installation procedure in Linux.

Note that the names of files and directories on the installation media might be different from the names used in this subsection, depending on the hardware environment. Use the actual file and directory names displayed by the `ls` command.

To install a JP1/AJS3 series program in Linux:

1. Log in as superuser to the host on which you want to install the JP1/AJS3 series program. Alternatively, use the `su` command to become superuser.
2. Stop the programs linked with JP1/AJS3.
 - New installation:
If a program linked with JP1/AJS3 is running on the host on which you want to install JP1/AJS3, stop it.
 - Upgrade installation
For details, see [12.2.2\(2\)\(b\) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent](#), or [12.2.2\(2\)\(c\) About upgrade installations of JP1/AJS3 - Web Console](#).
3. Specify the character encoding set to be used for JP1/AJS3 in the LANG environment variable.
For the character encoding sets available to JP1/AJS3, see [2.4.2\(2\) Values that can be specified in the LANG environment variable](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
4. Set the `JP1AJS3__EMBDB_SETUP` environment variable.

Set the environment variable only when performing a new installation of JP1/AJS3 - Manager. By setting the `JP1AJS3_EMBDB_SETUP` environment variable before installation, you can specify whether to automatically set up a scheduler service and an embedded database during installation. When automatic setup is to be performed, you can specify the scale of the embedded database to be set up.

You can skip this step if you are going to set up a scheduler service and configure a small-scale embedded database. The scheduler service and the embedded database are not automatically set up at installations other than a new installation. For this reason, this procedure is unnecessary other than for when a new installation is performed.

You can specify one of the following values for the `JP1AJS3_EMBDB_SETUP` environment variable:

s

Specify this value to automatically set up an embedded database in a small-scale model.

m

Specify this value to automatically set up an embedded database in a medium-scale model.

l

Specify this value to automatically set up an embedded database in a large-scale model.

skip

Specify this value if an embedded database is not to be set up automatically.

5. Insert the media containing the JP1/AJS3 series program you want to install.

6. Mount the installation media.

Mount the mount directory as `/mnt/dvdrom`. For details about commands for mounting, see the documentation for your OS.

7. Execute the following command to start Hitachi Program Product Installer:

```
/mnt/dvdrom/X64LIN/setup /mnt/dvdrom#
```

Hitachi Program Product Installer starts, and the initial screen appears.

#:

This example assumes that the mount point directory is `/mnt/dvdrom`.

8. On the initial screen, enter `I`.

A list of programs that can be installed is displayed.

9. Select the JP1/AJS3 series program you want to install, and then enter `I`.

The selected program is installed.

You can select a program by moving the cursor to the program, and then pressing the space bar.

10. When installation of the program has been completed, enter `Q`.

The Hitachi Program Product Installer initial screen is displayed again.

After JP1/AJS3 - Manager has been installed, check syslog for the KAVS2128-E message. If this message has been output, setup of the scheduler service has failed, in which case take action based on the KAVS2128-E message.

If a scheduler service and an embedded database are not to be automatically set up during installation of JP1/AJS3 - Manager, you need to manually set up a scheduler service and an embedded database or an external database after installation has finished. For details about setup of an embedded database, see [23. Setting Up an Embedded Database](#). For details about setup of an external database, see [24. Performing setup for using an external database in a cloud environment](#).

If automatic setup of an embedded database during installation is enabled, the setup of user information (authentication server and JP1 user information) and of the database will be complete when installation finishes. In this state, you can execute a job simply by starting the JP1/AJS3 service. Note, however, that the job will be executed with all of the default settings. For information about changing these settings, see [13. Setup](#).

12.2.7 Upgrade installation in a cluster configuration

The following describes the procedure for installing a JP1/AJS3 series program as an upgrade installation on a UNIX host in a cluster configuration.

The installation procedure differs according to whether JP1/AJS3 - Manager is updated from JP1/AJS2 - Manager or from JP1/AJS3 - Manager.

Note that, in the procedures that follow, the node that normally operates is called the *primary node*, and the node that normally does not operate but remains on standby is called the *secondary node*.

(1) Upgrade procedure for a program other than JP1/AJS2 - Manager

To perform an upgrade installation from JP1/AJS3 - Manager, JP1/AJS3 - Agent, or JP1/AJS2 - Agent:

1. Make sure that the physical host and all logical hosts are not operating on the secondary node.
Make sure that all programs and services of JP1/AJS3 or JP1/AJS2 are not operating on the secondary node.
No problems are caused if JP1/AJS3 or JP1/AJS2 of the logical host is operating on the primary node.
2. Perform an upgrade installation on the secondary node.
3. Make sure that the physical host and all logical hosts are not operating on the primary node.
Stop the logical host on the primary node, and make sure that all programs and services of JP1/AJS3 or JP1/AJS2 are not operating on the primary node.
Instead of stopping the logical host, there is no problem if a logical host is failed over to a secondary host where an upgrade installation has finished.
4. Perform an upgrade installation on the primary node.

Important

- When the logical host has been failed over to the secondary node on which an upgrade installation has finished, do not fail back the logical host to the primary node until the upgrade installation on the primary node has finished.
- After upgrading JP1/AJS3 - Manager in the standard configuration, check whether the version of the embedded database is the same as the version indicated in *Installation Procedures and System Generation Precautions* in the *Release Notes*. If these versions are different, upgrade the embedded database.

(2) Upgrade procedure (from JP1/AJS2 - Manager to JP1/AJS3 - Manager in a standard configuration)

! Important

An upgrade installation of JP1/AJS2 - Manager in a cluster configuration requires some setup, such as the migration of data on the shared disk, after completion of the upgrade installation. This setup requires that cluster operation be temporarily stopped. You will not be able to start JP1/AJS3 - Manager operation until this setup is complete. Because the time required for the setup to finish depends on the amount of data and other factors, the upgrade installation and setup must be performed according to a suitable plan.

Note that, for JP1/AJS3 - Manager 11-10 or later, you can use this procedure only if the OS is Solaris. If the OS is not Solaris, you cannot upgrade JP1/AJS2 - Manager directly to JP1/AJS3 - Manager version 11-10 or later. For details about how to upgrade JP1/AJS3 - Manager, see *8.5.1 Overview of the tasks for upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

To perform an upgrade installation from JP1/AJS2 - Manager:

Note: If your system consists of multiple logical hosts, perform steps 6 to 16 and 20 to 23 for each logical host. When using a logical host in a non-cluster environment, perform only the steps that relate to the primary node. You cannot begin using JP1/AJS3 until setup is completed on all physical and logical hosts.

Note: The following procedure assumes that one scheduler service is stored in one embedded database. If multiple scheduler services have been set up, perform steps 8, 11, and 12 for all of the scheduler services. To add an embedded database, perform steps 9, 10, 20, and 21.

1. Terminate JP1 on both the primary and secondary nodes.

Use the cluster software to stop all JP1 programs and services running on the primary and secondary nodes. For details about how to do so, see the documentation for your cluster software.

2. Install JP1/Base as an upgrade installation on the primary node.

For details about installing JP1/Base, see the *JP1/Base User's Guide*.

3. Install JP1/AJS3 - Manager as an upgrade installation on the primary node.

On the primary node, upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager.

4. Start the embedded database or instance of HiRDB you were using before the upgrade on the physical primary node host.

To provide access to the database from before the upgrade, start the embedded database or instance of HiRDB that was used as the database of the scheduler service on the physical host of the primary node.

For details about how to start the embedded database or HiRDB, see the manual for the JP1/AJS2 product or HiRDB you are using.

5. Perform setup on the physical host of the primary node.

On the physical host of the primary node, execute the `jajs_migrate` command.

For example, execute the command as follows:

```
jajs_migrate -convert
```

For details about the `jajs_migrate` command, see *jajs_migrate* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Confirm that the shared disk and logical IP address are available to the primary node.

Make sure that the shared disk is mounted and the logical IP address is valid so that the data on the shared disk can be migrated. If the shared disk is not mounted or the logical IP address is invalid, use the cluster software or volume manager software to mount the shared disk and enable the logical IP address. For details about how to do so, see the documentation for your cluster software.

7. Start the embedded database or instance of HiRDB you were using before the upgrade on the logical host of the primary node.

To provide access to the database from before the upgrade, start the embedded database or instance of HiRDB that was used as the database of the scheduler service on the logical host of the primary node.

For details about how to start the embedded database or HiRDB, see the manual for the JP1/AJS2 product or HiRDB you are using.

8. Execute the `ajscnvdbexport` command on the primary node to back up the contents of the database.

For example, execute the command as follows:

```
ajscnvdbexport -mh LHOST -F AJSROOT2 -b /tmp/work
```

If you were using the embedded database as the scheduler database before the upgrade, set the following environment variables before you execute the command. If you fail to do so, the message KAVS0990-E is output and the command ends abnormally.

```
LD_LIBRARY_PATH=installation-directory-of-embedded-database-before-migration/client/lib
```

For details about the `ajscnvdbexport` command, see `ajscnvdbexport` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

9. Execute the `ajsembdbinstl` command on the primary node to install the JP1/AJS3 database.

For example, execute the command as follows:

```
ajsembdbinstl -s /opt/jplajs2/tools/AJS3DB -id _JF1 -mh LHOST
```

For details about the `ajsembdbinstl` command, see `ajsembdbinstl` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

10. Execute the `ajsembdbbuild` command on the primary node to build the environment for the database.

For example, execute the command as follows:

```
ajsembdbbuild -s -r -d /shdisk/node0/jplajs2/embdb/_JF1  
-ld /var/opt/jplajs2/embdb/_JF1/dbarea -mh LHOST -eh hostA  
-p 22221 -i /opt/jplajs2/embdb/_JF1 -id _JF1
```

For details about the `ajsembdbbuild` command, see `ajsembdbbuild` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

11. Execute the `ajsembdbsetup` command on the primary node to set up the environment for the database.

For example, execute the command as follows:

```
ajsembdbsetup -mh LHOST -F AJSROOT2 -p 22221 -id _JF1 -ru s -convert
```

For details about the `ajsembdbsetup` command, see `ajsembdbsetup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

12. Execute the `ajscnvdbimport` command on the primary node to import the contents of the database.

For example, execute the command as follows:

```
ajscnvdbimport -mh LHOST -F AJSROOT2 -b /tmp/work
```

For details about the `ajscnvdbimport` command, see `ajscnvdbimport` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

13. Perform setup on the primary node.

Execute the `jajs_migrate` command on the primary node to set up the environment for running JP1/AJS3.

For example, execute the command as follows:

```
jajs_migrate -convert -h LHOST -r -S
```

For details about the `jajs_migrate` command, see `jajs_migrate` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

14. Stop the embedded database, which was started automatically during the setup process.

For example, execute the command as follows:

```
ajsembdbstop -id _JF1
```

For details about the `ajsembdbstop` command, see `ajsembdbstop` in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15. Execute the `jbsgetcnf` command on the primary node to back up the common definition information to a file.

Execute the command as follows:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

16. Copy the file you created in step 15 to the secondary node.

17. Install JP1/Base as an upgrade installation on the secondary node.

For details about installing JP1/Base, see the *JP1/Base User's Guide*.

18. Install JP1/AJS3 - Manager as an upgrade installation on the secondary node.

On the secondary node, upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager.

19. Perform setup on the physical host of the secondary node.

Execute the `jajs_migrate` command on the physical host of the secondary node.

For example, execute the command as follows:

```
jajs_migrate -convert
```

For details about the `jajs_migrate` command, see `jajs_migrate` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

20. Execute the `ajsembdbinstl` command on the secondary node to install the JP1/AJS3 database.

For example, execute the command as follows:

```
ajsembdbinstl -s /opt/jp1ajs2/tools/AJS3DB -id _JF1 -mh LHOST
```

For the `-id` option, specify the same value that you used when installing the database on the primary node.

For details about the `ajsembdbinstl` command, see `ajsembdbinstl` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

21. Execute the `ajsembdbbuild` command on the secondary node to build the environment for the database.

For example, execute the command as follows:

```
ajsembdbbuild -s -f -d /shdsk/node0/jplajs2/embdb/_JF1
-lld /var/opt/jplajs2/embdb/_JF1/dbarea -mh LHOST -eh hostA
-p 22221 -i /opt/jplajs2/embdb/_JF1 -id _JF1
```

For the `-id`, `-d`, and `-p` options, specify the same value that you used when building the environment on the primary node.

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

22. Execute the `jbssetcnf` command on the secondary node to apply the common definition information.

Execute the command as follows:

```
jbssetcnf name-of-file-copied-in-step-16
```

23. Perform setup on the secondary node.

Execute the `jajs_migrate` command on the secondary node to set up the environment for running JP1/AJS3.

For example, execute the command as follows:

```
jajs_migrate -convert -h LHOST -f -S
```

For details about the `jajs_migrate` command, see *jajs_migrate* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

24. Unregister the embedded database or instance of HiRDB you were using with JP1/AJS2 before the upgrade from the cluster software.

For details about how to do so, see the documentation for your cluster software.

25. Start JP1 on the primary node.

Use the cluster software to start the JP1 programs and services on the primary node. This starts JP1/AJS3 operation in a cluster environment.

(3) Upgrade procedure (from JP1/AJS2 - Manager to JP1/AJS3 - Manager in a compatible ISAM configuration)

Because JP1/AJS3 - Manager version 11-10 or later does not support a compatible ISAM configuration, you cannot upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager version 11-10 or later in a compatible ISAM configuration.

If the OS is Solaris, use the procedure described in *(2) Upgrade procedure (from JP1/AJS2 - Manager to JP1/AJS3 - Manager in a standard configuration)* to upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager in a standard configuration. If the OS is not Solaris, you cannot upgrade JP1/AJS2 - Manager directly to JP1/AJS3 - Manager version 11-10 or later. For details about how to upgrade JP1/AJS3 - Manager, see *8.5.1 Overview of the tasks for upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) Upgrade procedure for JP1/AJS3 - Web Console

To perform an upgrade installation from JP1/AJS3 - Web Console:

1. Make sure that JP1/AJS3 - Web Console is not operating on the secondary node.

Make sure that services of JP1/AJS3 - Web Console is not operating on the secondary node.

No problems are caused if services of JP1/AJS3 - Web Console is operating on the primary node.

2. Install JP1/AJS3 - Web Console as an upgrade installation on the secondary node.

For details about installing a JP1/AJS3 - Web Console as an upgrade installation, see [12.2.6 Installation in Linux](#).

3. Make sure that JP1/AJS3 - Web Console is not operating on the primary node.

Fail over from the primary host to the secondary host, or stop JP1/AJS3 - Web Console on the primary host, and then make sure that the JP1/AJS3 - Web Console service is not running on the primary host.

Note that, you can fail over to the secondary host (for which an upgrade installation was completed in step 2) without any problems.

4. Install JP1/AJS3 - Web Console as an upgrade installation on the primary node.

For details about installing a JP1/AJS3 - Web Console as an upgrade installation, see [12.2.6 Installation in Linux](#).

Important

If, after performing an upgrade installation for the secondary host, you run JP1/AJS3 - Web Console on the secondary host, do not fail back to the primary host until upgrade installation is complete for the primary host.

12.2.8 Upgrade installation of embedded database

To perform an upgrade installation to upgrade from version 12-60 or earlier, use the following procedure:

1. Upgrade installation of JP1/AJS3 - Manager
2. Upgrade installation of embedded database
3. Convert the scheduler services databases to the format compatible with version 13-00 or later

If there are multiple embedded databases, perform upgrade installation and database conversion for all of them. For details about database conversion, see [13.5.3 Settings required when JP1/AJS3 - Manager is upgraded to version 13-00 or later](#).

If you are upgrading from version 13-00 or later, after upgrading JP1/AJS3 - Manager, compare the version of the embedded database against the Release Notes. If the version differs from the version specified in the Release Notes, also perform an upgrade installation of the embedded database. If multiple embedded databases are used, upgrade every embedded database by performing an upgrade installation.

The following describes the procedure for the upgrade installation of the embedded database:

For details about the commands shown in the procedure described below, see the *JP1/Automatic Job Management System 3 Command Reference*.

(1) Upgrade installation of an embedded database

The following describes the procedure for the upgrade installation of an embedded database:

1. Stop all JP1/AJS3 services.
2. Start the embedded database.
Execute the `ajsembdbstart` command with the `-id _JFn` (n : 0 to 9 or A to Z) option specified.

3. Check that the embedded database is operating.

Execute the `ajsembdbstatus` command with the `-s ust` and `-id _JFn` options specified to check that the embedded database is operating (UNIT-STAT is ONLINE).

4. Stop the embedded database normally.

Execute the `ajsembdbstop` command with the `-id _JFn` option specified. Do not specify the `-f` option in the command.

5. Check that the embedded database is stopped.

Execute the `ajsembdbstatus` command with the `-s ust` and `-id _JFn` options specified to check that the embedded database is stopped (UNIT-STAT is STOP).

6. Execute the `ajsembdbinst1` command to perform the upgrade installation of the embedded database.

7. Check that the embedded database is stopped.

Execute the `ajsembdbstatus` command with the `-s ust` and `-id _JFn` options specified to check that the embedded database is stopped (UNIT-STAT is STOP). If the embedded database is operating, execute the `ajsembdbstop` command to normally stop the embedded database.

8. Start the services that were stopped in step 1.

If you wish to perform an upgrade installation from version 12-60 or earlier, you must migrate the database before activating the service.

For details on database migration, see *13.5.3 Settings required when JP1/AJS3 - Manager is upgraded to version 13-00 or later*. After migration is finished, stop the embedded database by using the `ajsembdbstop` command and then activate the service.

(2) Upgrade installation of embedded databases in a cluster configuration

For the upgrade installation of embedded databases in a cluster configuration, follow the procedure below.

- On the primary node

On the primary node, perform the upgrade installation of the embedded database while the shared disk and logical IP address are available to the primary node. For details about the procedure, see *(1) Upgrade installation of an embedded database*.

- On the secondary node

After the upgrade installation of the embedded database on the primary node, execute the `ajsembdbinst1` command on the secondary node to perform the upgrade installation of the embedded database.

Note that, for the upgrade installation of the embedded database on the secondary node, you do not need to enable the IP address and shared disk allocated to the logical host.

13

Setup

This chapter describes how to set up each JP1/AJS3 series program and the system and user environments.

13.1 Required setup for JP1/AJS3 - Manager

Before JP1/AJS3 - Manager can be used, both JP1/Base and JP1/AJS3 - Manager must be set up.

You must complete setting up JP1/Base before you attempt to set up JP1/AJS3 - Manager.

Supplementary note:

After setting up JP1/AJS3 - Manager on a virtual machine, you can replicate the virtual machine.

For an overview of replicating a virtual machine, see [2.8 Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see [22. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up](#).

13.1.1 Setting up JP1/Base

This subsection describes how to set up JP1/Base.

The subsection contains an overview of setup and brief setup procedures. For details about the setup procedures, items to be set, and commands, see the *JP1/Base User's Guide*.

The following is an overview of JP1/Base setup:

1. Set user information.

JP1/Base user management is used to specify user authentication and mapping settings.

The user authentication settings specify JP1/AJS3 users and the permissions required to use JP1/AJS3.

The user mapping settings are required to execute jobs and to log in from JP1/AJS3 - View. JP1 users are mapped to OS users who have been registered on hosts.

For details about how to specify these settings, see [\(1\) Setting user information](#).

2. Specify the event service environment settings.

The event service environment settings are required to send and receive JP1 events.

In the JP1/Base event service environment settings, specify `keep-alive` as the communication type for the `server` parameter in the API settings file. If `close` is specified, the following problems might occur:

- The JP1 event issued by JP1/AJS3 at startup cannot be issued.
- The KAVT1040-E message is output to the integrated trace log, and the JP1 event reception monitoring job, log file monitoring job, and Windows event log monitoring job cannot detect events.
- The JP1 event sending job terminates abnormally (*Ended abnormally* status).

For details about how to specify settings and about the API settings file, see the *JP1/Base User's Guide*.

The following describes the JP1/Base setup procedure and definitions.

(1) Setting user information

The general procedure for setting user information is as follows:

1. Specify the authentication server to be used.
2. Register JP1 users.
3. Set the JP1 permission level.

4. Perform user mapping. (This step is also required when a user logs in from JP1/AJS3 - View.)

Note that if the authentication server has been set on another host, steps 2 and 3 are not necessary. However, the operations in these steps must have been performed for the authentication server on the other host.

In the UNIX version of JP1/Base, user information is set by using commands.

The following describes the steps required to set user information.

(a) Specify the authentication server to be used

Execute the following command:

```
jbssetusrsvr primary-authentication-server [secondary-authentication-server]
```

The host specified for *primary-authentication-server* is used as the default authentication server, while the host specified for *secondary-authentication-server* is used as the backup authentication server.

You do not always need to specify a secondary authentication server. If you omit the specification, only the host specified for *primary-authentication-server* operates as the authentication server in the user authentication block.

Important

The authentication server names you specify in the command must be set in the `hosts` file or on the DNS server before JP1/Base starts. You can execute the `jbssetusrsvr` command to specify authentication server names before or after the names are set in the `hosts` file or on the DNS server. However, JP1/Base must be able to resolve the server names into IP addresses when it starts. If you execute the `jbssetusrsvr` command to specify the local host as an authentication server (primary or secondary authentication server), you must also execute the following commands:

```
cd /etc/opt/jp1base/conf
```

```
cp -p jp1bs_spmd.conf.session.model jp1bs_spmd.conf
```

The local host is not started as an authentication server (primary or secondary authentication server) until these commands have been executed.

(b) Register JP1 users

Execute the following command:

```
jbsadduser JP1-user-name
```

You need to execute the command for each JP1 user to be registered.

(c) Set the JP1 permission level

For each JP1 user you register, set a permission level, which determines what processing the JP1 user can define or execute in JP1/AJS3. When you set a permission level for a JP1 user, you must define both a JP1 resource group and a JP1 permission level for the JP1 user.

To set a JP1 permission level:

1. Open the following file with a text editor:

```
/etc/opt/jp1base/conf/user_acl/JP1_UserLevel
```

This file initially contains the following definition entry:

```
jp1admin:*=JP1_AJS_Admin,JP1_Console_Admin,JP1_JPQ_Admin
```

2. Modify the definition entry (the format is *JP1-user-name:JP1-resource-group-name=JP1-permission-level-name*).

If you want to specify two or more JP1 permission level names, use a comma (,) to separate the JP1 permission level names. If you want to define permission levels for two or more resource groups, use a colon (:) to separate the resource group names. If you want to insert a comment in the file, start the line with a semicolon (;). A line beginning with a semicolon (;) is treated as a comment line.

Note that JP1_Queue is a case-sensitive name.

For details about the JP1 permission levels required for JP1/AJS3, see [\(2\) JP1 permission levels required for JP1/AJS3](#).

The following shows an example of the definition in the file.

```
<Permission levels to be set>
Set the following permission levels.
. JP1 user "jp1user1" is granted permission to execute and reference jobnets
  (JP1_AJS_Operator) in resource group "UNIT1", as well as manipulate the queues and jobs of
  other users (JP1_JPQ_Operator).
. JP1 user "jp1user2" is granted permission to reference jobnets (JP1_AJS_Guest) in resource
  group "UNIT1".
  JP1 user "jp1user2" cannot manipulate queues and agents, or register submitted jobs.
. JP1 user "jp1user3" is granted permission to execute and reference jobnets
  (JP1_AJS_Operator) in resource group "UNIT1", register submitted jobs, and manipulate local
  jobs (JP1_JPQ_User).
Leave the default permission levels set for "jp1admin" as is.
```

<File contents>

```
jp1admin:*=JP1_AJS_Admin,JP1_JPQ_Admin
jp1user1:UNIT1=JP1_AJS_Operator:JP1_Queue=JP1_JPQ_Operator
jp1user2:UNIT1=JP1_AJS_Guest
jp1user3:UNIT1=JP1_AJS_Operator:JP1_Queue=JP1_JPQ_User
```

3. Set JP1 permission levels for all JP1 users, and then close the file.

4. Restart JP1/Base, or execute the `jbs_spmc_reload` command.

The new definition in the file takes effect.

(d) Map the JP1 users

Map the registered JP1 users to OS users. This user mapping is required for JP1 users to execute jobs or log in from JP1/AJS3 - View.

To map a JP1 user:

1. Use a text editor to create or open a user mapping definition file.

Although you can use a file with any name, we recommend that you use a file named `/etc/opt/jp1base/conf/user_acl/jp1BsUmap.conf`.

2. Specify the user mapping entries (the format is *JP1-user-name:host-name:OS-user-name*).

The following shows an example of the definition in the file.

<User mapping to be set>

Set the following information.

- JP1 user "jp1user1" uses JP1/AJS3 - View to define a job and uses JP1/AJS3 - Manager and JP1/AJS3 - Agent on a remote host to execute the job.

JP1/AJS3 - Manager is on the host named "host01". JP1 user "jp1user1" logs in to host "host01" using the OS user name "administrator", which is registered on "host01".

JP1/AJS3 - Agent is on the host named "host02". JP1 user "jp1user1" executes jobs from JP1/AJS3 - Manager on host "host01" using OS user name "administrator", which is registered on "host02".

<Contents set with host01>

```
jp1user1:host01:administrator
```

<Contents set with host02>

```
jp1user1:host01:administrator
```

- JP1 user "jp1user2" uses JP1/AJS3 - Manager to define a job and uses JP1/AJS3 - Agent on a remote host to execute the job.

JP1/AJS3 - Manager is on a host named "host01". JP1 user "jp1user2" logs on to host "host01" using the OS user name "jp1user2", which is registered on "host01".

JP1/AJS3 - Agent is on a host named "host02". JP1 user "jp1user2" executes jobs from JP1/AJS3 - Manager of host "host01" using the OS user name "jp1user2", which is registered on "host02".

<Contents set with host01>

```
jp1user2:host01:jp1user2
```

<Contents set with host02>

```
jp1user2:host01:jp1user2
```

- JP1 user "jp1user3" uses JP1/AJS2 - Client Toolkit to register a submitted job in JP1/AJS3 - Manager and uses JP1/AJS3 - Agent to execute the job.

JP1/AJS3 - Agent is on a host named "host02". JP1/AJS3 - Manager is on a host named "host01".

JP1 user "jp1user3" executes the job using the OS user name "administrator" without specifying the host on which JP1/AJS3 - Manager is located.

<Contents set with host02>

```
jp1user3*:administrator
```

3. When you have completed the definition, close the file, and then execute the following command:

```
jbsmkumap [-f user-mapping-definition-file]
```

The definition in the file takes effect.

If the user mapping definition file is `/etc/opt/jp1base/conf/user_acl/jp1BsUmap.conf`, you do not need to specify the `-f` option.

Supplementary note:

The following table describes the items that can be specified in the user mapping definition file.

Table 13–1: Items that can be specified in the user mapping definition file (JP1/AJS3 - Manager)

Permitted operation	JP1 user	Host	OS user
Executing a job from JP1/AJS3 - View	User who logs in to JP1/AJS3 - Manager	JP1/AJS3 - Manager host to which JP1/AJS3 - View connects	User registered in the OS of the host on which the job will be executed
Executing a job on a host other than the JP1/AJS3 - Manager host	User who logs in to the OS of the JP1/AJS3 - Manager host	JP1/AJS3 - Manager host	User registered in the OS of the host on which the submit job will be executed
Registering a submit job from JP1/AJS2 - Client Toolkit	User who logs in to the OS of the JP1/AJS3 - Manager host to which the job is to be submitted	JP1/AJS3 - Manager host	User registered in the OS of the host on which the submit job will be executed

Cautionary note:

Make sure that the user ID and group ID have been set correctly for any OS user to whom you map a JP1 user.

For a JP1 user to log in from JP1/AJS3 - View, the home directory must be set correctly for the OS user to whom the JP1 user is mapped.

The OS users to which you map JP1 users must be able to log in to the OS normally.

If the OS user to whom you map a JP1 user satisfies either of the following conditions, the job might fail to start:

- The home directory specified in `/etc/passwd` does not exist.
- The login shell specified in `/etc/passwd` does not exist.

(2) JP1 permission levels required for JP1/AJS3

JP1/AJS3 provides three types of JP1 permission levels:

- Those related to defining and executing jobnets
- Those related to manipulating agent management information
- Those related to executing and manipulating jobs

The following describes the JP1 permission levels for each type.

(a) JP1 permission levels related to defining and executing jobnets

The following five JP1 permission levels are related to defining and executing jobnets:

- **JP1_AJS_Admin**
Grants administrator authority to the holder, and permits the holder to perform operations related to the owner and resource group of a unit, and to define, execute, and edit a jobnet.
- **JP1_AJS_Manager**
Permits the holder to define, execute, and edit a jobnet.
- **JP1_AJS_Editor**
Permits the holder to define and edit a jobnet.
- **JP1_AJS_Operator**
Permits the holder to execute and view a jobnet.
- **JP1_AJS_Guest**
Permits the holder to view a jobnet.

The following table provides information about the operations that are permitted by the above JP1 permission levels.

Table 13–2: Operations permitted by the JP1 permission levels related to defining and executing jobnets

Operation	JP1_AJS_Admin	JP1_AJS_Manager	JP1_AJS_Editor	JP1_AJS_Operator	JP1_AJS_Guest
Changing the owner, JP1 resource group name, or job execution-user type (<i>Executed by</i>) of a unit owned by another user	Y#1	--	--	--	--
Defining a unit	Y	Y#2	Y#2	--	--
Changing the definition of the units of a jobnet	Y	Y#3	Y#3	--	--
Changing the definition of a jobnet	Y	Y	Y	--	--
Copying, moving, or renaming a unit	Y	Y#2	Y#2	--	--

Operation	JP1_AJS_Admin	JP1_AJS_Manager	JP1_AJS_Editor	JP1_AJS_Operator	JP1_AJS_Guest
Deleting a unit	Y	Y	Y	--	--
Outputting the name of a unit to the standard output file	Y	Y	Y	Y	Y
Outputting the definition of a unit to the standard output file	Y	Y	Y	Y	Y
Backing up a unit	Y	Y	Y	Y	Y
Restoring a unit	Y	Y#2	Y#2	--	--
Defining calendar information for a job group	Y	Y	Y	--	--
Defining a jobnet execution schedule for a specific period	Y	Y	--	Y	--
Registering a defined jobnet for execution	Y	Y	--	Y	--
Unregistering execution of a jobnet	Y	Y	--	Y	--
Outputting information such as the execution log, current status, and next execution schedule of a jobnet or job to the standard output file	Y	Y	Y	Y	Y
Temporary changing the schedule of a jobnet	Y	Y	--	Y	--
Temporary changing the status of a job	Y	Y	--	Y	--
Changing the status of a job	Y	Y	--	Y	--
Interrupting execution of a jobnet	Y	Y	--	Y	--
Re-executing a jobnet	Y	Y	--	Y	--
Forcibly terminating a job or jobnet	Y	Y	--	Y	--
Exporting a unit	Y	Y	Y	Y	Y
Importing a unit	Y	Y	Y	--	--
Exporting the registered execution-schedule information for root jobnets	Y	Y	Y	Y	Y
Importing the registered execution-schedule information for root jobnets	Y	Y	--	Y	--
Registering release of a jobnet	Y	Y	Y#4	Y#4	--
Canceling the release of a jobnet	Y	Y	Y#4	Y#4	--
Viewing jobnet release information	Y	Y	Y	Y	Y

Legend:

Y: This operation can be performed at this permission level.

--: This operation cannot be performed at this permission level.

Note:

JP1 users who are mapped to OS users with superuser permissions can perform all operations regardless of the granted JP1 permission level. Note, however, that if the value of the `ADMACLIMIT` environment setting parameter is changed to `yes` from the default, the JP1 user can only perform operations permitted for the granted JP1 permission

level. In this case, grant the necessary permissions to JP1 users who back up or recover JP1/AJS3 - Manager or perform operations on related products.

For details about the `ADMACLIMIT` environment setting parameter, see [20.11.2\(4\) ADMACLIMIT](#).

If no JP1 resource group has been set for a unit, all users can perform all JP1/AJS3 operations for that unit.

#1

The owner of a unit can perform these operations for the unit even when `JP1_AJS_Admin` permission has not been granted. For details, see [7.2.1 Unit owner permission](#) in the manual *JP1/Automatic Job Management System 3 Overview*.

#2

For the manager job group and manager jobnet, the access permission definition of the JP1/AJS3 - Manager to be accessed applies.

#3

When the execution-user type of a unit is *User who owns*, operations that change the unit can be performed only by the owner of the unit and by JP1 users who have `JP1_AJS_Admin` permission. This prevents general users without `JP1_AJS_Admin` permission from executing jobs.

When the execution-user type of a unit is *User who registered*, operations that change the unit can be performed by any user who has a JP1 permission level sufficient for performing those operations.

#4

Both `JP1_AJS_Editor` and `JP1_AJS_Operator` permissions must be granted. The reason is that operations for changing definitions and registering execution are required to register or cancel the release of a jobnet.

(b) JP1 permission levels related to manipulating agent management information

The following three JP1 permission levels are related to manipulating agent management information:

- `JP1_JPQ_Admin`
Grants administrator authority to the holder, and permits the holder to add, change, or delete an execution agent or execution agent group.
- `JP1_JPQ_Operator`
Permits the holder to change the job transfer restriction status for an execution agent or execution agent group.
- `JP1_JPQ_User`
Permits the holder to view the status and definition of an execution agent or execution agent group.

When you set JP1 permission levels related to manipulating agent management information, make sure that you set them for the resource group named `JP1_Queue`. Note that `JP1_Queue` is case sensitive.

The following table provides information about the operations permitted by the above JP1 permission levels.

Table 13–3: Operations permitted by the JP1 permission levels related to manipulating agent management information

Operation	JP1_JPQ_Admin	JP1_JPQ_Operator	JP1_JPQ_User
Adding an execution agent	Y	--	--
Adding an execution agent group	Y	--	--
Deleting an execution agent	Y	--	--
Deleting an execution agent group	Y	--	--

Operation	JP1_JPQ_Admin	JP1_JPQ_Operator	JP1_JPQ_User
Changing the target host defined on an execution agent	Y	--	--
Changing the maximum number of concurrently executable jobs on an execution agent	Y	--	--
Changing the description of an execution agent	Y	--	--
Changing the description of an execution agent group	Y	--	--
Adding an execution agent to an execution agent group	Y	--	--
Changing the priority of execution agents in an execution agent group	Y	--	--
Removing an execution agent from an execution agent group	Y	--	--
Changing the job transfer restriction status for an execution agent	Y	Y	--
Changing the job transfer restriction status for an execution agent group	Y	Y	--
Displaying the status of an execution agent [#]	Y	Y	Y
Displaying the status of an execution agent group [#]	Y	Y	Y
Displaying the status of all execution agents and execution agent groups [#]	Y	Y	Y
Displaying the names of all execution agents and execution agent groups [#]	Y	Y	Y
Outputting the definition of an execution agent [#]	Y	Y	Y
Outputting the definition of an execution agent group [#]	Y	Y	Y
Outputting the definitions of all execution agents and execution agent groups [#]	Y	Y	Y

Legend:

Y: This operation can be performed at this permission level.

--: This operation cannot be performed at this permission level.

#

OS superusers can perform all operations, regardless of the granted JP1 permission level.

! Important

For the manipulation of agent management information, the access permission definition of the authentication server used by the Manager that executes the command applies.

(c) JP1 permission levels related to executing and manipulating jobs

The following three JP1 permission levels are related to executing and manipulating jobs:

- **JP1_JPQ_Admin**
Grants administrator authority to the holder, and permits the holder to set up the execution environment, to manipulate queues and job execution agents, and to manipulate jobs queued by other users.
- **JP1_JPQ_Operator**
Permits the holder to manipulate queues and to manipulate jobs queued by other users.
- **JP1_JPQ_User**
Permits the holder to register submit jobs and manipulate jobs queued by the holder.

When you set JP1 permission levels related to executing and manipulating jobs, make sure that you set the JP1 permission levels for the resource group named `JP1_Queue`. Note that `JP1_Queue` is case sensitive.

The following table provides information about the operations permitted by the above JP1 permission levels.

Table 13–4: Operations permitted by the JP1 permission levels related to executing and manipulating jobs

Operation	JP1_JPQ_Admin	JP1_JPQ_Operator	JP1_JPQ_User
Canceling or forcibly terminating job execution	Y	Y	U
Holding job execution or canceling a hold placed on job execution	Y	Y	U
Moving a job	Y	Y	U
Outputting job information	Y	Y	U
Outputting information about jobs that have ended	Y	Y	U
Deleting information about jobs that have ended from the database	Y	Y	--
Registering a submit job [#]	Y	Y	Y
Opening a queue [#]	Y	Y	--
Closing a queue [#]	Y	Y	--
Adding a queue [#]	Y	--	--
Deleting a queue [#]	Y	--	--
Outputting queue information [#]	Y	Y	Y
Changing the queue definition [#]	Y	--	--
Connecting a queue to an agent [#]	Y	--	--
Disconnecting a queue from an agent [#]	Y	--	--
Changing the maximum number of concurrently executable jobs [#]	Y	--	--
Adding an agent [#]	Y	--	--
Deleting an agent [#]	Y	--	--
Outputting agent host information [#]	Y	--	--
Adding an execution-locked resource [#]	Y	--	--
Deleting an execution-locked resource [#]	Y	--	--
Outputting information about execution-locked resources [#]	Y	Y	Y

Legend:

Y: This operation can be performed at this permission level.

U: This operation cannot be performed by a user at this permission level when the job was executed by another user.

--: This operation cannot be performed at this permission level.

#

This operation can be performed only in a configuration in which submit jobs can be used.

Important

For the execution and manipulation of a job, the access permission definition of the authentication server used by the Manager that accepts the processing request applies.

When a job execution control command is used to execute or manipulate a job, make sure that a JP1 user whose name is the same as the OS user who executes the command is registered.

In addition, for that JP1 user, set a JP1 permission level sufficient for executing or manipulating the job.

For example, to execute a command after logging in as OS user `root`, set the following entry in the definition file:

```
root:JP1_Queue=JP1_JPQ_Admin
```

Although `JP1_JPQ_Admin` is specified as the JP1 permission level in the above example, specify the JP1 permission level required to execute the command.

If the `jpqjbsub` command is executed, the JP1 user executing the job (the user with the same name as the OS user who executes the command) must be mapped on the job execution host to an OS user on that host.

If `-eu` is specified in the executed `jpqjbsub` command, the JP1 user that has the same name as the OS user who executes the command must be mapped on the job execution host to the OS user specified in `-eu`.

13.1.2 Setting up JP1/AJS3 - Manager

This subsection describes how to set up JP1/AJS3 - Manager. Before you set up JP1/AJS3 - Manager, make sure that you have logged in as superuser.

After you have set up JP1/Base, set up JP1/AJS3 - Manager. Make sure that the `umask` for the user who starts JP1/AJS3 permits viewing and updating by any user who executes JP1/AJS3 commands.

Note that this subsection describes the basic setup of JP1/AJS3. If you need to change the settings to match specific operating requirements, see the appropriate section listed in the following table.

Topic	Reference
Procedure for setting the execution agent	14.1
Procedure for setting environment setting parameters	14.2
Procedure for setting up operation profiles	21.1
Procedure for restricting connections to JP1/AJS3	21.2
Procedure for setting up the function that allows backup to be performed while JP1/AJS3 is running (backup enhancement function)	21.6
Settings for controlling the scheduler	15.1
Settings for controlling job execution	15.2
Settings for controlling events and actions	15.3
Settings for controlling queueless job execution	15.4
Settings for the definition pre-check function	15.5

Topic	Reference
Settings for the Web GUI (Management Portal)	15.8
Settings common to all control processes	15.6
Other settings	15.10
Settings for logging	16
Setting up a cluster system	17
Setup for disaster recovery operations	18
Settings for the embedded database	23
Setup for using the external database	24

(1) Setup procedure

To set up JP1/AJS3 - Manager:

1. If necessary, change the environment setting parameters.

Skip this step if you accept the environment setting parameter values proposed by JP1/AJS3. To change environment setting parameter values, use the `jajs_config` command, or the `jbssetcnf` command provided by JP1/Base.

For details about how to set the environment setting parameters, see [14.2 Environment setting parameter settings](#).

2. Set up the system and user environments.

For details about setting up the system and user environments, see [13.4 Setting up the system and user environments](#).

3. If necessary, set automatic startup and termination of the JP1/AJS3 service.

For details about setting automatic startup and termination of the JP1/AJS3 service, see [15.10.1 Setting automatic startup and termination of the JP1/AJS3 service](#).

4. If you want to use the Web Console server, perform the required setup of the JP1/AJS3 - Manager instance to which you want to connect the Web Console server.

If you want to use the Web Console server, set up the JP1/AJS3 - Manager instance to which you want to connect the Web Console server.

For details about how to set up JP1/AJS3 - Manager when using the Web Console server, see [13.3.1 Setting up JP1/AJS3 - Manager](#).

JP1/AJS3 - Manager setup is complete.

13.2 Required setup for JP1/AJS3 - Agent

Before JP1/AJS3 - Agent can be used, both JP1/Base and JP1/AJS3 - Agent must be set up.

You must finish setting up JP1/Base before you attempt to set up JP1/AJS3 - Agent.

Supplementary note:

After setting up JP1/AJS3 - Agent on a virtual machine, you can replicate the virtual machine.

For an overview of replicating a virtual machine, see *2.8 Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *22. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up*.

13.2.1 Setting up JP1/Base

This subsection describes how to set up JP1/Base.

The subsection contains an overview of setup and brief setup procedures. For details about the setup procedures, items to be set, and commands, see the *JP1/Base User's Guide*.

The following is an overview of JP1/Base setup:

1. Set user information.

JP1/Base user management is used to specify user mapping settings.

The user mapping settings are required when another host sends a job execution request to the local host. JP1 users are mapped to OS users who have been registered on hosts.

For details about how to specify these settings, see *(1) Setting user information*.

2. Specify the event service environment settings.

The event service environment settings are required to send and receive JP1 events.

In the JP1/Base event service environment settings, specify `keep-alive` as the communication type for the `server` parameter in the API settings file. If `close` is specified, the following problems might occur:

- The JP1 event issued by JP1/AJS3 at startup cannot be issued.
- The KAVT1040-E message is output to the integrated trace log, and the JP1 event reception monitoring job, log file monitoring job, and Windows event log monitoring job cannot detect events.
- The JP1 event sending job terminates abnormally (*Ended abnormally* status).

For details about how to specify settings and about the API settings file, see the *JP1/Base User's Guide*.

The following describes the JP1/Base setup procedure and definitions.

(1) Setting user information

In the UNIX version of JP1/Base, user information can be set by using commands.

The following describes the steps required to set user information.

Note that JP1/AJS3 - Agent and JP1/AJS2 - Agent 07-00-/C and later versions no longer access the authentication server when they start.

In JP1/AJS3 - Agent and JP1/AJS2 - Agent 07-00-/C and later versions, you do not need to specify the authentication server.

(a) Map the JP1 users

Map the JP1 users registered on the authentication server to OS users.

To map a JP1 user:

1. Use a text editor to create a new file.

This file will be used as the user mapping definition file.

2. Specify user mapping entries, each in *JP1-user-name: host-name: OS-user-name* format.

The following shows an example of the definition in the file.

<User mapping to be set>

Set the following information.

- As an OS user called "administrator", execute the jobs requested by "jp1user1" on "host01".
- As an OS user called "administrator", execute the jobs requested by JP1/AJS3 - Manager host "jp1user2".

<File contents>

```
jp1user1:host01:administrator
jp1user2:*.administrator
```

3. When you have completed the definition, close the file, and then execute the following command:

```
jbsmkumap -f user-mapping-definition-file
```

The definition in the file takes effect.

Supplementary note:

The following table describes the items that can be specified in the user mapping definition file.

Table 13–5: Items that can be specified in the user mapping definition file (JP1/AJS3 - Agent)

Permitted operation	JP1 user	Host	OS user
Executing a job on a host other than the JP1/AJS3 - Manager host	User who logs in to the OS of the JP1/AJS3 - Manager host	JP1/AJS3 - Manager host	User registered in the OS of the host on which the job will be executed

Cautionary note:

Make sure that the user ID and group ID have been set correctly for any OS user to whom you map a JP1 user.

For a JP1 user to be able to log in from JP1/AJS3 - View, the home directory must be set correctly for the OS user to whom the JP1 user is mapped.

The OS users to which you map JP1 users must be able to log in to the OS normally.

If the OS user to whom you map a JP1 user satisfies either of the following conditions, the job might fail to start:

- The home directory specified in */etc/passwd* does not exist.
- The login shell specified in */etc/passwd* does not exist.

13.2.2 Setting up JP1/AJS3 - Agent

This subsection describes how to set up JP1/AJS3 - Agent. Before you set up JP1/AJS3 - Agent, make sure that you have superuser permissions.

Make sure that JP1/Base has already been set up before you attempt to set up JP1/AJS3 - Agent.

Make sure that the umask for the user who starts JP1/AJS3 permits viewing and updating by any user who executes JP1/AJS3 commands.

Note that this subsection describes the basic setup of JP1/AJS3. If you need to change the settings to match specific operating requirements, see the appropriate section listed in the following table.

Topic	Reference
Procedure for setting environment setting parameters	14.2
Procedure for restricting connections to JP1/AJS3	21.2
Settings for defining the work path to be used during job execution as a variable	15.2.1
Changing the timeout value for pipe communication of the agent	15.2.15
Setting the timeout value for receiving notification from the job process that execution is ready	15.2.16
Changing the settings related to the size of the log for event jobs and custom event jobs to match operational requirements	15.3.1
Setting the status passing option for the file monitoring job	15.3.3
Settings for automatic startup and termination of the JP1/AJS3 service	15.10.1
Settings for the JP1/AJS3 definition pre-check function	15.5.1
Settings for using the Web GUI (Management Portal)	15.8.2
Settings for logging	16
Setting up for a cluster system	17

(1) Setup procedure

To set up JP1/AJS3 - Agent:

1. If necessary, change the environment setting parameters.

Skip this step if you accept the environment setting parameter values proposed by JP1/AJS3. To change environment setting parameter values, use the `jaajs_config` command, or the `jbssetcnf` command provided by JP1/Base. For details about the `jaajs_config` command, see *jaajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*. For details on the `jbssetcnf` command, see the *JP1/Base User's Guide*.

2. Set up the system and user environments.

For details about setting up the system and user environments, see *13.4 Setting up the system and user environments*.

3. If necessary, set the method for automatic startup and termination of the JP1/AJS3 service.

For details about setting the method for automatic startup and termination of the JP1/AJS3 service, see *15.10.1 Setting automatic startup and termination of the JP1/AJS3 service*.

JP1/AJS3 - Agent setup is complete.

13.3 Setup required to use JP1/AJS3 - Web Console

This section describes how to set up JP1/AJS3 for Linux.

If you want to use the Web Console server, set up the following components:

- JP1/AJS3 - Manager[#]
- JP1/AJS3 - Web Console

#:

Information about this component differs according to the OS of the JP1/AJS3 - Manager host to which JP1/AJS3 - Web Console connects. If the JP1/AJS3 - Manager host OS is Windows, see [3.4.1 Setting up JP1/AJS3 - Manager](#). If the JP1/AJS3 - Manager host OS is UNIX, see [13.3.1 Setting up JP1/AJS3 - Manager](#).

Note that to use the Web GUI (Management Portal), after completing JP1/AJS3 - Web Console setup, you must also set up the management portal. For details about setting up the management portal, see [15.8 Settings related to the Web GUI \(Management Portal\)](#).

This section describes how to set up these components.

13.3.1 Setting up JP1/AJS3 - Manager

This subsection describes how to set up the UNIX version of JP1/AJS3 - Manager as required to connect JP1/AJS3 - Web Console and JP1/AJS3 - Manager. Before you set up JP1/AJS3 - Manager, make sure that you have logged in as superuser.

Note

If the OS of the JP1/AJS3 - Manager host to which JP1/AJS3 - Web Console connects is Windows, see [3.4.1 Setting up JP1/AJS3 - Manager](#).

To set up JP1/AJS3 - Manager:

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop
# /opt/jp1ajs2/bin/jajs_spmdd_status
```

2. When JP1/AJS3 - Manager has been installed by performing an upgrade installation, specify settings to start the ajscdinetd process.

When JP1/AJS3 - Manager has been installed as a new installation, skip this step.

The ajscdinetd process of JP1/AJS3 - Manager must be started to enable JP1/AJS3 - Manager to accept connections from JP1/AJS3 - Web Console. To start the ajscdinetd process, you must revise the JP1/AJS3 startup process definition file (`jp1ajs_hstd.conf`) and the extended startup process definition file (`jp1ajs_hsad_0700.conf`) of JP1/AJS3 - Manager. You must also add the port number of the port the ajscdinetd process uses to the `services` file.

How to specify settings in these definition files varies depending on whether the `jp1ajs_hstd.conf` file or the `jp1ajs_hstd_0700.conf` file has already been revised. To check whether the `jp1ajs_hstd.conf` file or the `jp1ajs_hstd_0700.conf` file has already been revised, open each file by using a text editor such as `vi`.

The following shows the storage directories for `jp1ajs_hstd.conf`, `jp1ajs_hstd_0700.conf`, and the model files:

For a physical host:

```
/etc/opt/jp1ajs2/conf
```

For a logical host:

```
shared-directory/conf
```

If the `jp1ajs_hstd.conf` file and the `jp1ajs_hstd_0700.conf` file have not been revised, see *(1) Settings to start the ajscdinetd process (when the definition files have not been revised)*. If the `jp1ajs_hstd.conf` file or the `jp1ajs_hstd_0700.conf` file has already been revised, see *(2) Settings to start the ajscdinetd process (when the definition files have already been revised)*.

3. If necessary, change the restart setting of the ajscdinetd process.

With the initial settings for JP1/AJS3 - Manager, the ajscdinetd process restarts if the ajscdinetd process has ended abnormally. If necessary, change this restart setting.

The restart of the ajscdinetd process is defined in the JP1/AJS3 - Manager extended startup process definition file (`jp1ajs_hstd_0700.conf`). For details about the extended startup process definition file, see *6.3.1 Restarting an abnormally terminated JP1/AJS3 process in the JP1/Automatic Job Management System 3 Administration Guide*.

4. If necessary, change the setting of the size of the internal log for the ajscdinetd process.

Use the `AJSCDINETDLOGSIZE` environment setting parameter to specify the setting of the size of the internal log for the ajscdinetd process.

For details about the `AJSCDINETDLOGSIZE` environment setting parameter, see *20.4.2(22) AJSCDINETDLOGSIZE*.

5. Specify settings to pass through the firewall.

When a firewall is set in the operating environment, you must specify settings to enable the communication between JP1/AJS3 - Web Console and JP1/AJS3 - Manager to pass through the firewall.

For the port numbers to be used by JP1/AJS3 - Web Console and JP1/AJS3 - Manager and the directions of communication traffic through a firewall, see *A. List of Port Numbers in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

6. If necessary, set environment setting parameters.

Based on a preliminary review, change settings of environment setting parameters. For details about the environment setting parameters to be reviewed, see *4.6.2 Environment settings for JP1/AJS3 - Manager connected with a Web Console server in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

To change the settings of environment setting parameters, use the `jaajs_config` command. For details about how to set environment setting parameters, see *14.2 Environment setting parameter settings*.

7. Start the JP1/AJS3 service.

(1) Settings to start the ajscdinetd process (when the definition files have not been revised)

The following describes how to specify settings to start the ajscdinetd process when the content of the JP1/AJS3 startup process definition file and the JP1/AJS3 extended startup process definition file have not been changed from the initial status:

1. Back up the `jp1ajs_hstd.conf` file and the `jp1ajs_hstd_0700.conf` file.

2. Copy the model file (`jp1ajs_hstd.conf.model`) for the JP1/AJS3 startup process definition file, and then rename the copy of the model file to `jp1ajs_hstd.conf`.

3. Copy the model file for the extended startup process definition file, and then rename the copy of the model file.

For a physical host:

Copy the model file (`jp1ajs_hstd_0700.conf.model`) for the extended startup process definition file, and then rename the copy of the model file to `jp1ajs_hstd_0700.conf`.

For a logical host:

Copy the model file (`jp1ajs_hstd_0700.conf.cluster.model`) for the JP1/AJS3 extended startup process definition file, and then rename the copy of the model file to `jp1ajs_hstd_0700.conf`.

4. When logical hosts are used for operations, copy the files created in steps 2 and 3 into a shared directory.

5. In the `services` file, add the port number of the port to be used by the `ajscdinetd` process.

Default port number:

```
22250
```

Example of adding a port number:

```
jp1ajs3cdinetd 22250/tcp # JP1/AJS3 - Web Console
```

If the default port number cannot be used, specify the port number of the port to be used by the `ajscdinetd` process while avoiding the duplicate specification of the port number specified for any other process. When you change the port number to be used from the default, you also need to change the connection port number specified in the network-settings file for JP1/AJS3 - Web Console.

If a duplicate port number is specified, a message (KAVS0904-E) is output to the integrated trace log when the `ajscdinetd` process starts.

Cautionary note:

The port number setting added in the `services` file is not deleted by performing an uninstallation of JP1/AJS3 - Manager. When the port number setting is no longer necessary, you need to delete it manually.

(2) Settings to start the `ajscdinetd` process (when the definition files have already been revised)

The following describes how to specify settings to start the `ajscdinetd` process when the content of the JP1/AJS3 startup process definition file or the JP1/AJS3 extended startup process definition file has been changed from the initial status:

1. Open the `jp1ajs_hstd.conf` file.

2. Add a definition of the `ajscdinetd` process on any line.

Add the following definition:

```
ajscdinetd|/opt/jp1ajs2/bin/ajscdinetd|||1800|
```

3. Save the `jp1ajs_hstd.conf` file.

4. Open the `jp1ajs_hstd_0700.conf` file.

5. Add a definition of the `ajscdinetd` process to any line.

Add the following definition:

For a physical host:

```
ajscdinetd|/opt/jplajs2/bin/ajscdinetd||1|3|3|21600|0|0|jpomanager_hst|1||
||||
```

For a logical host:

```
ajscdinetd|/opt/jplajs2/bin/ajscdinetd||0|3|3|21600|0|0|jpomanager_hst|1||
||||
```

6. Save the `jplajs_hstd_0700.conf` file.

7. Add the port number of the port to be used by the `ajscdinetd` process in the `services` file.

Default port number:

22250

Example of adding a port number:

```
jplajs3cdinetd 22250/tcp # JP1/AJS3 - Web Console
```

If the default port number cannot be used, specify the port number of the port to be used by the `ajscdinetd` process while avoiding the duplicate specification of the port number specified for any other process. When you change the port number to be used from the default, you also need to change the connection port number specified in the network-settings file for JP1/AJS3 - Web Console.

If a duplicate port number is specified, a message (KAVS0904-E) is output to the integrated trace log when the `ajscdinetd` process starts.

8. Start the JP1/AJS3 service.

Cautionary note

The port number setting added in the `services` file is not deleted by performing an uninstallation of JP1/AJS3 - Manager. When the port number setting is no longer necessary, you need to delete it manually.

13.3.2 Setting up JP1/AJS3 - Web Console (Linux only)

This subsection describes how to set up JP1/AJS3 - Web Console. Before you set up JP1/AJS3 - Web Console, make sure that you have logged in as superuser.

To set up JP1/AJS3 - Web Console:

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmdd_status
```

2. Set up the environment of the Web Console server.

The table below lists the settings files for the Web Console server. Edit the appropriate settings files for the environment to be set.

Table 13–6: Settings files for the Web Console server

No.	File name	Environment requiring settings changes	Reference
1	Environment-settings file (ajs3web.conf)	<p>Review settings in the following cases:</p> <ul style="list-style-type: none"> When the time zone is different between the destination manager host and the Web Console server When the size of a log file or number of log files is to be changed When the Web GUI (Job Portal) is used to restrict operations for each user who logs in When the manager hosts to which JP1/AJS3 - Web Console can connect are restricted When execution of API functions with JP1/AJS3 - Web Console is restricted When the name of the connection-destination host is displayed in the Web GUI (Job Portal) window 	<i>13.3.3 Details on settings in the environment-settings file (ajs3web.conf)</i>
2	Network-settings file (ajscd_ajs3web.properties)	<p>Review settings in the following cases:</p> <ul style="list-style-type: none"> When the port number for the connection to JP1/AJS3 - Manager is changed from the default When the environment settings (such as connection timeout period and number of retry attempts) for connection to JP1/AJS3 - Manager are to be changed 	<i>13.3.4 Details on settings in the network-settings file (ajscd_ajs3web.properties)</i>
3	HTTP server definition file (httpsd.conf)	<p>Review settings in the following cases:</p> <ul style="list-style-type: none"> When the port number for the reception of connection requests from a web browsers is to be changed from the default When SSL communication is to be enabled When the port number for the communication between the HTTP and J2EE servers is to be changed from the default 	<i>13.3.5 Details on settings in the HTTP server definition file (httpsd.conf)</i>
4	User properties file for J2EE server (usrconf.properties)	<p>Review settings in the following cases:</p> <ul style="list-style-type: none"> When the port number for the communication between the HTTP and J2EE servers is to be changed from the default When the port number for the internal management of J2EE server is to be changed from the default 	<i>13.3.6 Details on the settings in the user properties file for J2EE server (usrconf.properties)</i>
5	Display color settings file (ajs3web_color.conf)	<p>Review settings in the following case:</p> <ul style="list-style-type: none"> When the colors indicating the statuses of the units displayed in the windows and dialog boxes of the Web GUI (Job Portal) are to be changed When the colors indicating the delay statuses of the units displayed in the windows and dialog boxes of the Web GUI (Job Portal) are to be displayed When the colors indicating the hold plan of the units displayed in the windows and dialog boxes of the Web GUI (Job Portal) are to be displayed 	<i>13.3.7 Details on the settings in the display color settings file (ajs3web_color.conf)</i>
6	Option definition file for J2EE server (usrconf.cfg)	<p>Review settings in the following case:</p> <ul style="list-style-type: none"> When the maximum size of the Java heap available to applications on the Web Console server is to be changed 	<i>13.3.8 Details on the settings in the option definition file for J2EE server (usrconf.cfg)</i>
7	System property file for server management commands (usrconf.properties)	<p>Review settings in the following cases:</p> <ul style="list-style-type: none"> When the port number for the internal management of J2EE server is to be changed from the default 	<i>13.3.10 Details on the settings in the system properties</i>

No.	File name	Environment requiring settings changes	Reference
7	System property file for server management commands (usrconf.properties)	Review settings in the following cases: <ul style="list-style-type: none"> When the port number for the internal management of J2EE server is to be changed from the default 	<i>file for server management commands (usrconf.properties)</i>

3. If necessary, specify settings for SSL communication.

Using SSL communication enables the HTTPS communication between the Web GUI and Web Console server and, thereby, the prevention of password stealing by sniffing. Using SSL communication also enables the SSL encryption of the communications between the Web Console server and manager host.

For details about how to specify settings for SSL communication, see [21.4 Setting up the communication using SSL](#).

4. Specify settings to pass through the firewall.

When a firewall is set in the operating environment, you must enable the communications between JP1/AJS3 - Web Console and JP1/AJS3 - Manager and between JP1/AJS3 - Web Console and a web browser to pass through the firewall.

For the port numbers to be used by JP1/AJS3 - Web Console and JP1/AJS3 - Manager and the directions of communication traffic through the firewall, see *A. List of Port Numbers* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

5. Start JP1/AJS3.

6. Check that the site at the URL below can be accessed from your browser.

Access the site at the following URL, and then make sure that the login window of the Web GUI appears.

`http://host-name-or-IP-address-of-Web-Console-server:port-number/ajs/login.html`

The default of *port-number* is 22252 for HTTP connection or 22253 for HTTPS connection.

If you enable SSL communication to connect on HTTPS, replace `http` at the top of the URL with `https`.

13.3.3 Details on settings in the environment-settings file (ajs3web.conf)

This subsection describes the details on the format of settings and the items to be set in the environment-settings file (`ajs3web.conf`).

(1) File storage directory

The following describes the folders for storing the file `ajs3web.conf` and the model file `ajs3web.conf.model`.

(a) Model file storage folder

The following shows the folder storing the `ajs3web.conf.model` file.

```
/etc/opt/jp1ajs3web/conf/
```

(b) ajs3web.conf file storage folder

The following shows the directory storing the `ajs3web.conf` file.

```
/etc/opt/jp1ajs3web/conf/#
```

#:

In a cluster configuration, the file name is as follows:

`shared-directory/jp1ajs3web/conf`

If you make changes to a command log, edit both the `ajs3web.conf` file in the shared directory and the `ajs3web.conf` file in the `/etc/opt/jp1ajs3web/conf` directory.

(2) File-editing procedure

The procedure for editing the `ajs3web.conf` file varies between the case in which the size and number of log files are to be changed and the case in which other setting items are to be changed.

(a) Procedure for changing the size and number of log files

To change the size and number of log files, you must delete all log files and the files related to the logs before editing the `ajs3web.conf` file.

The following describes the procedure for changing the size and number of log files:

1. Execute the following command to stop the HTTP and web application servers.

```
/etc/opt/jp1ajs3web/jajs_web_stop
```

2. Make backups of all log files[#] found in any directory.

3. Delete the following files[#]:

If you make changes to an application server log:

- All application server log files
- `appserver.mm` file in the `mmap` directory that is in the directory storing application server log files

If you make changes to a command log:

- All command log files
- `jajs_web.mm` file, `jajs_web_stop.mm` file and `ajswebsetup.mm` file in the `mmap` directory that is in the directory storing command log files

4. Back up the `ajs3web.conf` file, and store the backup file in any directory.

5. Copy the model file (`ajs3web.conf.model`), and then rename the copy of the file to `ajs3web.conf`.

6. Open the `ajs3web.conf` file by using a text editor such as `vi`.

7. Modify the definitions to be changed.

8. Save the `ajs3web.conf` file.

9. Execute the following command to start the HTTP and web application servers.

```
/etc/opt/jp1ajs3web/jajs_web
```

[#]

For the names of the relevant log files and directories, see the table *Log files and directories in JP1/AJS3 - Web Console (for UNIX)* in 1.2.5(2) *Log files and directories in UNIX* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

(b) Procedure for changing items other than the size and number of log files

The following describes the procedure for changing items other than the size and number of log files:

1. Execute the following command to stop the HTTP and web application servers.

```
/etc/opt/jp1ajs3web/jajs_web_stop
```

2. Back up of the `ajs3web.conf` file, and store the backup file in any directory.
3. Copy the model file (`ajs3web.conf.model`), and then rename the copy of the file to `ajs3web.conf`.
4. Open the `ajs3web.conf` file by using a text editor.
5. Modify the definitions to be changed.
6. Save the `ajs3web.conf` file.
7. Execute the following command to start the HTTP and web application servers.

```
/etc/opt/jp1ajs3web/jajs_web
```

(3) When the setting takes effect

If you make changes to a command log only:

- The settings for the setup command operation log take effect when a setup command is executed.
- The settings for the service start command operation log or service stop command operation log take effect when the JP1/AJS3 Web Application Server service starts.

If you make changes in addition to those to a command log:

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `ajs3web.conf` file:

```
[ ]
HNTR_LOG_LEVEL=level-of-the-message-to-be-output-to-integrated-trace-log
HNTR_LOG_LANG=language-type-of-the-message-to-be-output-to-integrated-trace-log
SYS_LOG_LEVEL=level-of-the-message-to-be-output-to-syslog
COM_LOG_SIZE=size-of-a-command-log-file
COM_LOG_LEVEL=level-of-the-message-to-be-output-to-command-log
COM_LOG_NUM=number-of-command-log-files
COM_LOG_LANG=language-type-of-the-message-to-be-output-to-command-log
SERVER_LOG_SIZE=size-of-an-application-server-log-file
SERVER_LOG_LEVEL=level-of-the-message-to-be-output-to-application-server-log
SERVER_LOG_NUM=number-of-application-server-log-files
SERVER_LOG_LANG=language-type-of-the-message-to-be-output-to-application-server-log
PFM_URL=URL-to-access-PFM-Web-Console
EXECUTION_PROHIBITED_DISPLAY_FORMAT=display-format-of-prohibited-execution-of-a-root-jobnet-registered-for-planned-execution
GUI_OPERATION_RESTRICTION=setting-that-determines-whether-the-operation-restriction-function-is-enabled
```

```

PERMITTED_AJS_MANAGER_HOST=names-of-JP1/AJS3-Manager-hosts-to-which-JP1/AJS3
-Web-Console-can-connect
HOST_NAME_INPUT_METHOD=method-for-specifying-host-names-in-the-Web-GUI-login
-screen
API_EXECUTION_RESTRICTION=setting-that-determines-whether-execution-of-API-f
unctions-is-to-be-restricted
SERVER_SESSION_TIMEOUT=Web-GUI-session-timeout-period

[host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host]
TIMEZONE=time-zone-of-destination-JP1/AJS3-Manager
SUMMARY_MAX_COUNT=maximum-number-of-monitoring-targets-on-Web-GUI (Job Porta
l)
HOSTNAME_ALIAS_FOR_PFM=JP1/AJS3-Manager-host-alias-name-to-be-passed-to-PFM-
Web-Console
WEB_CONSOLE_SETTING_USER=JP1-user-who-can-change-the-operating-permission-se
ttings-for-each-JP1-user (user-who-sets-permissions)
HOST_INFO_BAR_BACKGROUND=background-color-of-the-area-that-displays-the-info
rmation-about-the-connection-destination-JP1/AJS3-Manager-host-in-the-Web-GU
I (Job Portal)-window
HOST_INFO_BAR_TEXT=connection-destination-JP1/AJS3-Manager-host-information-
to-be-displayed-in-the-Web-GUI (Job Portal)-window
HOST_INFO_BAR_TEXT_COLOR=font-color-of-the-area-that-displays-the-informatio
n-about-the-connection-destination-JP1/AJS3-Manager-host-in-the-Web-GUI (Jo
b Portal)-window

[host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host]
:

```

Adding a semicolon (;) at the beginning of a line comments out the line and disables the setting of the line. The `ajs3web.conf` file before it is edited and its model file `ajs3web.conf.model` contain sample settings with all lines commented out. To enable settings, delete the prefixed semicolons (;) from the relevant lines.

The settings in the `ajs3web.conf` file are categorized by section as follows:

[] section

In this section, specify general settings for JP1/AJS3 - Web Console.

Specify the settings on the line next to [] and the following lines before the next section. If there no other sections, you can specify the settings up to the last line.

For details about the settings that can be specified, see (a) *HNTR_LOG_LEVEL* to (r) *SERVER_SESSION_TIMEOUT* in (5) *Setting items*.

[host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host] section

In this section, specify the settings for a JP1/AJS3 - Manager host to which JP1/AJS3 - Web Console connects. Define this section for each connection-destination host.

Specify the settings on the line next to [host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host] and the following lines before the next section. If there no other sections, you can specify the settings up to the last line.

For details about the settings that can be specified, see (t) *TIMEZONE* to (z) *HOST_INFO_BAR_TEXT_COLOR* in (5) *Setting items*.

For a host for which the [host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host] section is not defined, default values are used for the following settings: (t) *TIMEZONE* to (z) *HOST_INFO_BAR_TEXT_COLOR* in (5) *Setting items*.

For details about the values that can be specified in the [host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host] section, see (s) *Host name or IP address of destination JP1/AJS3 - Manager instance* in (5) *Setting items*.

(5) Setting items

The following describes the items to be set. Delimit each item by using a linefeed.

(a) HNTR_LOG_LEVEL

Specify the level of the messages to be output to the integrated trace log.

Specifiable values

none

No message is output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

info

Recommended value

Default value

(b) HNTR_LOG_LANG

Specify the language type of the messages to be output to the integrated trace log.

Specifiable values

system

Messages are output in the language type set in the OS.

If the encoding set in the OS is not English ASCII, UTF-8, or SJIS, English ASCII is used.

C, en_US.UTF-8, or en_US.utf8

Messages are output by using English ASCII encoding.

ja_JP.UTF-8 or ja_JP.utf8

Messages are output by using UTF-8 encoding.

ja_JP.SJIS# or ja_JP.sjis#

Messages are output by using Shift-JIS encoding.

#:

Can be used only in SUSE Linux.

Default value

system

Recommended value

Set the value appropriate for the operating environment.

(c) SYS_LOG_LEVEL

Specify the level of the messages to be output to syslog.

Specifiable values

none

No message is output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

info

Recommended value

Default value

(d) COM_LOG_SIZE

Specify the size of a command log file.

Specifiable values

4 to 16,384 (units: kilobytes)

Default value

128

Recommended value

Default value

(e) COM_LOG_LEVEL

Specify the level of the messages to be output to the command log.

Specifiable values

none

No message is output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

info

Recommended value

Default value

(f) COM_LOG_NUM

Specify the number of command log files.

Specifiable values

1 to 16 (units: files)

Default value

2

Recommended value

Default value

(g) COM_LOG_LANG

Specify the language type of the messages to be output to the command log.

Specifiable values

`system`

Messages are output in the language type set in the OS.

If the encoding set in the OS is not English ASCII, UTF-8, or SJIS, English ASCII is used.

`C`, `en_US.UTF-8`, or `en_US.utf8`

Messages are output by using English ASCII encoding.

`ja_JP.UTF-8` or `ja_JP.utf8`

Messages are output by using UTF-8 encoding.

`ja_JP.SJIS#` or `ja_JP.sjis#`

Messages are output by using Shift-JIS encoding.

`#`:

Can be used only in SUSE Linux.

Default value

`system`

Recommended value

Set the value appropriate for the operating environment.

(h) SERVER_LOG_SIZE

Specify the size of an application server log file.

Specifiable values

4 to 16,384 (units: kilobytes)

Default value

8,192

Recommended value

Default value

(i) SERVER_LOG_LEVEL

Specify the level of the messages to be output to the application server log.

Specifiable values

none

No message is output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

info

Recommended value

Default value

(j) SERVER_LOG_NUM

Specify the number of application server log files.

Specifiable values

1 to 16 (units: files)

Default value

2

Recommended value

Default value

(k) SERVER_LOG_LANG

Specify the language type of the messages to be output to the application server log.

Specifiable values

system

Messages are output in the language type set in the OS.

If the language type set in the OS is neither Japanese nor English, English is assumed to be specified.

ja

Messages are output in Japanese.

en

Messages are output in English.

Default value

system

Recommended value

Set the value appropriate for the operating environment.

(l) PFM_URL

Specify the URL of the PFM - Web Console login screen.

Specifiable values

communication-protocol: // *host-name-or-IP-address-of-PFM-Web-Console-host*: *port-number* / PFMWebConsole/login.do

The following describes the values that can be specified for the variables in *communication-protocol*: // *host-name-or-IP-address-of-PFM-Web-Console-host*: *port number*:

communication-protocol

Specify `http` or `https` as the communication protocol.

host-name-or-IP-address-of-PFM-Web-Console-host

Specify the host name or IP address of the PFM - Web Console host.

port-number

Specify the number of the port to be used for communication with PFM - Web Console. The default is 20358.

Default value

None.

Recommended value

Set the value appropriate for the operating environment.

(m) EXECUTION_PROHIBITED_DISPLAY_FORMAT

Specify the display format of prohibited execution of a root jobnet registered for planned execution.

Specifiable values

`yes`

If the execution of a root jobnet registered for planned execution is prohibited, `No` (Previous execution prohibited) is displayed for **Change plan** on the following screens and in the following dialog box:

- List screen
- Monthly Schedule screen
- Detail Information dialog box

`no`

If the execution of a root jobnet registered for planned execution is prohibited, `Yes` (Execution prohibited) is displayed for **Change plan** on the following screens and in the following dialog box:

- List screen
- Monthly Schedule screen
- Detail Information dialog box

Default value

`no`

Recommended value

Set the value appropriate for the operating environment.

(n) GUI_OPERATION_RESTRICTION

Specify whether to enable the operation restriction function of the Web GUI (Job Portal).

Specifiable values

yes

The operation restriction function is enabled.

no

The operation restriction function is disabled.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

To specify *yes* for this parameter, you must also specify the `WEB_CONSOLE_SETTING_USER` parameter.

(o) PERMITTED_AJS_MANAGER_HOST

Specify the names of JP1/AJS3 - Manager hosts to which JP1/AJS3 - Web Console is permitted to connect.

Specifiable values

The host name of JP1/AJS3 - Manager

You can specify the following host names:

For physical host

The host name that is output when the `hostname` command is run on a manager host

For logical host

The logical host name that was specified when the logical host environment was set up

The host name you specify must be a character string consisting of 255 or fewer bytes. You can specify multiple host names by using a comma (,) as a separator. You can specify a maximum of 128 host names. These host names are not case-sensitive.

Default value

None. (There are no restrictions on connections to hosts.)

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- If you specify a comma-separated list, do not add a comma (,) at the end of the list. If you do so, the specified value becomes invalid.
- If you specify this parameter, make sure that you specify the same value for the parameter [*host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host*] .
- Be careful if you specify this parameter while there is a user who logged in to the Web GUI (Job Portal) without specifying a host name (for example, by specifying an IP address or alias name). In such a case, you must set the monitoring targets again by using the Set Monitoring Targets dialog box after that user logs in to the Web GUI (Job Portal) by specifying a host name.

(p) HOST_NAME_INPUT_METHOD

Specify the input method for the **Host to connect** item that appears on the Web GUI login screen.

Specifiable values

tf

The item is displayed as a text box in which the user is to enter a host name.

dl

The item is displayed as a drop-down list from which the user is to select from among hosts to which connections can be established.

The drop-down list displays host names in the same order that the host names are specified for the `PERMITTED_AJS_MANAGER_HOST` parameter.

Default value

tf

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

This parameter takes effect only if at least one value is specified for the `PERMITTED_AJS_MANAGER_HOST` parameter.

(q) API_EXECUTION_RESTRICTION

Specify whether to restrict the execution of API functions from user applications.

Specifiable values

yes

Execution of all API functions is restricted.

no

Execution of API functions is not restricted.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

If you are using a user application that uses the API of JP1/AJS3 - Web Console, and you specify `yes` for this parameter, the user application might become unable to operate normally. If the user application becomes unable to operate normally, modify the user application as necessary.

(r) SERVER_SESSION_TIMEOUT

Specifiable values

900 to 3,600 (units: seconds)

Default value

900

Recommended value

Default value

(s) Host name or IP address of destination JP1/AJS3 - Manager instance

Specify the host name or IP address of a JP1/AJS3 - Manager host to which JP1/AJS3 - Web Console connects in a pair of halfwidth square brackets ([]).

Specify the value according to the value of the following items:

- **Host to connect** in the login window of Web GUI
- The `manager` parameter specified for the `query` API request
- The `manager` parameter specified in the message body of an API request

Whether the host name or IP address is used to specify a host is distinguished. Uppercase and lowercase letters are not distinguished.

For an example of settings, see (7) *Examples*.

Specifiable values

Character string of 255 bytes or less

Default value

None.

Recommended value

Set the value appropriate for the operating environment.

(t) TIMEZONE

Specify the time zone of the physical or logical host of the destination JP1/AJS3 - Manager instance.

You need to specify this item when the time zone of the destination JP1/AJS3 - Manager instance differs from the time zone of the Web Console server.

Specifiable values

Time zone IDs that can be obtained by using the `ajswbtz.bat` command

When this item is not specified, the time zone setting in the OS is applied.

For details about the `ajswbtz.bat` command, see *ajswbtz (Linux only)* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Default value

Time zone setting in the OS

Recommended value

Set the value appropriate for the operating environment.

(u) SUMMARY_MAX_COUNT

Specify the maximum number of monitoring targets that can be listed on the Dashboard screen of the Web GUI (Job Portal). You can register a maximum of 20 root jobnets as monitoring-target units per monitoring-target setting.

Specifiable values

1 to 20 (units: monitoring-target units)

Default value

5

Recommended value

Default value

(v) HOSTNAME_ALIAS_FOR_PFM

If a JP1/AJS3 - Manager host to be monitored by JP1/PFM is specified with an alias rather than the actual host name, specify the alias that will be passed to PFM - Web Console.

Specifiable values

Character string of 255 bytes or less

Default value

None.

Recommended value

Set the value appropriate for the operating environment.

(w) WEB_CONSOLE_SETTING_USER

To use the operation restriction function of the Web GUI, specify one or more JP1 users who can change the operating permission settings (*users who set permissions*).

Specifiable values

Name of the JP1 user

For details about the characters that can be used to specify JP1 user names, see the *JP1/Base User's Guide*.

If you specify multiple JP1 user names, use a comma (,) to delimit each user name. You can specify a maximum of 10 JP1 user names. These user names are not case-sensitive.

Default value

None.

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- This parameter takes effect only if `yes` is specified for the `GUI_OPERATION_RESTRICTION` parameter.
- If you specify a comma-separated list, do not add a comma (,) at the end of the list. If you do so, the specified value becomes invalid.

(x) HOST_INFO_BAR_BACKGROUND

Specify the background color of the area that displays the information about the connection-destination JP1/AJS3 - Manager host in the Web GUI (Job Portal) window.

Specifiable values

RGB value

Specify a color by its RGB in the *R,G,B* format. A number in the range from 0 to 255 can be specified for each of *R*, *G*, and *B*. For details about RGB values, see (6) *Specifying RGB values*.

Default value

192,192,192

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- Do not insert a halfwidth space before or after a comma (,) that is used as a separator. If a space is inserted, the specified values become invalid.
- Changing the background color of the window area might make the text displayed in the area hard to read, depending on the combination with the font color. If you change the background color, we recommend that you also adjust the font color as needed.

(y) HOST_INFO_BAR_TEXT

Specify the character string to be displayed in the Web GUI (Job Portal) window as the information about the connection-destination JP1/AJS3 - Manager host.

Specifiable values

Character string

Specify a character string of no more than 640 characters. If you specify a null string or empty line, a blank is displayed in the area.

Default value

Empty lines

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- Specify a character string that includes the OS, machine name, system name, and other information that describes the connection-destination JP1/AJS3 - Manager host.
- For the information about the connection-destination JP1/AJS3 - Manager host to be displayed in the window, we recommend that you specify a character string that is no longer than 40 characters. If you specify a character string longer than 40 characters, characters after the first 40 characters might not be displayed.
- You cannot use control characters, Unicode control characters, and platform-dependent characters.

(z) HOST_INFO_BAR_TEXT_COLOR

Specify the font color of the information about the connection-destination JP1/AJS3 - Manager host to be displayed in the Web GUI (Job Portal) window.

Specifiable values

RGB value

Specify a color by its RGB in the *R,G,B* format. A number in the range from 0 to 255 can be specified for each of *R*, *G*, and *B*. For details about RGB values, see [\(6\) Specifying RGB values](#).

Default value

0,0,0

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- Do not insert a halfwidth space before or after a comma (,) that is used as a separator. If a space is inserted, the specified values become invalid.
- Changing the background color of the window area might make the text displayed in the area hard to read, depending on the combination with the font color. If you change the background color, we recommend that you also adjust the font color as needed.

(6) Specifying RGB values

RGB values are used to specify colors. Red, green and blue are specified with values between 0 and 255. One color is specified with a combination of three values.

The following table lists examples of RGB value specifications:

Table 13–7: Example RGB values

No.	Color	RGB value
1	White	255,255,255
2	Yellow	255,255,0
3	Light gray	192,192,192
4	Sky blue	0,255,255
5	Yellow green	0,255,0
6	Gray	128,128,128
7	Dark yellow	128,128,0
8	Dark pink	255,0,255
9	Blue green	0,128,128
10	Red	255,0,0
11	Green	0,128,0
12	Purple	128,0,128
13	Brown	128,0,0
14	Blue	0,0,255
15	Dark blue	0,0,128
16	Black	0,0,0

The table lists only example RGB values. You can use a wide range of colors within the range that can be specified with RGB values.

(7) Examples

The following shows an example of the settings in the `ajs3web.conf` file. In this example, two `[host-name-or-IP-address-of-destination-JP1/AJS3-Manager-host]` sections are created by specifying the host name `ManagerHostA` as host A and the IP address `100.100.1.2` as host B.

```
[ ]
HNTR_LOG_LEVEL=info
HNTR_LOG_LANG=system
SYS_LOG_LEVEL=info
COM_LOG_SIZE=128
COM_LOG_LEVEL=info
COM_LOG_NUM=2
COM_LOG_LANG=system
SERVER_LOG_SIZE=8192
SERVER_LOG_LEVEL=info
SERVER_LOG_NUM=2
```

```

SERVER_LOG_LANG=system
EXECUTION_PROHIBITED_DISPLAY_FORMAT=no
GUI_OPERATION_RESTRICTION=yes
PERMITTED_AJS_MANAGER_HOST=ManagerHostA,ManagerHostB
HOST_NAME_INPUT_METHOD=dl
API_EXECUTION_RESTRICTION=yes
SERVER_SESSION_TIMEOUT=900

[ManagerHostA]
TIMEZONE=Asia/Tokyo
SUMMARY_MAX_COUNT=5
WEB_CONSOLE_SETTING_USER=user1,user2

[100.100.1.2]
TIMEZONE=America/New_York
SUMMARY_MAX_COUNT=5
WEB_CONSOLE_SETTING_USER=user3,user4

```

(8) Notes

- Do not change the settings of items other than those explained herein.
- Do not insert a space before or after the equal sign in a definition line.
- Do not enter a linefeed in the middle of a definition line.
- If you specify a value for an item that cannot be set, the line including the item will be ignored.
- If an item to be set is not found, the default specification for that item is assumed for operation.
- If a setting is invalid, the JP1/AJS3 Web Application Server service cannot start.
- The definition keys of setting items are not case sensitive, but set values are case sensitive.
- If the same setting item is defined on multiple lines, only the first line defining the setting item is valid.

13.3.4 Details on settings in the network-settings file (ajscd_ajs3web.properties)

This subsection describes the details on the format of settings and the items to be set in the network-settings file (ajscd_ajs3web.properties).

(1) File storage directory

The `ajscd_ajs3web.properties` file is not created in the initial status of JP1/AJS3 - Web Console immediately after JP1/AJS3 - Web Console has been installed. While the `ajscd_ajs3web.properties` file is not created, JP1/AJS3 - Web Console operates by using default settings.

Create the `ajscd_ajs3web.properties` file only when you want to change settings from the default settings.

(a) Model file storage directory

The following shows the directory storing the model file (`ajscd_ajs3web.properties.model`) for the network-settings file.

```
/etc/opt/jp1ajs3web/conf
```

(b) ajscd_ajs3web.properties file storage directory

Store the `ajscd_ajs3web.properties` file in the same directory as the model file `ajscd_ajs3web.properties.model`.#

#

In a cluster configuration, the file name is as follows:

`shared-directory/jp1ajs3web/conf`

(2) File-editing procedure

The following describes the procedure for editing the `ajscd_ajs3web.properties` file:

1. Execute the following command to stop the web application server.

```
/etc/opt/jp1ajs3web/jajs_web_stop -t app
```

2. If the `ajscd_ajs3web.properties` file has already been defined, back up the file in any directory.
3. Copy the model file (`ajscd_ajs3web.properties.model`), and then rename the copy of the model file to `ajscd_ajs3web.properties`.
4. Open the `ajscd_ajs3web.properties` file by using a text editor such as `vi`.
5. Modify the definitions to be changed.
6. Save the file by using UTF-8 encoding.
7. Execute the following command to start the web application server.

```
/etc/opt/jp1ajs3web/jajs_web -t app
```

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `ajscd_ajs3web.properties` file:

```
ajscd.port_number=port-number-for-connection-to-JP1/AJS3-Manager
ajscd.connect_timeout=timeout-period-of-connection-to-JP1/AJS3-Manager
ajscd.connect_retry_count=number-of-retries-of-connection-to-JP1/AJS3-Manager
ajscd.connect_retry_interval=interval-of-retries-of-connection-to-JP1/AJS3-Manager
ajscd.receive_timeout=timeout-period-of-data-reception-from-JP1/AJS3-Manager
ajscd.login_wait=wait-time-for-login
ajscd.mp_port_number=port-number-for-connection-to-JP1/AJS3-Manager (jp1ajs3
sysctlm)
```

When writing a comment on a line, begin the comment line with a hash mark (#).

(5) Setting items

The following describes the items to be set. Delimit each item by using a linefeed.

(a) `ajscd.port_number`

Specify the port number of the port to connect to JP1/AJS3 - Manager.

Change this setting when the default port number cannot be used for JP1/AJS3 - Manager.

Specifiable values

5001 to 65535

Default value

22250

Recommended value

Set the value appropriate for the operating environment.

(b) `ajscd.connect_timeout`

Specify the timeout period for the connection to JP1/AJS3 - Manager.

By default, connection timeout processing is disabled. Change the setting from the default when you want to enable the timeout processing for the connection to JP1/AJS3 - Manager.

Specifiable values

0 to 86,400 (units: seconds)

When 0 is specified, connection timeout processing is disabled.

Default value

0 (Connection timeout processing is disabled.)

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

The connection timeout specification of the OS and the connection timeout setting in the OS might cause a connection timeout to occur earlier than the timeout period you specify for this setting item.

(c) `ajscd.connect_retry_count`

Specify the number of times to retry when a communication error occurs in an attempt to connect to JP1/AJS3 - Manager.

Specifiable values

0 to 100 (units: number of times)

Default value

3

Recommended value

Set the value appropriate for the operating environment.

(d) `ajscd.connect_retry_interval`

Specify the interval for retry attempts when a communication error occurs in an attempt to connect to JP1/AJS3 - Manager.

Specifiable values

1 to 300 (units: seconds)

Default value

12

Recommended value

Set the value appropriate for the operating environment.

(e) ajscd.receive_timeout

Specify the timeout period for data reception from JP1/AJS3 - Manager.

Specifiable values

0 to 86,400 (units: seconds)

When 0 is specified, reception timeout processing is disabled.

Default value

180

Recommended value

Set the value appropriate for the operating environment.

(f) ajscd.login_wait

Specify the time to wait for login processing (time to wait until entry into sleep state) when authentication of JP1/AJS3 - Manager fails.

Specifiable values

1 to 10 (units: seconds)

Default value

1

Recommended value

Set the value appropriate for the operating environment.

(g) ajscd.mp_port_number

Specify the port number (`jp1ajs3sysctlm`) used to connect the management portal to JP1/AJS3 - Manager.

Change this setting when the default port number cannot be used for JP1/AJS3 - Manager.

Specifiable values

5001 to 65535

Default value

22256

Recommended value

Set the value appropriate for the operating environment.

(6) Examples

The following shows an example of definitions in the `ajscd_ajs3web.properties` file:

```
ajscd.port_number=22250
ajscd.connect_timeout=0
ajscd.connect_retry_count=3
ajscd.connect_retry_interval=12
ajscd.receive_timeout=180
ajscd.login_wait=1
ajscd.mp_port_number=22256
```

(7) Notes

- Do not change the settings of items other than those explained herein.
- Do not insert a space before or after the equal sign in a definition line.
- Do not enter a linefeed in the middle of a definition line.
- If you specify a value for an item that cannot be set, the line including the item will be ignored.
- If a setting is invalid, the JP1/AJS3 Web Application Server service can start, but a processing error occurs in JP1/AJS3 - Web Console.
- The definition keys of setting items and set values are case sensitive. If the definition key on a definition line contains uppercase and lower-case letters, the definition line will be ignored.
- If the same setting item is defined on multiple lines, only the last line defining the setting item is valid.

13.3.5 Details on settings in the HTTP server definition file (httpsd.conf)

This subsection describes the details on the format of settings and the items to be set in the HTTP server definition file (`httpsd.conf`).

(1) File storage directory

The following shows the directory storing the `httpsd.conf` file.

```
/opt/jplajs3web/uCPSB/httpsd/conf
```

(2) File-editing procedure

The following describes the procedure for editing the `httpsd.conf` file. If you are operating in a cluster environment, follow the edit procedure to set the same definitions for the secondary node as those set for the primary node.

1. Execute the following command to stop the HTTP server.

```
/etc/opt/jplajs3web/jajs_web_stop -t http
```

2. Back up the `httpsd.conf` file, and store the backup file in any directory.
3. Open the `httpsd.conf` file by using a text editor such as `vi`.
4. Modify the definitions to be changed.
5. Save the file by using UTF-8 encoding.
6. Execute the following command to start the HTTP server.

```
/etc/opt/jplajs3web/jajs_web -t http
```

(3) When the setting takes effect

When the JP1/AJS3 HTTP Server service starts

(4) Format

The following shows the format of settings in the `httpsd.conf` file:

```
(omitted)

ServerRoot "/opt/jplajs3web/uCPSB/httpsd"

ServerName host-name-of-Web-Console-server
DocumentRoot "/opt/jplajs3web/uCPSB/httpsd/htdocs"

(omitted)

ProxyPass /ajs/ http://localhost:port-number-to-be-used-for-the-communicatio
n-between-HTTP-and-J2EE-servers/ajs/ timeout=3600 connectiontimeout=30
ProxyPassReverse /ajs/ http://localhost:port-number-to-be-used-for-the-commu
nication-between-HTTP-and-J2EE-servers/ajs/

(omitted)

Listen port-number-for-the-reception-of-connection-requests-from-web-browser
#Listen [::]:port-number-for-the-reception-of-connection-requests-from-web-b
rowser

#Listen port-number-for-the-reception-of-connection-requests-from-web-browse
r-during-SSL-communication
#Listen [::]:port-number-for-the-reception-of-connection-requests-from-web-b
rowser-during-SSL-communication
#<VirtualHost *:port-number-for-the-reception-of-connection-requests-from-we
b-browser-during-SSL-communication>
#  ServerName host-name-of-Web-Console-server
#  SSLEngine On
#  SSLCertificateFile "/opt/jplajs3web/uCPSB/httpsd/conf/ssl/server/name-of-
server-certification-file"
#  SSLCertificateKeyFile "/opt/jplajs3web/uCPSB/httpsd/conf/ssl/server/name-
of-private-key-file"
#  SSLProtocol version-of-TLS-used-for-SSL-communication
#  SSLCipherSuite TLSv1.3 list-of-cipher-types-available-with-TLSv1.3
#  SSLCipherSuite list-of-cipher-types-available-with-TLSv1.2
#  AllowEncodedSlashes On
#</VirtualHost>

Include "/opt/jplajs3web/uCPSB/CC/web/redirector/mod_jk.conf"
```

Note that lines beginning with a hash mark (#) are comment lines.

(5) Setting items

The following describes the items to be set.

(a) Host name of Web Console server

The host name of a Web Console server is set automatically.

If you have changed the host name of the Web Console server, change this setting manually.

(b) Port number to be used for communication between HTTP and J2EE servers

Specify the port number of the port to be used for the communication between the HTTP and J2EE servers on the Web Console server. The default is 22254.

When you want to change the port number from the default, change the port number so that it is appropriate to the environment. Make sure that the value set for the `ProxyPass` and `ProxyPassReverse` entries is the same as the value set for the `webserver.connector.nio_http.port` entry in the user properties file for J2EE server (`usrconf.properties`). For details, see [13.3.6 Details on the settings in the user properties file for J2EE server \(`usrconf.properties`\)](#).

(c) Port number for the reception of connection requests from a web browser

When not using SSL communication, specify the port number of the port at which the Web Console server receives connection requests from the web browser. The default is 22252.

If you have changed the port number for the reception of connection requests from the web browser, change the port number setting.

(d) Port number for the reception of connection requests from a web browser during SSL communication

When using SSL encryption for communication between the Web Console server and a web browser, specify the port number of the port at which the Web Console server receives connection requests from the web browser. The default is 22253.

To enable SSL communication, delete the hash mark (#) at the beginning of the definition line. If you have changed the port number for the reception of SSL communication from the web browser from the default setting, change the port number setting.

For details, see [21.4 Setting up the communication using SSL](#).

(e) Name of server certification file

When using SSL encryption for communication between the Web Console server and web browser, specify the name of the server certification file obtained from the CA. The default is `httpsd.pem`.

To enable SSL communication, delete the hash mark (#) at the beginning of the definition line, and then change the default setting to the name of the server certification file.

For details, see [21.4 Setting up the communication using SSL](#).

(f) Name of private key file

When using SSL encryption for communication between the Web Console server and web browser, specify the name of the private key file. The default is `httpsdkey.pem`.

To enable SSL communication, delete the hash mark (#) at the beginning of the definition line, and then change the default setting to the name of the private key file.

For details, see *21.4 Setting up the communication using SSL*.

(g) Version of TLS used for SSL communication

Specify `+TLSv1.2` or `+TLSv1.3` as the version of the TLS protocol used for SSL communication. Only the specified version of the TLS protocol is enabled for SSL communication. You can also specify multiple versions in a space-separated list format.

Example:

In the following examples, Δ indicates a halfwidth space.

- To enable only TLSv1.2, specify the following:
`SSLProtocol Δ +TLSv1.2`
- To enable only TLSv1.3, specify the following:
`SSLProtocol Δ +TLSv1.3`
- To enable TLSv1.2 and TLSv1.3, specify the following:
`SSLProtocol Δ +TLSv1.2 Δ +TLSv1.3`

The default is `+TLSv1.2`.

To enable SSL communication, delete the hash mark (#) at the beginning of the definition line, and then edit the entry according to the TLS protocol versions to be used.

(h) List of cipher types available with TLSv1.3

Specify a list of cipher types available with TLSv1.3 in the following format: `SSLCipherSuite TLSv1.3 cipher-type-1 : cipher-type-2 : cipher-type-3...`

You can specify the following values:

- `TLS_AES_128_GCM_SHA256`
- `TLS_AES_256_GCM_SHA384`

By default, all specifiable values are specified.

To enable SSL communication, always delete the hash mark (#) at the beginning of the definition line even if you do not use TLSv1.3. If you use TLSv1.3, edit the entry according to the cipher types to be used.

(i) List of cipher types available with TLSv1.2

Specify a list of cipher types available with TLSv1.2 in the following format: `SSLCipherSuite cipher-type-1 : cipher-type-2 : cipher-type-3...`

You can specify the following values:

- `AES128-GCM-SHA256`
- `AES256-GCM-SHA384`
- `ECDHE-RSA-AES128-SHA256`
- `ECDHE-RSA-AES256-SHA384`
- `ECDHE-RSA-AES128-GCM-SHA256`
- `ECDHE-RSA-AES256-GCM-SHA384`

- ECDHE-ECDSA-AES128-SHA256
- ECDHE-ECDSA-AES256-SHA384
- ECDHE-ECDSA-AES128-GCM-SHA256
- ECDHE-ECDSA-AES256-GCM-SHA384

By default, all specifiable values are specified.

To enable SSL communication, always delete the hash mark (#) at the beginning of the definition line even if you do not use TLSv1.2. If you use TLSv1.2, edit the entry according to the cipher types to be used.

(6) Note

If a setting is invalid, the JP1/AJS3 HTTP Server service cannot start.

13.3.6 Details on the settings in the user properties file for J2EE server (usrconf.properties)

This subsection describes the details on the format of settings and the items to be set in the user properties file for J2EE server (`usrconf.properties`).

(1) File storage directory

The following shows the directory storing the `usrconf.properties` file.

```
/opt/jplajs3web/uCPSB/CC/server/usrconf/ejb/ajs3web
```

(2) File-editing procedure

The following describes the procedure for editing the `usrconf.properties` file. If you are operating in a cluster environment, follow the edit procedure to set the same definitions for the secondary node as those set for the primary node.

1. Execute the following command to stop the web application server.

```
/etc/opt/jplajs3web/jajs_web_stop -t app
```

2. Backup the `usrconf.properties` file, and store the backup file in any directory.
3. Open the `usrconf.properties` file by using a text editor such as `vi`.
4. Modify the definitions to be changed.
5. Save the file by using UTF-8 encoding.
6. Execute the following command to start the web application server.

```
/etc/opt/jplajs3web/jajs_web -t app
```

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `usrconf.properties` file:

```
(omitted)
# Internal http server settings
ejbserver.http.port=port-number-for-the-internal-management-of-J2EE-server
(omitted)
# NIO HTTP Server settings
webserver.connector.nio_http.port=port-number-to-be-used-for-the-communicati
on-between-HTTP-and-J2EE-servers
(omitted)
#ejbserver.rmi.naming.port=port-number-for-the-internal-management-of-J2EE-s
erver
(omitted)
```

Note that lines beginning with a hash mark (#) are comment lines.

(5) Setting items

The following describes the items to be set:

(a) Port numbers for the internal management of a J2EE server

Specify the port numbers for the internal management of the J2EE server. The defaults are 22255 and 23152.

When you want to change a port number from its default, change the port number so that it is appropriate to the environment. Make sure that the setting value of `ejbserver.rmi.naming.port` matches the setting value of `ejbserver.rmi.naming.port` in the system properties file for server management commands (`usrconf.properties`). For details, see [13.3.10 Details on the settings in the system properties file for server management commands \(`usrconf.properties`\)](#).

(b) Port number to be used for communication between HTTP and J2EE servers

Specify the port number of the port to be used for the communication between the HTTP and J2EE servers on the Web Console server. The default is 22254.

When you want to change the port number from the default, change the port number so that it is appropriate to the environment. Make sure that the value set for the `webserver.connector.nio_http.port` entry is the same as the value set for the `ProxyPass` and `ProxyPassReverse` entries in the HTTP server definition file (`httpsd.conf`). For details, see [13.3.5 Details on settings in the HTTP server definition file \(`httpsd.conf`\)](#).

(6) Notes

- Do not change the settings of items other than those explained herein.
- If a setting is invalid, the JP1/AJS3 Web Application Server service cannot start.

13.3.7 Details on the settings in the display color settings file (ajs3web_color.conf)

This subsection describes the details on the format of settings and the items to be set in the display color settings file (`ajs3web_color.conf`).

(1) File storage folder

The `ajs3web_color.conf` file is not created in the initial status of JP1/AJS3 - Web Console immediately after JP1/AJS3 - Web Console has been installed. While the `ajs3web_color.conf` file is not created, JP1/AJS3 - Web Console operates by using default settings.

Create the `ajs3web_color.conf` file only when you want to change settings from the default settings.

(a) Model file storage folder

The following shows the folder storing the `ajs3web_color.conf.model` file and `ajs3web_color_view.conf.model` file.

```
/etc/opt/jp1ajs3web/conf/
```

(b) ajs3web_color.conf file storage folder

The following shows the folder storing the `ajs3web_color.conf` file.

```
/etc/opt/jp1ajs3web/conf/#
```

#:

In a cluster configuration, the file name is as follows:

```
shared-directory/jp1ajs3web/conf
```

(2) File-editing procedure

The procedure to edit the `ajs3web_color.conf` file varies depending on whether you want to change the display colors or to set the same display colors as those used in JP1/AJS3 - View.

(a) Changing display colors

The following describes how to change the display colors:

1. Execute the following command to stop the HTTP and web application servers.

```
/etc/opt/jp1ajs3web/jajs_web_stop
```

2. If the `ajs3web_color.conf` file has already been defined, back up the file, and store the backup file in any directory.
3. Copy the model file (`ajs3web_color.conf.model`) into the folder storing the `ajs3web_color.conf` file, and then rename the copy of the model file to `ajs3web_color.conf`.
4. Open the `ajs3web_color.conf` file by using a text editor.
5. Modify the definitions to be changed.

6. Save the `ajs3web_color.conf` file.

7. Execute the following command to start the HTTP and web application servers.

```
/etc/opt/jplajs3web/jajs_web
```

(b) Setting the same display colors as those used in JP1/AJS3 - View

The following describes how to set the same display colors as those used in JP1/AJS3 - View:

1. Execute the following command to stop the HTTP and web application servers.

```
/etc/opt/jplajs3web/jajs_web_stop
```

2. If the `ajs3web_color.conf` file has already been defined, back up the file, and store the backup file in any directory.

3. Copy the model file (`ajs3web_color_view.conf.model`) into the folder storing the `ajs3web_color.conf` file, and then rename the copy of the model file to `ajs3web_color.conf`. The model file `ajs3web_color_view.conf.model` contains definitions of the default display colors for JP1/AJS3 - View.

4. If the display colors for JP1/AJS3 - View have been changed from the default, change the definitions in `ajs3web_color.conf`.

5. Execute the following command to start the HTTP and web application servers.

```
/etc/opt/jplajs3web/jajs_web
```

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `ajs3web_color.conf` file:

```
;The definition file that specifies the display colors that indicate the sta-  
tus of the JP1/AJS3 - Web Console  
  
;For details and notes about each item, see the applicable documentation.  
  
;Enables or disables the function to change the display colors.  
CHANGE_STATUS_COLOR=enables-or-disables-the-function-to-change-the-display-c-  
olors  
  
;Specifies whether to use display colors for the delay status.  
DISPLAY_DELAY_COLOR=specifies-whether-to-use-display-colors-for-the-delay-st-  
atus  
  
;Priority of the display colors for the delay status  
DELAY_COLOR_PRIORITY=priority-of-the-display-colors-for-the-delay-status  
  
;Specifies whether to use display colors to indicate hold plans.  
DISPLAY_HOLD_PLAN_COLOR=specifies-whether-to-use-display-colors-to-indicate-
```

hold-plans

;Only units for which the hold attribute has been changed are handled as units with a hold plan.

DISPLAY_HOLD_ATTRIBUTE_CHANGE_ONLY=only-units-for-which-the-hold-attribute-has-been-changed-are-handled-as-units-with-a-hold-plan

;The display color for Ended abnormally in the Status of Root Jobnet area on the Dashboard screen

STATUS_COLOR_DASHBOARD_ABNORMAL=display-color-for-Ended-abnormally-in-the-Status-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Ended with warning in the Status of Root Jobnet area on the Dashboard screen

STATUS_COLOR_DASHBOARD_WARNING=display-color-for-Ended-with-warning-in-the-Status-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Ended normally in the Status of Root Jobnet area on the Dashboard screen

STATUS_COLOR_DASHBOARD_NORMAL=display-color-for-Ended-normally-in-the-Status-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Now running in the Status of Root Jobnet area on the Dashboard screen

STATUS_COLOR_DASHBOARD_RUNNING=display-color-for-Now-running-in-the-Status-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Being held in the Status of Root Jobnet area on the Dashboard screen

STATUS_COLOR_DASHBOARD_HOLDING=display-color-for-Being-held-in-the-Status-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for Waiting to start in the Status of Root Jobnet area on the Dashboard screen

STATUS_COLOR_DASHBOARD_START_WAIT=display-color-for-Waiting-to-start-in-the-Status-of-Root-Jobnet-area-on-the-Dashboard-screen

;The display color for the Not registered status

STATUS_COLOR_NO_ENTRY=display-color-for-the-Not-registered-status

;The display color for the Wait for start time status

STATUS_COLOR_TIME_WAIT=display-color-for-the-Wait-for-start-time-status

;The display color for the Wait for prev. to end status

STATUS_COLOR_TERM_WAIT=display-color-for-the-Wait-for-prev.-to-end-status

;The display color for the Hold plan status

STATUS_COLOR_HOLD_PLAN=display-color-for-the-Hold-plan-status

;The display color for the Being held status

STATUS_COLOR_HOLDING=display-color-for-the-Being-held-status

;The display color for the Waiting to execute status

STATUS_COLOR_EXEC_WAIT=display-color-for-the-Waiting-to-execute-status

;The display color for the Not sched. to exe. status

STATUS_COLOR_NO_PLAN=display-color-for-the-Not-sched.-to-exe.-status

```

;The display color for the Now queuing status
STATUS_COLOR_QUEUING=display-color-for-the-Now-queuing-status

;The display color for the Now running status
STATUS_COLOR_RUNNING=display-color-for-the-Now-running-status

;The display color for the Running + Warning status
STATUS_COLOR_WACONT=display-color-for-the-Running+Warning-status

;The display color for the Running + Abend status
STATUS_COLOR_ABCONT=display-color-for-the-Running+Abend-status

;The display color for the Ended normally status
STATUS_COLOR_NORMAL=display-color-for-the-Ended-normally-status

;The display color for the Ended with warning status
STATUS_COLOR_WARNING=display-color-for-the-Ended-with-warning-status

;The display color for the Ended abnormally status
STATUS_COLOR_ABNORMAL=display-color-for-the-Ended-abnormally-status

;The display color for the Bypassed status
STATUS_COLOR_BYPASS=display-color-for-the-Bypassed-status

;The display color for the Not executed + Ended (not scheduled) status
STATUS_COLOR_UNEXEC=display-color-for-the-Not-executed+-Ended-(not-schedule
d)-status

;The display color for the Not executed + Ended (scheduled) status
STATUS_COLOR_UNEXEC_YES=display-color-for-the-Not-executed+Ended-(schedule
d)-status

;The display color for the Interrupted status
STATUS_COLOR_INTERRUPT=display-color-for-the-Interrupted-status

;The display color for the Killed status
STATUS_COLOR_KILL=display-color-for-the-Killed-status

;The display color for the Invalid exe. seq. status
STATUS_COLOR_INVALID_SEQ=display-color-for-the-Invalid-exe.-seq.-status

;The display color for the Skipped so not exe. (not scheduled) status
STATUS_COLOR_EXEC_DEFFER=display-color-for-the-Skipped-so-not-exe.- (not-sche
duled)-status

;The display color for the Skipped so not exe. (scheduled) status
STATUS_COLOR_EXEC_DEFFER_YES=display-color-for-the-Skipped-so-not-exe.- (sche
duled)-status

;The display color for the Failed to start status
STATUS_COLOR_FAIL=display-color-for-the-Failed-to-start-status

;The display color for the Unknown end status status
STATUS_COLOR_UNKNOWN=display-color-for-the-Unknown-end-status-status

;The display color for the Shutdown status
STATUS_COLOR_SHUTDOWN=display-color-for-the-Shutdown-status

```

```

;The display color for the Now monitoring status
STATUS_COLOR_MONITORING=display-color-for-the-Now-monitoring-status

;The display color for the Wait for start cond. status
STATUS_COLOR_CONDITION_WAIT=display-color-for-the-Wait-for-start-cond.-status

;The display color for the Unmonitored + Ended status
STATUS_COLOR_UNEXEC_MONITOR=display-color-for-the-Unmonitored+Ended-status

;The display color for the Monitor-end normal status
STATUS_COLOR_MONITOR_NORMAL=display-color-for-the-Monitor-end-normal-status

;The display color for the Monitor terminated status
STATUS_COLOR_MONITOR_CLOSE=display-color-for-the-Monitor-terminated-status

;The display color for the Interrupted monitoring status
STATUS_COLOR_MONITOR_INTRPT=display-color-for-the-Interrupted-monitoring-status

;The display color for the Normal end + False status
STATUS_COLOR_NORMAL_FALSE=display-color-for-the-Normal-end+False-status

;The display color for the Start delay status
STATUS_COLOR_START_DELAY=display-color-for-the-Start-delay-status

;The display color for the Start delay + Running status
STATUS_COLOR_START_DELAY_RUNNING=display-color-for-the-Start-delay+Running-status

;The display color for the End delay status
STATUS_COLOR_END_DELAY=display-color-for-the-End-delay-status

;The display color for the End delay + Running status
STATUS_COLOR_END_DELAY_RUNNING=display-color-for-the-End-delay+Running-status

```

Note that lines beginning with a semicolon (;) are comment lines.

(5) Setting items

The following describes the items to be set.

(a) CHANGE_STATUS_COLOR

Specify whether to enable the function to change the display colors used for the Web GUI (Job Portal).

Specifiable values

yes

The function to change display colors is enabled.

no

The function to change display colors is disabled.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

(b) DISPLAY_DELAY_COLOR

Specify whether to display the icon and the status/result color image for a unit in the color that indicates a delay when the unit is in delayed status. This specification applies to the windows[#] and dialog boxes of the Web GUI (Job Portal).

#:

This specification does not apply to the **Status of Root Jobnet** area on the Dashboard screen.

Specifiable values

yes

The display color of the icon and color image is determined based on whether the unit is in the delayed status and according to the setting of the `DELAY_COLOR_PRIORITY` parameter.

no

The icon and status/result color image are not displayed in the color that indicates a delay.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes:

- The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter.
- If both the *Hold plan* and *Delayed* statuses are concurrently detected for the execution generation to be displayed, priority is given to the display color for the *Delayed* status.

(c) DELAY_COLOR_PRIORITY

Specify the priority of the display of the icon and status/result color image for a unit in the color that indicates the delayed status in the windows[#] and dialog boxes of the Web GUI (Job Portal). The specified priority applies when the unit status of *abend*, *warning* or *delay* occurs concurrently.

#:

This specification does not apply to the **Status of Root Jobnet** area on the Dashboard screen.

Specifiable values

A-W-D

The order of priority of display colors is as follows: *Abend*, *Warning*, and *Delay*. Specify this value when you want the display color (of the icon and status/result color image) for *Delay* to have lower priority than the display colors for *Abend* and *Warning*.

A-D-W

The order of priority of display colors is as follows: *Abend*, *Delay*, and *Warning*. Specify this value when you want the display color (of the icon and status/result color image) for *Delay* to have lower priority than the display color for *Abend* but higher priority than the display color for *Warning*.

D-A-W

The order of priority of display colors is as follows: *Delay*, *Abend*, and *Warning*. Specify this value when you want the display color (of the icon and status/result color image) for *Delay* to have higher priority than the display colors for *Abend* and *Warning*.

Default value

A-W-D

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter.

(d) DISPLAY_HOLD_PLAN_COLOR

Specify whether to display the icon and status/result color image of a unit in the color of *Hold plan* when the unit is in a wait status and its hold attribute has been set. Wait statuses include `Wait for start time`, `Wait for prev. to end`, `Waiting to execute`, and `Wait for start cond.`. This specification applies to the windows[#] and dialog boxes of the Web GUI (Job Portal).

#:

This specification does not apply to the **Status of Root Jobnet** area on the Dashboard screen.

Specifiable values

`yes`

The icon and status/result color image are displayed in the color of *Hold plan* when the hold attribute is set for the unit.

`no`

The icon and status/result color image are not displayed in the color of *Hold plan*.

Default value

`no`

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter.
- To ensure that the displayed hold plan matches the status transitions when the unit is executed, specify `yes` for the `UNITDEFINERELOAD` environment setting parameter in the connection-destination JP1/AJS3 - Manager.
- If you want to display the hold plan for the pseudo-schedule on the Monthly Schedule screen as well, specify `no` for the `DISPLAY_HOLD_ATTRIBUTE_CHANGE_ONLY` parameter.
- If both *Hold plan* and *Delayed* statuses are concurrently detected for the execution generation to be displayed, priority is given to the display color for the *Delayed* status.

(e) DISPLAY_HOLD_ATTRIBUTE_CHANGE_ONLY

Specify whether to treat only the changes to the hold attribute as the hold plan, when the icon and status/result color image are displayed in the color of *Hold plan* in the windows[#] and dialog boxes of the Web GUI (Job Portal).

#:

This specification does not apply to the **Status of Root Jobnet** area on the Dashboard screen.

Specifiable values

yes

Only the generations whose hold attributes were changed are displayed. The hold settings in the detailed definition of the unit are not displayed.

no

The generations whose hold attributes were changed and generations for which hold is set in the detailed definition of the unit are displayed.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

Cautionary note

The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter and `DISPLAY_HOLD_PLAN_COLOR` parameter.

(f) Specifying display colors for the windows and dialog boxes of the Web GUI (Job Portal)

Specify the colors that indicate unit statuses in the windows and dialog boxes of the Web GUI (Job Portal). The following table lists the parameters and corresponding display colors.

Table 13–8: Parameters for specifying display colors for the windows and dialog boxes of the Web GUI (Job Portal)

No.	Parameter name	Corresponding display color	Display color used when no value is set (default color)
1	<code>STATUS_COLOR_DASHBOARD_ABNORMAL</code>	The display color for Ended abnormally in the Status of Root Jobnet area on the Dashboard screen.	Dark red (<code>dark red</code>)
2	<code>STATUS_COLOR_DASHBOARD_WARNING</code>	The display color for Ended with warning in the Status of Root Jobnet area on the Dashboard screen.	Light orange (<code>light orange</code>)
3	<code>STATUS_COLOR_DASHBOARD_NORMAL</code>	The display color for Ended normally in the Status of Root Jobnet area on the Dashboard screen.	Light green (<code>light green</code>)
4	<code>STATUS_COLOR_DASHBOARD_RUNNING</code>	The display color for Now running in the Status of Root Jobnet area on the Dashboard screen.	Blue green (<code>blue green</code>)
5	<code>STATUS_COLOR_DASHBOARD_HOLDING</code>	The display color for Being held in the Status of Root Jobnet area on the Dashboard screen.	Yellow (<code>yellow</code>)
6	<code>STATUS_COLOR_DASHBOARD_START_WAIT</code>	The display color for Waiting to start in the Status of Root Jobnet area on the Dashboard screen.	Light blue (<code>light blue</code>)
7	<code>STATUS_COLOR_NO_ENTRY</code>	The display color for the Not registered status.	None (<code>none</code>)
8	<code>STATUS_COLOR_TIME_WAIT</code>	The display color for the Wait for start time status.	Light blue (<code>light blue</code>)
9	<code>STATUS_COLOR_TERM_WAIT</code>	The display color for the Wait for prev. to end status.	Light blue (<code>light blue</code>)

No.	Parameter name	Corresponding display color	Display color used when no value is set (default color)
10	STATUS_COLOR_HOLD_PLAN#1	The display color for the Hold plan status.	Yellow (yellow)
11	STATUS_COLOR_HOLDING	The display color for the Being held status.	Yellow (yellow)
12	STATUS_COLOR_EXEC_WAIT	The display color for the Waiting to execute status.	Light blue (light blue)
13	STATUS_COLOR_NO_PLAN	The display color for the Not sched. to exe. status.	Light gray (light gray)
14	STATUS_COLOR_QUEUING	The display color for the Now queuing status.	Light blue (light blue)
15	STATUS_COLOR_RUNNING	The display color for the Now running status.	Blue green (blue green)
16	STATUS_COLOR_WACONT	The display color for the Running + Warning status.	Orange (orange)
17	STATUS_COLOR_ABCONT	The display color for the Running + Abend status.	Dark red (dark red)
18	STATUS_COLOR_NORMAL	The display color for the Ended normally status.	Light green (light green)
19	STATUS_COLOR_WARNING	The display color for the Ended with warning status.	Light orange (light orange)
20	STATUS_COLOR_ABNORMAL	The display color for the Ended abnormally status.	Light red (light red)
21	STATUS_COLOR_BYPASS	The display color for the Bypassed status.	Gray (gray)
22	STATUS_COLOR_UNEXEC	The display color for the Not executed + Ended (not scheduled) status.	Gray (gray)
23	STATUS_COLOR_UNEXEC_YES	The display color for the Not executed + Ended (scheduled) status.	Gray (gray)
24	STATUS_COLOR_INTERRUPT	The display color for the Interrupted status.	Light red (light red)
25	STATUS_COLOR_KILL	The display color for the Killed status.	Light red (light red)
26	STATUS_COLOR_INVALID_SEQ	The display color for the Invalid exe. seq. status.	Light red (light red)
27	STATUS_COLOR_EXEC_DEFFER	The display color for the Skipped so not exe. (not scheduled) status.	Gray (gray)
28	STATUS_COLOR_EXEC_DEFFER_YES	The display color for the Skipped so not exe. (scheduled) status.	Gray (gray)
29	STATUS_COLOR_FAIL	The display color for the Failed to start status.	Light red (light red)
30	STATUS_COLOR_UNKNOWN	The display color for the Unknown end status status.	Light red (light red)
31	STATUS_COLOR_SHUTDOWN	The display color for the Shutdown status.	Brown (brown)
32	STATUS_COLOR_MONITORING	The display color for the Now monitoring status.	Blue green (blue green)
33	STATUS_COLOR_CONDITION_WAIT	The display color for the Wait for start cond. status.	Light blue (light blue)
34	STATUS_COLOR_UNEXEC_MONITOR	The display color for the Unmonitored + Ended status.	Light green (light green)

No.	Parameter name	Corresponding display color	Display color used when no value is set (default color)
35	STATUS_COLOR_MONITOR_NORMAL	The display color for the Monitor-end normal status.	Light green (light green)
36	STATUS_COLOR_MONITOR_CLOSE	The display color for the Monitor terminated status.	Light red (light red)
37	STATUS_COLOR_MONITOR_INTRPT	The display color for the Interrupted monitoring status.	Light green (light green)
38	STATUS_COLOR_NORMAL_FALSE	The display color for the Normal end + False status.	Light green (light green)
39	STATUS_COLOR_START_DELAY#2	The display color for the Start delay status#3.	Pink (pink)
40	STATUS_COLOR_START_DELAY_RUNNING#2	The display color for the Start delay + Running status#3.	Dark pink (dark pink)
41	STATUS_COLOR_END_DELAY#2	The display color for the End delay status#3.	Cherry blossom (cherry blossom)
42	STATUS_COLOR_END_DELAY_RUNNING#2	The display color for the End delay + Running status#3.	Light pink (light pink)

#1:

The setting of this parameter is valid only when `yes` is specified in the `DISPLAY_HOLD_PLAN_COLOR` parameter.

#2:

The setting of this parameter is valid only when `yes` is specified in the `DISPLAY_DELAY_COLOR` parameter.

#3:

Running statuses of a unit include *Now running*, *Running + Warning*, *Running + Abend*, and *Now monitoring*. Any status other than these is a non-running status of a unit.

For details about the windows and dialog boxes of the Web GUI (Job Portal) for which display colors can be changed by individual parameters, see *Targets for which display colors can be changed by using parameters*.

The following describes the parameter settings:

Specifiable values

parameter=display-color

The display color can be specified in the following two ways:

- Character string
Specify a color by using a character string. For a list of the character strings that can be specified, see *List of the character strings representing colors*. If the list does not include the color you want to specify, specify the color by its RGB value.
- RGB value
Specify a color by its RGB in the *R,G,B* format. A number in the range from 0 to 255 can be specified for each of *R*, *G*, and *B*. For details about RGB values, see *Specifying colors by their RGB values*.

Default value

For details, see *Table 13-8 Parameters for specifying display colors for the windows and dialog boxes of the Web GUI (Job Portal)*.

Recommended value

Set the value appropriate for the operating environment.

Cautionary notes

- The setting of this parameter is valid only when `yes` is specified in the `CHANGE_STATUS_COLOR` parameter.
- When specifying an RGB value, do not include halfwidth spaces before or after each comma (,). If you include a halfwidth space, the value specified for the setting becomes invalid.

■ Targets for which display colors can be changed by using parameters

The following table lists the windows and dialog boxes of the Web GUI (Job Portal) for which display colors can be changed by using parameters. For details about screens and dialog boxes, see *15.2 Screens and Dialog Boxes of the Job Portal* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

Table 13–9: Windows and dialog boxes of the Web GUI (Job Portal) for which display colors can be changed by using parameters

Parameter name	Dashboard screen		List screen		Monitor dialog box, Monitor screen		Generation Selection dialog box (icon in the <i>Status</i> column)	Monthly Schedule screen		
	Status of Root Jobnet area (icon and execution progress)	Detail Information area (icon and execution on schedule)	List area (icon in the <i>Status</i> column)	List area (icon in the <i>Result</i> column)	Map area (Icon)	Top of screen and dialog box (button icons)		Schedule area (execution on schedule)	List area (icon)	Top of screen (button icons)
<code>STATUS_COLOR_DASHBOARD_ABNORMAL</code>	Y#1, #2	--	--	--	--	--	--	--	--	--
<code>STATUS_COLOR_DASHBOARD_WARNING</code>	Y#1, #2	--	--	--	--	--	--	--	--	--
<code>STATUS_COLOR_DASHBOARD_NORMAL</code>	Y#1, #2	--	--	--	--	--	--	--	--	--
<code>STATUS_COLOR_DASHBOARD_RUNNING</code>	Y#1, #2	--	--	--	--	--	--	--	--	--
<code>STATUS_COLOR_DASHBOARD_HOLDING</code>	Y#1, #2	--	--	--	--	--	--	--	--	--
<code>STATUS_COLOR_DASHBOARD_START_WAIT</code>	Y#1, #2	--	--	--	--	--	--	--	--	--
<code>STATUS_COLOR_NO_ENTRY</code>	--	--	Y	--	--	--	--	Y	--	--
<code>STATUS_COLOR_TIME_WAIT</code>	--	Y	Y	--	Y	--	Y	Y	Y	--
<code>STATUS_COLOR_TERM_WAIT</code>	--	Y	--	--	Y	--	--	Y	Y	--
<code>STATUS_COLOR_HOLD_PLAN</code>	--	Y	Y	--	Y	--	Y	Y	Y	--

Parameter name	Dashboard screen		List screen		Monitor dialog box, Monitor screen		Generation Selection dialog box (icon in the <i>Status</i> column)	Monthly Schedule screen		
	Status of Root Jobnet area (icon and execution progress)	Detail Information area (icon and execution on schedule)	List area (icon in the <i>Status</i> column)	List area (icon in the <i>Result</i> column)	Map area (Icon)	Top of screen and dialog box (button icons)		Schedule area (execution on schedule)	List area (icon)	Top of screen (button icons)
STATUS_COLOR_HOLDING	--	Y	Y	--	Y	Y#3	Y	Y	Y	Y#3
STATUS_COLOR_EXEC_WAIT	--	Y	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_NO_PLAN	--	--	Y	--	Y	--	--	--	--	--
STATUS_COLOR_QUEUING	--	Y	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_RUNNING	--	Y	Y	--	Y	Y#4	Y	Y	Y	--
STATUS_COLOR_WACONT	Y#2, #5	Y	Y	--	Y	--	Y	Y	Y	--
STATUS_COLOR_ABCONT	Y#2, #5	Y	Y	--	Y	--	Y	Y	Y	--
STATUS_COLOR_NORMAL	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_WARNING	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_ABNORMAL	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_BYPASS	--	--	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_UNEXEC	--	--	--	--	Y	--	--	--	--	--
STATUS_COLOR_UNEXEC_YES	--	--	--	--	Y	--	--	--	--	--
STATUS_COLOR_INTERRUPT	--	Y	C	Y	Y	Y#6	Y	Y	Y	--
STATUS_COLOR_KILL	--	Y	C	Y	Y	Y#7	Y	Y	Y	--
STATUS_COLOR_INVALID_SEQ	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_EXEC_DEFFER	--	--	--	--	Y	--	--	Y	Y	--

Parameter name	Dashboard screen		List screen		Monitor dialog box, Monitor screen		Generation Selection dialog box (icon in the <i>Status</i> column)	Monthly Schedule screen		
	Status of Root Jobnet area (icon and execution progress)	Detail Information area (icon and execution on schedule)	List area (icon in the <i>Status</i> column)	List area (icon in the <i>Result</i> column)	Map area (Icon)	Top of screen and dialog box (button icons)		Schedule area (execution on schedule)	List area (icon)	Top of screen (button icons)
STATUS_COLOR_EXEC_DEFFER_YES	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_FAIL	--	Y	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_UNKNOWN	--	--	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_SHUTDOWN	--	--	Y	--	Y	--	--	--	--	--
STATUS_COLOR_MONITORING	--	Y	Y	--	--	--	Y	Y	Y	--
STATUS_COLOR_CONDITION_WAIT	--	Y	Y	--	--	--	Y	Y	Y	--
STATUS_COLOR_UNEXEC_MONITOR	--	Y	C	Y	--	--	Y	Y	Y	--
STATUS_COLOR_MONITOR_NORMAL	--	Y	C	Y	--	--	Y	Y	Y	--
STATUS_COLOR_MONITOR_CLOSE	--	Y	C	Y	--	--	Y	Y	Y	--
STATUS_COLOR_MONITOR_INTERRUPT	--	Y	C	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_NORMAL_FALSE	--	Y	--	--	Y	--	--	Y	Y	--
STATUS_COLOR_START_DELAY	--	Y	Y	Y	Y	--	Y	Y	Y	--
STATUS_COLOR_START_DELAY_RUNNING	--	Y	Y	--	Y	--	Y	Y	Y	--
STATUS_COLOR_END_DELAY	--	Y	Y	Y	Y	--	Y	Y	Y	--

Parameter name	Dashboard screen		List screen		Monitor dialog box, Monitor screen		Generation Selection dialog box (icon in the <i>Status</i> column)	Monthly Schedule screen		
	Status of Root Jobnet area (icon and execution progress)	Detail Information area (icon and execution on schedule)	List area (icon in the <i>Status</i> column)	List area (icon in the <i>Result</i> column)	Map area (Icon)	Top of screen and dialog box (button icons)		Schedule area (execution on schedule)	List area (icon)	Top of screen (button icons)
STATUS_COLOR_END_DELAY_RUNNING	--	Y	Y	--	Y	--	Y	Y	Y	--

Legend:

Y: Display colors can be changed by using parameters.

C: Display colors can be changed by using parameters only if `today` is specified for the `VIEWSTATUSRANGE` environment setting parameter in JP1/AJS3 - Manager.

--: Display colors cannot be changed by using parameters.

#1:

The display color cannot be changed for the icon displayed on the right or left under the icon for the *Now running* status.

#2:

This setting also applies to the status icon that appears when the monitoring target is collapsed.

#3:

The display color can be changed only for the icons for the **Hold-On** button and the **Hold-Off** button.

#4:

The display color can be changed only for the icon for the **Rerun** button.

#5:

The display color can be changed only for the icon displayed on the right or left under the icon for the *Now running* status.

#6:

The display color can be changed only for the icon for the **Interrupt** button.

#7:

The display color can be changed only for the icon for the **Kill** button.

■ **List of the character strings representing colors**

The following table lists the character strings that represent colors.

Table 13–10: Character strings representing colors

No.	Color	Character string to be specified in the parameter
1	Blue green	blue green
2	Brown	brown
3	Cherry blossom	cherry blossom

No.	Color	Character string to be specified in the parameter
4	Dark pink	dark pink
5	Dark red	dark red
6	Gray	gray
7	Light blue	light blue
8	Light gray	light gray
9	Light green	light green
10	Light orange	light orange
11	Light pink	light pink
12	Light red	light red
13	Orange	orange
14	Pink	pink
15	Yellow	yellow
16	None [#]	none

#:

The icon becomes transparent.

■ Specifying colors by their RGB values

RGB values are used to specify colors. Red, green and blue are specified with values between 0 and 255. One color is specified with a combination of three values.

The following table lists examples of RGB value specifications:

Table 13–11: Example RGB values

No.	Color	RGB value
1	White	255,255,255
2	Yellow	255,255,0
3	Light gray	192,192,192
4	Sky blue	0,255,255
5	Yellow green	0,255,0
6	Gray	128,128,128
7	Dark yellow	128,128,0
8	Dark pink	255,0,255
9	Blue green	0,128,128
10	Red	255,0,0
11	Green	0,128,0
12	Purple	128,0,128
13	Brown	128,0,0

No.	Color	RGB value
14	Blue	0,0,255
15	Dark blue	0,0,128
16	Black	0,0,0

The table lists only example RGB values. You can use a wide range of colors within the range that can be specified with RGB values.

(6) Examples

The following shows an example of definitions in the `ajs3web_color.conf` file:

```
CHANGE_STATUS_COLOR=yes
DISPLAY_DELAY_COLOR=yes
DELAY_COLOR_PRIORITY=A-W-D
DISPLAY_HOLD_PLAN_COLOR=yes
DISPLAY_HOLD_ATTRIBUTE_CHANGE_ONLY=no
STATUS_COLOR_DASHBOARD_ABNORMAL=dark red
STATUS_COLOR_DASHBOARD_WARNING=light orange
STATUS_COLOR_DASHBOARD_NORMAL=light green
STATUS_COLOR_DASHBOARD_RUNNING=blue green
STATUS_COLOR_DASHBOARD_HOLDING=yellow
STATUS_COLOR_DASHBOARD_START_WAIT=light blue
STATUS_COLOR_NO_ENTRY=none
STATUS_COLOR_TIME_WAIT=light blue
STATUS_COLOR_TERM_WAIT=light blue
STATUS_COLOR_HOLD_PLAN=yellow
STATUS_COLOR_HOLDING=yellow
STATUS_COLOR_EXEC_WAIT=light blue
STATUS_COLOR_NO_PLAN=light gray
STATUS_COLOR_QUEUING=light blue
STATUS_COLOR_RUNNING=blue green
STATUS_COLOR_WACONT=orange
STATUS_COLOR_ABCONT=dark red
STATUS_COLOR_NORMAL=light green
STATUS_COLOR_WARNING=light orange
STATUS_COLOR_ABNORMAL=light red
STATUS_COLOR_BYPASS=gray
STATUS_COLOR_UNEXEC=gray
STATUS_COLOR_UNEXEC_YES=gray
STATUS_COLOR_INTERRUPT=light red
STATUS_COLOR_KILL=light red
STATUS_COLOR_INVALID_SEQ=light red
STATUS_COLOR_EXEC_DEFFER=gray
STATUS_COLOR_EXEC_DEFFER_YES=gray
STATUS_COLOR_FAIL=light red
STATUS_COLOR_UNKNOWN=light red
STATUS_COLOR_SHUTDOWN=brown
STATUS_COLOR_MONITORING=blue green
STATUS_COLOR_CONDITION_WAIT=light blue
STATUS_COLOR_UNEXEC_MONITOR=light green
STATUS_COLOR_MONITOR_NORMAL=light green
STATUS_COLOR_MONITOR_CLOSE=light red
STATUS_COLOR_MONITOR_INTRPT=light green
STATUS_COLOR_NORMAL_FALSE=light green
```



```
STATUS_COLOR_START_DELAY=pink
STATUS_COLOR_START_DELAY_RUNNING=dark pink
STATUS_COLOR_END_DELAY=cherry blossom
STATUS_COLOR_END_DELAY_RUNNING=light pink
```

(7) Notes

- Do not insert a space before or after the equal sign in a definition line.
- Do not enter a linefeed in the middle of a definition line.
- If you specify a value for an item that cannot be set, the line including the item will be ignored.
- If an item to be set is not found, the default specification for that item is assumed for operation.
- If an item to be set is invalid, the default specification for that item is assumed for operation.
- The definition keys of setting items are not case sensitive, but set values are case sensitive.
- If a setting item is defined on multiple lines, only the first line defining the setting item takes effect, and subsequent lines defining the same setting item are ignored. In such a case, if the setting item definition in the first line is invalid, the default is assumed for operation.
- Changes made to display colors apply to all users.

13.3.8 Details on the settings in the option definition file for J2EE server (usrconf.cfg)

This subsection describes the details on the format of settings and the items to be set in the option definition file for J2EE server (`usrconf.cfg`).

(1) File storage directory

The following shows the folder storing the `usrconf.cfg` file.

```
/opt/jplajs3web/uCPSB/CC/server/usrconf/ejb/ajs3web
```

(2) File-editing procedure

The following describes the procedure for editing the `usrconf.cfg` file. If you are operating in a cluster environment, follow the edit procedure to set the same definitions for the secondary node as those set for the primary node.

1. Execute the following command to stop the JP1/AJS3 Web Application Server service.

```
/etc/opt/jplajs3web/jajs_web_stop -t app
```

2. Back up the `usrconf.cfg` file, and store the backup file in any directory.
3. Open the `usrconf.cfg` file by using a text editor.
4. Modify the definitions to be changed.
5. Save the `usrconf.cfg` file by using UTF-8 encoding.
6. Execute the following command to start the JP1/AJS3 Web Application Server service.

```
/etc/opt/jplajs3web/jajs_web -t app
```

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `usrconf.cfg` file:

```
(omitted)
# java vm options
#add.jvm.arg=-Xms256m
add.jvm.arg=-Xmx maximum-memory-size-available-for-the-J2EE-server
(omitted)
```

Note that lines beginning with a hash mark (#) are comment lines.

(5) Setting items

The following describes the items to be set:

(a) The maximum size of Java heap available to applications on the Web Console server

Specify the maximum size of the Java heap available to applications on the Web Console server.

Specifiable values

512 to 5120(units:megabytes)

Default value

2048(units:megabytes)

Recommended value

Default value

Always end the specified size value with the character "m".

If you change the maximum size from the default, specify a maximum size appropriate for system operation. For the memory requirements, see the *Release Notes*.

(6) Examples

The following shows an example of definitions in the `usrconf.cfg` file:

```
(omitted)
# java vm options
#add.jvm.arg=-Xms256m
add.jvm.arg=-Xmx512m
(omitted)
```

(7) Notes

- Do not change the settings of items other than those explained herein.
- If a setting is invalid, the JP1/AJS3 Web Application Server service cannot start.
A setting is invalid in the following circumstances:
 - If the value specified as the maximum Java heap size is in the wrong format (character or symbol)
 - If a value other than a natural number is specified as the maximum Java heap size, such as a negative value or decimal
- If you specify the same setting multiple times as follows, the largest value takes effect:
Example:
`add.jvm.arg=-Xmx512m`
`add.jvm.arg=-Xmx1024m`
- Do not specify a maximum Java heap size that is larger than the physical memory size. If you specify a value larger than the physical memory size, the JP1/AJS3 Web Application Server service might not start.

13.3.9 Web browser settings

For details about how to set up the web browser to use the Web GUI, see [3.4.9 Web browser settings](#).

13.3.10 Details on the settings in the system properties file for server management commands (usrconf.properties)

This subsection describes the details on the format of settings and the items to be set in the system properties file for server management commands (`usrconf.properties`).

(1) File storage directory

The following shows the directory storing the `usrconf.properties` file.

```
/opt/jplajs3web/uCPSB/CC/admin/usrconf
```

(2) File-editing procedure

The following describes the procedure for editing the `usrconf.properties` file. If you are operating in a cluster environment, follow the edit procedure to set the same definitions for the secondary node as those set for the primary node.

1. Execute the following command to stop the web application server.

```
/etc/opt/jplajs3web/jajs_web_stop -t app
```

2. Backup the `usrconf.properties` file, and store the backup file in any directory.
3. Open the `usrconf.properties` file by using a text editor such as `vi`.
4. Modify the definitions to be changed.

5. Save the file by using UTF-8 encoding.
6. Execute the following command to start the web application server.

```
/etc/opt/jplajs3web/jajs_web -t app
```

(3) When the setting takes effect

When the JP1/AJS3 Web Application Server service starts

(4) Format

The following shows the format of settings in the `usrconf.properties` file:

```
(omitted)
ejbserver.rmi.naming.port=port-number-for-the-internal-management-of-J2EE-se
rver
```

(5) Setting items

The following describes the items to be set:

(a) Port numbers for the internal management of a J2EE server

Specify the port numbers for the internal management of the J2EE server. By default, no setting items are specified. If no setting item is specified, the default 23152 is used.

When you want to change a port number from its default, change the port number so that it is appropriate to the environment. Make sure that the setting value of `ejbserver.rmi.naming.port` matches the setting value of `ejbserver.rmi.naming.port` in the user properties file for J2EE server (`usrconf.properties`). For details, see [13.3.6 Details on the settings in the user properties file for J2EE server \(usrconf.properties\)](#).

(6) Notes

- Do not change the settings of items other than those explained herein.
- If a setting is invalid, the JP1/AJS3 Web Application Server service cannot start.

13.3.11 Setup required to upgrade the version of JP1/AJS3 - Web Console

If you perform upgrade installation of JP1/AJS3 - Web Console to upgrade it from a version earlier than 13-00 to 13-00 or a later version, the settings in the settings files on the Web Console server are reset to the default values. Therefore, if the settings of the setup items listed in the following table were changed in a version earlier than 13-00, you must manually respecify the settings after installing JP1/AJS3 - Web Console. Note that the files that were used in a version earlier than 13-00 are backed up to the `/var/opt/jplajs3web/sys/bk` directory.

The following table lists the setup items that you must respecify after upgrading the version of JP1/AJS3 - Web Console.

Table 13–12: Setup items you must respecify after upgrading the version

No.	Setup item	Settings files		Reference
		Earlier than version 13-00	Version 13-00 and later	
1	The host name of the Web Console server was changed	HTTP server definition file (<code>httpsd.conf</code>)		(1)
2	SSL communication was enabled	HTTP server definition file (<code>httpsd.conf</code>)		(2)
3	The number of the port used to accept connection requests from web browsers was changed (if SSL communication is not used)	HTTP server definition file (<code>httpsd.conf</code>)		(3)
4	The number of the port used for internal management of the J2EE server was changed	User properties file for J2EE server (<code>usrconf.properties</code>)		(4)
5	The number of the port used for communication between the HTTP and J2EE servers was changed	<ul style="list-style-type: none"> Worker definition file (<code>workers.properties</code>) User properties file for J2EE server (<code>usrconf.properties</code>) 	<ul style="list-style-type: none"> HTTP server definition file (<code>httpsd.conf</code>) User properties file for J2EE server (<code>usrconf.properties</code>) 	(5)
6	The maximum Java heap size was changed	Option definition file for J2EE server (<code>usrconf.cfg</code>)		(6)

(1) The host name of the Web Console server was changed

If the host name of the Web Console server was changed, then you must respecify the settings in the HTTP server definition file (`httpsd.conf`).

For details about the HTTP server definition file (`httpsd.conf`), see [13.3.5 Details on settings in the HTTP server definition file \(`httpsd.conf`\)](#).

The following table lists the settings that you must respecify.

Table 13–13: Settings you must respecify if the host name of the Web Console server was changed

No.	Setting items	Description
1	<code>ServerName</code> <i>host-name-of-Web-Console-server</i>	For <i>host-name-of-Web-Console-server</i> , set the value that was set before the version was upgraded.
2	<code># ServerName</code> <i>host-name-of-Web-Console-server</i>	You must respecify this item if SSL communication was enabled. Uncomment the line of the <code><VirtualHost></code> entry, and then, for <i>host-name-of-Web-Console-server</i> , set the value that was set before the version was upgraded.

(2) SSL communication was enabled

If SSL communication was enabled, then you must respecify the settings in the HTTP server definition file (`httpsd.conf`).

For details about the HTTP server definition file (`httpsd.conf`), see [13.3.5 Details on settings in the HTTP server definition file \(`httpsd.conf`\)](#).

The following table lists the settings that you must respecify.

Table 13–14: Settings you must respecify if SSL communication was enabled

No.	Setting items	Description
1	<code>#LogFormat "%t %{version}c %{cipher}c %{clientcert}c" hws_ssl</code>	Uncomment the line.
2	<code>#CustomLog " /opt/jplajs3web/ uCPSB/httpsd/sbin/rotatelogs2 /opt/ jplajs3web/uCPSB/httpsd/logs/ssl 10240 8" hws_ssl</code>	Uncomment the line.
3	<code>Listen port-number-for-the-reception-of-connection- requests-from-web-browser</code>	Comment out the line by adding a hash mark (#) at the beginning of the line.
4	<code>#Listen port-number-for-the-reception-of-connection- requests-from-web-browser-during-SSL-communication</code>	Uncomment the line, and then, for <i>port-number-for-the-reception-of-connection-requests-from-web-browser-during-SSL-communication</i> , set the value that was set before the version was upgraded.
5	<code>#<VirtualHost *:port-number-for-the-reception-of-connection-requests- from-web-browser-during-SSL-communication> #</VirtualHost></code>	Uncomment this and subsequent lines up to the end-tag line, and then respecify the settings of the lines as follows.
6	<code>#<VirtualHost *:port-number-for-the- reception-of-connection-requests-from-web-browser- during-SSL-communication></code>	For <i>port-number-for-the-reception-of-connection-requests-from-web-browser-during-SSL-communication</i> , set the value that was set before the version was upgraded.
7	<code># SSLCertificateFile "/opt/ jplajs3web/uCPSB/httpsd/conf/ssl/ server/name-of-server-certification-file"</code>	For <i>name-of-server-certification-file</i> , set the value that was set before the version was upgraded. If intermediate certificate files were used for SSL communication, open the server certificate and intermediate certificates with a text editor such as vi. Then, copy the content of the intermediate certificates to the server certificate so that the server certificate contains the following items in the indicated order: 1. Server certificates 2. Intermediate certificates 3. Cross signed root certificates [#]
8	<code># SSLCertificateKeyFile "/opt/ jplajs3web/uCPSB/httpsd/conf/ssl/ server/name-of-private-key-file"</code>	For <i>name-of-private-key-file</i> , set the value that was set before the version was upgraded.

#

This item is required only when you use a cross signed root certificate.

(3) The number of the port used to accept connection requests from web browsers was changed

If SSL communication was not used and the number of the port used to accept connection requests from web browsers was changed, then you must respecify the settings in the HTTP server definition file (`httpsd.conf`).

For details about the HTTP server definition file (`httpsd.conf`), see [13.3.5 Details on settings in the HTTP server definition file \(httpsd.conf\)](#).

The following table lists the settings that you must respecify.

Table 13–15: Settings you must respecify if the number of the port used to accept connection requests from web browsers was changed

No.	Setting items	Description
1	<code>Listen port-number-for-the-reception-of-connection-requests-from-web-browser</code>	For <i>port-number-for-the-reception-of-connection-requests-from-web-browser</i> , set the value that was set before the version was upgraded.

(4) The number of the port used for internal management of the J2EE server was changed

If the number of the port used for internal management of the J2EE server was changed, then you must respecify the settings in the user properties file for J2EE server (`usrconf.properties`).

For details about the user properties file for J2EE server (`usrconf.properties`), see [13.3.6 Details on the settings in the user properties file for J2EE server \(`usrconf.properties`\)](#).

The following table lists the settings that you must respecify.

Table 13–16: Settings you must respecify if the number of the port used for internal management of the J2EE server was changed

No.	Setting items	Description
1	<code>ejbserver.http.port=port-number-for-the-internal-management-of-J2EE-server</code>	For <i>port-number-for-the-internal-management-of-J2EE-server</i> , set the value that was set before the version was upgraded.
2	<code>#ejbserver.rmi.naming.port=port-number-for-the-internal-management-of-J2EE-server</code>	Uncomment the line, and then, for <i>port-number-for-the-internal-management-of-J2EE-server</i> , set the value that was set before the version was upgraded.

(5) The number of the port used for communication between the HTTP and J2EE servers was changed

If the number of the port used for communication between the HTTP and J2EE servers was changed, then you must respecify the settings in the HTTP server definition file (`httpsd.conf`) and user properties file for J2EE server (`usrconf.properties`).

For details about the HTTP server definition file (`httpsd.conf`), see [13.3.5 Details on settings in the HTTP server definition file \(`httpsd.conf`\)](#).

For details about the user properties file for J2EE server (`usrconf.properties`), see [13.3.6 Details on the settings in the user properties file for J2EE server \(`usrconf.properties`\)](#).

The following table lists the settings that you must respecify.

Table 13–17: Settings you must respecify if the number of the port used for communication between the HTTP and J2EE servers was changed

No.	Settings files	Setting items	Description
1	HTTP server definition file (<code>httpsd.conf</code>)	<code>ProxyPass /ajs/http://localhost:port-number-to-be-used-for-the-communication-between-HTTP-</code>	For <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i> , set the value that was set for the <code>worker.worker1.port</code> entry in the worker definition file (<code>workers.properties</code>)# before the version was upgraded.

No.	Settings files	Setting items	Description
1	HTTP server definition file (httpsd.conf)	<i>and-J2EE-servers</i> /ajs/ timeout=3600 connectiontimeout=30	For <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i> , set the value that was set for the <code>worker.worker1.port</code> entry in the worker definition file (<code>workers.properties</code>) [#] before the version was upgraded.
2		ProxyPassReverse /ajs / http:// localhost: <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i> /ajs/	For <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i> , set the value that was set for the <code>worker.worker1.port</code> entry in the worker definition file (<code>workers.properties</code>) [#] before the version was upgraded.
3	User properties file for J2EE server (usrconf.properties)	<code>webserver.connector.nio_http.port=<i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i></code>	For <i>port-number-to-be-used-for-the-communication-between-HTTP-and-J2EE-servers</i> , set the value that was set for the <code>webserver.connector.ajp13.port</code> entry before the version was upgraded.

#

This is a file that was used in 12-60 and earlier versions.

(6) The maximum Java heap size was changed

If the maximum Java heap size was changed, then you must respecify the settings in the option definition file for J2EE server (`usrconf.cfg`).

For details about the option definition file for J2EE server (`usrconf.cfg`), see [13.3.8 Details on the settings in the option definition file for J2EE server \(usrconf.cfg\)](#).

The following table lists the settings that you must respecify.

Table 13–18: Settings you must respecify if the maximum Java heap size was changed

No.	Setting items	Description
1	<code>add.jvm.arg=-Xmx<i>the maximum size of Java heap available to applications on the Web Console server</i>m</code>	For <i>the maximum size of Java heap available to applications on the Web Console server</i> , set the value that was set before the version was upgraded.

13.4 Setting up the system and user environments

This section describes how to set up the system and user environments.

13.4.1 Setting the language environment

The following describes how to set the language environment of the system.

For details about the language types that can be used in the system, see 2.4.2 *Language type and character encoding of the system* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

If you want to use a language other than Japanese, English, or Chinese, also see 2.4.2(11) *About the operations in multiple language environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(1) Changing the character encoding type

The following describes the procedure for changing the character encoding.

If you change the language and character encoding types during operation, you might have to re-install software when JP1/AJS3 - Manager, JP1/AJS3 - Agent, JP1/AJS3 - View, and the OS have been installed in specific combinations. For the combinations of JP1/AJS3 software and OSs for which re-installation is required, see 2.4.2(10) *Changing the language setting during operation* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The procedure for changing the character encoding type is described below. For the settings, see (2) *Settings for character encoding types*.

1. Stop JP1 services, the connected JP1/AJS3 - View, and any commands that are being executed.
2. Change the character encoding type used in JP1/Base.
For details about how to change the character encoding type used in JP1/Base, see the *JP1/Base User's Guide*.
3. To change the output character encoding type of events issued by a JP1/AJS3 service or the job execution environment, open the following file by using an editor such as vi.
 - For physical host
`/etc/opt/jplajs2/conf/jplajs_env.conf`
 - For logical host
`shared-directory/jplajs2/conf/jplajs_env.conf`
4. Change the existing LANG environment variable value to the desired value on the LANG= line in the file you opened in step 3. After making the change, save the file.
5. To change the character encoding type to UTF-8, add AJSCONVERTUTF8=no to the last line in the file opened in step 3 and save the file.
6. To change the character encoding type of the job execution environment and unit definition environment, change the environment setting parameter.

Execute the following command:

```
jajs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJSMANAGER\scheduler-s  
ervice-name]" "AJSCCHARCODE"="character-code"
```

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the AJSCHARCODE environment setting parameter, see [20.4 Setting up the scheduler service environment](#).

7. If you change the character encoding type to UTF-8, set the environment setting parameter so that a queueless job is correctly executed by an agent that does not support UTF-8.

Execute the following command:

```
jaajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER]" "QLMANCHARCODE"="UTF-8"
```

For details about the QLMANCHARCODE environment setting parameter, see [20.10 Setting up the queueless job execution environment](#).

8. If you set UTF-8 for the QLMANCHARCODE environment setting parameter, set the following environment setting parameter on all hosts that will be used as an agent for the queueless job, and restart the JP1/AJS3 Queueless Agent service.

Execute the following command:

```
jaajs_config -k "[JP1_DEFAULT\JP1QLAGENT]" "AJSQ_L_CHARCODE"="UTF-8"
```

For details about the AJSQ_L_CHARCODE environment setting parameter, see [20.10 Setting up the queueless job execution environment](#).

9. To execute a definition pre-check, change the environment setting parameter.

Execute the following command:

```
jaajs_config -k "[JP1_DEFAULT\JP1AJS2\CHECK]" "AJSCHK_CHARCODE"="character-code"
```

For details about the AJSCHK_CHARCODE environment setting parameter, see [20.7 Setting for the JP1/AJS3 definition pre-check function](#).

10. To change the character encoding type of the messages that scheduler services output to syslog, change the environment setting parameter.

Execute the following command:

```
jaajs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJSMANAGER\scheduler-service-name]" "SYSLOGCODE"="LANG-environment-variable-value"
```

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

Note that if a value other than C is specified, the character encoding depends on the LANG environment variable of the environment in which the scheduler service starts. If necessary, change the LANG environment variable value of the environment in which the scheduler service is to be started.

```
LANG="ja_JP.SJIS"  
export LANG
```

Cautionary notes:

- It might not be possible for the character encoding specified for the LANG environment variable to be output to syslog. In such cases, make sure you specify C.
- When you use Chinese, you must specify C.

11. Change the setting of the environment parameter that specifies whether to use Chinese.

Execute the following command:

```
jajs_config -k "[JP1_DEFAULT\JP1AJS2COMMON]" "AJSI18N"="setting"
```

Specify *yes* for *setting* to use Chinese or *no* not to use Chinese.

(2) Settings for character encoding types

The following table lists the values to be set for individual language type settings.

Table 13–19: Values to be set for individual language type settings

No.	OS	Language and character encoding types to be used			Value to be set				
		Language	code	LANG environment variable	jp1ajs_env.conf		AJSCHARCODE	SYSLOGCODE	AJSI18N
					LANG	AJSCONVERTUTF8			
1	HP-UX	Japanese	Shift-JIS	ja_JP.SJIS	ja_JP.SJIS	Undefined	SJIS	C or ja_JP.SJIS	No setting or no
2				japanese	japanese	Undefined	SJIS	C or japanese	No setting or no
3			EUC	ja_JP.eucJP	ja_JP.eucJP	Undefined	EUC	C or ja_JP.eucJP	No setting or no
4				japanese.euc	japanese.euc	Undefined	EUC	C or japanese.euc	No setting or no
5			UTF-8	ja_JP.utf8	ja_JP.utf8	no	UTF-8	C or ja_JP.utf8	No setting or no
6		English	ASCII	C	C	Undefined	C	C	No setting or no
7		Chinese	GB18030	zh_CN.gb18030	zh_CN.gb18030	Undefined	C	C	yes
8	Solaris	Japanese	Shift-JIS	ja_JP.PCK	ja_JP.PCK	Undefined	SJIS	C or ja_JP.PCK	No setting or no
9				EUC	ja	ja	Undefined	EUC	C or ja
10			EUC	ja_JP.eucJP	ja_JP.eucJP	Undefined	EUC	C or ja_JP.eucJP	No setting or no
11				UTF-8	ja_JP.UTF-8	ja_JP.UTF-8	no	UTF-8	C or ja_JP.UTF-8
12		English	ASCII	C	C	Undefined	C	C	No setting or no
13		Chinese	GB18030	zh_CN.GB18030	zh_CN.GB18030	Undefined	C	C	yes

No.	OS	Language and character encoding types to be used			Value to be set				
		Language	code	LANG environment variable	jp1ajs_env.conf		AJSCHARCODE	SYSLOGCODE	AJSI18N
					LANG	AJSCONVERTUTF8			
14	AIX	Japanese	Shift-JIS	Ja_JP	Ja_JP	Undefined	SJIS	C or Ja_JP	No setting or no
15				Ja_JP.IBM-932	Ja_JP.IBM-932	Undefined	SJIS	C or Ja_JP.IBM-932	No setting or no
16			EUC	ja_JP	ja_JP	Undefined	EUC	C or ja_JP	No setting or no
17				ja_JP.IBM-eucJP	ja_JP.IBM-eucJP	Undefined	EUC	C or ja_JP.IBM-eucJP	No setting or no
18			UTF-8	JA_JP	JA_JP	no	UTF-8	C or JA_JP	No setting or no
19				JA_JP.UTF-8	JA_JP.UTF-8	no	UTF-8	C or JA_JP.UTF-8	No setting or no
20		English	ASCII	C	C	Undefined	C	C	No setting or no
21		Chinese	GB18030	Zh_CN.GB18030	Zh_CN.GB18030	Undefined	C	C	yes
22		Linux	Japanese	Shift-JIS	ja_JP.SJIS#1	ja_JP.SJIS	Undefined	SJIS	C or ja_JP.SJIS
23	ja_JP.sjis#1				ja_JP.sjis	Undefined	SJIS	C or ja_JP.sjis	No setting or no
24	UTF-8			ja_JP.UTF-8	ja_JP.UTF-8	no	UTF-8	C or ja_JP.UTF-8	No setting or no
25				ja_JP.utf8	ja_JP.utf8	no	UTF-8	C or ja_JP.utf8	No setting or no
26	English		ASCII	C	C	Undefined	C	C	No setting or no
27				en_US.UTF-8#2	en_US.UTF-8	Undefined	C	C or en_US.UTF-8	No setting or no
28				en_US.utf8#2	en_US.utf8	Undefined	C	C or en_US.utf8	No setting or no
29				Chinese	GB18030	zh_CN.gb18030	zh_CN.gb18030	Undefined	C

#1

Can be used only in SUSE Linux.

#2

Only 7-bit ASCII characters can be used. Do not use characters other than 7-bit ASCII characters.

13.4.2 Changing the login scripts

This subsection describes how to change the login scripts.

(1) For Unix jobs and HTTP connection jobs

In JP1/AJS3, before a Unix job or an HTTP connection job is executed, login scripts are executed based on the shell as follows:#

#

There might be some differences depending on the OS type. For details, check the documentation for the applicable OS.

- sh and ksh

```
/etc/profile
$HOME/.profile
```

- csh

```
/etc/csh.login
$HOME/.cshrc
$HOME/.login
```

- bash

```
/etc/profile
$HOME/.bash_profile
```

Therefore, if the login scripts contain the `echo`, `cat`, or another command that sends information to the standard output file, text other than the job execution result is output to the standard output file. In addition, if the `stty`, `tty`, `tset`, or `script` command, which requires an interactive environment, is executed in a login script, the job might terminate abnormally. In cases such as this, change the login script so that these commands are not executed.

For other login scripts loaded into the shell, verify their operation in the relevant OS.

For example, if you are using `sh`, `ksh` and `bash`, you must add the shaded parts shown in the following figure to the login scripts for `sh`.

```
if [ "$JP1JobID" = "" ]; then
:
cat /etc/copyright
:
fi
```

If you are using `csh`, similarly, add the shaded parts shown in the following figure to the login scripts for `csh`.

```
if ( $?JP1JobID == 0 ) then
:
cat /etc/copyright
:
endif
```

Supplementary note:

In AIX, the information in `/etc/environment` cannot be inherited. Change the applicable login scripts as shown in the following example:

```
if [ "$JP1JobID" != "" ] ; then
. /etc/environment
export environment-variable-to-set
fi
```

After `/etc/environment` is loaded, execute the `export` command for the environment variables to be set.

Important

The above setting is valid only for `sh`, `ksh` and `bash` (`.profile`), and is not valid for `csh` and other shells. Also note that specifying the above setting might change the order in which settings are specified in a login script because `/etc/environment` is loaded in the login script. Carefully check the position at which `/etc/environment` is to be added, and verify that environment variables set by `/etc/environment` are also set in the login script.

We recommend that you edit the login script so that `/etc/environment` is loaded at the beginning of the script.

(2) For flexible jobs

If a login script in a destination agent includes any of the commands listed below, edit the login script so that none of these commands will be executed. Note that when a flexible job executes a login script, the job sets a value for the `AJSENV` environment variable and does not set a value for the `JP1JobID` environment variable. You can determine whether a flexible job is executing a login script by checking the values of these environment variables.

- `echo`
- `cat`
- `stty`
- `tty`
- `tset`
- `script`

13.4.3 Tuning kernel parameters

If you use JP1/AJS3 in a UNIX environment, tune the kernel parameters that affect the allocation of resources necessary for JP1/AJS3 processing. The kernel parameters that need to be tuned depend on the OS. For details, see the Release Notes.

Kernel parameters are the settings used for maximum tuning of the resources used by the UNIX system. For example, the following types of tuning can be performed:

- File system tuning: The maximum number of files that can be opened and the maximum number of files that can be locked
- Shared memory tuning: The maximum shared memory size and the maximum number of shared memory segments
- Semaphore tuning: The maximum number of semaphores and the maximum number of undo operations that can be performed

For details about the kernel parameters, see the OS documentation or UNIX references.

13.4.4 Extending trace log files

This subsection describes how to extend the following trace log files in UNIX:

- JP1/AJS3 trace log file
- Queueless trace log file
- Internal log file for execution of queueless jobs

(1) Extending the JP1/AJS3 trace log file

The following two types of JP1/AJS3 trace log files exist:

- Common scheduler trace log file
The scheduler trace information on the physical host and all logical hosts is output to a single trace log file.
- Scheduler trace log file of each scheduler service
The scheduler trace information of scheduler service is output to this log file in units of scheduler service.

The following table describes the initial status of each type of trace log file:

Item	Common scheduler trace log file	Scheduler trace log file of each scheduler service
File name	<code>/var/opt/jp1ajs2/log/tracelog</code>	<code>/var/opt/jp1ajs2/log/tracelog_scheduler-service-name</code>
Size	The size that allows the file to contain the trace log for about 10,000 executed jobs. Specifically, the size is set to 100 megabytes (102,400 kilobytes).	The size (per file) that allows the file to contain the trace log for about 10,000 executed jobs. Specifically, the size of each file is set to 100 megabytes (102,400 kilobytes).

The required trace log file size differs greatly depending on the jobnet structure, the number of JP1/AJS3 - View connections, and the nature of the operations. The method to estimate trace log file size also differs depending on whether scheduler trace log files are to be generated for individual scheduler services. Estimate an appropriate size for the trace log file and expand the current size if necessary.

For details about how to estimate an appropriate trace log file size, see *3.4.2 Estimating the size of the scheduler trace log file* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

If the trace log file size must be extended, use the `ajstrsetsz` command to resize the file. For details about the `ajstrsetsz` command, see *ajstrsetsz* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(2) Extending the queueless trace log file

The initial settings for the queueless trace log file are as follows:

- File name
`/var/opt/jp1ajs2/log/tracelog.ql`
- Size
15 MB (15,360 KB), which is the size of a file in which trace log data about the execution of approximately 10,000 jobs can be saved

Because an adequate queueless trace log file size differs considerably depending on such factors as whether the job transfers file and error results are output, the trace log file will need to be extended whenever necessary after an adequate file size has been estimated.

For details about how to estimate an appropriate trace log file size, see 7.2.1(2) *Estimating the size of the queueless trace log file* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

If the queueless trace log file must be extended, use the `ajsqltrsetsz` command to resize the file. For details about the `ajsqltrsetsz` command, see `ajsqltrsetsz` in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(3) Extending the internal log file for execution of queueless jobs

The initial settings for the internal log file for execution of queueless jobs are as follows:

- File name
`/var/opt/jp1ajs2/log/ajsqlxeclog#1`
`/var/opt/jp1ajs2/log/ajsqlxeclog_ftp#2`
#1:
In a cluster configuration, the file name is as follows:
`/var/opt/jp1ajs2/log/ajsqlxeclog-[logical-host-name]`
If the full path name is 256 or more bytes, the maximum length of *logical-host-name* is 30 bytes.
#2:
This file is created for JP1/AJS3 - Manager only.
- Size
The size of the `ajsqlxeclog` file
24 MB (24,576 KB), which is the size of a file in which the internal execution log data output by the queueless agent service when about 40,000 queueless jobs are executed can be saved
The size of the `ajsqlxeclog_ftp` file
10 MB (10,240 KB), which is the size of a file in which the internal execution log data output by the queueless file transfer service when about 20,000 queueless jobs that perform a file transfer are executed can be saved

An adequate size for the internal log file for execution of queueless jobs differs considerably depending on the number of executed queueless jobs, whether the queueless job performs a file transfer, and other factors. Therefore, the trace log file must be extended whenever necessary after an adequate file size has been estimated.

For details about how to estimate an appropriate size for the internal log file for execution of queueless jobs, see 7.2.1(3) *Estimating the size of the internal execution logs for queueless jobs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

If the size of the internal execution logs for queueless jobs must be extended, use the `ajsqlxecsetsz` command to resize the file. For details about the `ajsqlxecsetsz` command, see *ajsqlxecsetsz* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

13.4.5 Specifying communication environment settings

When a JP1/AJS3 system is created with an environment that uses the DNS or a firewall, environment settings for resolving host names and IP addresses or firewall communication settings must also be specified.

Specify the necessary communication environment settings as described in the following locations:

- *2.3.8(3) Notes on operation in a DNS environment* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*
- *2.3.4 Communications in firewall environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*

13.4.6 Settings for communication using IPv6 addresses

This subsection describes how to configure the settings to enable communication using IPv6 addresses. Note that communication using IPv6 addresses is supported only by Linux.

(1) How to set up JP1/Base for communication using IPv6 addresses

(a) Setting the `jp1hosts2` file

You need to set `jp1hosts2` information to enable communication using IPv6 addresses. If you define `jp1hosts2` information, the `jp1hosts` information definition is no longer in effect. Accordingly, if you upgrade JP1/Base from version 09-50 or earlier to version 10-00 or later, you must move the `jp1hosts` definition information used in version 09-50 or earlier to `jp1hosts2`. You do not have to do this if communication uses IPv4 addresses.

If you want to return to the original settings, you can return the settings from `jp1hosts2` to `jp1hosts`.

For details about `jp1hosts2`, see the *JP1/Base User's Guide*.

(b) Setting the ANY binding addresses

If the communication protocol for reception is the ANY binding method, the following setting is needed. In the communication settings for a new installation of JP1/AJS3, the communication protocol for receiving must be set to the ANY binding method. Note that if you set up a logical host, this setting is not needed because the communication protocol for receiving is set to the IP binding method.

You need to set the ANY binding address protocol type to be used to *IPv4 only*, *IPv6 only*, or *Both IPv4 and IPv6*. Specify the setting so that the ANY binding address protocol type to be used for receiving matches the IP address protocol type obtained from name resolution on the sending side. If the protocol types of the nodes are different, communication is not possible. By default, the setting is specified so that only IPv4 ANY binding addresses are used.

For details about the communication protocol for receiving, see *2.3.3 Connecting multiple LANs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about the settings for ANY binding addresses, see the *JP1/Base User's Guide*.

(2) How to set up JP1/AJS3 - Manager for communication using IPv6 addresses

If you perform an upgrade installation of JP1/AJS3 - Manager version 09-50 or earlier to version 10-00 or later, you need to re-create the embedded database to enable communication using IPv6 addresses. You do not have to do this if communication uses IPv4 addresses or if you perform a new installation of JP1/AJS3.

The following describes how to re-create an embedded database.

(a) For physical hosts

To re-create an embedded database for a physical host, perform the procedure below.

Cautionary note:

Performing the following procedure deletes information such as job execution results.

To re-create an embedded database:

1. Check the scheduler service stored in the embedded database to be re-created.

Use the `ajsembdbidlist` command to check the scheduler service in the embedded database. For details about the `ajsembdbidlist` command, see *ajsembdbidlist* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Back up the unit definition information for the scheduler service stored in the embedded database.

For details about how to back up the unit definition information, see *2.2.3(4) Backing up the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

3. Execute the `jajs_spm�_stop` command to stop the JP1/AJS3 services.

Stop all the JP1/AJS3 services.

4. Execute the `ajsembdbunset` command to cancel the setup of the embedded database.

For example, execute the `ajsembdbunset` command as follows:

```
# /opt/jplajs2/tools/ajsembdbunset -e -id _JF1
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Execute the `ajsembdbbuild` command to create an embedded database.

For example, execute the `ajsembdbbuild` command as follows:

```
# /opt/jplajs2/tools/ajsembdbbuild -s
-d /var/opt/jplajs2/embdb/_JF1/dbarea -p 22221
-i /opt/jplajs2/embdb/_JF1 -id _JF1 -ext_db -ext_log
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Execute the `ajsembdbsetup` command to set up the embedded database.

For example, execute the `ajsembdbsetup` command as follows:

```
# /opt/jplajs2/tools/ajsembdbsetup -ru s -F AJSROOT4 -p 22221 -tp AJS4 -i
d _JF1
```

For details about the `ajsembddbsetup` command, see *ajsembddbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. Execute the `jaajs_spmd` command to start the JP1/AJS3 services.

Start all the JP1/AJS3 services.

8. Recover the unit definition information you backed up in step 2.

For details about how to recover the unit definition information, see 2.3.4(9) *Recovering the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

(b) For logical hosts

To re-create an embedded database for a logical host, perform the procedure below. This procedure assumes that a shared disk and a logical IP address were allocated to the executing host.

Cautionary note:

Performing the following procedure deletes information such as job execution results.

1. Check the scheduler service stored in the embedded database to be re-created.

Use the `ajsembdbidlist` command to check the scheduler service in the embedded database. For details about the `ajsembdbidlist` command, see *ajsembdbidlist* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Back up the unit definition information for the scheduler service stored in the embedded database.

For details about how to back up the unit definition information, see 2.2.3(4) *Backing up the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

3. On the executing host, execute the `jaajs_spmd_stop` command to stop the service below.

- The JP1/AJS3 service on the logical host to which the embedded database to be re-created belongs

4. On the executing host, execute the `ajsembdbunset` command to cancel the setup of the embedded database for the executing host.

For example, execute the `ajsembdbunset` command as follows:

```
# /opt/jplajs2/tools/ajsembdbunset -e -id _JFA
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. On the standby host, execute the `ajsembdbunset` command to cancel the setup of the embedded database for the standby host.

For example, execute the `ajsembdbunset` command as follows:

```
# /opt/jplajs2/tools/ajsembdbunset -e -id _JFA
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. On the executing host, execute the `ajsembdbbuild` command to create an embedded database for the executing host.

For example, execute the `ajsembdbbuild` command as follows:

```
# /opt/jplajs2/tools/ajsembdbbuild -s -r  
-d /home/shdsk/jplajs2/embdb/_JFA/dbarea
```

```
-ld /opt/jplajs2/embdb/_JFA/dbarea -mh lhost
-eh executing-physical-host -p 22230
-i /opt/jplajs2/embdb/_JFA -id _JFA -ext_db -ext_log
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. On the executing host, execute the `ajsembdbsetup` command to set up the embedded database for the executing host.

For example, execute the `ajsembdbsetup` command as follows:

```
# /opt/jplajs2/tools/ajsembdbsetup -mh lhost -F AJSROOT1 -p 22230 -tp AJS
1 -id _JFA -ru s
```

For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

8. On the executing host, execute the `jbsgetcnf` command to back up the environment setting parameters for the executing host.

Execute the following command:

```
# /opt/jplbase/bin/jbsgetcnf -h logical-host-name > backup-file-name
```

For details, see the *JP1/Base User's Guide*.

9. On the standby host, execute the `ajsembdbbuild` command to create an embedded database for the standby host.

For example, execute the `ajsembdbbuild` command as follows:

```
# /opt/jplajs2/tools/ajsembdbbuild -s -f
-d /home/shdsk/jplajs2/embdb/_JFA/dbarea
-ld /opt/jplajs2/embdb/_JFA/dbarea -mh lhost
-eh executing-physical-host -p 22230
-i /opt/jplajs2/embdb/_JFA -id _JFA -ext_db -ext_log
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

10. On the standby host, execute the `jbssetcnf` command to set the environment setting parameters for the standby host from the backup you created in step 8.

Execute the following command:

```
# /opt/jplbase/bin/jbssetcnf backup-file-name
```

For details, see the *JP1/Base User's Guide*.

11. On the executing host, execute the `ajsembdbstop` command to stop the embedded database for the executing host.

For example, execute the `ajsembdbstop` command as follows:

```
# /opt/jplajs2/tools/ajsembdbstop -id _JFA
```

For details about the `ajsembdbstop` command, see *ajsembdbstop* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

12. On the executing host, execute the `jaajs_spm` command to start the service below.

- The JP1/AJS3 service on the logical host to which the embedded database to be re-created belongs

13. Recover the unit definition information you backed up in step 2.

For details about how to recover the unit definition information, see 2.3.4(9) *Recovering the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

13.5 Required setup for upgrading

This section describes the setup procedures required when performing an upgrade installation of JP1/AJS3.

13.5.1 Settings for enhancing the embedded database management function

The embedded database management function was enhanced in JP1/AJS3 - Manager 10-00 and later versions. Accordingly, the following changes were made.

Table 13–20: Changes due to the enhancement of the embedded database management function

Changes	JP1/AJS3 - Manager version	
	Earlier than 10-00	10-00 and later
Embedded database process management process (pdprcd process)	When an embedded database environment is created, the process resides in the OS until the setup of the embedded database is canceled.	Stopping the embedded database also stops the pdprcd process.

For embedded databases created by JP1/AJS3 - Manager whose version is earlier than 10-00, the management function enhancements must be set. Even if you do not specify the enhancement settings, you need to specify the settings shown below if you use the `ajsembdbinstl` command to install an embedded database or create or re-create a logical host.

The procedure for enhancing the embedded database management function is shown below.

(1) Procedure for enhancing the embedded database management function

After performing an upgrade installation of JP1/AJS3 - Manager, perform the following procedure for all the hosts you set up.

To enhance the embedded database management function:

1. Execute the `ajsembdbinstl` command to perform an overwrite installation of the embedded database.
For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Change the setting in the system common definition file for the embedded database.

Use an editor such as `vi` to open the following file, and then change the settings.

System common definition file:

```
embedded-database-practical-directory/conf/pdsys
```

Before the change:

```
set pd_mode_conf = AUTO#
```

After the change:

```
set pd_mode_conf = MANUAL2
```

```
#
```

In a logical host environment, the value before the change is `MANUAL1`.

If `AUTO` or `MANUAL1` is set in the system common definition file, change the value to `MANUAL2`.

- Copy the model files to the JP1/AJS3 startup process definition file and JP1/AJS3 extended startup process definition file, which are used for database management.

Overwrite the following files by copying the model files.

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	For a physical host: /etc/opt/jplajs2/conf/jplajs_dbmd.conf For a logical host: shared-directory/jplajs2/ conf/jplajs_dbmd.conf	/etc/opt/jplajs2/conf/ jplajs_dbmd.conf.model
JP1/AJS3 extended startup process definition file (database management)	For a physical host: /etc/opt/jplajs2/ conf/jplajs_dbmd_0700.conf For a logical host: shared-directory/jplajs2/ conf/jplajs_dbmd_0700.conf	/etc/opt/jplajs2/conf/ jplajs_dbmd_0700.conf.m odel

- Change the setting in the JP1/AJS3 extended startup process definition file used for system management.

Use an editor such as `vi` to open the following file, and then change the underlined value in the line under *Before the change*.

JP1/AJS3 extended startup process definition file (system management)

- For a physical host:

/etc/opt/jplajs2/conf/jplajs_service_0700.conf

- For a logical host:

shared-directory/jplajs2/conf/jplajs_service_0700.conf

Before the change

```
jajs_dbmd|jajs_dbmd||0|3|3|21600|0|2||1|||||
```

After the change

```
jajs_dbmd|jajs_dbmd||1|3|3|21600|0|2||1|||||
```

(2) Procedure for specifying the required settings when the embedded database management function is not enhanced

If you do not enhance the embedded database management function for reasons such as difficulty in changing the created environment, you need to perform the following when you use the `ajsembdbinstl` command to install an embedded database or create or re-create a logical host.

(a) Required procedure for using the `ajsembdbinstl` command to install an embedded database

To use the `ajsembdbinstl` command to perform a new or upgrade installation of an embedded database:

- Execute the `ajsembdbinstl` command with the `-v9standard` option specified.

For details about the `ajsembdbinstl` command, see `ajsembdbinstl` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(b) Required procedure for creating or re-creating a logical host

To create or re-create a logical host, perform the following after setting up the logical host environment.

1. Copy the model files to the JP1/AJS3 startup process definition file and JP1/AJS3 extended startup process definition file, which are used for database management.

Overwrite the following files by copying the model files.

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	<i>shared-directory</i> /jplajs2/ conf/jplajs_dbmd.conf	/etc/opt/jplajs2/conf/ jplajs_dbmd.conf.v9standard .model
JP1/AJS3 extended startup process definition file (database management)	<i>shared-directory</i> /jplajs2/ conf/jplajs_dbmd_0700.conf	/etc/opt/jplajs2/conf/ jplajs_dbmd_0700.conf.v9sta ndard.cluster.model

13.5.2 Settings for reducing the data area usage in the embedded database

In JP1/AJS3 - Manager version 10-00 and later, the efficiency of data storage in embedded databases is improved to reduce data area usage. To reduce the data area usage of embedded databases created by JP1/AJS3 - Manager in a version earlier than 10-00, you need to set up the embedded database again.

Perform the setup procedure for each embedded database. You can use the `ajsembdbidlist` command to check the embedded databases used by JP1/AJS3. For details about the `ajsembdbidlist` command, see *ajsembdbidlist* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the embedded databases that are automatically created by JP1/AJS3, see 2.6.5 *Database settings that are set up in JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(1) Setup procedure for reducing the data area usage of an embedded database

To reduce the data area usage of an embedded database, perform the procedure below.

Supplementary note:

For a cluster environment, perform this procedure on the executing host. This procedure is unnecessary on the standby host.

1. Back up the execution agent information and unit definition information contained in the embedded database.
For details about how to back up the information, see 2.2.3(2) *Backing up the execution agent information* in the *JP1/Automatic Job Management System 3 Administration Guide* and 2.2.3(4) *Backing up the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

2. On the JP1/AJS3 - Manager physical host and all logical hosts, stop all the services, including the JP1/AJS3 service, that access the embedded database.

For a cluster environment, confirm the following before starting the subsequent procedure:

- The physical host of the primary node can access the shared disk.
- The IP address of the logical host is enabled.

3. Execute the `ajsembdbunset` command to delete the embedded database.

For example, execute the `ajsembdbunset` command as follows:

```
ajsembdbunset -e -id setup-identifier
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Execute the `ajsembdbbuild` command to create an embedded database.

For example, execute the `ajsembdbbuild` command as follows.

For an embedded database automatically created by JP1/AJS3:

```
ajsembdbbuild {-s|-m|-l} -d data-area-directory  
-p embedded-database-port-number#  
-i embedded-database-practical-directory -id setup-identifier  
[-mh logical-host-name -eh executing-physical-host -r  
-ld work-area-directory] -ext_db -ext_log
```

#: Specify the value of the `RDBPORT` environment setting parameter for the scheduler service used in the embedded database.

For an embedded database created by performing advanced setup:

```
ajsembdbbuild option-used-for-creation-before-upgrade
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Execute the `ajsembdbsetup` command to set up the embedded database.

For example, execute the `ajsembdbsetup` command as follows.

For an embedded database automatically created by JP1/AJS3:

```
ajsembdbsetup -ru {s|m|l} -F scheduler-service-name#1  
-p embedded-database-port-number#2 -id setup-identifier#2  
-tp table-name-prefix#3 [-mh logical-host-name]
```

#1: Specify the scheduler service name that was previously used.

#2: Specify the value you specified for the `ajsembdbbuild` command in step 4.

#3: Specify the value of the `TABLENAMEPREFIX` environment setting parameter for the relevant scheduler service.

For an embedded database created by performing advanced setup:

```
ajsembdbsetup option-used-for-setup-before-upgrade
```

For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Cold-start the JP1/AJS3 service.

7. Recover the execution agent information and unit definition information from the backup.

For details about how to recover the information, see 2.3.4(8) *Recovering the execution agent information* in the *JP1/Automatic Job Management System 3 Administration Guide* and 2.3.4(9) *Recovering the unit definition* in the *JP1/Automatic Job Management System 3 Administration Guide*.

13.5.3 Settings required when JP1/AJS3 - Manager is upgraded to version 13-00 or later

If you upgrade JP1/AJS3 - Manager from version 12-60 or earlier, you must also convert the databases for scheduler services into the format compatible with version 13-00 or later. The scheduler services cannot start before conversion is complete.

Note that if you use embedded databases with the upgraded version of JP1/AJS3 - Manager, you must perform upgrade installation of the embedded databases before converting the database format.

The following table describes the tasks you perform when converting the databases for scheduler services.

Table 13–21: Tasks required for converting the databases for scheduler services

No.	Work contents	Reference
1	Preparation tasks for using embedded databases: <ul style="list-style-type: none">• Checking the embedded database versions and maintaining the embedded database areas• Securing the space for the table area• Securing the space for the index area	(1)
2	Conversion tasks required on the physical host	(2)
3	Conversion tasks required in a cluster environment: <ul style="list-style-type: none">• Tasks required on the primary node• Tasks required on the secondary node	(3)

(1) Preparation tasks for using embedded databases

This section describes the preparation tasks required if you use embedded databases for scheduler services.

(a) Checking the embedded database versions and maintaining the embedded database areas

1. Stop the JP1/AJS3 services.

Stop all JP1/AJS3 services on the physical host and all logical hosts. If JP1/AJS3 is operating in a cluster environment, temporarily remove JP1/AJS3 from that environment.

2. Starts the embedded database.

Use the following command to start the embedded databases that are set up on the physical host and all logical hosts:

```
ajsembdbstart -id embedded-database-setup-ID
```

3. Maintain the embedded database areas.

Use the following command to maintain the embedded database areas on the physical host and all logical hosts:

```
ajsembdbreclaim -m manager [-mh logical-host-name]
```

(b) Securing the space for the table area

Perform the following procedure for all embedded databases that are set up on the physical host and all logical hosts. In a cluster environment, make sure that the shared disk is mounted to the active server before performing the procedure.

1. Check the status of the database area for the embedded database.

Use the following command to check the status of the database area for the embedded database:

```
ajsembdbstatus -db -id embedded-database-setup-ID
```

2. Check the number of unused segments in the table area.

Record the value of Unused Segment under RD Area Name : AJS2DATA in the execution results of the command in step 1.

Hereinafter, this value is referred to as (A).

For example, if the command returns the following results, (A) is 210:

```
RD Area Name   : AJS2DATA
Server         : ajs2
Total Segment :          300   Segment Size :          10 Pages
Unused Segment:          210   Page Size   :          30720 Bytes
```

3. Check the number of used segments in the table in the release definition.

Check the value of the Sum column on the Segment line for the table with a name of xxxRELS# indicated at Table Name in the execution results of the command in step 1.

If multiple scheduler services are set up for one embedded database, there are multiple xxxRELS# tables. In such a case, record the total value for those tables and the maximum value.

#

For the xxx portion, a string such as AJS1 is output.

Hereinafter, the total value is referred to as (B) and the maximum value is referred to as (C).

If there is only one scheduler service, (B) and (C) are the same.

For example, if the command returns the following results, (B) is 9 (8 + 1) and (C) is 8:

```
Table Name : AJS1RELS
Auth Id    : root
Status     :
Reference Pending Status :
Check      Pending Status :
Segment Reuse :          18 segments
<Base row segment>
Search Mode : INS
Reuse Search Failure :          0/          0
      Used(Full)      Used(      Full)      Sum
Segment 100%( 88%)      8(          7)      8
Page    100%( 99%)      80(          79)      80
Collect On Segment :          0

Table Name : AJS2RELS
Auth Id    : root
Status     :
Reference Pending Status :
Check      Pending Status :
Segment Reuse :          18 segments
<Base row segment>
Search Mode : INS
Reuse Search Failure :          0/          0
      Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)      1(          0)      1
```

4. Check whether there is sufficient free space for conversion.

If the following condition is met, there is sufficient free space for conversion. In such a case, you do not need to perform the subsequent steps.

$$(A) \geq (B) + ((C) + 1) \times 2$$

Hereinafter, the value resulting from $(B) + ((C) + 1) \times 2$ is referred to as (D).

If the auto-increment function for the embedded database is enabled, the database format can be converted when the following condition is met even if available free space is insufficient. In this case, you do not need to perform the subsequent steps. You can check whether the auto-increment function is enabled by executing the `ajsembdbstatus` command with the `-c` option specified.

$$(size-of-ajssys041-file-in-embedded-database-data-area-directory) + ((D) - (A)) \times 0.3 \text{ MB} \leq 64 \text{ GB}$$

Note that the disk where the embedded-database data area directory is located must have at least $((D) - (A)) \times 0.3$ (MB) of free space.

5. Expand the embedded-database database area.

Use the `ajsembdbaddarea` command to expand the AJS2DATA table area. When executing the command, specify a value equal to or larger than the value resulting from $((D) - (A)) \times 0.3$ (MB) for *embedded-database-file-system-area-size*.

```
ajsembdbaddarea -r table
-s embedded-database-file-system-area-size
-d name-of-directory-where-database-area-to-be-expanded-stored
-id embedded-database-setup-ID
```

(c) Securing the space for the index area

Perform the following procedure for all embedded databases that are set up on the physical host and all logical hosts. In a cluster environment, make sure that the shared disk is mounted to the active server before performing the procedure.

1. Check the number of unused segments in the index areas.

Record the value of Unused Segment under RD Area Name : AJS2INDX in the execution results of the command in step 1 in (b) *Securing the space for the table area*.

Hereinafter, this value is referred to as (A).

For example, if the command returns the following results, (A) is 781:

```
RD Area Name   : AJS2INDX
Server        : ajs2
Total Segment :      880   Segment Size :      10 Pages
Unused Segment:      781   Page Size   :      4096 Bytes
```

2. Check the number of used segments in the index in the release definition.

Check the value of the Sum column on the Segment line for each index of the index set (xxxxRELSINDEX1 to xxxxRELSINDEX3)[#] in the execution results of the command in step 1 in (b) *Securing the space for the table area*. The name of each index is indicated at Index Name. Then, record the total of those values.

If multiple scheduler services are set up for one embedded database, there are multiple instances of the index set (xxxxRELSINDEX1 to xxxxRELSINDEX3) for which you need to record the values. In such a case, check the values for each index set and record the total value and the maximum value.

#

For the xxxx portion, a string such as AJS1 is output.

Hereinafter, the total value is referred to as (B) and the maximum value is referred to as (C).

If there is only one scheduler service, (B) and (C) are the same.

For example, if the command returns the following results, (B) is 13 ((5 + 3 + 2) + (1 + 1 + 1)) and (C) is 10 (5 + 3 + 2):

```

Index Name : AJS1RELSINDEX1
Auth Id    : root
Status     :
           Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)         5(        0)         5
Page    82%( 0%)         41(        0)         50
Collect On Segment :           0

Index Name : AJS1RELSINDEX2
Auth Id    : root
Status     :
           Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)         3(        0)         3
Page    67%( 0%)         20(        0)         30
Collect On Segment :           0

Index Name : AJS1RELSINDEX3
Auth Id    : root
Status     :
           Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)         2(        0)         2
Page    80%( 0%)         16(        0)         20
Collect On Segment :           0

Index Name : AJS2RELSINDEX1
Auth Id    : root
Status     :
           Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)         1(        0)         1
Page    10%( 0%)         1(        0)         10
Collect On Segment :           0

Index Name : AJS2RELSINDEX2
Auth Id    : root
Status     :
           Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)         1(        0)         1
Page    10%( 0%)         1(        0)         10
Collect On Segment :           0

Index Name : AJS2RELSINDEX3
Auth Id    : root
Status     :
           Used(Full)      Used(      Full)      Sum
Segment 100%( 0%)         1(        0)         1

```

3. Check whether there is sufficient free space for conversion.

If the following condition is met, there is sufficient free space for conversion. In such a case, you do not need to perform the subsequent steps.

$$(A) \geq (B) + ((C) + 1) \times 2$$

Hereinafter, the value resulting from $(B) + ((C) + 1) \times 2$ is referred to as (D) .

If the auto-increment function for the embedded database is enabled, the database format can be converted when the following condition is met even if available free space is insufficient. In this case, you do not need to perform the subsequent steps.

$$(size-of-ajssys042-file-in-embedded-database-data-area-directory) + ((D) - (A)) \times 0.04 \text{ MB} \leq 64 \text{ GB}$$

Note that the disk where the embedded-database data area directory is located must have at least $((D) - (A)) \times 0.04$ (MB) of free space.

4. Expand the embedded-database database area.

Use the `ajsembdbaddarea` command to expand the `AJS2INDX` table area. When executing the command, specify a value equal to or larger than the value resulting from $((D) - (A)) \times 0.04$ (MB) for *embedded-database-file-system-area-size*.

```
ajsembdbaddarea -r index  
-s embedded-database-file-system-area-size  
-d name-of-directory-where-database-area-to-be-expanded-stored  
-id embedded-database-setup-ID
```

(2) Conversion tasks required on the physical host

The following shows the conversion procedure to be performed on the physical host:

1. Confirm that the JP1/AJS3 service is not running on the physical host.

Confirm that the JP1/AJS3 service is not running by executing the following command:

```
jajs_spmd_status
```

If the service is running, stop it by executing the following command:

```
jajs_spmd_stop
```

2. Start the databases.

For an embedded database:

Use the following command to start all embedded databases that are set up:

```
ajsembdbstart -id embedded-database-setup-ID
```

You can skip this operation if you already performed it in *(1) Preparation tasks for using embedded databases*.

For an external database:

Confirm that the connected databases are operating.

3. Convert the databases for scheduler services.

Use the following command to convert the databases for scheduler services:

```
jajs_cnvdb -c V13
```

If the KAVS8470-I message is output, the command execution was successful.

If the KAVS8471-E message is output, the command execution was not successful. In this case, take the action described in (4)(h) *Action to be taken if the jajs_cnvdb command fails*.

4. If you are using embedded databases, perform maintenance of the database area.

If you are using embedded databases, execute the following command to perform maintenance of the database area:

```
ajsembdbreclaim -m manager
```

(3) Conversion tasks required in a cluster environment

The section describes the conversion procedure to be performed in a cluster environment.

(a) Tasks required on the primary node

Note that all tasks described here must be performed while the shared disk is mounted.

1. Temporarily remove JP1/AJS3 from the cluster environment.

You can skip this operation if you already performed it in (1) *Preparation tasks for using embedded databases*.

2. Stop the JP1/AJS3 services on logical hosts.

You can skip this operation if you already performed it in (1) *Preparation tasks for using embedded databases*.

3. Start the databases.

Use the following command to start all embedded databases that are set up on the target logical host:

```
ajsembdbstart -id embedded-database-setup-ID
```

You can skip this operation if you already performed it in (1) *Preparation tasks for using embedded databases*.

4. Convert the databases for scheduler services.

Use the following command to convert the databases for scheduler services:

```
jajs_cnvdb -h logical-host-name -c V13
```

If the KAVS8470-I message is output, the command execution was successful.

If the KAVS8471-E message is output, the command execution was not successful. In this case, take the action described in (4)(h) *Action to be taken if the jajs_cnvdb command fails*.

5. Perform maintenance of the database area.

Perform maintenance of the database area by executing the following command:

```
ajsembdbreclaim -m manager -mh logical-host-name
```

6. Add JP1/AJS3 back to the cluster environment.

(b) Tasks required on the secondary node

1. Convert the databases for scheduler services.

Convert the databases for scheduler services by executing the `jajs_cnvdb` command with the `-s` option specified:

```
jaajs_cnvdb -h logical-host-name -c V13 -s
```

(4) Command for converting the databases for scheduler services (jaajs_cnvdb)

(a) Format

```
jaajs_cnvdb  
  [-h logical-host-name]  
  [-all]  
  {-c V13|_v}  
  [-s]
```

(b) Description

The `jaajs_cnvdb` command converts scheduler databases from the format compatible with version 12-60 or earlier into the format compatible with version 13-00 or later. The command also converts the data stored in the databases.

(c) Execution privileges

Superuser privileges or AJS administrator

(d) Arguments

`-h logical-host-name`

Use this option to perform database conversion on only a specified logical host.

If you specify this option without an argument, the command assumes that the logical host name specified for the `JP1_HOSTNAME` environment variable is specified. If the `JP1_HOSTNAME` environment variable is not specified, the command assumes that the physical host name (`JP1_DEFAULT`) is specified.

If you omit this option when `JP1_DEFAULT` is specified for the `JP1_HOSTNAME` environment variable, the command will fail with the KAVS0187-E message.

If the specified host does not exist, the command will fail with the KAVS0291-E message.

`-all`

Use this option to convert all scheduler services on the physical host and all logical hosts.

The `-all` option is assumed even if it is not explicitly specified.

`-c V13`

Converts the scheduler databases into the format compatible with version 13-00 or later.

`-v`

Displays whether of the current scheduler databases have already been converted.

If both the `-c V13` and `-v` options are omitted, the command assumes that the `-v` option is specified.

If you execute the command with this option in an environment where no scheduler services exist, the command will fail with the KAVS1516-E message.

`-s`

Always specify this option if you execute the command on the standby server in a cluster environment.

(e) Example

To convert the databases for all scheduler services on the physical host, execute the following command:


```
jajs_cnvdvdb -c V13
```

(f) Output example

The following shows an output example when the `-v` option is specified.

(1)	(2)
AJSROOT1	V13
AJSROOT2	-
AJSROOT3	V13

Explanation of output items

(1) scheduler service name

The length of each scheduler service name output field is fixed to 30 bytes.

For example, for a scheduler service that has an 8-byte name (such as AJSROOT1), the name will be output with 22 halfwidth trailing spaces.

(2) Database format

V13

The database for the scheduler service is set up in the format compatible with version 13.

-

The database for the scheduler service is set up in the format compatible with version 12-60 or earlier.

(g) Notes

- If you upgrade the version from 12-60 or earlier, convert the databases for all scheduler services by executing the command with the `-c V13` option specified.
- In a cluster environment, execute the command on both the active and standby servers.
- On the active server in a cluster environment, you must execute this while no services are running. Therefore, you cannot convert databases while jobs are operating.
- Execute this command only when you have upgraded the version from 12-60 or earlier.
- Execute this command when all JP1/AJS3 services are stopped.
- When you perform conversion, all embedded databases set up on the target hosts must be active. If you happened to execute this command while the embedded databases were inactive, activate them and then re-execute the command.
- You cannot concurrently execute multiple instances of this command.

(h) Action to be taken if the jajs_cnvdvdb command fails

Remove the cause of the error indicated in the error message, and then re-execute the `jajs_cnvdvdb` command.

You can check whether conversion has finished by executing the `jajs_cnvdvdb` command with the `-v` option specified.

The following shows command execution examples.

For a physical host:

```
jajs_cnvdvdb -v
```

For a logical host:

```
jajs_cnvdb -h logical-host-nam -v
```

If the string V13 is output after a scheduler service name, conversion is complete.

If a hyphen (-) is output after a scheduler service name, conversion is not complete.

Output example

```
AJSROOT1 V13  
AJSROOT2 -  
AJSROOT3 V13
```

(i) Return values

0	Normal end
Values other than 0	Abnormal end

(5) Notes on version upgrade to JP1/AJS3 - Manager 13-00 or later

Database backups taken with JP1/AJS3 - Manager version 12-60 or earlier cannot be used after JP1/AJS3 - Manager is upgraded to version 13-00 or later. Convert the databases into the format compatible with version 13-00 or later, and then re-create backups.

14

Environment Settings

This chapter describes the JP1/AJS3 environment settings.

14.1 Execution agent settings

You can use the `ajsagtadd`, `ajsagtdel`, and `ajsagtalt` commands to add, delete, or change an execution agent or execution agent group during JP1/AJS3 operation.

When queue and submit jobs are being used, you can use the `jppqagtadd`, `jppqqueadd`, and other commands to add, delete, or change an agent or queue for queue and submit jobs. For details, see 7.1.2(1)(b) *Changing the execution environment for QUEUE jobs and submit jobs dynamically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about each command, see 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

You can also add, delete, and change execution agents and execution agent groups from JP1/AJS3 - Web Console.

For details about performing operations on execution agents from JP1/AJS3 - Web Console, see 15.2.4 *Execution Agent screen* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

14.1.1 Procedure for specifying execution agent settings

To use the `ajsagtadd` command to add an execution agent and execution agent group:

1. Add an execution agent, and set the maximum number of concurrently executable jobs.

Use the `ajsagtadd` command to add an execution agent.

Before executing the `ajsagtadd` command, make sure that the IP address can be resolved from the host name of the execution agent you want to add.

```
ajsagtadd -a exec-agent-name [-s target-host-name] [-c time-time=maximum-number-of-concurrently-executable-jobs, ...]
```

Example:

```
ajsagtadd -a AP1 -s Host1 -c 01:00-05:00=1
```

If the `-c` option is omitted, the maximum number of concurrently executable jobs is set to 5 regardless of the time (that is, `-c 00:00-00:00=5` is assumed). If the `-c` option is specified, the maximum number of concurrently executable jobs for the time periods that are not specified in the option is set to 0. For example, if `-c 01:00-02:00=10` is specified, the maximum number of concurrently executable jobs for each time period is as follows:

- 00:00 to 01:00: 0
- 01:00 to 02:00: 10
- 02:00 to 00:00: 0

When the maximum number of concurrently executable jobs is 0, no jobs can be executed. A value of at least 1 must be specified to execute a job. You can also use the `ajsagtalt` command to change the maximum number of concurrently executable jobs. For an example of specifying the maximum number of concurrently executable jobs, see the supplementary note for `ajsagtadd` in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Add an execution agent group.

Use the `ajsagtadd` command to add an execution agent group, which is a group of execution agents.

You can add an execution agent group when, for example, you want to connect several execution agents to the execution agent group so that job execution is distributed to those agents. You can also specify a priority for each execution agent so that jobs are delivered to execution agents based on the priorities that have been specified.

```
ajsagtadd -g exec-agent-group-name [-l exec-agent-name[:priority],...]
```

Example:

```
ajsagtadd -g APG1 -l AP1:16,AP2,AP3:5
```

You can use the `ajsagtalt` command to change the priorities of execution agents in a group.

3. Verify the settings you have specified.

Execute the `ajsagtshow` command to display the settings you specified in steps 1 and 2 so that you can verify that the settings are correct.

```
ajsagtshow {-a exec-agent-name|-g exec-agent-group-name|-l|-n}
```

Example:

```
ajsagtshow -a AP1
```

As shown below, several execution agents and execution agent groups can be added all at one time by using an execution agent definition file.

```
ajsagtadd -f exec-agent-definition-file-name
```

The format used for the execution agent definition file is the same as the format of the CSV file output by the `ajsagtprint` command. For details about the execution agent definition file, see *ajsagtadd* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference* and *ajsagtprint* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

You can also perform this operation from JP1/AJS3 - Web Console.

For details about performing operations on execution agents from JP1/AJS3 - Web Console, see *15.2.4 Execution Agent screen* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

Cautionary notes:

- Names are not case sensitive.
- Multi-byte characters such as Japanese can also be used. However, because the character byte length varies depending on the language environment, we recommend ASCII characters.
- Names that begin with @SYS cannot be used.
- The following characters cannot be used:
 - Space
 - , (comma)
 - : (colon)
- Control characters (tab and linefeed characters) cannot be used.

14.2 Environment setting parameter settings

This section describes how to change common definition information that has already been registered.

You can use the following methods to change the common definition information that has already been registered:

- `jajs_config` command

If you use the `jajs_config` command, you can eliminate specification errors because the specified environment setting parameter names and values are checked.

With the `jajs_config` command, you can set the environment setting parameters that have the same definition key at the same time. To set environment setting parameters that have different definition keys, run the `jajs_config` command for each definition key.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- `jbssetcnf` command

If you use the `jbssetcnf` command provided by JP1/Base, the new environment setting parameter settings specified in a configuration file will replace the corresponding current settings.

With the `jbssetcnf` command, you can set multiple environment setting parameters at the same time even if one or more parameters have different definition keys. For details about the `jbssetcnf` command, see the *JP1/Base User's Guide*.

Note that the parameter names and values provided by the `jbssetcnf` command are not checked. If you specify any settings that are incorrect, you might want to restore the previous settings. For details about how to restore the previous settings when incorrect settings have been registered, see *B. Recovery Procedure Used When an Incorrect Environment Settings Parameter is Set*.

For details about the environment setting parameter settings necessary for registration in the common definition information, see *20. Environment Setting Parameters*.

The following describes how to use each method.

14.2.1 Procedure for setting the environment setting parameters by using the `jajs_config` command

To use the `jajs_config` command to change the settings in the common definition information:

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Change the settings in the common definition information.

Use the following command to specify new environment setting parameter settings in the common definition information:

```
jaajs_configΔ-kΔ"definition-key"Δ"parameter-name-1"=value-1Δ["parameter-name-2"=value-2] ...
```

Legend:

Δ: One-byte space

Example:

```
jaajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]" "LOGSIZE"=dword:00002800 "AJSLOG"="all"
```

3. Restart JP1/AJS3.

The changes in the common definition information are applied to JP1/AJS3.

Supplementary note:

You can specify only one definition key for *definition-key*. To set environment setting parameters that have different definition keys, run the `jaajs_config` command for each definition key, or use the `jbssetcnf` command.

14.2.2 Procedure for setting the environment setting parameters by using the `jbssetcnf` command

To use the `jbssetcnf` command to replace the settings in the common definition information with new settings specified in a configuration file:

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jaajs_stop#1  
# /opt/jplajs2/bin/jaajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Create a configuration file that contains the new settings.

Use a text editor such as `vi` to create a configuration file that contains the additional or new environment setting parameter settings.

Assign any name to the configuration file.

The following shows an example of specifying settings in the configuration file.

In this example, the environment setting parameter settings shown in the following table will be used.

Definition key	Parameter	Value
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]	"LOGSIZE"=	00002800 (hexadecimal)
	"AJSLOG"=	"all"
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT2]	"LOGSIZE"=	00005000 (hexadecimal)
	"AJSLOG"=	"all"

To specify the above settings, create a configuration file as follows:

```
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]  
"LOGSIZE"=dword:00002800
```

```
"AJSLOG"="all"  
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT2]  
"LOGSIZE"=dword:00005000  
"AJSLOG"="all"
```

3. Save the configuration file.

4. Change the common definition information.

Execute the following command, which will change the common definition information based on the specified configuration file:

```
jbssetcnf configuration-file
```

The `jbssetcnf` command is located in the `/opt/jp1base/bin/jbssetcnf` directory.

5. Restart JP1/AJS3.

The changes in the common definition information are applied to JP1/AJS3.

15

Specifying Settings Based on the Usage of JP1/AJS3

This chapter describes the JP1/AJS3 detailed settings that can be specified to match the requirements for JP1/AJS3 operation.

15.1 Settings for controlling the scheduler

This section describes how to change the settings for controlling the scheduler.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.1.1 Settings for starting multiple scheduler services

Job groups are managed by the scheduler service. If multiple scheduler services are started, the scheduler services can be used to manage the job groups.

To start multiple scheduler services, you must first set information such as the names of the scheduler services to be added.

The following describes the procedures for adding and deleting scheduler services.

For details about how to add scheduler services to a logical host and how to delete scheduler services from a logical host, see *17.2.10 Setting startup of multiple scheduler services on a logical host*.

(1) Adding a scheduler service

To add a scheduler service:

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

If the management portal execution environment has been set up, execute the following commands to confirm that the services in the environment are stopped:

```
# /opt/jplajs2/bin/ajssysctlstop
# /opt/jplajs2/bin/ajssysctlstatus
```

Important

All embedded databases configured on the physical host must be operating. Execute the `ajsembdbstatus` command with `-s ust -id _JFn` (*n*: 0 to 9 or A to Z) specified to confirm that the embedded database is operating (UNIT-STAT is ONLINE). If the database is not operating, use the `ajsembdbstart` command with `-id _JFn` specified to activate it.

Execute the `ajsembdbidlist` command to check the setup identifier (`_JFn`) of the embedded database to be activated.

2. Use the `mkdir` command or another means to create the following directories:

- Database directory
- Directory for temporary files

- Job information directory
- Backup information directory

Make sure that the above directories, other than the backup information directory, are neither directories used by other scheduler services set on the local hosts (the physical host and all logical hosts) nor subdirectories of those directories.

3. Execute the `jajs_setup` command to add the scheduler service.

```
jajs_setup -a -F scheduler-service
-p service-for-the-port-reporting-the-job-status
-d database-directory
-t directory-for-temporary-files
-j job-information-directory
-b backup-information-directory
-n scheduler-service-identification-number
[[-I setup-identifier
  -P embedded-database-port-number]
[-M {s|m|l}]
[-B]
|-S]
```

Example of adding a scheduler service named AJSROOT2:

```
jajs_setup -a -F AJSROOT2
-p jplajs2report2
-d "/var/opt/jplajs2/database/schedule/AJSROOT2"
-t "/var/opt/jplajs2/tmp/schedule2"
-j "/var/opt/jplajs2/jobinf2"
-b "/var/opt/jplajs2/backup/schedule2"
-n 2
```

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Important

The port numbers of the embedded database port and job status notification port must be unique within the system. Therefore, you must specify different values for the `-P` option (*embedded-database-port-number*) and the `-p` option (*service-for-the-port-reporting-the-job-status*).

4. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 3, perform advanced setup for the embedded database. For details about advanced setup for the embedded database, see *23.4 Advanced setup of an embedded database*.

5. For the service name of the port that reports the job status specified in step 3, set the port number.

Open the `/etc/services` file with a text editor, and add the port number. When you add a scheduler service to a physical host, make sure that the scheduler service does not use a port number that is used by another scheduler service that runs on the physical host.

Example of setting 20248 as the port number:

```
jplajs2report2    20248/tcp
```

6. If you want to use queueless jobs, you must perform the setup required for using queueless jobs.

Execute the following command:

```
ajsqlsetup [-F scheduler-service-name]
```

For details about the `ajsqlsetup` command, see *ajsqlsetup* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. Restart the services that you stopped in step 1.

The scheduler service is added and started with the specified settings.

After the JP1/AJS3 service has been restarted, use JP1/AJS3 - View to confirm that the manager job group is displayed with the name of the added scheduler service attached.

Supplementary note on command execution:

When the scheduler service is adding, if you execute a command without specifying a scheduler service name in the `-F` option, the default scheduler service is assumed.

You can omit the `-F` option when the name of a scheduler service name is specified in the `AJSCONF` environment variable.

(2) Deleting a scheduler service that has been added

To delete a scheduler service that has been added:

1. Execute the `ajajs_spm_d_stop` command to stop the JP1/AJS3 services.

Stop all JP1/AJS3 services, including the JP1/AJS3 - Manager services, on logical hosts.

If the management portal execution environment has been set up, execute the `ajssysctlstop` command to stop the services in the environment.

Important

All embedded databases configured on the physical host must be operating. Execute the `ajsembdbstatus` command with `-s ust -id _JFn` (n : 0 to 9 or A to Z) specified to confirm that the embedded database is operating (UNIT-STAT is ONLINE). If the database is not operating, use the `ajsembdbstart` command with `-id _JFn` specified to activate it.

Execute the `ajsembdbidlist` command to check the setup identifier (`_JFn`) of the embedded database to be activated.

2. Execute the `ajsshmdel` command to delete scheduler service information.

The `ajsshmdel` command is located in `/opt/jp1ajs2/bin/ajsshmdel`.

If the shell is `sh`, the command line is as follows:

```
/opt/jp1ajs2/bin/ajsshmdel >/dev/null 2>&1
```

If the shell is `csh`, the command line is as follows:

```
/opt/jp1ajs2/bin/ajsshmdel >&/dev/null
```

3. Execute the following `ajajs_setup` command to delete the scheduler service.

```
ajajs_setup -e -F scheduler-service-name
```

Example of deleting the AJSROOT2 scheduler service:

```
ajajs_setup -e -F AJSROOT2
```

For details about the `jaajs_setup` command, see *jaajs_setup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Delete the directory that was created when the scheduler service was added.

Delete the following directories that were created when you executed the `jaajs_setup` command:

- Database directory specified in the `-d` option
- Directory for temporary files specified in the `-t` option
- Job information directory specified in the `-j` option
- Backup information directory specified in the `-b` option

5. If a trace log has been output per scheduler service, delete the trace log file for the deleted scheduler service.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, delete the trace log file for the deleted scheduler service.

6. Restart the services that you stopped in step 1.

The scheduler service you added is deleted.

(3) Uninstalling an unnecessary database environment

For details about how to uninstall a database environment that is no longer necessary, see 6.1.1(3) *Uninstalling an unnecessary database environment*.

(4) Renaming a scheduler service

Renaming a scheduler service affects many types of JP1/AJS3 functions. For example, a unit might end abnormally or might not be executed properly. To prevent such problems, we recommend that you rename a scheduler service before operation starts.

The following describes how to rename a scheduler service before and after operation starts.

(a) How to rename a scheduler service before operation starts

To rename a scheduler service before operation starts:

1. Execute the `jaajs_setup` command to rename the scheduler service.

Execute the following command:

```
jaajs_setup -r -F scheduler-service-name-before-the-change -A new-scheduler-service-name
```

For details about the `jaajs_setup` command, see *jaajs_setup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(b) How to rename a scheduler service after operation starts

To rename a scheduler service after operation starts:

1. Stop the scheduler service to be renamed, and then cold-start the scheduler service.

After the cold-start, do not register a jobnet for execution until the renaming procedure is finished.

2. Stop the JP1/AJS3 services on the physical host and all logical hosts.

If the management portal execution environment has been set up, stop the services in the environment.

3. Execute the `ajsshmdel` command to delete the shared memory information.

The path to the `ajsshmdel` command is `/opt/jp1ajs2/bin/ajsshmdel`.

Example:

```
For sh: /opt/jp1ajs2/bin/ajsshmdel >/dev/null 2>&1
```

```
For csh: opt/jp1ajs2/bin/ajsshmdel >&/dev/null
```

4. Execute the `jajs_setup` command to rename the scheduler service.

Example: To change `AJSROOT2` to `AJSROOT5`:

```
jajs_setup -r -F AJSROOT2 -A AJSROOT5
```

If the `KAVS1133-W` message is not output during execution of the `jajs_setup` command, skip step 5 and step 6 and go to step 7.

If the `KAVS1133-W` message is output during execution of the `jajs_setup` command, check the setting name indicated in the message. If `Local date and time` is indicated, go to step 5. If `Suspend feature` is indicated, go to step 6, and then proceed to step 7.

Cautionary note:

Before you rename a scheduler service for which the local date and time is set, obtain the difference between the local date and time for the scheduler service and the system date and time. Use the `ajslocaldate` command to obtain the scheduler service local date and time.

For details about how to obtain the system date and time, see the documentation for your OS.

If an attempt to set the scheduler service local date and time fails and the `KAVS1133-W` message appears, use the time difference obtained above to set the scheduler service local date and time in step 5.

5. Set the scheduler service local date and time again.

Execute the `ajslocaldate` command to set the scheduler service local date and time for the renamed scheduler service.

Example: To set the local date and time for the scheduler service `AJSROOT5` forward five minutes (300 seconds) from the current time, execute the command as follows:

```
ajslocaldate -F AJSROOT5 -s 300
```

For details about the `ajslocaldate` command, see *ajslocaldate* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Set the suspend function again.

Execute the `ajssetup` command to enable the suspend function for the renamed scheduler service.

Example: To enable the suspend function for the scheduler service `AJSROOT5`, execute the command as follows:

```
ajssetup -F AJSROOT5 -m
```

For details about the `ajssetup` command, see *ajssetup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. If the scheduler service name before the change is set for the following environment setting parameters, use the `jajs_config` command to change them to the new scheduler service name.

Table 15–1: Environment setting parameters whose settings need to be changed

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"DEFAULTSERVICENAME"=	Default scheduler service name
	"REMNETSERVICENAME"=	Name of the scheduler service that executes a remote jobnet

Example: To change the default scheduler service name to AJSROOT5, execute the command as follows:

```
jajs_config -k
"[JP1_DEFAULT\JP1AJSMANAGER]" "DEFAULTSERVICENAME"="AJSROOT5"
```

Example: To change the name of the scheduler service that executes remote jobnets to AJSROOT5, execute the command as follows:

```
jajs_config -k
"[JP1_DEFAULT\JP1AJSMANAGER]" "REMNETSERVICENAME"="AJSROOT5"
```

8. If a trace log has been output per scheduler service, change the name of the trace log file used for each scheduler service before changing the scheduler service name.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, change the `scheduler-service-name` part from the scheduler service name before the change to the new scheduler service name.

9. Restart the services that you stopped in step 2.

10. In either of the following cases, after the scheduler services start, change or set the scheduler service settings if necessary:

- The scheduler service name before the change is specified in the unit definition.
- The JP1/AJS3 linkage facility was monitoring or collecting information from the scheduler service before it was renamed.

(c) Notes on renaming scheduler services

The following environment setting parameters for scheduler services use the directory path that contains the scheduler service name as a standard:

- AJSSYS DIR
- AJSLOG DIR
- AJSDBDIRE CTORY
- AJSLOGFILE1
- AJSLOGFILE2
- AJSREPORTDIR

Operation is not affected even if the environment setting parameters are not changed after the scheduler service is renamed. However, if necessary, consider changing the directory path that contains the new scheduler service name.

When you change the setting of the `AJSDBDIRE CTORY` environment setting parameter in an environment using the suspend function or queueless jobs, you must set up the suspend or queueless job function again after changing the parameter setting.

Use the `jajs_config` command to change the environment setting parameters. For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the parameters, see *20.4 Setting up the scheduler service environment*.

15.1.2 Changing the level of messages output from scheduler services to the integrated trace log

You can specify the level of messages output from scheduler services to the integrated trace log. The specification procedure is as follows.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–2: Environment setting parameter used to change the level of messages output from scheduler services to the integrated trace log

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJSMANAGER\scheduler-service]#	"HNTRLOGLEVEL"=	Specifies the level of messages to be output to the integrated trace log.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see *20.4.2(56) HNTRLOGLEVEL*.

15.1.3 Changing the method for outputting the schedule rule when outputting nested-jobnet definition parameters

You can specify that a jobnet's schedule rule is enabled so that the jobnet does not depend on the upper-level jobnet's schedule. Alternatively, you can specify that a jobnet's schedule rule is deleted so that the jobnet depends on the upper-level jobnet's schedule.

This option is effective when `ajsprint`, `ajsbackup`, or `ajsexport` command is executed or a backup operation is performed from JP1/AJS3 - View for a nested jobnet created by copying a root jobnet that has a schedule rule.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–3: Environment setting parameter used to change the method for outputting the schedule rule when outputting nested-jobnet definition parameters

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER \scheduler-service]#	"AJSPRINTNETSCHPRF"=	Specifies how the schedule rule of a nested jobnet is treated.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(79\) AJSPRINTNETSCHPRF](#).

15.1.4 Changing the name of a scheduler trace log file

If only one scheduler service is used, the default trace log file name is `/var/opt/jplajs2/log/tracelog`. You can change the name of a scheduler trace log file by using the following procedure.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–4: Environment setting parameter used to change the name of a scheduler trace log file

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"TRACELOGFILE"=#	Specifies the name of a scheduler trace log file.

#:

The scheduler trace information for the physical host and all logical hosts is recorded in the file specified by this parameter. To ensure that the trace information is recorded, always specify the name of a file on a local disk.

Note that the specified file is created when trace information is output. Do not specify the name of an existing file.

For details about the definition of this environment setting parameter, see [20.4.2\(3\) TRACELOGFILE](#).

15.1.5 Setting to output a scheduler trace log per scheduler service

If you activate multiple scheduler services concurrently, we recommend that you specify settings to output a scheduler trace log for individual scheduler services.

The following describes the setting procedure to output a scheduler trace log for individual scheduler services.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–5: Environment setting parameters to output a scheduler trace log per scheduler service

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"TRACELOGDIV"=	Specifies the method to output a scheduler trace log (whether to output a trace log per scheduler service).
[{JP1_DEFAULT <i>logical-host</i> }\JP1AJSMANAGER\ <i>scheduler-service</i>]#1	"TRACELOGDIVDIR"=#2	Specifies the directory to store the scheduler trace log files for scheduler services.

#1:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

#2:

The scheduler trace information of the specified scheduler is recorded for each scheduler service under the directory specified in this parameter. Make sure that you specify a directory on the local disk to infallibly record the trace information.

When trace information is output, each trace log file is newly generated with the file name `tracelog_scheduler-service-name`. Make sure that no other file with the same name as a trace log file is found under the specified directory.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(4\) TRACELOGDIV](#)
- [20.4.2\(113\) TRACELOGDIVDIR](#)

(3) Changes the size of the scheduler trace log file

Execute the `ajstrsetsz` command to change the size of the scheduler trace log file per scheduler service. The default size of the trace log file is 102,400 kilobytes.

For example, execute the `ajstrsetsz` command as follows.

(Example) Setting the size of the trace log file for scheduler service AJSROOT1

```
ajstrsetsz -F AJSROOT1 -s 3072
```

For details about the `ajstrsetsz` command, see `ajstrsetsz` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.1.6 Enabling the suspend function

When you edit the definition of a subunit of a root jobnet during registration for execution, you need to enable the suspend function so that the root jobnet can be suspended.

Initially, the suspend function of JP1/AJS3 is disabled. Use the `ajssetup` command to enable it.

To enable the suspend function:

1. Execute the following command to set up the environment for using the suspend function.

```
ajssetup -F scheduler-service-name -m
```

For details about the syntax of the `ajssetup` command and notes on the command, see *ajssetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

You can enable the suspend function without stopping JP1/AJS3 services or scheduler services. (The setting takes effect immediately.) However, after you enable the suspend function, you will need to log in to JP1/AJS3 - View before you can perform operations in JP1/AJS3 - View.

For details about changing the definition of a subunit of a root jobnet during registration for execution, see 4.5.17 *Changing job and jobnet definitions without unregistering the jobnet* in the manual *JP1/Automatic Job Management System 3 Overview*.

15.1.7 Changing the mode in which unregistration or generation management deletes the generations of a jobnet

The number of logs to keep for a root jobnet or root remote jobnet can be set to a value from 1 to 99 (the maximum can be increased to 999). However, if an attempt is made to unregister the execution of a jobnet that satisfies either of the following conditions, the unregistration processing takes a long time:

- Jobnet whose number of logs to keep is 30 or more
- Jobnet for which the number of logs to keep is 10 or more and a start condition (LEGACY is set for the SAVEGENTYPE environment setting parameter) is used

If processing to unregister the execution of a jobnet takes a long time, the status of the start-condition monitoring of other jobnets might become *Monitor terminated* or execution of the jobnet might fail.

These problems occur because the unregistration mode set in the scheduler service is *synchronous*. If the unregistration mode is *synchronous*, the time required to cancel registration depends on the number of generations to be deleted. If there are many generations for which execution needs to be unregistered, a long time is required, with adverse effects on the execution of other jobnets.

To prevent these problems, change the unregistration mode to *asynchronous*. Note that the procedure for changing the unregistration mode to *asynchronous* differs depending on whether the registration information for the jobnet being executed before the mode is changed is necessary.

When JP1/AJS3 is initially installed and set up, you do not need to change the unregistration mode because *asynchronous* (`yes`) is specified for the `BACKGROUNDLEAVE` environment setting parameter. However, if JP1/AJS3 is installed as an upgrade installation, unregistration mode might be set to *synchronous* (`no`).

If *synchronous* is set for the `BACKGROUNDLEAVE` environment setting parameter or if `BACKGROUNDLEAVE` has not been set, we recommend that you change the unregistration mode to *asynchronous* due to the time required to unregister execution. If you change the mode to *synchronous*, note that registration information is deleted for the jobnets being executed before the mode is changed.

Before you change the unregistration mode of a scheduler service, make sure that the scheduler service is not running.

Use following procedures to change the unregistration mode of a scheduler service.

(1) Procedure for changing the unregistration mode from synchronous to asynchronous

The following operation is unnecessary if the BACKGROUNDLEAVE environment setting parameter is already set to *asynchronous* (yes).

(a) When the registration information for the jobnet that was being executed is not necessary

To change the unregistration mode from synchronous to asynchronous when the registration information for the jobnet that was being executed is not necessary:

1. Stop the scheduler service.

After logging in as a user with superuser permissions, execute the following commands to confirm that all processes have stopped:

```
# /opt/jplajs2/bin/jajs_spmd_stop -n jajs_schd -F scheduler-service-name
# /opt/jplajs2/bin/jajs_spmd_status
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
# /opt/jplajs2/bin/jajs_spmd_stop -n jajs_schd -F AJSROOT1
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command:

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\scheduler-service]" "BACKGROUNDLEAVE"="yes"
```

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

Example:

When the scheduler service is AJSROOT1 on the JP1_DEFAULT physical host, execute the command as follows:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]" "BACKGROUNDLEAVE"="yes"
```

3. Cold-start the scheduler service.

After logging in as a user with superuser permissions, execute the following command:

```
# /opt/jplajs2/bin/jajs_spmd -n jajs_schd -F scheduler-service-name -cold
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
# /opt/jplajs2/bin/jajs_spmd -n jajs_schd -F AJSROOT1 -cold
```

(b) When registration information for the jobnet that was being executed is necessary

To change the unregistration mode from synchronous to asynchronous when the registration information for the jobnet that was being executed is necessary:

Important

You cannot use this procedure when the backup enhancement function is enabled. Use the procedure in (a) *When the registration information for the jobnet that was being executed is not necessary* to change the unregistration mode from synchronous to asynchronous.

1. Stop the scheduler service:

After logging in as a user with superuser permissions, execute the following commands to confirm that all processes have stopped:

```
# /opt/jplajs2/bin/jajs_spmd_stop -n jajs_schd -F scheduler-service-name
# /opt/jplajs2/bin/jajs_spmd_status
```

Example:

When the scheduler service is AJSROOT1, execute the commands as follows:

```
# /opt/jplajs2/bin/jajs_spmd_stop -n jajs_schd -F AJSROOT1
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command:

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\scheduler-service]" "BACKGROUNDLEAVE"="yes"
```

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

Example:

When the scheduler service is AJSROOT1 on the `JP1_DEFAULT` physical host, execute the command as follows:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]" "BACKGROUNDLEAVE"="yes"
```

3. Convert the information about registration for execution to asynchronous type.

Execute the following command:

```
/opt/jplajs2/tools/ajsregcnv -F scheduler-service
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
/opt/jplajs2/tools/ajsregcnv -F AJSROOT1
```

4. Start the scheduler service:

After logging in as a user with superuser permissions, execute the following command:

```
# /opt/jplajs2/bin/jajs_spmd -n jajs_schd -F scheduler-service-name
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
# /opt/jplajs2/bin/jajs_spmd -n jajs_schd -F AJSROOT1
```

(2) Procedure for changing the unregistration mode from asynchronous to synchronous

To change the unregistration mode from asynchronous to synchronous:

1. Stop the scheduler service:

After logging in as a user with superuser permissions, execute the following commands to confirm that all processes have stopped:

```
# /opt/jplajs2/bin/jajs_spmd_stop -n jajs_schd -F scheduler-service-name
# /opt/jplajs2/bin/jajs_spmd_status
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
# /opt/jplajs2/bin/jajs_spmd_stop -n jajs_schd -F AJSROOT1
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command:

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\scheduler-service]" "BACKGROUNDLEAVE"="no"
```

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

Example:

When the scheduler service is AJSROOT1 on the `JP1_DEFAULT` physical host, execute the command as follows:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]" "BACKGROUNDLEAVE"="no"
```

3. Cold-start the scheduler service.

After logging in as a user with superuser permissions, execute the following command:

```
# /opt/jplajs2/bin/jajs_spmd -n jajs_schd -F scheduler-service-name -cold
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
# /opt/jplajs2/bin/jajs_spmd -n jajs_schd -F AJSROOT1 -cold
```

15.1.8 Settings for using wait conditions

When you use wait conditions to control the execution order of units that are in different jobnets, you need to enable wait conditions.

Wait conditions are disabled by default. To use wait conditions, you need to set the `PREWAITUSE` environment setting parameter.

Use the `PREWAITEXTEND` environment setting parameter to extend the wait condition function.

The following describes the procedure for using wait conditions.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–6: Environment setting parameter for specifying whether to use wait conditions

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER \scheduler-service]#	"PREWAITUSE"=	Specifies whether to use wait conditions.
	"PREWAITEXTEND"=	Extends the wait condition function.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(95\) PREWAITUSE](#)
- [20.4.2\(96\) PREWAITEXTEND](#)

15.1.9 Settings for using the temporary change operation management function

When you display a list of information about operations such as **Change Plan** and **Change Hold Attribute** performed on jobnets, or re-execute a temporary change operation selected from the temporary change information list, you need to enable the temporary change operation management function.

The temporary change operation management function is disabled by default. To use this function, enable the SAVEPLANINFO environment setting parameter.

The following describes the procedure for using the temporary change operation management function.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:


```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–7: Environment setting parameter that specifies whether to use the temporary change operation management function

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJSMANAGER\scheduler-service]#	"SAVEPLANINFO"=	Enables or disables the temporary change operation management function.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(102\) SAVEPLANINFO](#).

15.1.10 Setting for changing the number of characters specifiable for a unit name in a UTF-8 environment

When you use UTF-8 as the character encoding, a multi-byte character such as Japanese is represented with more bytes than the number of bytes used when you use another character encoding. Because the maximum number of bytes that can be specified for each item of a unit does not depend on the character encoding, the maximum number of characters that can be defined in UTF-8 is less than in Shift JIS.

In a UTF-8 environment, after setting up the embedded database, if one of the following conditions is met, the maximum number of characters that can be specified for some items (such as the unit name) is the same as that in a Shift JIS environment:

- The OS is Linux, and the version of JP1/AJS3 - Manager is 09-50-01 or later.
- The OS is Solaris 11, and the version of JP1/AJS3 - Manager is 10-00-03 or later.
- The OS is AIX or HP-UX, and the version of JP1/AJS3 - Manager is 10-50-01 or later.

For the following items, the maximum number of specifiable characters is the same as that in a Shift JIS environment:

- Unit name in the detailed definition of a unit
- Comment in the detailed definition of a unit
- Exclusive jobnet name in the schedule setting

The following describes the procedure for matching the number of characters that can be specified for a unit name in a UTF-8 environment to the number of characters in a Shift JIS environment when you migrate JP1/AJS - Manager to a UTF-8 environment.

Cautionary notes:

- When you set up an embedded database so that items such as a unit name can be specified with the same number of characters as that is specified in a Shift JIS environment, the maximum number of nested units (the maximum number of hierarchical levels) is 10. Therefore, in a unit configuration consisting of more than 10 levels, you cannot migrate JP1/AJS3 - Manager to a UTF-8 environment. To migrate JP1/AJS3 - Manager in such cases, you need to change the unit configuration before starting the migration.
- When you want to migrate JP1/AJS3 - Manager to a UTF-8 environment, you need to do so in a standard configuration. If you have upgraded JP1/AJS2 - Manager, change the product to a standard configuration and then migrate it.

For details about how to change the product to a standard configuration, see *8.5 Upgrading JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

- When the version of JP1/AJS3 - View is 09-50 or earlier, and `sjis` is set for the `DEFLENTYPE` environment setting parameter, the scheduler service and lower units are not displayed. If `sjis` is set for the `DEFLENTYPE` environment setting parameter for all the scheduler services, a message (KAVV187-E) is output and none of the scheduler services or lower units are displayed. Also, if a scheduler service for which `sjis` is set for the `DEFLENTYPE` environment setting parameter is accessed by the `ajs` command or from manager jobnets, a message (KAVV455-E) is output and the scheduler service and lower units are not displayed.

(1) Definition procedure for a new installation of JP1/AJS3 - Manager

(a) Non-cluster configuration

1. Save the unit definition.

Execute the `ajsprint` command to save the unit definition defined in JP1/AJS - Manager.

2. Change the character encoding in the unit definition saved in step 1 to UTF-8.

3. Install JP1/AJS3 - Manager in the UTF-8 environment.

4. Delete the database.

Execute the following command to delete the database:

```
ajsembdbsetup -del -F service-name
```

The following is an example of executing the command:

```
ajsembdbsetup -del -F AJSROOT1
```

5. Set UTF-8 for the `AJSCHARCODE` environment setting parameter.

If the `AJSCHARCODE` environment setting parameter value is not UTF-8, execute the following command to change the `AJSCHARCODE` environment setting parameter to UTF-8.

```
jajs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJSMANAGER\scheduler-s  
ervice-name]" "AJSCHARCODE"="UTF-8"
```

The following is an example of executing the command:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\AJROOT1]" "AJSCHARCODE"="UTF-8"
```

6. Set up the database.

Execute the following command to set up the database so that the same number of characters can be specified for items such as unit name in the Shift JIS environment and the UTF-8 environment.

```
ajsembddbsetup -e sjis -F service-name -id setup-identifier -p port-number -tp table-name-prefix
```

The following is an example of executing the command:

```
ajsembddbsetup -e sjis -F AJROOT1 -id _JF0 -p 22220 -tp AJS1
```

7. Stop the embedded database.

Execute the following command to stop the embedded database.

```
ajsembdbstop -id setup-identifier
```

The following is an example of executing the command:

```
ajsembdbstop -id _JF0
```

8. Start JP1/AJS3 - Manager.

9. Restore the unit definition.

Execute the `ajdefine` command to restore the unit definition converted in step 2.

Supplement:

If you execute the `ajsembddbsetup` command, the following value is automatically set for the `DEFLENTYPE` environment setting parameter.

- When the `-del` option is specified: `byte`
- When the `-e sjis` option is specified: `sjis`

(b) Cluster configuration

1. Save the unit definition.

Execute the `ajspri` command to save the unit definition defined in JP1/AJS - Manager.

2. Change the character encoding in the unit definition saved in step 1 to UTF-8.

3. Install JP1/AJS3 - Manager in the UTF-8 environment.

4. Configure the logical host environment.

Execute the `jajs_setup_cluster` command to configure the logical host environment.

In this case, you need to specify the `-E sjis` option in the `jajs_setup_cluster` command.

If you want to execute the `jajs_setup_cluster` command with the `-S` option specified to set up the embedded database separately, you need to specify the `-e sjis` option for the `ajsembddbsetup` command, which is the command used to execute setup of the embedded database.

For details about configuration of a logical host environment, see [17.2.2 Procedure for setting up a cluster system environment \(in UNIX version of JP1/AJS3 - Manager\)](#).

5. Stop the embedded database.

Execute the following command to stop the embedded database.

```
ajsembdbstop -id setup-identifier
```

The following is an example of executing the command:

```
ajsembdbstop -id _JF1
```

6. Start JP1/AJS3 - Manager on the logical host.

7. Restore the unit definition.

Execute the `ajsdefine` command to restore the unit definition converted in step 2.

Supplement:

- If you execute the `jaajs_setup_cluster` command with the `-E sjis` option specified, the following values are automatically set for the `AJSCHARCODE` and the `DEFLENTYPE` environment setting parameters:
 - `AJSCHARCODE` value: UTF-8
 - `DEFLENTYPE` value: `sjis`
- If you execute the `ajsembdbsetup` command, the following value is automatically set for the `DEFLENTYPE` environment setting parameter.
 - When the `-del` option is specified: `byte`
 - When the `-e sjis` option is specified: `sjis`

(2) Definition procedure for setting the definition in an environment in which JP1/AJS3 - Manager has been installed

(a) Non-cluster configuration

1. Save the unit definition.

Execute the `ajsprint` command to save the unit definition defined in JP1/AJS - Manager.

2. Change the character encoding in the unit definition saved in step 1 to UTF-8.

3. Stop the JP1/AJS3 - Manager installed in the UTF-8 environment.

If the installed JP1/AJS3 - Manager is running, stop it.

Stop JP1/AJS3 - Manager on all the configured hosts.

4. Execute the `ajsshmdel` command to delete the shared memory information.

Delete the JP1/AJS3 shared memory information. The path of the `ajsshmdel` command is `/opt/jp1ajs2/bin/ajsshmdel`.

The following is an example of executing the command:

For `sh`

```
/opt/jp1ajs2/bin/ajsshmdel >/dev/null 2>&1
```

For `cs`

```
/opt/jp1ajs2/bin/ajsshmdel >&/dev/null
```

5. Start the embedded database that will be used for operations.

If the embedded database to be used for operations is not running, execute the following command to start it.

```
ajsembdbstart -id setup-identifier
```

The following is an example of executing the command:

```
ajsembdbstart -id _JF0
```

6. Delete the database.

Execute the following command to delete the database.

```
ajsembdbsetup -del -F service-name
```

The following is an example of executing the command:

```
ajsembdbsetup -del -F AJSROOT1
```

7. Set UTF-8 for the AJSCHARCODE environment setting parameter.

If the AJSCHARCODE environment setting parameter value is not UTF-8, execute the following command to change the AJSCHARCODE environment setting parameter value to UTF-8.

```
ajjs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJSMANAGER\scheduler-service-name]" "AJSCHARCODE"="UTF-8"
```

The following is an example of executing the command:

```
ajjs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]" "AJSCHARCODE"="UTF-8"
```

8. Set up the database.

Execute the following command to set up the database so that the same number of characters can be specified for items such as unit name in the Shift JIS environment and the UTF-8 environment.

```
ajsembdbsetup -e sjis -F service-name -id setup-identifier -p port-number -tp table-name-prefix
```

The following is an example of executing the command:

```
ajsembdbsetup -e sjis -F AJSROOT1 -id _JF0 -p 22220 -tp AJS1
```

9. Stop the embedded database.

Execute the following command to stop the embedded database.

```
ajsembdbstop -id setup-identifier
```

The following is an example of executing the command:

```
ajsembdbstop -id _JF0
```

10. Start JP1/AJS3 - Manager.

11. Restore the unit definition.

Execute the `ajdefine` command to restore the unit definition converted in step 2.

Supplement:

If you execute the `ajsembdbsetup` command, the following value is automatically set for the `DEFLENTYPE` environment setting parameter:

- When the `-del` option is specified: `byte`
- When the `-e sjis` option is specified: `sjis`

(b) Cluster configuration

1. Save the unit definition.

Execute the `ajspri` command to save the unit definition defined in JP1/AJS - Manager.

2. Change the character encoding in the unit definition saved in step 1 to UTF-8.

3. Stop the JP1/AJS3 - Manager installed in the UTF-8 environment.

If the installed JP1/AJS3 - Manager is running, stop it.

Stop JP1/AJS3 - Manager on all the configured hosts.

4. Execute the `ajsshmdel` command to delete the shared memory information.

Delete the JP1/AJS3 shared memory information. The path of the `ajsshmdel` command is `/opt/jp1ajs2/bin/ajsshmdel`.

The following is an example of executing the command:

For `sh`

```
/opt/jp1ajs2/bin/ajsshmdel >/dev/null 2>&1
```

For `cs`

```
/opt/jp1ajs2/bin/ajsshmdel >&/dev/null
```

5. Start embedded database that will be used for operations.

If embedded database to be used for operations is not running, execute the following command to start it.

```
ajsembdbstart -id setup-identifier
```

The following is an example of executing the command:

```
ajsembdbstart -id _JF1
```

6. Delete the database.

Execute the following command to delete the database.

```
ajsembdbsetup -del -mh logical-host-name -F scheduler-service-name
```

The following is an example of executing the command:

```
ajsembdbsetup -del -mh logicalhost -F AJSROOT2
```

7. Set UTF-8 for the AJSCHARCODE environment setting parameter.

If the AJSCHARCODE environment setting parameter value is not UTF-8, execute the following command to change the AJSCHARCODE environment setting parameter to UTF-8.

```
jajs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJSMANAGER\scheduler-s  
ervice-name]" "AJSCHARCODE"="UTF-8"
```

The following is an example of executing the command:

```
jajs_config -k "[logicalhost\JP1AJSMANAGER\AJSROOT2]" "AJSCHARCODE"="UTF-  
8"
```

8. Set up the database.

Execute the following command to set up the database so that the same number of characters can be specified for items such as unit name in the Shift JIS environment and the UTF-8 environment.

```
ajsembdbsetup -e sjis -mh logical-host-name -F scheduler-service-name -id setup-identifier -p port-number -tp table-name-prefix
```

The following is an example of executing the command:

```
ajsembdbsetup -e sjis -mh localhost -F AJSROOT2 -id _JF1 -p 22222 -tp AJS2
```

9. Stop the embedded database.

Execute the following command to stop the embedded database.

```
ajsembdbstop -id setup-identifier
```

The following is an example of executing the command:

```
ajsembdbstop -id _JF1
```

10. Apply the environment setting parameters on the primary node to the secondary node.

The command to be executed on the primary node and the command to be executed on the secondary node are given below.

Primary node:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

Secondary node:

```
jbssetcnf backup-file-name
```

Execution examples for the above commands are given below.

Primary node:

```
jbsgetcnf -h localhost > /tmp/param_output.txt
```

Secondary node:

```
jbssetcnf /tmp/param_output.txt
```

11. Start JP1/AJS3 - Manager on the logical host.

12. Restore the unit definition.

Execute the `ajsdefine` command to restore the unit definition converted in step 2.

Supplement:

If you execute the `ajsembdbsetup` command, the following value is automatically set for the `DEFLENTYPE` environment setting parameter:

- When the `-del` option is specified: `byte`
- When the `-e sjis` option is specified: `sjis`

(3) Definition procedure for adding a scheduler service to JP1/AJS3 - Manager

(a) Non-cluster configuration

1. Add a scheduler service.

Execute the `jaajs_setup` command to add a scheduler service. In this case, you need to specify the `-E sjis` option for the `jaajs_setup` command.

If you want to execute the `jaajs_setup` command with the `-S` option specified to set up the embedded database separately, you need to specify the `-e sjis` option for the `ajsembdbsetup` command, which is executed to set up the embedded database.

For details about how to add a scheduler service, see *15.1.1 Settings for starting multiple scheduler services* or *17.2.10 Setting startup of multiple scheduler services on a logical host*.

Supplement:

If you execute the `jaajs_setup` command with the `-E sjis` option specified, the following values are automatically set for the `AJSCHARCODE` and the `DEFLENTYPE` environment setting parameters.

- Value of `AJSCHARCODE`: UTF-8
- Value of `DEFLENTYPE`: `sjis`

(b) Cluster configuration

See *(a) Non-cluster configuration*.

15.1.11 Settings for preventing scheduler services for which the user does not have access permission from appearing in JP1/AJS3 - View

You can prevent scheduler services for which the user does not have access permission from appearing in JP1/AJS3 - View (scheduler service reference restriction function).

The access permission for a scheduler service indicates the access permission of a JP1 user for the JP1 resource group of the root job group of the scheduler service. If the scheduler service reference restriction function is enabled, scheduler services do not appear if a JP1 user without access permission for the JP1 resource group of the root job group starts JP1/AJS3 - View.

The scheduler service reference restriction function is disabled by default. To use the function, enable the `HIDEOTHERSERVICE` environment setting parameter.

The following is the procedure for using the scheduler service reference restriction function.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmc_status
```


2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–8: The environment setting parameter for setting whether the scheduler service reference restriction function is to be used

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJSMANAGER]#	"HIDEOTHERSERVICE"=	Sets whether the scheduler service reference restriction function is to be used.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(25\) HIDEOTHERSERVICE](#).

(3) Notes

- If you enable the scheduler service reference restriction function, define the JP1 resource groups of all the root job groups. If there is a root job group whose JP1 resource group is not defined, its scheduler service will not be displayed in JP1/AJS3 - View even if a JP1 user has access permission for all JP1 resource groups.
- If you enable the scheduler service reference restriction function, specify a separate directory for each scheduler service as the backup information directory for that scheduler service. If a backup information directory is shared by multiple scheduler services, any user with access permission for any of the scheduler service can access all of the backup information stored in the common backup information directory.
Use the -b option of the jajs_setup command to specify a backup information directory for scheduler services.

15.1.12 Settings for restricting the maximum number of allowed concurrent sessions for scheduler services

You can specify the maximum number of allowed concurrent sessions for each scheduler service in JP1/AJS3 - View.

This setting is not in effect by default. To set it, specify it based on how the scheduler services operate.

Note that when you set the maximum number of allowed concurrent sessions, also consider whether you need to change the setting of the MAXSESSION environment setting parameter. For details, see [20.4.2\(107\) SERVICEMAXSESSION](#).

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–9: The environment setting parameter for setting the maximum number of allowed concurrent sessions for scheduler services

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJSMANAGER\scheduler-service]#	"SERVICEMAXSESSION"=	Sets the maximum number of allowed concurrent sessions for each scheduler service.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.4.2\(107\) SERVICEMAXSESSION](#).

15.1.13 Setting to reduce the number of ports used for internal communications by the scheduler service at job execution

You can reduce the number of ports that are used for internal communications by the scheduler service at job execution. If you do so, you can reduce the delays in job execution due to depletion of ports even during operation in which many jobs are executed.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–10: Environment setting parameter to specify whether to reduce the number of ports used for internal communications by the scheduler service at job execution

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJS2\HOST]#	"REDUCEUSEPORT"=	Specifies whether to reduce the number of ports used for internal communications by the scheduler service at job execution

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.8.2\(9\) REDUCEUSEPORT](#).

15.1.14 Settings to change the last schedulable year for jobs

You can change the last schedulable year for jobs (maximum value: 2099).

The last schedulable year for jobs differs depending on the method that was used to install JP1/AJS3 - Manager.

The following table shows the last schedulable year for jobs in each case.

Table 15–11: Last schedulable year for jobs

No.	Installation method	Last schedulable year set by default
1	New installation of JP1/AJS3 - Manager 13-00 or later	2043
2	Upgrade installation from JP1/AJS3 - Manager 12-60 or earlier	2036

You can use the SCHEDULELIMIT environment setting parameter to change the schedulable range. This section describes the procedures for extending and for reducing the range.

Cautionary notes:

- We recommend that you do not reduce the schedulable range because this requires a complex procedure.
- In a cluster environment, set the same value for the SCHEDULELIMIT environment setting parameter on the active and standby servers.

(1) Procedure for extending the schedulable range

1. Terminate all JP1/AJS3 - View instances that are connected to the JP1/AJS3 - Manager for which you want to change the schedulable range.

You can check whether there are JP1/AJS3 - View instances connected to the JP1/AJS3 - Manager instance for which you want to change the schedulable range. To do this, execute the `ajsstatus -v` command on the target JP1/AJS3 - Manager host.

2. Stop the `ajsinetd` and `ajscdinetd` processes.

Execute the following commands to stop the `ajsinetd` and `ajscdinetd` processes of the JP1/AJS3 - Manager instance for which you want to change the schedulable range:

```
jajs_hstd_stop -n ajsinetd
jajs_hstd_stop -n ajscdinetd
```

3. Stop the scheduler service.

Stop the scheduler service for which you want to change the schedulable range.

4. Execute the following command to set the environment setting parameter described in (3) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

5. Start the scheduler service.

Start the scheduler service for which you changed the schedulable range.

6. Start the ajsinetd and ajscdinetd processes.

Execute the following commands to start the ajsinetd and ajscdinetd processes of the JP1/AJS3 - Manager instance for which you changed the schedulable range:

```
jajs_hstd -n ajsinetd
jajs_hstd -n ajscdinetd
```

(2) Procedure for reducing the schedulable range

(a) Tasks required before changing the environment setting parameter

1. Modify the JP1/AJS3 definitions.

If you reduce the schedulable range, information about times beyond the new range might be included in the following definitions. If such information is included, you must modify the definitions.

- Calendar definition
- Unit definition

2. Obtain the JP1/AJS3 definition information.

Obtain the following types of definition information:

- Calendar definition
- Unit definition
- Release information[#]
- Temporary change information[#]

#

Obtain this information only if the relevant functions are used.

3. Cancel execution registration of root jobnets.

If there are root jobnets that are scheduled to run at a time beyond the new schedulable range, cancel execution registration of the root jobnets.

You can search for such root jobnets by using the following command:

```
ajsshow -i "%JJ %Pt"
-b day-next-to-last-day-of-new-extent-to-which-jobs-can-be-scheduled
-e current-extent-to-which-jobs-can-be-scheduled -T -R /*
```

4. Back up the registered execution-schedule information for jobnets.

(b) Changing the environment setting parameter

1. Terminate all JP1/AJS3 - View instances that are connected to the JP1/AJS3 - Manager for which you want to change the schedulable range.

You can check whether there are JP1/AJS3 - View instances connected to the JP1/AJS3 - Manager instance for which you want to change the schedulable range. To do this, execute the `ajsstatus -v` command on the target JP1/AJS3 - Manager host.

2. Stop the `ajsinetd` and `ajscdinetd` processes.

Execute the following commands to stop the `ajsinetd` and `ajscdinetd` processes of the JP1/AJS3 - Manager instance for which you want to change the schedulable range:

```
jajs_hstd_stop -n ajsinetd
jajs_hstd_stop -n ajscdinetd
```

3. Stop the scheduler service.

Stop the scheduler service for which you want to change the schedulable range.

4. Execute the following command to set the environment setting parameter described in (3) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

5. Start the scheduler service.

Cold-start the scheduler service for which you changed the schedulable range.

6. Start the `ajsinetd` and `ajscdinetd` processes.

Execute the following commands to start the `ajsinetd` and `ajscdinetd` processes of the JP1/AJS3 - Manager instance for which you changed the schedulable range:

```
jajs_hstd -n ajsinetd
jajs_hstd -n ajscdinetd
```

(c) Tasks required after changing the environment setting parameter

1. Overwrite the unit definition.

Use the following command to overwrite the unit definition by using the definition information that you obtained in [\(a\) Tasks required before changing the environment setting parameter](#):

```
ajsdefine -F scheduler-service-name -f file-name
```

Before executing the command, confirm that `yes` is set for the `UNITDEFDIVIDEUPDATE` environment setting parameter. If `no` is set, overwriting a large unit definition might result in insufficient memory area for controlling locks. In such a case, divide the data and register it as multiple definitions.

2. Register the calendar definition.

Use the following command to register the calendar definition by using the definition information that you obtained in [\(a\) Tasks required before changing the environment setting parameter](#):

```
ajscalendar -c -df file-name
```

3. Register the release information.

Reregister the release information by using the definition information that you obtained in (a) *Tasks required before changing the environment setting parameter*.

4. Import registered execution-schedule information.

Import registered execution-schedule information from the registered execution-schedule information that you backed up in (a) *Tasks required before changing the environment setting parameter*.

5. Reregister the root jobnets for execution.

Reregister execution of the root jobnets that you unregistered in step 3 in (a) *Tasks required before changing the environment setting parameter*. If there were root jobnets that were registered for immediate execution, also reregister them for immediate execution.

6. Temporarily change the execution registration.

Use a temporary change history to reperform a temporary change.

For root jobnets that were registered for fixed execution, the temporary change information will have been restored by importing the registered execution-schedule information. Therefore, perform this operation for only the jobnets that were registered for planned execution and for immediate execution.

(3) Environment setting parameter

Table 15–12: Environment setting parameter for changing the last year of the schedulable range

Definition key	Environment setting parameter	Explanation
[{ JP1__DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"SCHEDULELIMIT"=	Last year of the extent to which jobs can be scheduled

#:

The specification of the { JP1__DEFAULT | *logical-host* } part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1__DEFAULT. For a logical host, specify the logical host name.

For details about the SCHEDULELIMIT environment setting parameter, see [20.4.2\(123\) SCHEDULELIMIT](#).

15.2 Settings for controlling job execution

This section describes how to change the settings for controlling job execution.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.2.1 Defining variables for work paths used during job execution

You can define variables for the work paths of the following items that are displayed in the Define Details dialog box for a PC job, Unix job, HTTP connection job, or queue job. Because specific values can be set for these variables for each agent host, the same job definition can be used to execute a job on all agent hosts.

Table 15–13: List of job definition items for which variables can be defined

Job definition item	Whether variable can be defined
Command statement (UNIX only)	Y
File name (Windows only)	Y
Script file name (UNIX only) [#]	Y
Parameters	Y
Environment variables	--
Environment file	--
Working path	--
Standard input	Y
Standard output	Y
Standard error output	Y
File to transfer	--
Destination file	--

Legend:

Y: A variable can be defined for this item.

--: A variable cannot be defined for this item.

[#]:

The variables discussed in this subsection have no effect in a script file.

The following describes how to define variables for the work paths used during job execution.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
# /opt/jplajs2/bin/ajsqlstop#2
# /opt/jplajs2/bin/ajsqlstatus#2
```

#1:

Confirm that automatic termination has been set.

#2:

This command needs to be executed only if queueless jobs are used.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameter

Table 15–14: Environment setting parameter used to define a variable for a work path

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Variable]#	"variable-name"=	Specifies the work path for a variable name.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(72\) variable-name](#).

(3) Definition example

The following shows an example of specifying the job definition and commands when the prog1 job program is in /usr/i1/pp1/bin on the Agent1 host and in /usr/i2/pp1/bin on the Agent2 host.

- Job definition

```
file-name=$pp1_inst$/prog1
```

- Command to be executed on the Agent1 host

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1NBQAGENT\Variable]"
"pp1_inst"="/usr/i1/pp1/bin"
```

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

- Command to be executed on the Agent2 host

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1NBQAGENT\Variable]"
"pp1_inst"="/usr/i2/pp1/bin"
```


The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

With the above definition and commands, /usr/i1/pp1/bin/prog1 is executed on the Agent1 host and /usr/i2/pp1/bin/prog1 is executed on the Agent2 host.

(4) Note

Do not use a character string that begins with JP1, a character string that begins with JP1 is used by the system.

15.2.2 Defining search paths for a file to be transferred

When you have defined search paths for a file that is to be transferred, the location of the file can also be resolved from a relative path.

This subsection describes how to define a search path.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
# /opt/jplajs2/bin/ajsqlstop#2
# /opt/jplajs2/bin/ajsqlstatus#2
```

#1:

Confirm that automatic termination has been set.

#2:

This command needs to be executed only if queueless jobs are used.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart the services that you stopped in step 1.

The new settings are applied.

Important

Make sure that you perform the above procedure on the host on which a job operation has been requested. For example, if you use the `jpqjobs` command to submit a job, perform the procedure on the host on which you execute the command.

Note that this function is not valid for result files.

(2) Environment setting parameters

Table 15–15: Environment setting parameters used to define the search path for a file that is to be transferred

Definition key	Environment setting parameter	Explanation
[<code>{JP1_DEFAULT logical-host}\JP1NBQCLIENT\PathEnv</code>]#	"All Users"=	Specifies the search path for the file to be transferred.
	"JP1-user-name"=	Specifies the search path for the file to be transferred.

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(73\) All Users](#)
- [20.5.2\(74\) JP1-user-name](#)

(3) Definition example

Conditions:

Search paths common to all JP1 users: `/home/user1/trans1` and `/home/user1/trans2`

Name of the file to be transferred: `/home/user1/trans1/TransFile1`

Definition example:

- Definition of the file to be transferred in the job
Name of the file to be transferred: `TransFile1`
- Definition of the search paths on the host sending the submit request

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\SCHEDULER\scheduler-service\QUEUE\CLIENT\PathEnv]"
```


"All Users"="`/home/user1/trans1::/home/user1/trans2`"
The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

When these settings are specified, on the host that sends a submit request, `/home/user1/trans1/TransFile1` is set as the file to be transferred.

15.2.3 Customizing the execution agent or agent attribute values created by the automatic agent definition function

You can customize the execution agent or agent attribute values created by the automatic agent definition function in advance by using the common definition information.

The applicable objects and job types differ according to the definition key.

Table 15–16: Objects and job types to which customization is applicable

No.	Definition key	Object	Job type
1	[{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2\SCHEDULER\QUEUE\MANAGER\Agent]#1	All execution agents	<ul style="list-style-type: none"> • PC job • Unix job • Flexible job#2 • HTTP connection job • Action job
2	[{JP1_DEFAULT <i>logical-host</i> }\JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Agent]#1	Execution agent for the scheduler service specified by the definition key	<ul style="list-style-type: none"> • PC job • Unix job • Flexible job#2 • HTTP connection job • Action job
3	[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQMANAGER\Agent]#1	All agents and default queue	<ul style="list-style-type: none"> • Submit job

#1:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

#2:

For a flexible job, replace *execution agent* with *relay agent*.

To customize the execution agent or agent attribute values created by the automatic agent definition function can be customized by using the common definition information, execute the `jajs_config` command.

The following describes the customization procedure.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1
["parameter-name-2"=value-2]
["parameter-name-3"=value-3]
["parameter-name-4"=value-4]
```

3. Restart the JP1/AJS3 service.

The new settings are applied.

(2) Environment setting parameters

Table 15–17: Environment setting parameters used to customize the attribute values set by the automatic agent definition function

Definition key	Environment setting parameter	Applicable manager	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Agent]# 	"AutoCreateExecJobs"=	C, S	Specifies the maximum number of concurrently executable jobs set by the automatic agent definition function.
<ul style="list-style-type: none"> For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Agent]# 	"AutoCreateMaxJobs"=	C	Specifies the maximum number of jobs set by the automatic agent definition function.
<ul style="list-style-type: none"> For submit jobs [{JP1_DEFAULT logical-host} \JP1NBQMANAGER\Agent]# 	"AutoCreateWarnJobs"=	C	Specifies the number of jobs set by the automatic agent definition function as the threshold value for warning.
	"AutoCreatePriority"=	C	Specifies the agent priority set by the automatic agent definition function

Legend:

C: Job execution control manager for submit jobs

S: Job execution control manager for scheduler services

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(31\) AutoCreateExecJobs](#)
- [20.5.2\(32\) AutoCreateMaxJobs](#)
- [20.5.2\(33\) AutoCreateWarnJobs](#)
- [20.5.2\(34\) AutoCreatePriority](#)

(3) Note

When you use the agent automatic definition function and the execution agent restriction function, an execution agent that is automatically defined during job execution needs to be set in the execution agent profile before execution of the job. If the execution agent has not been set in the execution agent profile, the job is placed in the *Failed to start* status, in which case the execution agent will not be added.

15.2.4 Checking the messages output at the same time by a job to the standard output and standard error output

The messages displayed in the Execution Result Details dialog box of JP1/AJS3 - View are the messages output by a job to the standard error output. If you also want to check the messages output at the same time by the job to the standard output in this dialog box, the following setting is necessary.

- For PC jobs, Unix jobs, and HTTP connection jobs

Specify the same file name in both the **Standard output** and **Standard error** text boxes in the Define Details - [PC Job] dialog box, the Define Details - [UNIX Job] dialog box, or the Define Details - [HTTP Connection Job] dialog box.

Cautionary notes:

- For PC and Unix jobs, if you specify the same file name in the **Standard output** and **Standard error** text boxes, specify the same **Append** option setting for **Standard output** and **Standard error**. If you execute a job when check box for one selected and check box for the other cleared, the following message will be output to the integrated trace log and the status of the job will be *Failed to start*.
 - When **Standard** is specified as **Exec. Service** of the job
KAVU0201-E *function-name*: The parameter is specified incorrectly.
 - When **Queueless Agent** is specified as **Exec. Service** of the job (when the job is a queueless job)
KAVS1846-E The job definition (*job-name*) is invalid.
- If you execute a queueless job with the same file name specified for both **Standard output** and **Standard error**, the messages that are output to the standard output and the standard error output are first saved in a temporary file. The specified file is not updated until execution of the job is completed.

15.2.5 Changing the interval and number of resend attempts for job result files

When a job being executed on an agent host has ended, the agent host transfers job result files to the manager host, and if the files are transferred successfully, reports termination to the manager host. However, if the transfer fails, the agent host normally retries the transfer at five-minute intervals until the termination status is reported to the manager host. However, if the files are large, analysis of the files burdens the manager host. Normally, if the manager host does not respond within ten minutes of transferring the job result files to the agent host, the agent host assumes a timeout error and tries to send the files again. Repeated resend attempts, however, will cause the manager host to repeatedly perform file analysis, a burden that causes CPU usage to soar. At this point, the manager might no longer be able to accept any other requests.

You can reduce the load on the manager host by changing the interval and the number of resend attempts applied when the transfer of job result files fails.

The following describes how to change the interval and number of resend attempts for job result files.

Note that the procedure described below is not necessary if you use the queueless job execution facility, because the facility does not resend job result files.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 15–18: Environment setting parameters used to change the interval and number of resend attempts for job result files

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Network]#	"NotifyJobStateInterval"=	Specifies the interval for attempts to resend job result files.
	"NotifyJobStateCount"=	Specifies the maximum number of resend attempts for job result files.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(65\) NotifyJobStateInterval](#)
- [20.5.2\(66\) NotifyJobStateCount](#)

15.2.6 Preventing duplicated reception of job result files

When a standard job or action job being executed on an agent host has ended, the agent host transfers job result files (standard output and standard error output files) to the manager host. Normally, when the agent host has transferred the files, it waits 10 minutes for a response from the manager host. However, if the files are large, file analysis on the manager host takes time, and the wait for a response from the manager host times out. If a timeout occurs, the agent host tries to resend the files until they are transferred successfully. Repeated resend attempts, however, will cause the manager host to repeatedly perform file analysis, a burden that causes CPU usage to soar. At this point, the manager might no longer be able to accept any other requests.

You can use an environment setting parameter to prevent the manager host from receiving job result files resent by agent hosts, thereby reducing the load on the manager. Although the setting for enabling the resending of job result files can also be specified on the agent host side, using that setting is not suitable for a large-scale configuration that includes many agent hosts. This is because the setting must be specified on each agent host. For details about how to specify the setting on the agent host side, see also [15.2.5 Changing the interval and number of resend attempts for job result files](#).

The environment setting parameter described in this subsection allows you to stop all agent hosts from resending job result files by simply changing the definition on the manager host.

The following describes how to prevent the duplicated reception of job result files.

Note that the procedure described below is not necessary if you use the queueless job execution facility, because the facility does not resend job result files.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–19: Environment setting parameter used to prevent duplicated reception of job result files

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">• For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]#• For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]#• For submit jobs [{JP1_DEFAULT logical-host} \JP1NBQMANAGER\Job]#	"ReceiveFileOption"=	Specifies whether to prevent duplicated reception of job result files.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(17\) ReceiveFileOption](#).

15.2.7 Placing restrictions on file reception

Setting restrictions on file reception allows you to restrict the size of files that can be received by a manager host or agent host when a job is executed. This subsection describes how to set restrictions on file reception.

Using restrictions on file reception in version 11-00 or later

You can use restrictions on file transfer for agent hosts for JP1/AJS3 version 11-00 or later. If a job is executed on an agent host of version 11-00 or later, use restrictions on file transfer on the agent host in addition to restrictions on file reception on the manager host.

For details about restrictions on file transfer, see [15.2.24 Placing restrictions on file transmission](#).

When a job[#] has been executed in JP1/AJS3, result files (standard output and standard error output files) and transfer files are transferred between the manager and agent hosts, or between the client and manager hosts. If the size of these files is very large, data analysis of the files places a burden on the manager host. As a result, CPU and memory usage increases, and other problems that delay job execution and degrade overall system performance can occur.

#:

The description in this subsection applies to only PC jobs, Unix jobs, custom jobs, QUEUE jobs executed by JP1/AJS3, and submit jobs. The description does not apply to event jobs, custom event jobs, passing information setting jobs, HTTP connection jobs, flexible jobs, and queueless jobs.

The restrictions on file reception described in this subsection allow you to set the maximum size for these types of files that are transferred after a job is executed. You can set maximums for the total size of result files (standard output and standard error output files) received by the manager host and for the total size of transfer files received by an agent host.

The restrictions on file reception also allow you to specify the status in which the job will be placed and the message that will be output if the size of the received files exceeds the maximum.

The following table describes the type of operation that is performed and how file data is handled when the size of received files exceeds the maximum.

Table 15–20: Type of operation performed and how file data handled if the size of received files exceeds the maximum

File type	Category	Value of the ReceiveFileSizeStatus environment setting parameter			
		0	1	2	3
Result file	Status in which job is placed	Actual termination status of the job	Ended abnormally	Ended with warning [#]	Actual termination status of the job
	Type of message output	Information	Error	Warning	Information
	Handling of file data	All file data is received.	File data exceeding the maximum is discarded.	File data exceeding the maximum is discarded.	File data exceeding the maximum is discarded.
Transfer file	Status in which job is placed	Actual termination status of the job	Failed to start	Failed to start	Actual termination status of the job
	Type of message output	Information	Error	Error	Information
	Handling of file data	All file data is received.	No file data is received.	No file data is received.	No file data is received.

#:

If status of the job is *Ended abnormally* on the agent host, that status is inherited.

(1) Definition procedure

1. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

2. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 15–21: Environment setting parameter used to place restrictions on file reception

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i>} \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i>} \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]# For submit jobs [{JP1_DEFAULT <i>logical-host</i>} \JP1NBQMANAGER\Job]# 	"ReceiveFileSizeStatus"=	Specifies the restrictions applied if the size of received files reaches the maximum.
	"LimitReceiveFileSize"=	Specifies the maximum for the size of received files.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(15\) ReceiveFileSizeStatus](#)
- [20.5.2\(16\) LimitReceiveFileSize](#)

(3) Operation performed if the size of received files exceeds the maximum

The following describes the operation performed if the size of received files exceeds the maximum.

- Result files
 - If the maximum is reached when the value of the ReceiveFileSizeStatus environment setting parameter is 1, 2, or 3, no more data is output to the standard output and standard error output files on the manager host. Because the result files are not complete, confirm that the incomplete result files will not cause any problems in cases such as when a succeeding job references these files.
 - For the return code and end status of a job when the size of received result files reaches the maximum, see the following table.

Table 15–22: End status and return code when the size of received result files exceeds the maximum

Actual job status	Category	Value of the ReceiveFileSizeStatus environment setting parameter		
		1	2	0 or 3
Ended normally (Includes cases when <i>Always normal</i> is specified.)	Status	Ended abnormally	Ended with warning	Ended normally
	Return code	Return value of the job#	Return value of the job#	Return value of the job#
Ended with warning	Status	Ended abnormally	Ended with warning	Ended with warning
	Return code	Return value of the job#	Return value of the job#	Return value of the job#

Actual job status	Category	Value of the ReceiveFileSizeStatus environment setting parameter		
		1	2	0 or 3
Ended abnormally	Status	Ended abnormally	Ended abnormally	Ended abnormally
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Killed	Status	Killed	Killed	Killed
	Return code	PC job: -1 Unix job: -1	PC job: -1 Unix job: -1	PC job: -1 Unix job: -1
Failed to start	Status	Failed to start	Failed to start	Failed to start

#:

Return code of the job process executed as a job

- Transfer files

- If the maximum is reached when the value of the `ReceiveFileSizeStatus` environment setting parameter is 1, 2, or 3, none of the transfer files are received, and all the data received as the specified transferred files is discarded.
- For the return code and end status of a job when the size of received transfer files reaches the maximum, see the following table.

Table 15–23: End status and return code when the size of received transfer files exceeds the maximum

Actual job status	Category	Value of the ReceiveFileSizeStatus environment setting parameter		
		1	2	0 or 3
None ^{#1}	Status	Failed to start	Failed to start	Actual job termination status
	Return code	PC job: -1 Unix job: -1	PC job: -1 Unix job: -1	Return value of the job ^{#2}

#1:

Because transfer files are processed before a job is registered, the status of the job is *None*, which is the status of a job before its status becomes *Now queuing*.

#2:

Return code of the job process executed as a job

(4) Note

If you place restrictions on file reception when the host that sends and receives files is in a Japanese environment that is not Shift-JIS, the actual file size might be different from the specified maximum file size.

When a result file is received or when a transfer file is sent, the size of the file is checked as Shift-JIS file data. After the check, the file is created on the host receiving the result file or the host receiving the transfer file by converting the data to the character code set used by the receiving host.

For both transfer files and result files, the character code set of the applicable file is converted to Shift-JIS before the file size is checked. Therefore, if the file sender host is in a Japanese environment that is not Shift-JIS and the character code set is changed to Shift-JIS, the file size might be reduced by the change. In this case, restrictions on file reception are disabled on the file sender host even if the file size is greater than the maximum.

If the host on which a file is created is in a Japanese environment that is not Shift-JIS, the Shift-JIS data is converted to the character codes of the host after the size is checked. Therefore, the file size after conversion might be greater than

the size reported by the size check. In this case, even if you place restrictions on file reception to prevent files greater than the maximum from being received, a file greater than the maximum will be created. Note that such a large file could consume more disk area than you are expecting.

When executing a passing information setting job, set an appropriate value for the `LimitReceiveFileSize` environment setting parameter. If the preceding job outputs a standard output file whose file size is larger than the value of the `LimitReceiveFileSize` environment setting parameter, the passing information setting job might fail when retrieving information from the standard output file.

15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections

As job execution control, TCP/IP is used to pass information between the processes. However, if the host to be connected to is not running or if a network error has occurred, TCP/IP connection fails.

If the other host does not respond to a TCP/IP connection request, job execution control first waits for a maximum of 90 seconds for a response, and then makes two retry attempts at 20-second intervals (under the default settings). If both attempts fail, four or five minutes might pass before the connection finally resulted in an error.

If a communication error occurs during the following operations, detection might take more time:

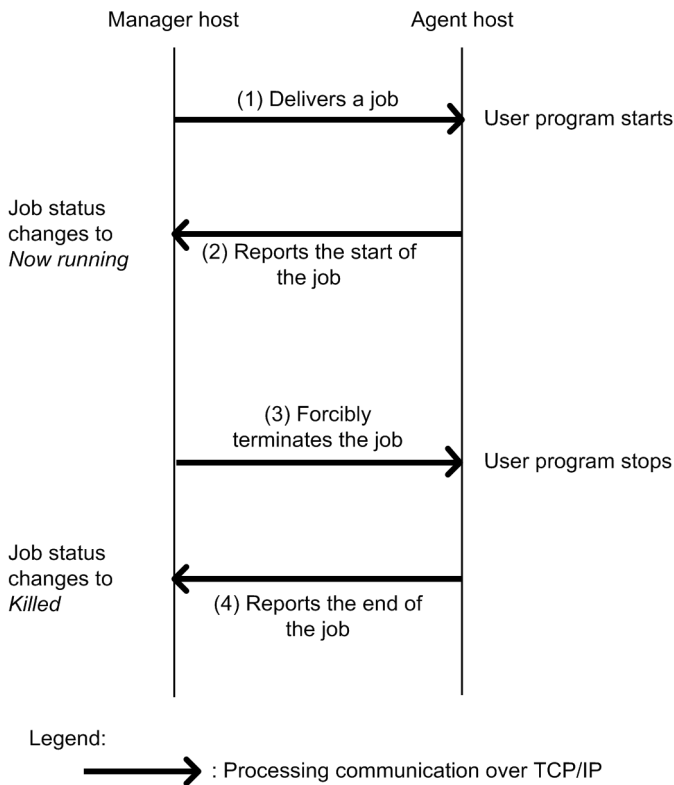
- Delivering jobs
- Reporting the job status
- Checking the job status
- Checking the agent host status
- Transferring a result file
- Reporting the start of a job
- Reporting the end of a job

This delay might result in a further delay in changing the job status.

If TCP/IP connection errors are frequent, you can set smaller values for the connection timeout value, the number of retry attempts, and the retry interval to speed up the detection of an error.

The following figure shows an example of processing (from executing a job to forcibly terminating it) with communication over a TCP/IP connection between the manager and agent hosts.

Figure 15–1: Example of processing with communication over a TCP/IP connection between the manager and agent hosts



For connections (1) and (3) in the above figure, the timeout period, number of retries, and interval of retries are controlled by using the environment setting parameters for TCP/IP communication from the manager host to the agent host. For connections (2) and (4) in the above figure, the timeout period, number of retries, and interval of retries are controlled by using the environment setting parameters for TCP/IP communication from the agent host to the manager host.

The following describes these two types of environment setting parameters.

Environment setting parameters for TCP/IP communication from the manager host to the agent host:

TCP/IP communication from the manager host to the agent host is used when the following operations are performed:

- Delivering jobs
- Killing jobs
- Checking the job status
- Checking the agent host status

For details about checking the status of a job or agent, see *5.4.8 Monitoring the status of registered jobs* in the manual *JP1/Automatic Job Management System 3 Overview*.

The following table lists the environment setting parameters that are used to set the timeout period, number of retries, and interval of retries for TCP/IP communication from the manager host to the agent host.

Table 15–24: Environment setting parameters that are used for TCP/IP communication from the manager host to the agent host

No.	Definition key#	Environment setting parameter	Definition
1	[{JP1_DEFAULT logical-host} \JP1AJS2 \HOST \NETWORK],	"ClientConnectTimeout"=	Connection timeout
2		"ClientRetryInterval"=	Connection retry interval

No.	Definition key#	Environment setting parameter	Definition
3	[{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2\HOST\NETWORK\QUEUEMANAGER], and [{JP1_DEFAULT <i>logical-host</i> }\JP1AJSMANAGER\scheduler-service-name\NETWORK\QUEUEMANAGER]	"ClientRetryCount"=	Number of connection retries

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see [20.8 Setting up the communication control environment](#).

Environment setting parameters for TCP/IP communication from the agent host to the manager host:

TCP/IP communication from the agent host to the manager host is used when the following operations are performed:

- Reporting the start of a job
- Reporting the end of a job
- Transferring a result file

The following table lists the environment setting parameters that are used to set the timeout period, number of retries, and interval of retries for TCP/IP communication from the agent host to the manager host.

Table 15–25: Environment setting parameters that are used for TCP/IP communication from the agent host to the manager host

No.	Definition key	Environment setting parameter	Definition
1	[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Network]#	"ConnectTimeout"=	Defines the timeout value for a TCP/IP connection attempted by the job execution control agent.
2		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the job execution control agent.
3		"CommunicateRetryInterval"=	Defines the retry interval for a TCP/IP connection attempted by the job execution control agent.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see [20.5 Setting up the job execution environment](#).

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1
["parameter-name-2"=value-2]
["parameter-name-3"=value-3]
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jajs_config` command for each definition key.

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

The following table lists the definition keys for which values are to be changed, and their purpose.

Table 15–26: Definition keys for which values are to be changed

Definition key	Purpose
<ul style="list-style-type: none"> JP1AJS2\HOST\NETWORK JP1AJS2\HOST\NETWORK\QUEUEMANAGER JP1AJSMANAGER\scheduler-service-name\NETWORK\QUEUEMANAGER 	<ul style="list-style-type: none"> Delivering jobs Killing jobs Checking the job status Checking the agent host status
<ul style="list-style-type: none"> For all scheduler services JP1AJS2\SCHEDULER\QUEUE\MANAGER\Network For a specific scheduler service JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Network For submit jobs JP1NBQMANAGER\Network 	Reporting the job status
JP1NBQAGENT\Network	<ul style="list-style-type: none"> Reporting the start of a job Reporting the end of a job Transferring a result file
JP1NBQCLIENT\Network	Registering a job from the scheduler and executing a job from a command
<ul style="list-style-type: none"> For all scheduler services JP1AJS2\SCHEDULER\QUEUE\NOTIFY\Network For a specific scheduler service JP1AJSMANAGER\scheduler-service\QUEUE\NOTIFY\Network For submit jobs JP1NBQNOTIFY\Network 	Checking the job status on another system (such as JP1/OJE) and reporting the status

The following table describes the definition keys and corresponding environment setting parameters. Note that you do not need to set these environment setting parameters for the queueless job execution facility.

Table 15–27: Environment setting parameters for communication control

No.	Definition key [#]	Environment setting parameter	Definition	Reference
1	[{JP1_DEFAULT logical-host}\JP1AJS2\HOST\NETWORK],	"ClientConnectTimeout"=	Connection timeout	20.8.2(1) <i>ClientConnectTimeout</i> (communication control)
2	[{JP1_DEFAULT logical-host}	"ClientRetryInterval"=	Connection retry interval	20.8.2(2) <i>ClientRetryInterval</i>

No.	Definition key#	Environment setting parameter	Definition	Reference
3	\JP1AJS2\HOST\NETWORK\QUEUEMANAGER], and [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service-name\NETWORK\QUEUEMANAGER]	"ClientRetryCount" "="	Number of connection retries	20.8.2(3) <i>ClientRetryCount</i>

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

Table 15–28: Environment setting parameters for job execution control

No.	Definition key	Environment setting parameter	Definition	Reference
1	<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Network]# 	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection from the job execution control manager process to the status reporting process for job execution control.	20.5.2(25) <i>ConnectTimeout (for job execution control manager)</i>
2	<ul style="list-style-type: none"> For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Network]# 	"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection from the job execution control manager process to the status reporting process for job execution control.	20.5.2(26) <i>CommunicateRetryCount (for job execution control manager)</i>
3	<ul style="list-style-type: none"> For submit jobs [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQMANAGER\Network]# 	"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection from the job execution control manager process to the status reporting process for job execution control.	20.5.2(27) <i>CommunicateRetryInterval (for job execution control manager)</i>
4	[{JP1_DEFAULT <i>logical-host</i> } \JP1NBQAGENT\Network]#	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection attempted by the job execution control agent.	20.5.2(67) <i>ConnectTimeout (for job execution control agent)</i>
5		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the job execution control agent.	20.5.2(68) <i>CommunicateRetryCount (for job execution control agent)</i>
6		"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the job execution control agent.	20.5.2(69) <i>CommunicateRetryInterval (for job execution control agent)</i>
7	[{JP1_DEFAULT <i>logical-host</i> }	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection attempted by job	20.5.2(75) <i>ConnectTimeout (for the command and scheduler to be used for job execution)</i>

No.	Definition key	Environment setting parameter	Definition	Reference
7	\JP1NBQCLIENT\Network]#	"ConnectTimeout"=	execution commands and the scheduler.	20.5.2(75) <i>ConnectTimeout (for the command and scheduler to be used for job execution)</i>
8		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by job execution commands and the scheduler.	20.5.2(76) <i>CommunicateRetryCount (for the command and scheduler to be used for job execution)</i>
9		"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by job execution commands and the scheduler.	20.5.2(77) <i>CommunicateRetryInterval (for the command and scheduler to be used for job execution)</i>
10	<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\NOTIFY\Network]# For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\NOTIFY\Network]# For submit jobs [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQNOTIFY\Network]# 	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection attempted by the process that reports the job execution control status.	20.5.2(82) <i>ConnectTimeout (for the status reporting process for job execution control)</i>
11		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the process that reports the job execution control status.	20.5.2(83) <i>CommunicateRetryCount (for the status reporting process for job execution control)</i>
12		"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the process that reports the job execution control status.	20.5.2(84) <i>CommunicateRetryInterval (for the status reporting process for job execution control)</i>

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

15.2.9 Setting the method for determining the agent host to which a job will be delivered

JP1/AJS3 allows you to specify a group of execution agents as the agent host on which to execute a job (PC job other than a queueless job, Unix job other than a queueless job, flexible job#, HTTP connection job, action job other than a queueless job, or custom job) or jobnet. This allows the processing load to be distributed among the execution agents in the group.

For details about how to distribute the processing load among the execution agents by specifying a group of execution agents, see 2.3.1 *Processing with a distributed load* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

When a job is delivered, if there are multiple agent hosts that have the same priority and agent usage rate, the most effective way to evenly distribute the load is to specify the execution agent that has not been used for the longest time as the agent for delivering the job.

#:

For a flexible job, replace *execution agent* with *relay agent*.

The following describes how to set the method for determining the agent host to which a job will be delivered.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–29: Environment setting parameter used to set the method for determining the agent host to which a job will be delivered

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Agent]# • For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Agent]# 	"LeastRecentlyUsed"=	Defines a method for determining the agent host to which a job will be delivered.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(35\) LeastRecentlyUsed](#).

15.2.10 Setting the action to be taken if the value of a macro variable cannot be passed

If the value of a macro variable cannot be passed to a job in a jobnet being executed, you can take either of two actions for the jobnet. One is to place the jobnet in *Failed to start* status, and the other is to continue execution by using the macro variable name as a string value.

The following describes how to set the action to be taken if the value of a macro variable cannot be passed when execution of a jobnet is attempted.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–30: Environment setting parameter used to set the action to be taken if the value of a macro variable cannot be passed

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJS2COMMON]#	"MACROCHANGEFAIL"=	Defines the action to be taken if the value of a macro variable specified in an event job, a custom event job or a specified during registration for execution cannot be passed.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.11.2\(3\) MACROCHANGEFAIL](#).

15.2.11 Setting the handling of a macro variable when the value is a NULL string

The value of a macro variable can be used as event information received by an event job and a custom event job. For details about macro variables, see [2.2.6 Considerations regarding the use of macro variables](#) in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For examples of defining macro variables in event jobs and

custom event jobs, 2.4.4(6) *Passing information received by an event job and a custom event job in the JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide.*

You can define the event information received by an event job and a custom event job as a macro variable that can be used to pass the event information to a succeeding job or jobnet. The information passed to a succeeding job or jobnet is called *passing information*. For an example of defining macro variables, see 2.4.4(6) *Passing information received by an event job and a custom event job in the JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide.*

If the passing information is a NULL string and only the macro variable name is specified without any prefixed or suffixed characters, you can select either of the following methods handling the macro variable:

- The macro variable name itself is used as a string value (default)
- The macro variable name is replaced with a NULL string

These methods for handling a macro variable whose value is a NULL string are described below with the use of examples.

When the macro variable name itself is used as a string value:

- When no characters are prefixed or suffixed to the macro variable name:
[?AJS2xxxxx?] → [?AJS2xxxxx?]
- When characters are prefixed or suffixed to the macro variable name:
[aaa?AJS2xxxxx?bbb] → [aaabbb]
[ccc?AJS2xxxxx?] → [ccc]
[?AJS2xxxxx?ddd] → [ddd]

When the macro variable name is replaced with a NULL string:

- When no characters are prefixed or suffixed to the macro variable name:
[?AJS2xxxxxxxxx?] → []
- When characters are prefixed or suffixed to the macro variable name:
[aaa?AJS2xxxxx?bbb] → [aaabbb]
[ccc?AJS2xxxxx?] → [ccc]
[?AJS2xxxxx?ddd] → [ddd]

The setting described in this subsection applies to jobs for which **Standard** is specified for **Exec. Service**. If **Queueless Agent** is specified, the macro variable name is always replaced with a NULL string. Note that this setting applies only to the following definition items, for which a macro variable could be used in JP1/AJS2 07-11 and earlier versions:

Unix job:

- Command statement
- Script file name
- Parameter
- Environment variable

PC job or flexible job:

- Executable file name
- Parameter
- Environment variable

Note that this setting is not necessary when characters are always prefixed or suffixed to macro variable names, and when operation expects that macro variable names will be used as string values.

The following describes how to set the handling of a macro variable when the value is a NULL string.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–31: Environment setting parameter used to set the handling of a macro variable when the value is a NULL string

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBCLIENT\Process]#	"MacroOptionReplaceMode"=	Specifies the handling of a macro variable whose value is a NULL string.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(79\) MacroOptionReplaceMode](#).

15.2.12 Changing the wait time for recovery when an agent has failed

This subsection discusses JP1/AJS3 behavior when an agent host executing a job (PC job other than a queueless job, Unix job other than a queueless job, flexible job#, HTTP connection job, queue job running on JP1/AJS3, action job other than a queueless job, or custom job) fails or a communication error occurs. In such situations, JP1/AJS3 does not immediately assume a failure, and retries communication after waiting a specified time for recovery. The purpose of waiting is to prevent operation from stopping due to a temporary, recoverable failure. The default wait time is 10 minutes. However, depending on the operation, you might want to determine the failure location and take corrective action immediately rather than waiting for recovery. You can do this by reducing the wait time for recovery.

#:

For a flexible job, replace *agent host* with *relay agent*.

The following describes how to change the wait time for recovery when an agent host has failed.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

In a cluster system, also stop the JP1/AJS3 service on each logical host.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

Cautionary note:

In a cluster system, perform this step on both the primary and secondary nodes.

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 15–32: Environment setting parameters used to set the amount of time to wait for recovery when an agent has failed

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# 	"QueuingJobRecoveryTime"=	Specifies in seconds how long to wait for recovery from an agent failure related to a queued job.
<ul style="list-style-type: none"> For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]# 	"ExecutingJobRecoveryTime"=	Specifies in seconds how long to wait for recovery from an agent failure related to a job being executed.
<ul style="list-style-type: none"> For submit jobs [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQMANAGER\Job]# 		

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(18\) QueuingJobRecoveryTime](#)
- [20.5.2\(19\) ExecutingJobRecoveryTime](#)

15.2.13 Outputting a message that reports that the maximum number of concurrently executable jobs has been reached

If the number of jobs (PC jobs other than queueless jobs, Unix jobs other than queueless jobs, Flexible jobs[#], HTTP connection jobs, action jobs other than queueless jobs, or custom jobs) that are being executed concurrently on an agent host has reached the maximum, the succeeding jobs might remain queued, delaying their execution.

#:

For a flexible job, replace *agent host* with *relay agent*.

JP1/AJS3 provides a setting that outputs the following message to the integrated trace log when the number of jobs being executed concurrently reaches the maximum. By enabling the setting, you can confirm that job execution was delayed because the maximum was reached.

```
KAVU4310-I The number of executing jobs reaches the concurrently-executable
-job-limit (maximum-number-of-concurrently-executable-jobs) at the agent (ag
ent-host-name). (host name: host-name, job number: job-number)
```

If this message is not output, despite enabling of this setting and a job status of *Now queuing*, check the agent, agent group, or job execution host for the following possible causes:

If this message is not output even when this setting is enabled and the status of jobs is *Now queuing*, various causes are possible. Accordingly, check the setting of the maximum number of concurrently executable jobs, the job transfer restriction status, and the job execution host status for the execution agent or execution agent group.

1. The maximum number of concurrently executable jobs is 0.

Use the `ajsagtshow` command to check the maximum number of concurrently executable jobs (CON-EXE) on the execution agent.

For details about the `ajsagtshow` command, see *ajsagtshow* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. The job transfer restriction status of the execution agent group is *Hold* or *Blockade*. Alternatively, the job transfer restriction status of the execution agent is *Ineffective*, *Hold*, or *Blockade*.

Use the `ajsagtshow` command to check the job transfer restriction status of the execution agent group or execution agent.

For details about the `ajsagtshow` command, see *ajsagtshow* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. The agent host has stopped or failed.

Use the integrated trace log on the agent host to check for stoppage of the JP1/AJS3 service or the occurrence of an error on the agent host. Also check whether the agent host is able to communicate with the manager host.

If queue or submit jobs are used, check the agent, agent group, or job execution host for the following possible causes:

1. The maximum number of concurrently executable jobs is 0.

Use the `jpgagtshow` command to check the maximum number of concurrently executable jobs (CUREXEGNUM).

For details about the `jpgagtshow` command, see *jpgagtshow* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. In the settings for queues (including the default queue), the job exit is closed.

Use the `jpgqshow` command to check the job exit status (EXITSTATUS).

For details about the `jpqqueshow` command, see *jpqqueshow* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. The agent host has stopped or failed.

Use the integrated trace log on the agent host to check for stoppage of the JP1/AJS3 service or the occurrence of an error on the agent host. Also check whether the agent host is able to communicate with the manager host.

4. A necessary resource has been locked by another job.

Use the `jpqresshow` command to check for jobs whose status is EXECUTING.

For details about the `jpqresshow` command, see *jpqresshow* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the maximum number of concurrently executable jobs when queue or submit jobs are used, see 2.5.4 *Maximum number of concurrently executable jobs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The following describes how to set output of a message that reports that the maximum number of concurrently executable jobs has been reached.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 15–33: Environment setting parameters used to set output of the message that reports that the maximum number of concurrently executable jobs has been reached

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# 	"MaximumExecJobLogOption"=	Specifies output of the message that reports that the maximum number of concurrently executable jobs has been reached.
<ul style="list-style-type: none"> For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]# For submit jobs 	"MaximumExecJobLogInterval"=	Specifies the interval for re-output of the message that reports that the maximum number of concurrently executable jobs has been reached.

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQMANAGER\Job]#	"MaximumExecJobLogInterval"=	Specifies the interval for re-output of the message that reports that the maximum number of concurrently executable jobs has been reached.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(20\) MaximumExecJobLogOption](#)
- [20.5.2\(21\) MaximumExecJobLogInterval](#)

15.2.14 Changing the timeout value for the job execution control manager process

When the job execution control manager process is requested to perform any of the following operations, the timeout period (default: 10 minutes) for communication with the manager process is set by the requester:

- Registration, cancellation, or status checking of a job by the scheduler
- Performing an operation on a job by using a job execution command (jpxxxx)

If communication with the job execution control manager process takes too much time and a timeout occurs, job execution or the command request fails.

The major causes of a communication timeout are as follows:

- The size of the transfer files or result files for the executed job is large.
- Many jobs are listed by the jpxqendjobshow command, which lists information about terminated jobs.
For details about the jpxqendjobshow command, see *jpxqendjobshow* in *4. Commands Used for Special Operation* in the manual *JPI/Automatic Job Management System 3 Command Reference*.
- Many jobs are listed by the jpxqjobshow command, which lists information about jobs that have not terminated yet.
For details about the jpxqjobshow command, see *jpxqjobshow* in *4. Commands Used for Special Operation* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

If communication times out while the scheduler is registering or canceling a job or checking the status of a job, the job# ends abnormally, and the following message is output to the integrated trace log:

#:

Event jobs, custom event jobs and jobs for which **Queueless Agent** is specified for **Exec. Service** are exceptions.

KAVU0220-E *function-name*: There is no response from the manager.

If communication times out during processing of a jpxxxx command, the following message is output:

KAVU0953-E No response from the manager.

You might be able to prevent a command request or job execution failure due to a communication timeout by increasing the communication timeout value. If communication times out while the scheduler is registering or canceling a job, or checking the status of a job, increase the timeout value on the manager host. If communication times out while the command that is used to execute a job is being executed, increase the timeout value on the client host where the command is executed.

The following describes how to change the communication timeout value.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following command to confirm that all processes have stopped:

```
# /opt/jp1ajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–34: Environment setting parameter used to change the timeout value for the job execution control manager process

Definition key	Environment setting parameter	Explanation
{JP1_DEFAULT logical-host}\JP1NBCLIENT\Network]#	"CommunicateTimeout"=	Specifies the timeout value (in milliseconds) for the job execution control manager process.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(78\) CommunicateTimeout](#).

(3) Note

Increasing the communication timeout value also increases the time required to detect an error that has occurred in a command or job during communication processing. As a result, succeeding jobs can easily be delayed. Before changing the communication timeout value, carefully consider the best value to be set.

15.2.15 Changing the timeout value for pipe communication of the agent

Pipe communication between job execution control agent processes sometimes times out. For example, any of the following conditions could cause a timeout:

- Many jobs are being executed in a very short period.
- The CPU is not available for 300 or more seconds because it is busy.

- The job execution control agent process is swapped out and is not executed for at least 300 seconds because of a shortage of real memory.

If any of these conditions persists and pipe communication times out frequently, we recommend that you increase the timeout value for pipe communication on the host on which the agent process runs. The default timeout value is 300 seconds.

The following describes how to change the timeout value for pipe communication of the agent.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–35: Environment setting parameter used to change the timeout value for pipe communication of the agent

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job]#	"PipeComTimeout"=	Specifies the timeout value for pipe communication of the agent.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(59\) PipeComTimeout](#).

15.2.16 Setting the timeout value for receiving notification from the job process that execution is ready

A job that uses a queue (PC job other than a queueless job, Unix job other than a queueless job, flexible job#, HTTP connection job, queue job running on JP1/AJS3, action job other than a queueless job, or custom job) is started as a job process from the job execution control agent process. When the job is started, the agent process uses pipe communication to wait for a notification from the job process that execution is ready. During the wait, if, for example, the CPU is busy or the job priority is low, the job process might not be able to send the notification to the agent process for a long time.

Because the agent process changes the status of a job to *Now running* when it receives the notification from the job process, the job status might remain *Now queuing* if no notification is received. If you set a timeout for receiving the notification, you can detect this problem early from the following message output to the integrated log:

#:

For a flexible job, replace *agent* with *relay agent*.

```
KAVU3589-E A pipe timeout error occurred in a job execution process (timeout value(second): seconds)
```

The following describes how to set the timeout value for receiving notification from the job process that execution is ready.

Note that if you use the queueless job execution functionality, the procedure described below is not needed because the functionality does not use pipe communication.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–36: Environment setting parameter used to set the timeout value for receiving notification from the job process that execution is ready

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job]#	"AfterForkPipeTimeout"=	Specifies the timeout value for receiving notification from the job process that execution is ready.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(60\) AfterForkPipeTimeout](#).

15.2.17 Applying SIG_DFL (setting for receiving the SIGCHLD signal) to a child process started from JP1/AJS3

The explanation in this subsection applies to a UNIX environment in which a UNIX or action job that is not a JP1/AJS3 queueless job is executed. In this state, depending on the login shell used by the job execution OS user, the status of the job might change to *Failed to start* or *Ended abnormally*. Alternatively, the job might end with an unexpected result. This occurs because child processes started from JP1/AJS3 are based on SIG_IGN, which is the setting that ignores the SIGCHLD signal. For details about child-process signals set by JP1/AJS3, see (3) *Child-process signals set by JP1/AJS3*.

Cautionary notes:

1. If JP1/AJS2 08-00 or a later version or JP1/AJS3 is installed as a new installation, SIG_DFL, which is the setting for receiving the SIGCHLD signal, is applied. In this case, the settings described in this subsection need not be specified.
2. If JP1/AJS2 08-00 or a later version or JP1/AJS3 is installed as an upgrade from JP1/AJS2 07-50 or an earlier version, the previous settings are inherited. In this case, the settings described in this subsection must be specified.

The following describes how to apply SIG_DFL, which is the setting for receiving the SIGCHLD signal, to the type of job described above.

Note that if you use the queueless job execution functionality, you do not need to specify the settings described in this subsection. For any child process started from the queueless agent service when a queueless job is executed, SIG_DFL, which is the setting for receiving the SIGCHLD signal, is applied.

(1) Setting method 1

If an application that might cause the problem described above is started from JP1/AJS3, use `sh`, `ssh`, `ksh` (For Linux, in addition to the `ssh`, the `bash` can also be used) as the login shell for the job execution OS user. Alternatively, start the application via the shell.

(2) Setting method 2

(a) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

Cautionary note:

If you apply SIG_DFL, which is the setting for receiving the SIGCHLD signal, you must use the above procedure on the job execution host.

(b) Environment setting parameter

Table 15–37: Environment setting parameter used to apply SIG_DFL to child processes started from JP1/AJS3

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1NBQAGENT \Job]#	"IsSigchldDefault"=	Specifies whether to apply SIG_DFL, which is the setting for receiving the SIGCHLD signal, to child processes started from JP1/AJS3.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(63\) IsSigchldDefault](#).

(3) Child-process signals set by JP1/AJS3

Table 15–38: Child-process signals set by JP1/AJS3

Signal name	Initial setting	Behavior
SIGHUP	SIG_DFL (default)	A
SIGINT	SIG_DFL (default)	A
SIGQUIT	SIG_DFL (default)	A
SIGILL	SIG_DFL (default)	A
SIGTRAP	SIG_DFL (default)	C, G
SIGIOT	SIG_DFL (default)	C, G
SIGEMT	SIG_DFL (default)	G
SIGFPE	SIG_DFL (default)	C
SIGBUS	SIG_DFL (default)	A, G
SIGSEGV	SIG_DFL (default)	C
SIGSYS	SIG_DFL (default)	G
SIGPIPE	SIG_DFL (default)	A
SIGALRM	SIG_DFL (default)	A
SIGTERM	SIG_DFL (default)	A
SIGUSR1	SIG_DFL (default)	A
SIGUSR2	SIG_DFL (default)	A
SIGCHLD	SIG_DFL (default) ^{#1}	B
	SIG_IGN (ignore) ^{#2}	H

Signal name	Initial setting	Behavior
SIGPWR	SIG_DFL (default)	A, G
SIGVTALRM	SIG_DFL (default)	A, G
SIGPROF	SIG_DFL (default)	A, G
SIGIO	SIG_DFL (default)	A, G
SIGWINCH	SIG_DFL (default)	B, G
SIGTSTP	SIG_DFL (default)	D
SIGCONT	SIG_DFL (default)	I
SIGTTIN	SIG_DFL (default)	D
SIGTTOU	SIG_DFL (default)	D
SIGURG	SIG_DFL (default)	B, G
SIGLOST	SIG_DFL (default)	A, G

Legend:

- A: The default behavior is to terminate the process.
- B: The default behavior is to ignore the signal.
- C: The default behavior is to dump core.
- D: The default behavior is to stop the process.
- E: Signal that cannot be caught
- F: Signal that cannot be ignored
- G: Signal that does not conform to POSIX.1
- H: The signal is ignored.
- I: The default behavior is to restart the process.

#1:

If JP1/AJS2 08-00 or a later version or JP1/AJS3 is installed as a new installation, SIG_DFL, which is the setting for receiving the SIGCHLD signal, is applied.

#2:

If JP1/AJS2 08-00 or a later version or JP1/AJS3 is installed as an upgrade from JP1/AJS2 07-50 or an earlier version, SIG_IGN, which is the setting for ignoring the SIGCHLD signal, is applied.

15.2.18 Enabling the file access permission check for the ACL and secondary group settings during job execution

This subsection describes how to enable the file access permission check not only for file permissions during job execution, but also for the ACL and secondary group settings.

The procedure in this subsection must be performed for each agent host. The file access permission check is effective only for Unix jobs and the HTTP connection jobs executed on Linux hosts.

Note that the procedure in this subsection is not necessary when you use the queueless job execution functionality. During the execution of queueless jobs, both file permissions and the ACL and secondary group settings are subject to the file access permission check conducted.

Cautionary note:

You cannot enable this function if the JP1/AJS2 - Agent (or JP1/AJS2 - Manager) 08-10 or an earlier version is installed on the agent host.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–39: Environment setting parameter used to change the settings for checking file access permissions during job execution

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job]#	"FileAccessPermissionMode"=	This parameter specifies the method of checking file access permissions during the execution of Unix jobs and the execution of HTTP connection jobs on Linux hosts.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(64\) FileAccessPermissionMode](#).

15.2.19 Placing all running jobs in an end status when a communication error occurs

JP1/AJS3 periodically (at five-minute intervals) performs polling to monitor running jobs (PC jobs other than queueless jobs, Unix jobs other than queueless jobs, flexible jobs[#], HTTP connection jobs, queue jobs running on JP1/AJS3, action jobs other than queueless jobs, or custom jobs).

#:

For flexible jobs, polling is performed between the manager host and relay agent to monitor jobs.

If a communication error occurs during the monitoring on the agent host on which a job is to be executed, JP1/AJS3 does not immediately declare an abnormal end. Instead, it retries communication for a specified period of time (default: 10 minutes) while waiting for recovery from the system or communication error on the agent host. If the error is a temporary, recoverable error, then operation is not stopped needlessly.

If there has been no recovery on the agent host when the polling period ends, jobs are placed in an end status[#] one by one in order by expiration of a job's wait time for recovery. However, if many jobs are being executed, a long time might be required before all jobs have been placed in an end status. In some cases, therefore, depending on the operation, immediate recovery will have precedence over waiting for recovery in the event of an error. For these cases, you can specify settings so that all jobs being executed on the same agent host are immediately placed in an end status[#] if there has been no error recovery on the agent host when the polling period ends. For the jobs in an execution agent group, these settings are applied to the jobs that are running on the same agent host. Immediately placing jobs in an end status enables recovery action to be taken sooner.

#:

For a job defined in a jobnet, the job status changes to *Killed*, and `-1` is set as the return code. For a submit job executed by the `jpqjbsub` command, the job status changes to the status specified by the `-rs` option (the default is *Hold*).

The following describes how to specify the settings for placing all running jobs in an end status when a communication error occurs.

(1) Definition procedure

1. Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–40: Environment setting parameter used to place all running jobs in an end status when a communication error occurs

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# • For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Job]# • For submit jobs [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQMANAGER\Job]# 	"ExecutingJobChangeStatus"=	Specifies that all running jobs are placed in an end status when a communication error occurs.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(24\) ExecutingJobChangeStatus](#).

15.2.20 Changing the settings for retries when user information is acquired

In JP1/AJS3, when a job[#] starts or ends, information about the OS user who executes the job is acquired. If viewing of user information from the OS password file is temporarily disabled due to adding or deleting OS users or changing their passwords, the KAVU7533-E message (for a queueless job, the KAVS1888-E or KAVS1884-E message) is output to the integrated trace job. At the same time, the status of the job changes to *Failed to start* or *Ended abnormally*.

If viewing of the OS password file is retried at regular intervals, this prevents the status of the job from changing to *Failed to start* or *Ended abnormally*.

Normally, you do not need to change this setting.

#

A Unix job, a flexible job, an HTTP connection job an action job, a custom job, a queue job to be executed on the local host, or a submit job.

The following describes how to specify the setting. Note that the setting must be specified on the host on which the job will be executed.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

- When **Standard** is specified as **Exec. Service** of the job

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spm�_status
```

#1:

Confirm that automatic termination has been set.

- When **Queueless Agent** is specified as **Exec. Service** of the job (when the job is a queueless job)

```
# /opt/jp1ajs2/bin/ajsq1stop
# /opt/jp1ajs2/bin/ajsq1ftpstop#1
# /opt/jp1ajs2/bin/ajsq1status
```

#1:

This command must be executed only on JP1/AJS3 - Manager.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jajs_config` command for each definition key.

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–41: Environment setting parameters used to change the retry setting for acquiring agent host user information

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1NBQAGENT \Job] #	"GetPasswd_RetryCount"=	This parameter applies when Standard is specified for Exec. Service of the job, and specifies the maximum number of retry attempts when an attempt to acquire user information from the OS password file has failed.
	"GetPasswd_RetryInterval"=	This parameter applies when Standard is specified for Exec. Service of the job, and specifies the retry interval when an attempt to acquire user information from the OS password file has failed.
[{JP1_DEFAULT <i>logical-host</i> } \JP1QLAGENT] #	"AJSQL_GETPASSWD_AGTRETRYCOUNT"=	This parameter applies when Queueless Agent is specified for Exec. Service of the job, and specifies the maximum number of retry attempts when the queueless agent service is unable to acquire user information from the OS password file.
	"AJSQL_GETPASSWD_AGTRETRYINTERVAL"=	This parameter applies when Queueless Agent is specified for Exec. Service of the job, and specifies the retry interval when the queueless agent service is unable to acquire user information from the OS password file.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

Table 15–42: Environment setting parameters used to change the retry setting for acquiring manager host user information

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT \JP1QLAGENT]	"AJSQL_GETPASSWD_FTPRETRYCOUNT"=	This parameter applies when Queueless Agent is specified for Exec. Service of the job, and specifies the maximum number of retry attempts when the queueless file transfer service is unable to acquire user information from the OS password file.
	"AJSQL_GETPASSWD_FTPRETRYINTERVAL"=	This parameter applies when Queueless Agent is specified for Exec. Service of the job, and specifies the retry interval when the queueless file transfer service is unable to acquire user information from the OS password file.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(88\) GetPasswd_RetryCount](#)
- [20.5.2\(89\) GetPasswd_RetryInterval](#)
- [20.10.2\(28\) AJSQL_GETPASSWD_AGTRETRYCOUNT](#)
- [20.10.2\(29\) AJSQL_GETPASSWD_AGTRETRYINTERVAL](#)

- 20.10.2(17) *AJSQL_GETPASSWD_FTPRETRYCOUNT*
- 20.10.2(18) *AJSQL_GETPASSWD_FTPRETRYINTERVAL*

(3) Notes

- Because the retries described above are also performed if the user has not been registered, it might take a long period of time until a job's status changes to *Failed to start* or *Ended abnormally*. Make sure that the OS user is registered correctly.
- For queueless jobs, because a new queueless job cannot be started during a retry, setting a long retry period can cause the execution of jobs to be delayed. Therefore, adjust the maximum number of retries and retry interval so that operation is not affected.

15.2.21 Settings for re-executing the dependent units

This subsection describes how to configure the settings for re-executing dependent units. For details about how to re-execute dependent units, see 4.5.11(4) *Re-executing the dependent unit of a judgment job* in the manual *JP1/Automatic Job Management System 3 Overview*.

(1) Definition procedure

1. Execute the following command and confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–43: Environment setting parameter for re-executing dependent units

Definition key	Environment setting parameter	Explanation
[{ JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"RERUNSUBORDINATE"=	Specifies whether dependent units are to be re-executed.

#:

The specification of the { JP1_DEFAULT | *logical-host* } part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see 20.4.2(106) *RERUNSUBORDINATE*.

15.2.22 Operation settings when job result file transfer fails

In JP1/AJS3, the job result file (standard output file or standard error output file) is transferred from the agent host to the manager host when a job process finishes.

If the transfer fails, the job status is set to *Ended abnormally* because the job result file cannot be checked on the manager host. Therefore, even though the job process has finished normally, the job status is treated as *Ended abnormally* because of the failure to transfer the job result file. However, note that in this state, you can set the job status to *Ended normally* by changing the operation settings after the failure.

The following is the procedure for specifying the settings.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

- When **Standard** is specified as **Exec. Service** of the job

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

- When **Queueless Agent** is specified as **Exec. Service** of the job (when the job is a queueless job)

```
# /opt/jp1ajs2/bin/ajsqlstop
# /opt/jp1ajs2/bin/ajsqlftpstop#1
# /opt/jp1ajs2/bin/ajsqlstatus
```

#1:

This command must be executed only on JP1/AJS3 - Manager.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jajs_config` command for each definition key.

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameters

Table 15–44: Environment setting parameter for operation settings when the transfer of job result files fail

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job]#1	"IgnoreResultFileError"=	Operation to be executed if an error occurs during the transfer processing for a job result file if Basic is specified for the service that is to execute the job

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1QLAGENT]#2	"IgnoreResultFileError"=	Operation to be executed if an error occurs during the transfer processing of a job result file if Queueless is specified for the service that is to execute the job

#1:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

#2:

This setting applies to both physical and logical hosts.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(90\) IgnoreResultFileError \(for job\)](#)
- [20.10.2\(19\) IgnoreResultFileError \(for queueless job\)](#)

(3) Notes

- If you execute a job by using a jobnet and the standard error output file is not defined in the detailed definition of the job, a temporary standard error output file is created and transferred to the manager host. For details about the standard error output file, see [7.11.1 Notes on the standard output file and standard error output file](#) in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.
- If the transfer of the job result file fails when 1 is specified for the IgnoreResultFileError environment setting parameter, the setting values of the NotifyJobStateInterval and NotifyJobStateCount environment setting parameters used to set the resending interval and the number of times for a job result file is resent do not take effect. This is because the job result file is not resent and completion of the job has priority. Also, for the same reason, you cannot view the contents of the standard error output file in the Execution result details dialog box in JP1/AJS3 - View.
- For passing information setting jobs, the required information is retrieved from the standard output file of the preceding job and passed to the succeeding job. Therefore, if 1 is set for the IgnoreResultFileError environment setting parameter and an error occurs during transfer of the result file for the preceding job, a message (KAJS7622-E) is output and the passing information setting job might abnormally terminate.
- If 0 is set for the IgnoreResultFileError environment setting parameter and a job result file transfer fails, -1 is set as the return code of the job and the job status is set to *Ended abnormally*. Therefore, even if you have set that the job is to be retried, the job is not retried automatically.

If 1 is set for the IgnoreResultFileError environment setting parameter and a job result file transfer fails, the return code of the job process is set as the return code of the job and the job status is set to *Ended normally*, *Ended with warning*, or *Ended abnormally*. Which value is set depends on how the end of processing is judged. If the job status is set to *Ended abnormally* and the condition for automatic job retry is satisfied, the job is retried automatically. For details about automatic retrying, see [2.4.13 Automatic retry for abnormally ending jobs](#) in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

- If you specify 1 for the IgnoreResultFileError environment setting parameter, note the following:
If the size of transmitted files exceeds the upper limit, the running job ends abnormally when 1 is set for the SendFileSizeStatus setting environment parameter or ends with a warning when 2 is set for the SendFileSizeStatus environment setting parameter. Therefore, when you want to enable the IgnoreResultFileError environment setting parameter and prevent the data that exceeded the upper limit of the transmitted-file size from being transmitted, specify 3 for the SendFileSizeStatus environment setting parameter.

For details about the upper limit of the size of transmitted files, see [15.2.24 Placing restrictions on file transmission](#).

15.2.23 Settings for using the return value of the preceding job in the passing information setting jobs

If the preceding jobs of a passing information setting job ended with a return value other than 0, the return value of the preceding job is set for the return value of the passing information setting job. If you want to set the return value of the passing information setting job, and not the return value of the preceding job, set 0 for the option by using the procedure described below.

Set this option on the host where the passing information setting job is defined.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–45: Environment setting parameter for using the return value of the preceding job in the passing information setting jobs

Definition key	Environment setting parameter	Explanation
<code>{{JP1_DEFAULT logical-host} \JP1NBQAGENT \Process}#</code>	<code>"PassingInfoUsePreRc"=</code>	Settings for using the return value of the preceding job in the passing information setting jobs

#:

The specification of the `{JP1_DEFAULT | logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.5.2\(81\) PassingInfoUsePreRc](#).

(3) Notes

- If the preceding jobs of a passing information setting job ended with a return value other than 0, the return value of the preceding job is set for the return value of the passing information setting job (If there are multiple preceding jobs, the logical OR of all the return values is set. If the passing information setting job is re-executed, the return value of

the preceding job from the last time that the passing information setting job was executed is set). Therefore, if you set 1 for environment setting parameter `PassingInfoUsePreRc`, and the return value of the preceding job exceeds the warning threshold or abnormal threshold defined for the passing information setting job, the passing information setting job will either end with warning or end abnormally. If you do not want the passing information setting job to end with warning or to end abnormally, either set a value higher than the return value of the preceding job for the warning threshold and abnormal threshold of the passing information setting job, or set 0 for environment setting parameter `PassingInfoUsePreRc`.

- If you set 1 for environment setting parameter `PassingInfoUsePreRc`, and the return code of the preceding job is a negative value, the passing information setting job will end abnormally. If the return code of the preceding job is a negative value, set 0 for environment setting parameter `PassingInfoUsePreRc`.
- If you set 1 for environment setting parameter `PassingInfoUsePreRc`, and the preceding jobs of a passing information setting job ended with a return value other than 0, the cause of the error that occurred in the passing information setting job cannot be determined from the return value set for the passing information setting job. Therefore, in JP1/AJS3 - View, in the Execution Result Details dialog box, check the execution results of the passing information setting job.

15.2.24 Placing restrictions on file transmission

When a job[#] has been executed in JP1/AJS3, result files (standard output and standard error output files) are transferred between the manager and agent hosts. If the size of these files exceeds a few megabytes, file data analysis and file data transfer impose a load on the manager host. As a result, CPU and memory usages increase, and job execution is delayed, which might degrade overall system performance.

#:

The description in this subsection applies to only PC jobs, Unix jobs, custom jobs, QUEUE jobs executed by JP1/AJS3, and submit jobs. The description does not apply to event jobs, custom event jobs, passing information setting jobs, HTTP connection jobs, flexible jobs, and queueless jobs.

Placing restrictions on file transmission enables you to set an upper limit on the total size of the results files (standard output and standard error output files) that are transmitted by the agent host when a job is executed.

You can also specify the behavior (that is, the status of job termination) and the message to be output when the size of the transmitted files exceeds the upper limit.

The following table describes the behavior and how file data is handled when the size of transmitted files exceeds the upper limit.

Table 15–46: Behavior and how file data is handled when the size of transmitted files exceeds the upper limit

File type	Category	Value of the <code>SendFileSizeStatus</code> environment setting parameter			
		0	1	2	3
Result file	Job status	Actual termination status of the job	Ended abnormally	Ended with warning [#]	Actual termination status of the job
	Type of message to be output	Information	Information Error	Information Warning	Information
	Handling of file data	Sending all file data	Discards the file data that exceeds	Discards the file data that exceeds	Discards the file data that exceeds

File type	Category	Value of the SendFileSizeStatus environment setting parameter			
		0	1	2	3
Result file	Handling of file data	Sending all file data	the upper limit for a file size	the upper limit for a file size	the upper limit for a file size

#:

If the job status on the agent host is *Ended abnormally*, that status is inherited.

(1) Definition procedure

1. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

2. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–47: Environment setting parameters to place restrictions on file transmission

Definition key	Environment setting parameter	Explanation
[{{JP1_DEFAULT logical-host}}\JP1NBQAGENT\Job]#	"SendFileSizeStatus"=	Specifies the behavior when the file size reaches the upper limit.
	"LimitSendFileSize"=	Specifies the upper limit for a file size.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.5.2\(92\) SendFileSizeStatus](#)
- [20.5.2\(93\) LimitSendFileSize](#)

(3) Behavior when the size of transmitted files exceeds the upper limit

The following describes the behavior when the size of transmitted files exceeds the upper limit:

- Result files
 - Assume that the size of transmitted files reaches the upper limit when the value of the SendFileSizeStatus environment setting parameter is 1, 2, or 3. Then, the standard output and standard error output files up to the total size as large as the upper-limit size are transmitted to the agent host. Because the result files are not complete, make sure that the incomplete result files will not cause any problems in cases such as when a succeeding job will reference the result files.
 - The following table describes the return codes and end status of a job in the case when the size of its result files exceeds the upper limit.

Table 15–48: End status and return codes when the size of result files exceeds the upper limit

Actual job status	Category	Value of SendFileSizeStatus environment setting parameter		
		1	2	0 or 3
Ended normally (Including cases when <i>Always normal</i> is specified)	Status	Ended abnormally	Ended with warning	Ended normally
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Ended with warning	Status	Ended abnormally	Ended with warning	Ended with warning
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Ended abnormally	Status	Ended abnormally	Ended abnormally	Ended abnormally
	Return code	Return value of the job [#]	Return value of the job [#]	Return value of the job [#]
Killed	Status	Killed	Killed	Killed
	Return code	PC job (-1), Unix job (255)	PC job (-1), Unix job (255)	PC job (-1), Unix job (255)
Failed to start	Status	Failed to start	Failed to start	Failed to start

#:

Return code of the job process executed as a job

(4) Note

When executing a passing information setting job, set an appropriate value for the `LimitSendFileSize` environment setting parameter. If the preceding job outputs a standard output file whose file size is larger than the value of the `LimitSendFileSize` environment setting parameter, the passing information setting job might fail in retrieving information from the standard output file.

15.2.25 Setting to increase the maximum number of execution agents that can be registered in a manager host

By default, the maximum number of execution agents that can be registered in a manager host is set to 1,024. If you want to register more than 1,024 execution agents in the manager host, you can increase the maximum number of execution agents that can be registered in a manager host to 2,048.

This subsection describes how to increase the maximum number of execution agents that can be registered in a manager host.

Note that, if you cancel the increase of the maximum number of execution agents later, you will have to re-create the embedded database. Therefore, give due consideration before changing the setting of the maximum number. For details about how to cancel increasing the maximum number of execution agents, see (3) *Procedure for canceling the increase of the maximum number of execution agents*.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15–49: Environment setting parameter to set restrictions on file transmission

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJS2\HOST]#	"AGENTLIMITEXTEND"=	Specifies settings to increase the maximum number of execution agents that can be registered in a manager host

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.3.2\(16\) AGENTLIMITEXTEND](#).

(3) Procedure for canceling the increase of the maximum number of execution agents

If you cancel the increase of the maximum number of execution agents, you must re-create the embedded database.

The following describes how to re-create the embedded database and cancel the increase of the maximum number of execution agents:

1. Delete execution agents so that the total number of registered agents is reduced to 1,024 or less.

2. Back up the unit definition and execution agent information.

If multiple scheduler databases are set up in one embedded database environment, back up all those scheduler databases.

For details about how to perform the backup, see [2.2.3 Backing up the JP1/AJS3 - Manager setup information](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

3. Stop all the services that access the scheduler database. Such services include the JP1/AJS3 on the physical host and all logical hosts.

4. Execute the following command to set 1 in the AGENTLIMITEXTEND environment setting parameter.

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AJS2\HOST]" "AGENTLIMITEXTEND"=dword:00000001
```

5. Use the `ajsembdbunset -e` command to delete the embedded database environment.

In a single embedded database environment, if you execute the `ajsembdbunset` command when multiple scheduler databases are set up, information about all the scheduler databases is deleted.

6. Use the `ajsembdbbuild` command to create an embedded database.

In the `ajsembdbbuild` command, specify arguments appropriately so that the embedded database environment to be built will be the same as the original environment (built before cancellation of the increase of the maximum number of execution agents).

7. Use the `ajsembdbsetup` command to set up the embedded database.

In the `ajsembdbsetup` command, specify arguments appropriately so that the embedded database environment to be set up will be the same as the original environment (set up before cancellation of the increase of the maximum number of execution agents).

If you set up multiple scheduler databases for one embedded database environment, execute the `ajsembdbsetup` command repeatedly until all those scheduler databases are set up.

8. Use the `ajsembdbstop` command to stop the embedded database.

9. Start the JP1/AJS3 service.

10. Restore the unit definition and execution agent information you backed up in step 2.

If you have set up multiple scheduler databases for one embedded database environment, restore the unit definition and execution agent information for all those scheduler databases.

For details, see *2.3.4 Recovering the JP1/AJS3 - Manager setup information* in the *JP1/Automatic Job Management System 3 Administration Guide*.

11. Register the required jobnet for execution.

If jobnets have been registered for execution before cancellation of the increase of the maximum number, start the scheduler service (in cold-start mode) corresponding to the re-created embedded database.

(4) Notes

If you register additional execution agents after increasing the maximum number of execution agents, the time required to start the JP1/AJS3 service extends. If JP1/AJS3 startup time is being monitored by cluster software, you need to review the timeout setting in the cluster software. Therefore, after registering additional execution agents, check the startup time of the JP1/AJS3 service, and appropriately adjust the timeout setting in the cluster software.

15.3 Changing the settings related to event/action control

This section describes how to change the settings related to event/action control.

When you set environment setting parameters, use the `jaajs_config` command or `jbssetcnf` command.

For details about the `jaajs_config` command, see *jaajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details on the `jbssetcnf` command, see the *JP1/Base User's Guide*.

15.3.1 Changing the settings related to the size of the log for event jobs and custom event jobs to match operational requirements

This subsection describes how to change the settings related to the size of the log for event jobs and custom event jobs to match operational requirements. We recommend that you specify the settings so that log data for two or three days is saved. Log data for at least 24 hours must be saved.

For details about estimating the size of log data, see *3.4.3 Estimating the size of the log information output by event jobs and custom event jobs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The following describes how to change the settings related to the size of the log for event jobs and custom event jobs.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jaajs_stop#1
# /opt/jp1ajs2/bin/jaajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set environment setting parameters:

```
jaajs_config -k "definition-key" "parameter-name-1"=value-1
["parameter-name-2"=value-2]
["parameter-name-3"=value-3] ...
```

You can specify only one definition key. If you want to set environment setting parameters for different definition keys, you must execute the `jaajs_config` command for each definition key.

For the environment setting parameters to be set, see *3.4.3 Estimating the size of the log information output by event jobs and custom event jobs* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

3. Restart JP1/AJS3.

The new settings are applied.

15.3.2 Setting the event order option

When an event job or a custom event job has start conditions, events that trigger the job might occur in succession but be processed in a different order, depending on the communication conditions. You might want to preserve the actual order of events that satisfied the start conditions if, for example, the event information will be passed to the job. To do this, use the event order option. The following describes how to enable the event order option.

Note that you must enable the event order option on all the agent hosts for which you want to use the function of the event order option.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–50: Environment setting parameter used to set the event order option

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AOMAGENT]#	"EventSequential"=	Specifies whether the event order option is enabled.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(23\) EventSequential](#).

15.3.3 Setting the status passing option for the file monitoring job

While the file monitoring job is monitoring target files, the monitoring information can be saved continuously so that the monitoring status of the job can be inherited if the JP1/AJS3 service temporarily stops.

Note that the monitoring status can be inherited only if the file monitoring job is operating continuously. Whether the monitoring status can be inherited depends on whether the file monitoring job is operating continuously.

For details about the conditions under which the monitoring status can be inherited, see *7.6.2 Notes on the Monitoring Files job* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

The function that inherits the monitoring status of the file monitoring job is disabled by default. Note, however, that the function is enabled when JP1/AJS3 is installed as a new installation and set up. The following describes how to set the status passing option.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–51: Environment setting parameter used to set the status passing option for the file monitoring job

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AOMAGENT]#	"FilewatchinfContinue"=	Specifies whether the status passing option for the file monitoring job is enabled.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see *20.6.2(20) FilewatchinfContinue*.

15.3.4 Passing event data containing double quotation marks

Data containing double quotation marks (") can be passed as is to an event job and a custom event job. For details, see *4.3.1(5) Passing event data containing double quotation marks* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The following describes how to set the option that enables the passing of data containing double quotation marks (").

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–52: Environment setting parameter used to enable passing of data containing double quotation marks to an event job and a custom event job

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">• For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]#	"MacVarDQuotation"=	Specifies whether to enable passing of data containing double quotation marks (").

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(3\) MacVarDQuotation](#).

15.3.5 Using fully qualified domain names (FQDN) when using event jobs and custom event jobs during DNS operation

This subsection describes how to specify the settings for using domain names in FQDN format when using event jobs and custom event jobs during DNS operation. The procedure for specifying these settings when JP1/AJS3 is installed as a new installation is described below. Note that specification of these settings is required only if event jobs and custom event jobs are used. Standard jobs, HTTP connection jobs, action jobs, and custom jobs are already supported.

If you want to change environment settings during operation, see [7.9.5 Changing to FQDN host names for event jobs and custom event jobs in a DNS environment](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

Note that these settings must be specified on the manager host.

The procedure for specifying these settings is as follows.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–53: Environment setting parameter used to enable the use of fully qualified domain names (FQDN) when event jobs and custom event jobs are used during DNS operation

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">• For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]#	"DNSEstablish"=	Specifies whether to enable the use of domain names in FQDN format when event jobs and custom event jobs are used during DNS operation.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(4\) DNSEstablish](#).

15.3.6 Resuming event jobs and custom event jobs that stopped when the JP1/AJS3 service stopped

For event jobs and custom event jobs, JP1/AJS3 provides an option that enables event jobs and custom event jobs that have stopped when the JP1/AJS3 service stopped to resume in the same status from the point at which they stopped.

The following describes how to enable this option. For details about the functionality of this option, see [8.2.1 Continuing the execution of event jobs and custom event jobs if the JP1/AJS3 service stops](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:


```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–54: Environment setting parameter used to enable event jobs and custom event jobs that have stopped when the JP1/AJS3 service stopped to resume

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]# For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]# 	"EvJobExecContinue"=	Specifies whether to enable the execution of stopped event jobs and custom event jobs to resume.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(6\) EvJobExecContinue](#).

15.3.7 Retrying startup notification of the event/action control agent

When an event job, a custom event job or a jobnet with start conditions is registered for execution from a manager host, the name of the manager host is set in JP1/AJS3 on the execution host (target host). When JP1/AJS3 starts, it notifies the event/action control manager that it has started. This notification is called the *startup notification of the event/action control agent* (abbreviated here to *startup notification*).

When the manager receives the notification, the manager communicates with the agent to synchronize the execution status of the event job and custom event job (or jobnet with start conditions) running on the agent between the manager and agent.

If startup notification from the agent to the manager fails, the execution status of the event job and custom event job (or jobnet with start conditions) might become inconsistent between the manager and agent. If an inconsistency occurs, the jobnet with start conditions might be displayed as a jobnet being monitored (*Now monitoring* status) in JP1/AJS3 - View even if the agent is no longer actually monitoring the jobnet. If a monitored event then occurs, the event will not be detected, preventing the event job and the custom event job from ending on the manager or the jobnet with start conditions from starting.

If the JP1/AJS3 service on the agent host will be restarted under either of the following conditions while an event job, a custom event job or a jobnet with start conditions is running, set an environment parameter as described in (1) below:

- The agent restarts the JP1/AJS3 service on the agent host when the load on the overall system from programs other than JP1/AJS3 is excessive.
- The JP1/AJS3 service on the agent host is restarted when a temporary communication error occurs on the network.

To check the manager host names set, you can use the `jpoagoec` command. If there are unnecessary manager hosts, use the command to delete them, and then set the environment setting parameter. For details about the `jpoagoec` command, see `jpoagoec` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Cautionary note:

If you set the environment setting parameter and then start the JP1/AJS3 service on the agent when unnecessary manager hosts are set on the agent, startup notification will fail for those hosts, resulting in retries. These unnecessary retries could delay the starting of an event job, a custom event job or a jobnet with start conditions executed from another manager as well as the detection of events.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–55: Environment setting parameter used to enable retrying of startup notification of the event/action control agent after a notification failure

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AOMAGENT]#	"RetryAgtStartNotification"=	Specifies whether to enable retrying of startup notification of the event/action control agent after a notification failure.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(24\) RetryAgtStartNotification](#).

15.3.8 Applying a timeout for receiving data in inter-process communication by event/action control

If event/action control cannot perform inter-process communication normally due to heavy network load or a line error, the following problems could occur:

- The status of a job does not change when, for example, the job is registered for execution or forcibly terminated.
- A jobnet does not start at the scheduled time.
- An event monitored by an event job, a custom event job or start condition is not detected.
- The scheduler service does not stop when the `jaajs_spm�_stop` or `ajsstop` command is executed.
- The JP1/AJS3 service takes a long time to stop.

You can prevent these problems from occurring by enabling the option that applies a timeout for receiving data in inter-process communication by event/action control.

The following describes how to enable this option.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jaajs_stop#1
# /opt/jp1ajs2/bin/jaajs_spm�_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jaajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–56: Environment setting parameter used to apply a timeout for receiving data

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AOMAGENT]#	"RecvTimeout"=	Specifies whether to apply the timeout for receiving data in event job and custom event job socket communication.

#:

The specification of this parameter is effective on the physical host and all logical hosts.

For details about the definition of this environment setting parameter, see [20.6.2\(37\) RecvTimeout](#).

15.3.9 Setting the period of time for monitoring event jobs and custom event jobs in the blocked status

An event job, a custom event job or a jobnet with start conditions is said to be in *blocked status* when event/action control regards the job or jobnet as running, but the scheduler service regards the job or jobnet as having ended.

The blocked status arises when, for example, temporary files required for processing are lost because disk space is temporarily insufficient or a disk error occurs at the same time that the status of an event job or a custom event job changes.

If event jobs, custom event jobs or jobnets with start conditions are in the blocked status, information about the events detected by these jobs or jobnets can accumulate in event/action control, where it consumes system resources such as disk space and memory. The accumulation of information in event/action control can delay the processing of other event jobs, custom event jobs or jobnets with start conditions.

To prevent an accumulation of information, JP1/AJS3 checks for event jobs, custom event jobs and jobnets with start conditions in the blocked status when the specified period of time since JP1/AJS3 service startup has elapsed. If event jobs, custom event jobs and jobnets with start conditions in the blocked status are found, they are forcibly terminated and the accumulated event information is discarded.

You change this period of time in an environment setting parameter.

The following describes how to set the environment setting parameter.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–57: Environment setting parameter used to set the period of time for monitoring event jobs or custom event jobs in the blocked status

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">• For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\EV\MANAGER]#• For a specific scheduler service	"BlockadeTimeoutInterval"=	Specifies the period of time for monitoring event jobs or custom event jobs in the blocked status.

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]#	"BlockadeTimeoutInterval"=	Specifies the period of time for monitoring event jobs or custom event jobs in the blocked status.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see [20.6.2\(7\) BlockadeTimeoutInterval](#).

15.3.10 Setting the binding method applied to the outgoing communication used in the execution of event jobs and custom event jobs

By default, the ANY binding method is set as the binding method applied to the communication used in the execution of event jobs and custom event jobs to match the JP1/Base communication settings. In a cluster configuration, the IP binding method is automatically set for both physical and logical hosts when the cluster system is set up. The IP binding method is also set for both outgoing communication and incoming communication.

If multi-LAN connection is used, separate binding methods can be set in the JP1/Base communication settings for outgoing communication and incoming communication.

However, you can explicitly ensure that the binding method applied to incoming communication is always applied to the outgoing communication used in the execution of event jobs and custom event jobs, regardless of the JP1/Base communication settings, by using the procedure described below.

Note, however, that if you install JP1/AJS3 as a new installation, you must set the binding method in the JP1/Base communication settings without using the procedure described below. If JP1/AJS3 is installed as an upgrade from 06-51 or earlier version of JP1/AJS2 in which the binding method applied to outgoing communication used in the execution of event jobs is set, that setting is inherited. Note, however, that if JP1/AJS3 is re-installed, the inherited settings are lost. If you still want to use the same settings that were used in JP1/AJS2 06-51 or earlier, you will have to specify the settings manually.

The following describes the procedure for setting the binding method applied to the outgoing communication used in the execution of event jobs and custom event jobs. Note that the procedure must be performed on the manager host and all agent hosts on which event jobs and custom event jobs will be executed.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmc_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–58: Environment setting parameter used to set the binding method for outgoing communication

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]# For an event/action control agent [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]# 	"ClientBindFlag"=	Specifies the binding method applied to outgoing communication.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see [20.6.2\(14\) ClientBindFlag](#).

15.3.11 Settings for ensuring that the sending of unreported information is retried at regular intervals

If inter-process communication between the event/action control manager and the event/action control agent fails for a reason such as a busy network or a defective line, the information that could not be sent is managed as *unreported information*.

The following describes the default values for the send retry interval and the maximum send retry count.

- When connection to the agent host times out
The send retry interval is 300 seconds for the first retry, 600 seconds for the second retry, 900 seconds for the third retry, 1,800 seconds for the fourth retry, and 3,600 seconds for the fifth and subsequent retries. The maximum number of retries is 27 (24 hours).
- In all other cases
The send retry interval is 30 seconds, and the maximum number of send retries is 2,880 (24 hours).

As described above, when a connection to the agent host times out, the sending of unreported information is not retried at regular intervals. However, an option for ensuring that the sending of unreported information is retried at regular intervals (the NotificationConstantRetry environment parameter) is provided. If this option is used, a send retry interval of 30 seconds and a maximum of 2,880 send retries apply for any network error. Note, however, there is a risk if you enable the option for ensuring that the sending of unreported information is retried at regular intervals, and the timeout-value environment setting parameter is set to a value larger than the default value. For example, in situations in which a connection attempt to the agent times out and continues in that status for a long time, send retries performed at regular intervals could result in many timeouts, delaying the processing.

If you want to mitigate processing delays when this option is used, also increase the value of the environment setting parameter for the timeout value to a tolerable level for processing delays.

For details about the environment setting parameter for the timeout value, see [15.3.13 Setting the connection timeout for communication between the event/action control manager and agent](#).

In addition to setting the above environment setting parameter, also adjust the other environment setting parameters related to communication for event/action control. For details, see [15.3.14 Environment setting parameters related to communication for event/action control](#).

Use the procedure below for ensuring that the sending of unreported information is retried at regular intervals.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–59: Environment setting parameter for ensuring that the sending of unreported information is retried at regular intervals

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]# • For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]# 	"NotificationConstantRetry"=	Option ensuring that the sending of unreported information is retried at regular intervals

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameters, see [20.6.2\(8\) NotificationConstantRetry \(for communication from a manager host to an agent host\)](#).

15.3.12 Changing the send retry interval and the number of retries for sending unreported information

If inter-process communication between the event/action control manager and the event/action control agent fails for a reason such as a busy network or a defective line, the information that could not be sent is managed as *unreported information*.

The following describes the default values for the send retry interval and the maximum number of retries.

For a resend from the manager host to the agent host:

The values for the send retry interval and the maximum number of retries vary according to the type of error that has occurred.

Error 1: When connection to the agent host times out

The send retry interval is 300 seconds for the first retry, 600 seconds for the second retry, 900 seconds for the third retry, 1,800 seconds for the fourth retry, and 3,600 seconds for the fifth and subsequent retries. The maximum number of retries is 27 (24 hours).

Error 2: In all other cases

The send retry interval is 30 seconds, and the maximum number of send retries is 2,880 (24 hours).

For the resending of information from the agent host to the manager host (resending information when a monitoring condition for an event job and a custom event job is satisfied, including event jobs and custom event jobs defined as start conditions):

Irrespective of the type of error, the send retry interval is 10 seconds, and the maximum number of send retries is 8,640 (for a total of 24 hours).

You can change the send retry interval and the maximum number of retries for resending unreported information both from the manager host to the agent host due to error 2, and from the agent host to the manager host. Note, however, that changing these settings changes the resend processing from the manager host to the agent host as described below.

Before the settings are changed:

Regardless of the type of error that has occurred, send retries end after 24 hours.

After the settings are changed:

Send retries end when either of the following occurs:

- Error 1 repeats during the 24 hours.
- Error 1 or Error 2 occurs and the number of send retries has reached the maximum.

Therefore, if the settings are changed when both Error 1 and Error 2 have occurred, the completion of a resend operation could take a long time. This problem can be prevented by specifying the settings that apply the same send retry interval and maximum number of send retries regardless of whether Error 1 or Error 2 occurs.

For details, see [15.3.11 Settings for ensuring that the sending of unreported information is retried at regular intervals](#).

Use the procedure below for changing the settings.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```


#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–60: Environment setting parameters for setting the send retry interval and number of retries for sending unreported information

Definition key	Environment setting parameter	Explanation
Communication from the manager host to the agent host: <ul style="list-style-type: none"> For all scheduler services <code>[{JP1_DEFAULT logical-host}\JP1AJS2\SCHEDULER\EV\MANAGER]#</code> For a specific scheduler service <code>[{JP1_DEFAULT logical-host}\JP1AJSMANAGER\scheduler-service\EV\MANAGER]#</code> 	"NotificationRetryInterval" "="	Interval for retrying the sending of unreported information
	"NotificationRetryCount"=	Maximum number of retries for sending unreported information
Communication from the agent host to the manager host: <code>[{JP1_DEFAULT logical-host}\JP1AOMAGENT]#</code>		

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about defining the environment setting parameters for communication from the manager host to the agent host, see the following:

- [20.6.2\(9\) NotificationRetryInterval \(when sending information from the manager host to the agent host\)](#)
- [20.6.2\(10\) NotificationRetryCount \(when sending information from the manager host to the agent host\)](#)

For details about defining the environment setting parameters for communication from the agent host to the manager host, see the following:

- [20.6.2\(28\) NotificationRetryInterval \(when sending information from the agent host to the manager host\)](#)
- [20.6.2\(29\) NotificationRetryCount \(when sending information from the agent host to the manager host\)](#)

15.3.13 Setting the connection timeout for communication between the event/action control manager and agent

When an event job, a custom event job or a jobnet with start conditions is executed, the event/action control manager and the event/action control agent communicate with each other. At this time, waiting for a connection by the manager or the agent might result in a timeout depending on the state of the communication environment, such as a busy network.

If such timeouts are frequent, repeated retries might delay the execution of event jobs, custom event jobs or jobnets with start conditions or delay the detection of monitored events. For such situations, you can adjust the timeout value by using the environment setting parameter described in (2) below.

Use the procedure below for setting the environment setting parameter.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–61: Environment setting parameter for the connection timeout between the event/action control manager and agent

Definition key	Environment setting parameter	Explanation
Event action control manager <ul style="list-style-type: none"> • For all scheduler services [{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\HOST\NETWORK\EVMANAGER]# • For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\NETWORK\EVMANAGER]# Event action control agent [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#	"ClientConnectTimeout" =	Connection timeout between the event/action control manager and agent

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about defining the environment setting parameters for the event/action control manager, see the following:

- [20.8.2\(1\) ClientConnectTimeout \(communication control\)](#)

For details about defining the environment setting parameters for the event/action control agent, see the following:

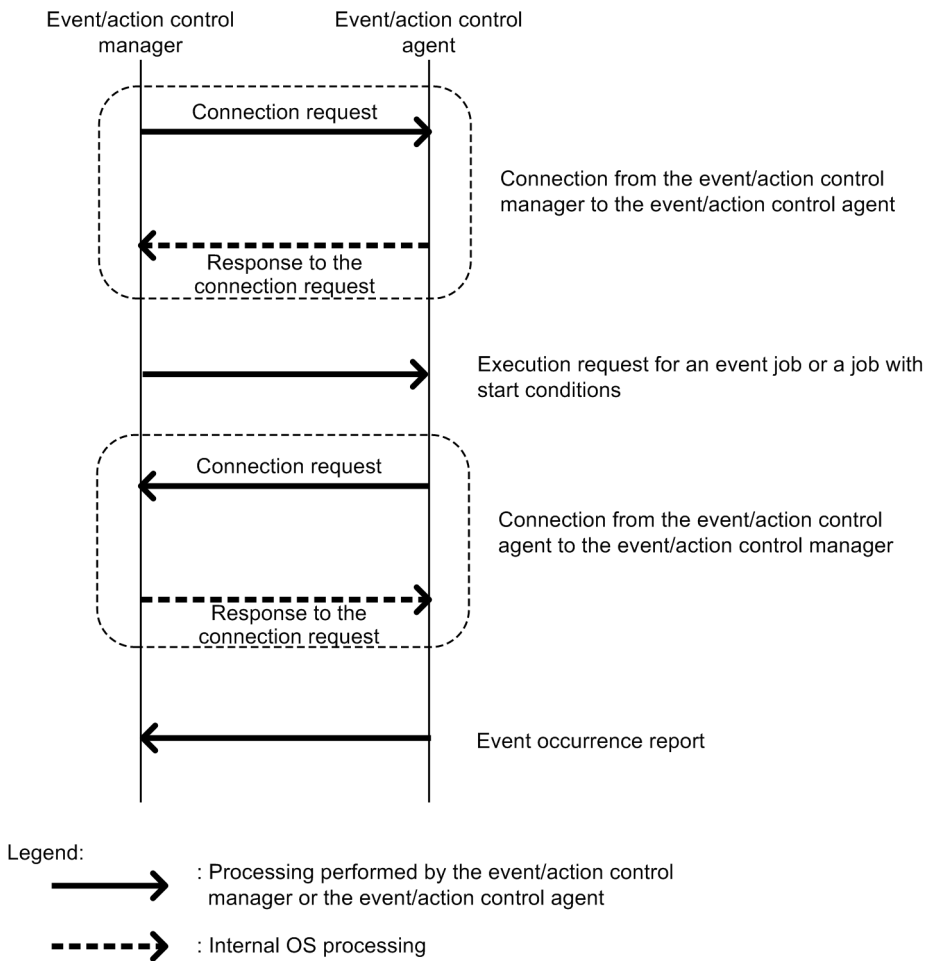
- [20.6.2\(25\) ClientConnectTimeout \(event/action control\)](#)

15.3.14 Environment setting parameters related to communication for event/action control

When an event job, a custom event job or a jobnet with start conditions is executed, the event/action control manager and the event/action control agent communicate with each other. To initiate communication, the event/action control manager and agent establish a connection over which an execution or kill request for the event job, custom event job or jobnet with start conditions and an event occurrence report can be exchanged.

The following figure shows the communication that occurs when an event job, a custom event job or a jobnet with start conditions is executed.

Figure 15–2: Communication when an event job, a custom event job or a jobnet with start conditions is executed



If an error occurs during communication, the information that could not be sent is saved in a file to prepare for a retry. This information is called *unreported information*.

If a communication error occurs, communication is retried as defined in the environment setting parameters.

The following table describes the environment setting parameters related to communication retries for event/action control.

Table 15–62: Environment setting parameters related to communication retries for event/action control

Definition key	Environment setting parameter	Explanation
<p>For the manager host: <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\NETWORK\EVMANAGER]#</code></p> <p>For the agent host: <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#</code></p>	"ClientConnectTimeout"=	Connection timeout period
<p>For the manager host:</p> <ul style="list-style-type: none"> For all scheduler services <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]#</code> For a specific scheduler service <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]#</code> <p>For the agent host: <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#</code></p>	"NotificationConstantRetry"=	Option for resending unreported information at regular intervals
<p>For the manager host:</p> <ul style="list-style-type: none"> For all scheduler services <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]#</code> For a specific scheduler service <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\EV\MANAGER]#</code> <p>For the agent host: <code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#</code></p>	"NotificationRetryInterval"=	Interval for retrying to send unreported information
	"NotificationRetryCount"=	Maximum number of retries for sending unreported information
<code>[{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#</code>	"NotificationAlarmCount"=	The threshold for outputting a message if resending to the manager occurs frequently

#:

The specification of the `{JP1_DEFAULT | logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

The following describes the relationship between the environment setting parameters, and provides examples of setting these parameters.

(1) About ClientConnectTimeout

When the event/action control manager sends a connection request to the event/action control agent, or when the event/action control agent sends a connection request to the event/action control manager, the sender waits for a response.

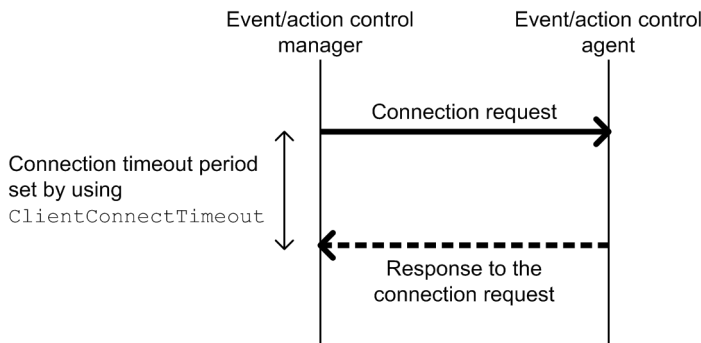
If no response is returned within a predefined time, the wait times out so that other processing can be performed. The time during which the manager or agent waits for a response to a connection request is called the *connection timeout period*.

Use the `ClientConnectTimeout` environment setting parameter to set the connection timeout period.

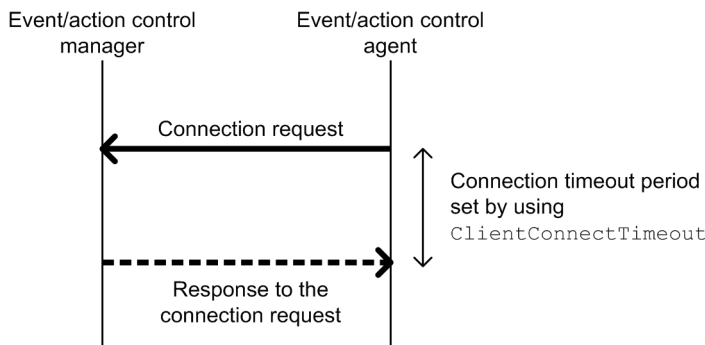
The following figure shows the connection timeout period set by using the `ClientConnectTimeout` environment setting parameter.

Figure 15–3: Connection timeout period set by using the `ClientConnectTimeout` environment setting parameter



■ Connection from the event/action control manager to the event/action control agent



■ Connection from the event/action control agent to the event/action control manager



Legend:

-  : Processing performed by the event/action control manager or the event/action control agent
-  : Internal OS processing

Increasing the value of the `ClientConnectTimeout` environment setting parameter also increases the connection timeout period. Accordingly, connection timeouts might not occur very often even when a long time is required to receive a response due to communication load.

However, if no response has been sent from a connection request for a long time because of a network device failure or similar reason, the time that elapses before the timeout also increases. Accordingly, the time during which neither an execution registration or kill request for an event job, a custom event job or a jobnet with start conditions nor an event occurrence report is processed also increases. When the manager or agent is waiting for a timeout, an attempt to kill or register an event job, a custom event job or a jobnet with start conditions for execution on another agent available for communication cannot be processed immediately. As a result, changing the job status will take a long time. Therefore, if a connection timeout occurs, the manager or agent with default settings gradually increases the interval for each retry, instead of using the regular interval, in order to gradually reduce the retry frequency. For details, see (2) [About NotificationConstantRetry](#).

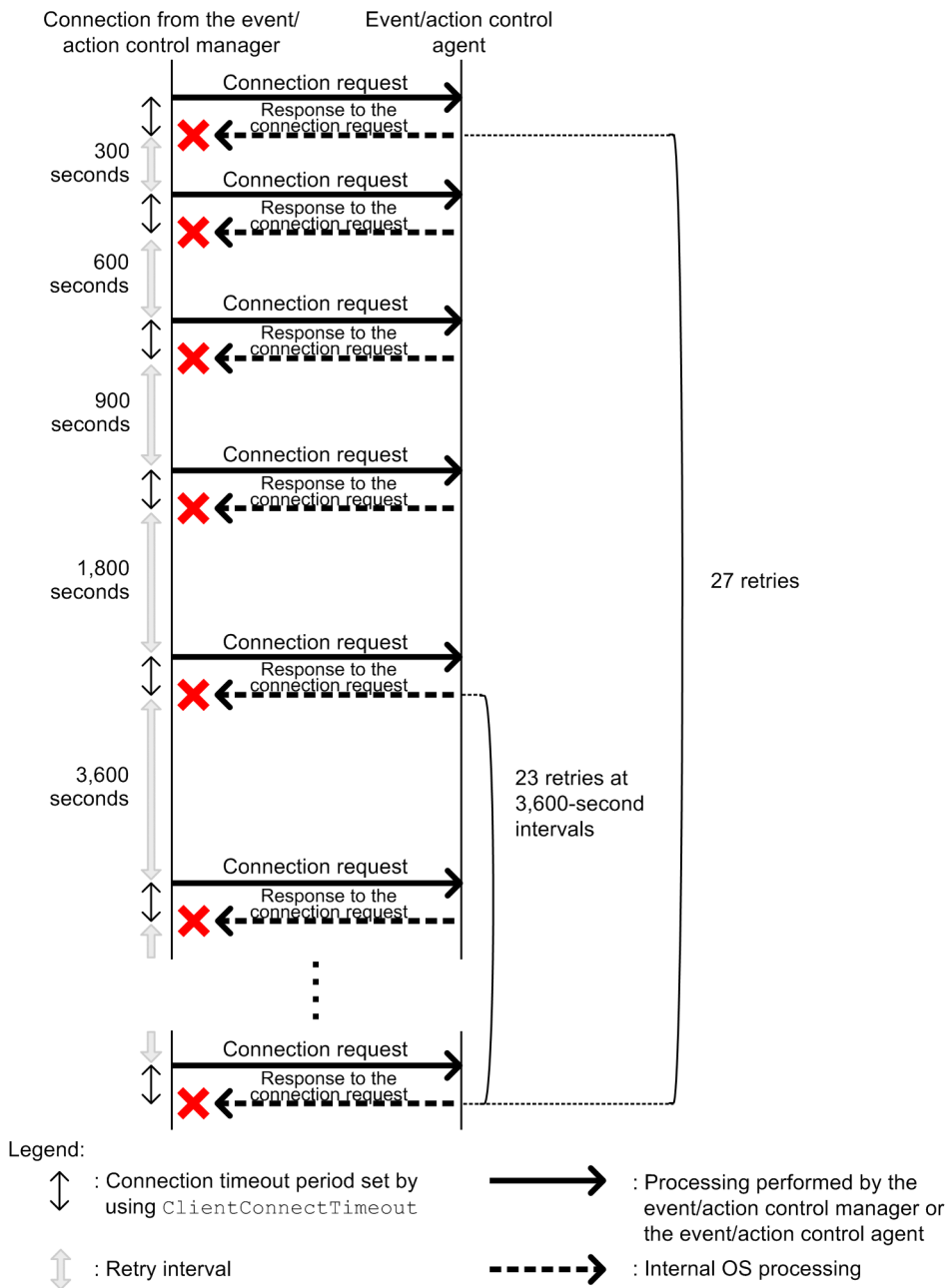
(2) About NotificationConstantRetry

(a) Communication from the event/action control manager to the event/action control agent

Depending on the value of the `ClientConnectTimeout` environment setting parameter, a long time is required before the response to a connection request is sent if a network device failure or other problem occurs. In such cases, there is a long delay before an event job, a custom event job or a jobnet with start conditions is registered for execution or killed. To reduce the frequency of processing delays, unlike a regular interval, the communication retry interval used when a connection timeout occurs gradually increases by default. On the manager host, the settings are specified so that a retry is performed at an interval that gradually becomes longer as follows: 300, 600, 900, 1,800, and 3,600 seconds (max). A retry can be performed a maximum of 27 times (24 hours).

The following figure shows how communication is performed from the event action control manager to the event action control agent if a connection error occurs.

Figure 15–4: Communication from the event/action control manager to the event/action control agent when a connection timeout occurs



However, if a connection timeout is due to a temporary cause such as a high communication load, the retry process described above takes more time, delaying the execution of an event job, custom event job or jobnet with start conditions on the execution agent. For such cases, you can also use a regular interval for retries.

Set *Y* for the `NotificationConstantRetry` environment setting parameter to use a regular interval for retries, irrespective of whether retries are due to connection timeouts or other types of errors. For details about the retry interval, see (3) *About NotificationRetryInterval and NotificationRetryCount*.

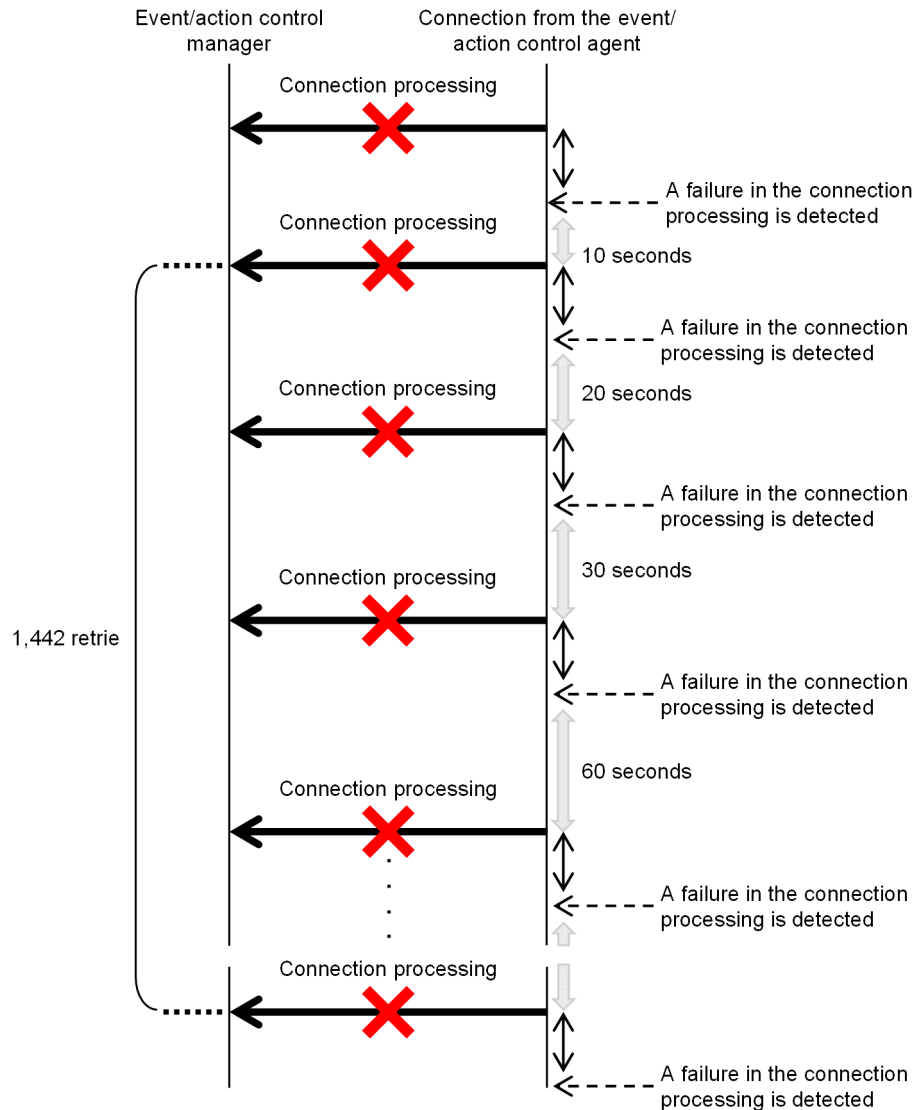
(b) Communication from the event/action control agent to the event/action control manager

If a connection error occurs due to reasons such as a high load on the network or a problem with communication lines, the event action control agent performs a retry 8,640 times (for 24 hours) at a fixed 10-second communication interval by

default. If you specify N for this environment setting parameter, a retry is performed at an interval that gradually becomes longer as follows: 10, 20, 30, and 60 seconds (max) a maximum of 1,442 times (24 hours). The maximum retry count if N is specified for this environment setting parameter is $value-of-NotificationRetryCount / 6 + 2$. The retry interval gradually becomes longer in four steps: (1) $value-of-NotificationRetryInterval \times 1$, (2) $value-of-NotificationRetryInterval \times 2$, (3) $value-of-NotificationRetryInterval \times 3$, and (4) $value-of-NotificationRetryInterval \times 6$ (max).

The following figure shows how communication is performed from the event action control agent to the event action control manager if a connection error occurs.

Figure 15–5: Communication from the event/action control agent to the event/action control manager when a connection error occurs



- Legend:
- :Period until a failure in the connection processing is detected
 - :Retry interval
 - :Processing performed by the event/action control manager or the event/action control agent
 - :The time when a failure in the connection processing is detected

(3) About NotificationRetryInterval and NotificationRetryCount

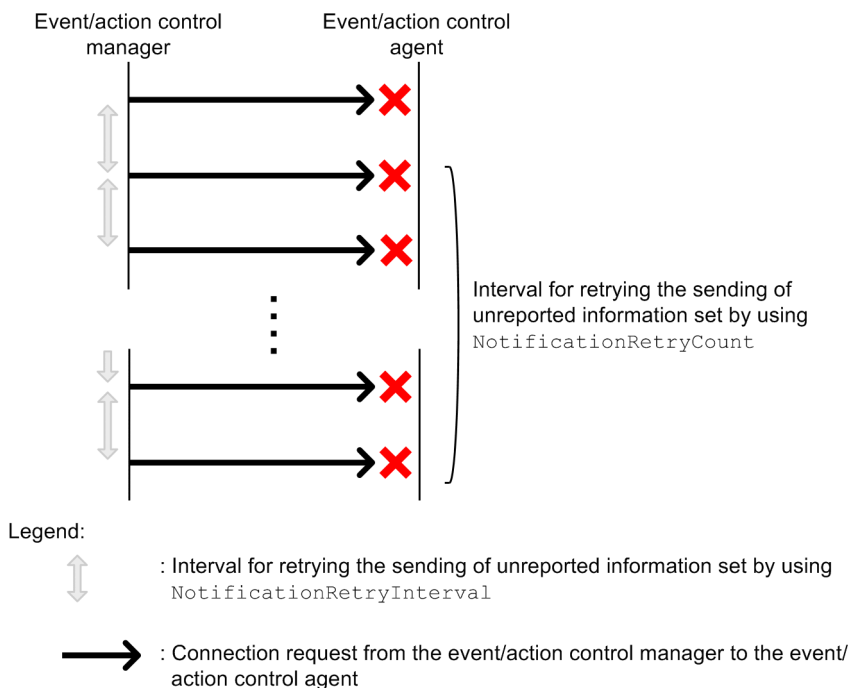
In addition to a connection timeout, a communication error might also be caused by the following problems:

- The execution agent host name cannot be resolved.
- The event/action control agent is busy and cannot accept an execution or kill request.

For retries performed for an error other than a connection timeout that occurs during communication between the event/action control manager and event/action control agent, you can set the retry interval by using the `NotificationRetryInterval` environment setting parameter (the default is 30 seconds). Similarly, you can set the maximum number of retries by using the `NotificationRetryCount` environment setting parameter (the default is 2,880).

The following figure shows an example of an error that is not a timeout error.

Figure 15–6: When an error other than a connection timeout occurs



Note that if you want to change only the retry interval or only the number of retries, the retry period (the period during which retries can be performed) also changes. If you want to retain a retry period, you need to adjust the values of both environment setting parameters. For example, if you change the retry interval to 15 seconds, which is half the default value, the number of retries that preserves the retry period is 5,760 (twice the default value).

(4) About NotificationAlarmCount

If a notification is not sent to the manager even after repeated resending of the notification, you can set a threshold for outputting the message KAVT0669-E, so you will be able to notice that the notification has not reached the manager for an extended period. In JP1/AJS3 13-10 or later, the initial setting value for a new installation and new setup is 24 times[#] for Windows and 29 times[#] for UNIX. If the `NotificationConstantRetry` environment setting parameter is set to N, the retry interval gradually becomes longer. In this case, perform calculation using the following expression, round up the result to the nearest integer, and use the resulting value as a guideline of the retry count to be specified.

#:

If notification continues to fail due to a pending connection timeout as a result of specifying Y for the environment setting parameter `NotificationConstantRetry` to perform retries at a regular interval and specifying 10 seconds for the environment setting parameter `NotificationRetryInterval`, an output will be made approximately 10 minutes after the notification to the manager fails for the first time (this might vary depending on the cause of the communication error, the load on the system and network, etc.).

$$\text{Guideline-value-for-NotificationAlarmCount-environment-setting-parameter} = (n - 6 \times b) / (a + 6 \times b) + 2$$

Legend:

n:

The time in seconds before failure in communication is detected (units: seconds)

a:

The value set in the `ClientConnectTimeout` environment setting parameter or the OS default time before a wait for connection times out, whichever is shorter[#] (units: seconds)

b:

The value of the environment setting parameter `NotificationRetryInterval` (units: seconds)

#:

This is a value to be specified if resending fails due to a connection timeout.

Note that the KAVT0669-E message is not output if this environment setting parameter is set to 0 or omitted.

(5) Guideline for environment setting parameter settings

The following table provides the guidelines for environment setting parameter settings based on what is most important for communication.

Table 15–63: Guidelines for environment setting parameter settings (manager)

		Environment setting parameters requiring adjustment				Cautionary note
		"ClientConnectTimeout" (in milliseconds)	"NotificationConstantRetry"	"NotificationRetryInterval" (in seconds)	"NotificationRetryCount"	
Default value		Windows: 30,000 UNIX: 1,000 ^{#1}	N	30	2,880 or 27 ^{#2}	N/A
Most important consideration	Suppress processing delays for other agents when timeouts occurs for an agent during communication	3,000 to 10,000	N	N/A	N/A	Because the retry interval gradually increases by 300, 600, 900, 1,800, and 3,600 seconds even when communication with the agent no longer times out, a long time is

		Environment setting parameters requiring adjustment				Cautionary note
		"ClientConnectTimeout" (in milliseconds)	"NotificationConstantRetry"	"NotificationRetryInterval" (in seconds)	"NotificationRetryCount"	
Most important consideration	Suppress processing delays for other agents when timeouts occurs for an agent during communication	3,000 to 10,000	N	N/A	N/A	still required before sending is retried.
	Prevent timeouts for agents during communication	10,000 to 60,000	N	N/A	N/A	If timeout occurs for an agent during communication, processing for other agents might be delayed and event detection might be disabled.
	Suppress processing delays with a quick recovery response for the communication environment if a temporary communication error occurs in an otherwise stable communication environment	3,000 to 10,000	Y	3 to 10	2,880 ^{#2}	If timeouts occur for an agent in rapid succession or continue over a long time during communication, processing for other agents might be delayed and event detection might be disabled.
	Ensure communication in an unstable communication environment even if communication is delayed	10,000 to 60,000	Y	3 to 10	8,640 to 28,800	If timeouts occur for an agent in rapid succession or continue over a long time during communication, processing for other agents might be delayed and event detection might be disabled.
	Detecting errors at an early stage	3,000 to 10,000	Y	3 to 10	30 to 100	An event job and a custom event job might end abnormally, in which case the KAVT0103-E message is output to the integrated trace log. Monitoring for this message allows environment errors to be detected.

Legend:

N/A: Not applicable.

#1

The default values are very different for Windows and UNIX because the default values in UNIX have backward compatibility with the settings of JP1/AJS2 version 8.

In version 8, the `ClientConnectTimeout` environment setting parameter does not exist, but the operation is the same as when the environment setting parameter is set to 1,000. The UNIX default value is based on this value.

#2

Use 2,880 for errors that are not timeout errors. Use 27 for timeout errors that continue to occur.

Table 15–64: Guidelines for environment setting parameter settings (agent)

		Environment setting parameters requiring adjustment				Cautionary note
		"ClientConnectTimeout" (in milliseconds)	"NotificationConstantRetry"	"NotificationRetryInterval" (in seconds)	"NotificationRetryCount"	
Default value		Windows: 30,000 UNIX: 1,000	Y	10	8,640	N/A
Most important consideration	Prevent timeouts for managers during communication	10,000 to 60,000	N	N/A	N/A	If communications to some manager hosts time out, processing assigned to those hosts does not start, causing delay in detection of job start or event occurrence.

Legend:

N/A: Not applicable.

For details about the definition of each environment setting parameter, see the following documentation:

- [20.6.2\(8\) NotificationConstantRetry \(for communication from a manager host to an agent host\)](#)
- [20.6.2\(26\) NotificationConstantRetry \(for communication from an agent host to a manager host\)](#)
- [20.8.2\(1\) ClientConnectTimeout \(communication control\)](#)

For details about the definition of the environment setting parameters related to communication between the event/action control manager and the event/action control agent, see the following documentation:

- [20.6.2\(9\) NotificationRetryInterval \(when sending information from the manager host to the agent host\)](#)
- [20.6.2\(10\) NotificationRetryCount \(when sending information from the manager host to the agent host\)](#)

For details about the definition of the environment setting parameter related to communication from the event/action control agent to the event/action control, see the following documentation:

- [20.6.2\(27\) NotificationAlarmCount](#)

- *20.6.2(28) NotificationRetryInterval (when sending information from the agent host to the manager host)*
- *20.6.2(29) NotificationRetryCount (when sending information from the agent host to the manager host)*

15.3.15 Settings for ensuring that a fixed manager host name is used when event jobs and custom event jobs are executed

When an event job or a custom event job is executed, the event/action control manager communicates with the agent on which the job is executed. In the communication, the manager sends its own name to the agent so that the agent can distinguish the manager from other agents. The manager host name is acquired when the JP1/AJS3 service on the manager is started.

Normally, unless the host name is changed intentionally, the acquired host name never changes when the JP1/AJS3 service on the manager is restarted. However, case for alphabetic characters (upper or lower case) used in the acquired host name might change for some reason when the JP1/AJS3 service is restarted. For example, a change in the case might occur if the OS settings related to DNS name resolution are changed.

Because event job and custom event job execution agents treat manager host names as being case-sensitive, a change in the case, which is equivalent to a change in the manager host name, might cause the following problems:

- If the JP1/AJS3 service on the manager is restarted while a jobnet with start conditions is being executed, a duplication of monitored events might be detected after the restart.
- When the option for continuing execution of active event jobs is enabled, if the JP1/AJS3 service is restarted in hot-start mode on the manager while an event job or a custom event job is being executed, multiple occurrences of the same event are detected.

For details about the option for continuing the execution of active event jobs, see *15.3.6 Resuming event jobs and custom event jobs that stopped when the JP1/AJS3 service stopped*.

To avoid these problems, enable the option for using a fixed manager host name (the `FixedHostnameForAgent` environment setting parameter). If this option is enabled, the event/action control manager always sends the host name in all lower case.

Cautionary note:

Be careful when you change the settings of the option for using a fixed manager host name while executing jobnets with start conditions or executing event jobs or custom event jobs with the option for continuing the execution of active event jobs enabled. If you make a change, the case of the alphabetic characters of the manager host name might change.

Making such a change might cause inconsistencies in the management status of jobnets with start conditions, event jobs or custom event jobs that have already been executed. For example, multiple jobnets might be incorrectly started for one event.

To avoid these types of problems, make sure you use the following procedure when enabling the option for using a fixed manager host name or changing the option settings:

1. Stop the JP1/AJS service on the agent host on which jobnets with start conditions, event jobs or custom event jobs are being executed.
2. On the agent host in step 1, execute the `jpoagoec` command to delete the manager host name for which the option for using a fixed manager host name is to be enabled. For details about the `jpoagoec` command, see *jpoagoec* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.
3. On the manager host, enable the option for using a fixed manager host name.
For details about how to enable the option, see (1) below.

4. Cold-start the JP1/AJS service on the agent host in step 2.

The following describes the procedure for enabling the option.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–65: Environment parameter for the option for using a fixed manager host name

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none">For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\EV\MANAGER]#	"FixedHostnameForAgent"=	Option for using a fixed manager host name

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameters, see [20.6.2\(5\) FixedHostnameForAgent](#).

15.3.16 Setting the event server name in the system using DNS

When you want to use JP1/AJS3 and JP1/Base in a network environment consisting of multiple domains to send and receive JP1 events across the domains, you must consider that there might be hosts that have the same name in different domains. If you use JP1/Base event servers with the default settings on hosts that have the same name, it is not possible to determine from the host name whether a JP1 event registered in the JP1/Base event server was transferred from another host or generated on the local host. As a result, problems could arise, such as a JP1 event reception monitoring job seeming to detect events incorrectly.

To prevent these problems, specify FQDN event server names instead of using the default event server settings in a multiple-domain system.

When JP1/AJS3 and an event server that has an FQDN event server name are operating on the same host, you can execute a log file monitoring job by using JP1/AJS3 on the host as the execution agent. To do so, define the FQDN event server

name option (`EventServerName` environment setting parameter) for the JP1/AJS3 that will be used as the execution agent, and specify the event server name (FQDN format) that will be used by the log file monitoring job.

Cautionary note:

If the log file monitoring job is executed when the event server specified by this option is not running, the following message is output to the integrated trace log, after which connection processing is retried internally: `KAVT1068-W The specified event server is inactive. (EventServerName=event-server-name)`. If the event server is successfully connected during retry, the following message is output to the integrated trace log: `KAVT1069-I The specified event server was connected. (EventServerName=event-server-name)`. Accordingly, the log file monitoring job cannot monitor events during the time from output of `KAVT1068-W` message to output of the `KAVT1069-I` message.

The following describes the procedure for setting the FQDN event server name option.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–66: Environment setting parameter used to set an FQDN event server name

Definition key	Environment setting parameter	Explanation
<code>[{JP1_DEFAULT logical-host} \JP1AOMAGENT]#</code>	<code>"EventServerName"=</code>	FQDN event server name

#:

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameters, see [20.6.2\(30\) EventServerName](#).

15.3.17 How to set the option for changing the agent information to be used for name resolution

The manager host that communicates with an agent host stores the IP address resolved from the agent host name. If the IP address of an agent host is changed, a manual operation on the manager host is required to update the stored IP address by, for example, restarting the JP1/AJS3 service.

This operation can be omitted by enabling the option for changing the agent information used for name resolution.

The option for changing the agent information used for name resolution must be set on both the manager and agent hosts. If this option is not set on both hosts, it does not take effect.

Notes:

- This option can be used only if the JP1/AJS3 database is in the standard configuration.
- This option can be used if the versions of both JP1/AJS3 - Manager and JP1/AJS3 - Agent are 10-50 or later. If the version of either JP1/AJS3 - Manager or JP1/AJS3 - Agent is 10-10 or earlier, this option cannot be used.

(1) Definition procedure

The option for changing the agent information used for name resolution must be set on both the manager and agent hosts. The following subsections describe the procedure for setting this option on each host. The same procedure can be used regardless of the option value set.

(a) Procedure on the manager host

This subsection describes the procedure that must be performed on the manager host for defining the option for changing the agent information used for name resolution.

If neither jobnets with start conditions, event jobs nor custom event jobs have been executed previously, skip steps 1 to 4.

1. Make sure that the IP address of the agent host can be resolved from the host name on the manager host.
2. Forcibly terminate all jobnets with start conditions, event jobs and custom event jobs that are currently running.
3. Execute the following command to stop all scheduler services with which event jobs and custom event jobs were executed:

```
jajs_spmd_stop [-h logical-host] -n jajs_schd [-F scheduler-service]
```

4. Execute the following command for each of the agent hosts on which event jobs and custom event jobs were executed with the scheduler services stopped in step 3:

```
jpomanevreset [-h logical-host] [-F scheduler-service] -a agent-host
```

5. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1  
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

6. Execute the following command to set the environment setting parameter described in (2) below:


```

jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AOMMANAGER]" "ResolveAgentInfo"=value
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AJS2\SCHEDULER\EV\MANAGER]" "ResolveAgentInfo"=value

```

7. Restart JP1/AJS3.
 The new settings are applied.

(b) Procedure on the agent host

This subsection describes the procedure that must be performed on the agent host for defining the option for changing the agent information used for name resolution.

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```

# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status

```

#1:
 Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```

jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AOMAGENT]" "ResolveAgentInfo"=value

```

3. Restart JP1/AJS3.
 The new settings are applied.

(2) Environment setting parameter

Table 15–67: Environment setting parameter that sets the option for changing the agent information used for name resolution

Definition key	Environment setting parameter	Explanation
For the manager host: [{JP1_DEFAULT logical-host}\JP1AOMMANAGER] [{JP1_DEFAULT logical-host}\JP1AJS2\SCHEDULER\EV\MANAGER] For the agent host: [{JP1_DEFAULT logical-host}\JP1AOMAGENT]	"ResolveAgentInfo"=	Option for changing the agent host information used for name resolution

For details about the definition of this environment setting parameter, see [20.6.2\(15\) ResolveAgentInfo](#).

15.3.18 Settings for monitoring a network file by using a file monitoring job

This section describes the procedure for specifying the settings for monitoring a file by using a file monitoring job via a network. For notes on configuring these settings, see *7.6.2 Notes on the Monitoring Files job* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–68: Environment setting parameters for monitoring a network file by using a file monitoring job

Definition key	Environment setting parameter	Explanation
{JP1_DEFAULT logical-host}\JP1AOMAGENT]#	"NetworkFilewatch"=	Sets whether to monitor a file by using a file monitoring job via a network.
	"NetworkFilewatchTimeout"=	Timeout period before a monitoring files job cancels the processing for acquiring information on a monitoring target file when monitoring network files.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.6.2\(32\) NetworkFilewatch](#)
- [20.6.2\(33\) NetworkFilewatchTimeout](#)

15.3.19 Close check settings of a file monitoring job

This section describes the procedure for setting the timeout period for the close check of a file monitoring job.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–69: Environment setting parameter for setting the timeout period for the close check of a file monitoring job

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \JP1AOMAGENT]#	"CloseCheckTimeout"=	Sets the timeout period for the close check.
	"CloseCheckWarnLogInterval"=	Sets the interval at which to output a message if a close check fails.

#:

The specification of the {JP1_DEFAULT | logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.6.2\(34\) CloseCheckTimeout](#)
- [20.6.2\(35\) CloseCheckWarnLogInterval](#)

15.3.20 Configuring a timeout when waiting for a response during communication for event/action control when the communication encryption function is enabled

If SSL communication occurs between event/action control processes in an environment where the communication encryption function of JP1/AJS3 is used, one of the event/action control processes will wait for a response from the other process.

If one of the processes cannot receive any response from the other process due to some reason, the communication between those processes will not be terminated. As such, the status of the event job will not change.

To avoid this issue, specify the timeout when waiting for a response when this communication encryption function is enabled. If the timeout is specified and there is no response, the system will time out to enable other processing.

The following describes how to specify the setting.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/bin/jajs_spmc_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–70: Environment setting parameter for setting the timeout of a wait for response during communication with the communication encryption function enabled

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1AOMAGENT]#	"SSLInitTimeout"=	Sets the timeout of a wait for response during communication for event/action control with the communication encryption function enabled.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.6.2\(36\) SSLInitTimeout](#).

15.4 Changing the settings related to queueless job execution control

This section describes how to change the settings related to queueless job execution control.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.4.1 Executing jobs with a class specified in a queueless job environment

In a queueless job environment, you can define classes and set for each class the maximum number of concurrently executable jobs and the maximum number of waiting jobs.

If an attempt is made to concurrently execute more jobs in a class than the maximum number of concurrently executable jobs, only as many jobs as the maximum are executed. The rest of the jobs are stacked in memory on the queueless agent. If an attempt is made to execute a job when the number of stacked jobs has reached the maximum number of waiting jobs, the attempt fails, and the status of the job becomes *Failed to start*.

For example, assume that there is a class whose number of concurrently executable jobs is 10 and whose maximum number of waiting jobs is 5, and that 15 jobs are concurrently in the *Now running* status. In this class, if an attempt is made to execute other jobs, the status of the 16th and subsequent jobs becomes *Failed to start*.

In addition to the two types of limitation on a specific class described above, the same two types of limitation are also set for the entire queueless agent. Even if the maximum number of concurrently executable jobs for a class has not been reached, the maximum number of concurrently executable jobs for the queueless agent might have already been reached. In that state, if an attempt is made to execute more jobs in the class, they are stacked in memory on the queueless agent. Similarly, even if the maximum number of waiting jobs for a class has not been reached, the maximum number of waiting jobs for the queueless agent might have already been reached. In that state, if an attempt is made to execute more jobs in the class, the status of the jobs becomes *Failed to start*, although the maximum for the class has not been reached.

When you execute jobs with a class specified, specify the execution host name and class name in **Exec-agent** in the following format, using an exclamation mark (!) as a separator:

execution-host-name!class-name

Supplementary note:

Because queueless jobs do not use an execution agent, the execution host name and class name are specified in **Exec-agent**.

You can specify only one separator (!) and one class name without specifying the host name on which jobs will be executed. If you do not specify the host name, the local host is assumed.

If you omit both the execution host name and class name for a job, the execution host specified in **Exec-agent** for the jobnet to which the job belongs is assumed.

You cannot specify a class name in **Exec-agent** for a jobnet. If you attempt to execute a jobnet specified in this way, the status of the jobs in the jobnet becomes *Failed to start*.

If you attempt to execute a job with a non-existent class specified, the status of the job becomes *Failed to start*.

The following describes how to set a class.

(1) Definition procedure

Perform the following procedure on the queueless agent host on which you want to execute queueless jobs with a class specified.

1. Stop the queueless agent service.

Execute the following commands to confirm that all processes have stopped:

```
# /opt/jp1ajs2/bin/ajsqlstop
# /opt/jp1ajs2/bin/ajsqlstatus
```

2. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Execute the following command to restart the service that you stopped in step 1:

```
# /opt/jp1ajs2/bin/ajsqlstart
```

The new settings are applied.

(2) Environment setting parameters

Table 15–71: Environment setting parameters used to execute jobs with a class specified in a queueless job environment

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1QLAGENT\AJSQL_CLASS\class]#	"AJSQL_CJOBMAX"=	Specifies the maximum number of concurrently executable jobs for a class.
	"AJSQL_CJOBWAITMAX"=	Specifies the maximum number of waiting jobs for a class.

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.10.2\(31\) AJSQL_CJOBMAX](#)
- [20.10.2\(32\) AJSQL_CJOBWAITMAX](#)

(3) Definition example

- Definition in **Exec-agent** for a job

```
agent1!class1
```

- Class definition on the job execution host (agent1)

```
jajs_config -k "[JP1_DEFAULT\JP1QLAGENT\AJSQL_CLASS\class1]" "AJSQL_CJOBMAX"=dword:200 "AJSQL_CJOBWAITMAX"=dword:100
```

In this definition example, the maximum number of concurrently executable jobs in class `class1` on execution host `agent1` is 512. The maximum number of waiting jobs in class `class1` on execution host `agent1` is 256.

When 512 jobs are running concurrently, if an attempt is made to execute additional jobs, a maximum of 256 jobs can be stacked in memory on the agent. If 256 jobs are stacked and an attempt is made to execute additional jobs, the status of the additional jobs becomes *Failed to start* status.

(4) Notes

- Multi-byte characters cannot be used for a class name.
- The maximum length of the class name that can be specified in **Exec-agent** is 63 bytes. If you specify a class name longer than 63 bytes, the class name is truncated at the 63rd byte.

15.5 Changing the settings related to the definition pre-check function

This section describes how to change the settings related to the definition pre-check function.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.5.1 Setting up the JP1/AJS3 definition pre-check function

As a protection against failures during live operation, JP1/AJS3 can check for problems in the definition of a job before live operation of the job starts. This subsection describes how to set up this function.

(1) Procedure for setting up the function

To set up the JP1/AJS3 definition pre-check function:

1. Execute the following command:

For JP1/AJS3 - Manager:

```
#/opt/jplajs2/bin/ajschksetup -m -a
```

For JP1/AJS3 - Agent:

```
#/opt/jplajs2/bin/ajschksetup -a
```

For details about the `ajschksetup` command, see *ajschksetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Start the JP1/AJS3 Check Manager service and the JP1/AJS3 Check Agent service.

The following shows the commands to be executed.

For JP1/AJS3 - Manager:

```
#/opt/jplajs2/bin/ajschkstart -m -a
```

For JP1/AJS3 - Agent:

```
#/opt/jplajs2/bin/ajschkstart -a
```

For details about the `ajschkstart` command, see *ajschkstart (UNIX only)* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(2) Procedure for changing the function settings

To change the settings of the JP1/AJS3 definition pre-check function:

1. Stop the JP1/AJS3 Check Manager service and the JP1/AJS3 Check Agent service.

The following shows the commands to be executed.

For JP1/AJS3 - Manager:

```
#/opt/jplajs2/bin/ajschkstop -m -a
```


For JP1/AJS3 - Agent:

```
#/opt/jplajs2/bin/ajschkstop -a
```

For details about the `ajschkstop` command, see *ajschkstop (UNIX only)* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Execute the following command to set the environment setting parameters described in (3) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2] ["parameter-name-3"=value-3] ["parameter-name-4"=value-4] ["parameter-name-5"=value-5]
```

3. Start the services that you stopped in step 1.

The following shows the commands to be executed.

For JP1/AJS3 - Manager:

```
#/opt/jplajs2/bin/ajschkstart -m -a
```

For JP1/AJS3 - Agent:

```
#/opt/jplajs2/bin/ajschkstart -a
```

The new settings are applied.

(3) Environment setting parameters

Table 15–72: Environment setting parameters used to specify the settings of the JP1/AJS3 definition pre-check function

No.	Definition key	Environment setting parameter	Explanation
1	[JP1_DEFAULT\JP1AJS2\CHECK]	"AJSCHK_CHECKFILE"#=	Specifies the name of the file where the definition pre-check results will be stored.
2		"AJSCHK_LOGDIR"=	Specifies the name of the definition check log directory.
3		"AJSCHK_LOGSIZE"=	Specifies the size of the definition check log files.
4		"AJSCHK_TRACELOGFILE"=	Specifies the name of the trace log file for the definition pre-check function.
5		"AJSCHK_CHARCODE"=	Specifies the character encoding used to display job information and the definition pre-check results.

#:

This parameter can be set only in JP1/AJS3 - Manager.

For details about the definition of these environment setting parameters, see the following:

1. [20.7.2\(1\) AJSCHK_CHECKFILE](#)
2. [20.7.2\(2\) AJSCHK_LOGDIR](#)
3. [20.7.2\(3\) AJSCHK_LOGSIZE](#)
4. [20.7.2\(4\) AJSCHK_TRACELOGFILE](#)
5. [20.7.2\(5\) AJSCHK_CHARCODE](#)

15.6 Settings common to all control processes

This section describes how to change settings that are common to all control processes.

When you set environment setting parameters, use the `jaajs_config` command.

For details about the `jaajs_config` command, see *jaajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.6.1 Settings for outputting error messages for jobs to syslog

You can output error messages for jobs (KAVS, KAVT, and KAVU messages) to syslog so that you are able to use only syslog to monitor errors occurring during job execution in JP1/AJS3.

The following describes the procedure for specifying the settings for outputting error messages for jobs to syslog.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jaajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–73: Environment setting parameter used to output error messages for jobs to syslog

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJS2COMMON]#	"SYSLOGJOBMSG"=	Specifies whether to output error messages for jobs to syslog.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see *20.11.2(2) SYSLOGJOBMSG*.

15.7 Settings related to the output of performance reports

This section describes the procedure for changing the settings related to the output of performance reports.

When you set environment setting parameters, use the `jajs_config` command.

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.7.1 Settings for the performance report output function

In JP1/AJS3, you can output performance reports that detail the processing amounts and job execution statuses for each scheduler service, to gain an accurate understanding of the operating status of JP1/AJS3. The following procedure describes how to enable the performance report output function.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop#1
# /opt/jplajs2/bin/jajs_spmd_status
```

#1:

Confirm that automatic termination has been set.

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15–74: Environment setting parameters for setting up the performance report output function

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler- service]#	"AJSREPORTUSE"=	Enables or disables the performance report output function.
	"AJSREPORTDIR"=	Specifies the directory to which performance log files are to be output.
	"AJSREPORTSTOREDAYPERIOD"=	Specifies the minimum retention period (in days) for performance log files.

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- *20.4.2(114) AJSREPORTUSE*
- *20.4.2(115) AJSREPORTDIR*
- *20.4.2(116) AJSREPORTSTOREDAYPERIOD*

15.8 Settings related to the Web GUI (Management Portal)

This section describes the procedure for changing the settings for the Web GUI (Management Portal).

Use the `jajs_config` command to set environment setting parameters.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.8.1 Additional settings to be specified for using the Web GUI (Management Portal)

If you use the Web GUI (Management Portal), specify the settings described in the following sections to obtain the JP1/AJS3 status information:

- *15.7 Settings related to the output of performance reports*
- *21.5 Setting up the job distribution delay reduction function*
- *21.7 Settings for detecting factors that might stop job execution*

The Web GUI (Management Portal) can be used even if the preceding three additional settings are not specified. However, if these additional settings are not specified, some of the JP1/AJS3 operating information will not be displayed with the Web GUI (Management Portal). The following table lists the items that will not be displayed.

Table 15–75: Items of JP1/AJS3 operating information requiring additional settings for display with the Web GUI (Management Portal)

No.	Relevant screen	Operating information item	Required setting
1	Scheduler Service Details screen	Number of jobs that are in queue or running	<ul style="list-style-type: none">• Settings related to the output of performance reports• Settings for detecting factors that might stop job execution
2		Number of execution generations	
3		Number of unreported information items	
4	Target Host screen	Execution agent status	Settings for reducing a delay in job distribution

15.8.2 Settings for the Web GUI (Management Portal)

To use the Web GUI (Management Portal), you must set it up on both the manager host and agent host.

(1) Procedure for setup on the manager host

Use the following procedure to set up the Web GUI (Management Portal) on the manager host:

1. Stop the JP1/AJS3 service if it is running.
2. Register a JP1 user to use the Web GUI (Management Portal), and then map that user to an OS user who has superuser privileges.

3. Set up the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service by executing the `ajssysctlsetup` command.

For details about the `ajssysctlsetup` command, see *ajssysctlsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Restart the JP1/AJS3 service.

5. Set automatic startup and termination for the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service.

For details about how to set automatic startup and termination, see *15.10.1(7) Setting automatic startup and termination of the JP1/AJS3 System Control Manager service and the JP1/AJS3 System Control Agent service*, or *17.2.11(4) Settings for the JP1/AJS3 System Control Manager service and the JP1/AJS3 System Control Agent service*.

(2) Procedure for setup on the agent host

Use the following procedure to set up the Web GUI (Management Portal) on the agent host:

1. Stop the JP1/AJS3 service if it is running.

2. Register a JP1 user to use the Web GUI (Management Portal), and then map that user to an OS user who has superuser privileges.

3. Set up the JP1/AJS3 System Control Agent service by executing the `ajssysctlsetup` command.

For details about the `ajssysctlsetup` command, see *ajssysctlsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Restart the JP1/AJS3 service.

5. Set automatic startup and termination for the JP1/AJS3 System Control Agent service.

For details about how to set automatic startup and termination, see *15.10.1(7) Setting automatic startup and termination of the JP1/AJS3 System Control Manager service and the JP1/AJS3 System Control Agent service*, or *17.2.11(4) Settings for the JP1/AJS3 System Control Manager service and the JP1/AJS3 System Control Agent service*.

(3) Changing the settings for the Web GUI (Management Portal)

Use the following procedure to change the settings for the Web GUI (Management Portal):

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jplajs2/jajs_stop
# /opt/jplajs2/bin/jajs_spmdd_status
```

2. Execute the `jajs_config` command to set the environment setting parameter described in (4) below:

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Restart JP1/AJS3.

The new settings are applied.

(4) Environment setting parameters

Table 15–76: Environment setting parameters for setting up the Web GUI (Management Portal)

No.	Definition key	Environment setting parameter	Explanation
1	[JP1_DEFAULT\JP1AJS2\CONTROL]	"AUTHSYSLOG"=	Sets whether messages related to user authentication are output to the syslog and integrated trace log.
2		"SYSLOGCODE"=	Sets the language of messages that the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service output to syslog.
3	[JP1_DEFAULT\JP1AJS2\CONTROL\MANAGER]	"CONRESTRICTSYSLOG"=	Sets whether messages related to connection-source restriction are output to the syslog.
4		"AJSSYSCTLDLOGSIZE"=	Sets the size of the internal log file for the ajssysctld process.
5		"LOGSIZE"=	Sets the size of the log file for the ajssysctld process.
6		"MAXOPEEXEC"=	Sets the maximum number of on-screen operations that can concurrently be performed using the Web GUI (Management Portal).
7		"MAXAGGEXEC"=	Sets the maximum number of threads to perform aggregation concurrently.
8	[JP1_DEFAULT\JP1AJS2\CONTROL\AGENT]	"AJSSYSCTLDLOGSIZE"=	Sets the size of the internal log file for the ajssysctlad process.
9		"LOGSIZE"=	Sets the size of the log file for the ajssysctlad process.
10		"MAXOPEEXEC"=	Sets the maximum number of on-screen operations that can concurrently be performed using the Web GUI (Management Portal).
11	[{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]#	"PERIODICJOBAGG"=	Sets whether the number of job executions is automatically aggregated.
12		"JOBAGGSTARTTIME"=	Sets the time at which aggregation of the number of job executions starts.
13		"JOBAGGLOGDIR"=	Sets the name of the directory for containing job execution count aggregation log files.
14		"JOBAGGRESULTSSTOREDAYPERIOD"=	Sets the number of days for which the aggregation results of the number of job executions are stored.

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

1. [20.15.2\(1\) AUTHSYSLOG](#)
2. [20.15.2\(2\) SYSLOGCODE](#)
3. [20.15.2\(3\) CONRESTRICTSYSLOG](#)

4. *20.15.2(4) AJSSYSCTLDLOGSIZE (for manager process)*
5. *20.15.2(5) LOGSIZE (for manager process)*
6. *20.15.2(6) MAXOPEEXEC (for manager process)*
7. *20.15.2(7) MAXAGGEXEC*
8. *20.15.2(9) AJSSYSCTLDLOGSIZE (for agent process)*
9. *20.15.2(10) LOGSIZE (for agent process)*
10. *20.15.2(11) MAXOPEEXEC (for agent process)*
11. *20.15.2(12) PERIODICJOBAGG*
12. *20.15.2(13) JOBAGGSTARTTIME*
13. *20.15.2(14) JOBAGGLOGDIR*
14. *20.15.2(15) JOBAGGRESULTSSTOREDAYPERIOD*

15.9 Settings related to database maintenance

This section describes the procedure for changing the settings related to maintenance of embedded databases of JP1/AJS3 - Manager.

To set environment setting parameters, use the `jaajs_config` command.

For details about the `jaajs_config` command, see *jaajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.9.1 Setting up the automatic maintenance function for embedded databases

For an embedded database of JP1/AJS3 - Manager, you must perform maintenance at regular intervals by using one of the following three methods:

- Enable the automatic maintenance function.
- Make database areas usable by using the `ajsembdbreclaim` command.
- Reorganize the database.

This subsection describes the setup procedure when you want to use the automatic maintenance function. For details about maintenance tasks, see *6.1.1 Flow of maintenance tasks* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(1) Setting up the automatic maintenance function for embedded databases

To enable the automatic maintenance function:

1. Execute the following command to set the environment setting parameter described in (2) below:

```
jaajs_config -k definition-key-name "environment-setting-parameter-name-1"=  
definition-1 ["environment-setting-parameter-name-2"=definition-2]
```

The new settings are applied.

2. If you perform an upgrade installation of JP1/AJS3 - Manager whose version is earlier than 10-00, enhance the embedded database management function.

For details about the settings for enhancing the embedded database management function, see *13.5.1 Settings for enhancing the embedded database management function*.

(2) Environment setting parameters

Table 15–77: Environment setting parameters for setting up the automatic maintenance function for embedded databases

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \JP1AJS2\HOST] #	"DBAUTOMAINTENANCE" =	Whether to enable the automatic maintenance function for embedded databases

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1AJS2\HOST]#	"DBAUTOMAINTEANCETIME"=	Time when maintenance is to be performed for the embedded database

#:

The specification of the {JP1_DEFAULT|*logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.3.2\(17\) DBAUTOMAINTEANCETIME](#)
- [20.3.2\(18\) DBAUTOMAINTEANCETIME](#)

(3) If you want to stop the automatic maintenance function

If you want to stop automatic maintenance during operation because, for example, a failure occurs, use the `jajs_config` command to specify `no` for the `DBAUTOMAINTEANCETIME` environment setting parameter. The value of this environment setting parameter is applied immediately. Therefore, automatic maintenance stops as soon as you change the setting.

(4) Notes

- If JP1/AJS3 is not running at the maintenance time specified for the `DBAUTOMAINTEANCETIME` environment setting parameter, maintenance is not performed.
- If automatic maintenance fails, maintenance for that time period is not retried. Maintenance is performed at the specified time on the next day. If maintenance is successful the next time and later, no action is needed. If maintenance fails repeatedly, check the error message output to the log file, and then take corrective action. The log file name is `dbautomaintenance[host-name].log`. For the log file storage location, see [1.2.5 List of log files and directories](#) in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.
- If maintenance starts at a time when the execution of jobs and jobnets creates a heavy load or when a command or JP1/AJS3 - View is operating on a unit, a timeout error might occur during maintenance. Make sure that the maintenance time specified for the `DBAUTOMAINTEANCETIME` environment setting parameter is different from such times.
- If maintenance by using the automatic maintenance function and maintenance by using the `ajsembdbreclaim` command are performed concurrently, either maintenance might terminate abnormally. If you enable the automatic maintenance function, do not execute the `ajsembdbreclaim` command while maintenance is being performed.

15.10 Other settings

This section describes how to change settings that have not been covered in earlier sections.

When you set environment setting parameters, use the `jaajs_config` command.

For details about the `jaajs_config` command, see *jaajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15.10.1 Setting automatic startup and termination of the JP1/AJS3 service

The JP1/AJS3 service can be started automatically when the system starts, and can be terminated automatically when the system terminates.

(1) Setting automatic startup and termination of the JP1/AJS3 service (JP1/AJS3 - Manager)

The following describes how to set automatic startup and termination of the JP1/AJS3 service (JP1/AJS3 - Manager).

Cautionary note:

For AIX, after performing the following procedure, you need to perform the procedure titled *Setting the automatic start and stop script* in the *Release Notes*.

(a) Setting automatic startup of the JP1/AJS3 service (JP1/AJS3 - Manager)

To ensure that the JP1/AJS3 service is started automatically when the system starts:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jaajs_start
```

2. In the file (automatic start shell script), delete the shaded part shown below.

```
: # /opt/jp1ajs2/bin/jajs_spmd >/dev/null 2>/dev/null  
:
```

When you delete the shaded part, take note of the following.

Cautionary note:

Before you set automatic startup of the JP1/AJS3 services in an environment in which upgrade from JP1/AJS2 - Manager and migration to a standard configuration are complete, you must copy the `jaajs_start.model` file to the `jaajs_start` file. If the `jaajs_start` file has been customized, you must check the customization status before copying the file. Then customize the file again after copying it.

Be careful if you finished an upgrade installation but did not specify the settings for enhancing the embedded database management function. In such a case, do not uncomment the entry `: # WAIT_READY=YES` in the standard configuration. If you uncomment this entry, JP1/AJS3 - Manager fails to start. For details about the settings for enhancing the embedded database management function, see *13.5.1 Settings for enhancing the embedded database management function*.

3. To use the host as a container host machine, in the automatic start shell script, delete the following shaded parts:

```
## Container Host Settings
```

```
:# CONTAINER_HOST=yes
```

When the OS is other than Solaris 11, the setting operation is complete with this step.

When the OS is Solaris 11, you must set the `JP1_HCCNETSOCK` environment variable by following the subsequent steps.

4. In the automatic start shell script, find the following line:

```
unset LC_MESSAGES
```

5. Insert the following entries before the line:

```
JP1_HCCNETSOCK=JP1_AJS  
export JP1_HCCNETSOCK
```

This completes the setting for automatic startup of the JP1/AJS3 service.

(b) Setting automatic startup of the JP1/AJS3 service (JP1/AJS3 - Manager) to change the settings for the function that waits for connection to the RDB

The following describes how to change the maximum wait time for connection to the RDB and how to change the setting for the function that waits for connection to the RDB.

Note that both the embedded database and the function are enabled by default if JP1/AJS3 is installed as an upgrade from JP1/AJS2 07-10 or an earlier version.

To change the maximum wait time for connection to the RDB:

1. Execute the following command:

```
jajs_config -k "[{JP1_DEFAULT|logical-host}\JP1AJSMANAGER\scheduler-service]" "RDBCONNECTWAITTIME"=maximum-wait-time-for-connection-to-the-RDB
```

The specification of the `{JP1_DEFAULT|logical-host}` part depends on whether the host is a physical host or a logical host. For a physical host, specify `JP1_DEFAULT`. For a logical host, specify the logical host name.

For example, if you change the maximum wait time for the `AJSROOT1` scheduler service on the physical host, you might be able to execute the following command:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]"  
"RDBCONNECTWAITTIME"=dword:00000001
```

For details about the `RDBCONNECTWAITTIME` environment setting parameter, see [20.4.2\(51\) RDBCONNECTWAITTIME](#).

Important

To use the function that waits for connection to the RDB in a cluster environment, perform the above task on both the primary and secondary nodes. Make sure that you specify the same value on both nodes.

Before the function that waits for connection to the RDB can be used, automatic startup of JP1/AJS3 at system startup must be enabled. To enable automatic startup, in the `/etc/opt/jp1ajs2/jajs_start` file, delete the shaded part shown below:

```
:/opt/jp1ajs2/bin/jajs_spmd >/dev/null 2>/dev/null
```

The following notes also apply:

- On a physical host

If JP1/AJS3 - Manager was installed as an upgrade installation but the settings for enhancing the embedded database management function were not specified:

In a standard configuration, if you use the functionality that waits for connection to the RDB with `WAIT_READY=YES` (the system waits for `jajs_spmd` startup) enabled when the system is restarted, the scheduler service will fail to start. If you want to use the function, add the comment symbol to disable the specification as follows: `:_# WAIT_READY=YES`

If JP1/AJS3 - Manager was installed as a new installation, or if JP1/AJS3 - Manager was installed as an upgrade installation and the settings for enhancing the embedded database management function were specified after the upgrade installation:

No problem is caused if the `WAIT_READY=YES` specification is enabled.

For details about the settings for enhancing the embedded database management function, see [13.5.1 Settings for enhancing the embedded database management function](#).

- On a logical host

No problem is caused if the `WAIT_READY=YES` specification is enabled.

This completes changing of the settings. The new settings are applied the next time that JP1/AJS3 starts.

Cautionary notes:

If the scheduler service fails to start at system startup, and the KAVS0999-W (a wait started) and KAVS0998-E (a wait failed) messages have been output, check the following points:

- Whether the embedded database has been set up

If the embedded database specified in the scheduler service is not running, regardless of how long JP1/AJS3 waits, connection to the database will not succeed.

Confirm that the scheduler service is up and running without problem during setup.

- Whether the embedded database definition has been changed

If the startup method is changed after the embedded database has been set up, the embedded database might be unable to start when the system starts. If this problem occurs, restore the initial values that were set during setup.

- Whether the embedded database terminated abnormally when it terminated previously

If the embedded database terminates abnormally during the execution of a job, it might take time for the embedded database to start the next time. If startup of the embedded database takes time, the embedded database might not start within the default maximum wait time. Accordingly, make sure that you do not force the embedded database to terminate.

- Whether the comment symbol (: #) on the `WAIT_READY=YES` line in the `jajs_start` file has been deleted

If the comment symbol (: #) has been deleted, add it to disable the `WAIT_READY=YES` specification.

If you know how long startup of the embedded database is delayed, you can also increase the maximum wait time for connection to the database.

(c) Setting automatic termination of the JP1/AJS3 service (JP1/AJS3 - Manager)

To ensure that the JP1/AJS3 service is terminated automatically when the system terminates:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop
```

2. In the file (automatic termination shell script), delete the shaded part shown below.

```
: # /opt/jp1ajs2/bin/jajs_spmd_stop  
: # RC=$?  
:
```

When you delete the shaded part, take note of the following.

Cautionary note:

- If you are using event jobs or custom event jobs, enable the `WAIT_READY=YES` setting.
- If you delete the comment marker in `: # WAIT_READY=YES`, (`WAIT_READY=YES` is enabled), the system stops after confirming that the JP1/AJS3 services have stopped. If you do not delete the comment marker in `: # WAIT_READY=YES`, (`WAIT_READY=YES` is disabled), the system stops without waiting for the JP1/AJS3 services to stop. Therefore, the embedded database process or the JP1/Base service might stop before the JP1/AJS3 services stop. If you are not using event jobs and custom event jobs, enable or disable the `WAIT_READY=YES` setting based on the operation to be performed. The following table describes the JP1/AJS3 operation and effect for each setting of the comment.

Table 15–78: Operation and the effect of the automatic stop setting for a JP1/AJS3 service (JP1/AJS3 - Manager) according to whether `WAIT_READY=YES` is enabled or disabled

Whether <code>WAIT_READY=YES</code> is enabled or disabled	Operation on stopping	Effect of the setting	Result of the effect
Disabled (the comment marker in <code>: # WAIT_READY=YES</code> is not deleted)	The system stops without waiting for the JP1/AJS3 service to stop.	The embedded database process or the JP1/Base service might stop before the JP1/AJS3 service stops, and an error message such as <code>KAVS0932-E</code> or <code>KAVS0863-E</code> is output to syslog or the integrated trace log.	Because restarting of the JP1/AJS3 service is not affected, no action is required.
		If you use an ISAM file as the execution environment settings file for QUEUE jobs and submit jobs, and the system stops early, the ISAM file might become invalid. The next time the service starts, a message (<code>KAVU5501-E</code>) is output, and QUEUE jobs and submit jobs will fail to start.	See <i>2.11 Troubleshooting problems related to invalid ISAM files</i> in the manual <i>JP1/Automatic Job Management System 3 Troubleshooting</i> and check the state of the ISAM file. If the ISAM file is invalid, re-create it.
Enabled (the comment marker in <code>: # WAIT_READY=YES</code> is deleted)	The system stops after confirming that the JP1/AJS3 service has stopped.	The system waits until the JP1/AJS3 service has stopped.	No action is needed.

3. To use the host as a container host machine, in the automatic stop shell script, delete the following shaded parts:

```
## Container Host Settings  
: # CONTAINER_HOST=yes
```

This completes the setting for automatic termination of the JP1/AJS3 service.

(2) Setting automatic startup and termination of the JP1/AJS3 service (JP1/AJS3 - Agent)

The following describes how to set automatic startup and termination of the JP1/AJS3 service (JP1/AJS3 - Agent).

Cautionary note:

For AIX, after performing the following procedure, you need to perform the procedure titled *Setting the automatic start and stop script* in the *Release Notes*.

(a) Setting automatic startup of the JP1/AJS3 service (JP1/AJS3 - Agent)

To ensure that the JP1/AJS3 service is started automatically when the system starts:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start
```

2. In the file (automatic start shell script), delete the shaded part shown below.

```
: # /opt/jp1ajs2/bin/jajs_spm >/dev/null 2>/dev/null
```

When you delete the shaded part, take note of the following.

Cautionary note:

Note that if you delete the comment symbol from the `: # WAIT_READY=YES` specification, the system will wait until the JP1/AJS3 service starts. That is, system startup will require a longer time. If system startup has precedence, do not delete the comment symbol.

3. To use the host as a container host machine, in the automatic start shell script, delete the following shaded parts:

```
## Container Host Settings
```

```
: # CONTAINER_HOST=yes
```

When the OS is other than Solaris 11, the setting operation is complete with this step.

When the OS is Solaris 11, you must set the `JP1_HCCNETSOCK` environment variable by following the subsequent steps.

4. In the automatic start shell script, find the following line:

```
unset LC_MESSAGES
```

5. Insert the following entries before the line:

```
JP1_HCCNETSOCK=JP1_AJS
export JP1_HCCNETSOCK
```

This completes the setting for automatic startup of the JP1/AJS3 service.

(b) Setting automatic termination of the JP1/AJS3 service (JP1/AJS3 - Agent)

To ensure that the JP1/AJS3 service is terminated automatically when the system terminates:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop
```

2. In the file, delete the shaded parts shown below.

```
: # /opt/jp1ajs2/bin/jajs_spmc_stop  
: # RC=$?
```

When you delete the shaded part, take note of the following.

Cautionary notes:

- If you are using event jobs or custom event jobs, enable the `WAIT_READY=YES` setting.
- If you delete the comment marker in `: # WAIT_READY=YES` (`WAIT_READY=YES` is enabled), the system stops after confirming that the JP1/AJS3 services have stopped. If you do not delete the comment marker in `: # WAIT_READY=YES` (`WAIT_READY=YES` is disabled), the system stops without waiting for the JP1/AJS3 services to stop.

If you are not using event jobs and custom event jobs, enable or disable the `WAIT_READY=YES` setting based on the operation to be performed.

3. To use the host as a container host machine, in the file, delete the following shaded parts:

```
## Container Host Settings  
  
: # CONTAINER_HOST=yes
```

This completes the setting for automatic termination of the JP1/AJS3 service.

(3) Setting automatic startup and termination of the queueless agent service and queueless file transfer service

The queueless agent service or queueless file transfer service can be started when the system starts or can be terminated when the system terminates if the automatic start or termination script is set to perform this.

Note that the queueless file transfer service is available in JP1/AJS3 - Manager but is not available in JP1/AJS3 - Agent. The setting for the service is required in JP1/AJS3 - Manager only.

(a) Setting automatic startup and termination of the queueless agent service

The following describes how to set automatic startup and termination of the queueless agent service.

■ Setting automatic startup of the queueless agent service

To ensure that the queueless agent service is started automatically when the system starts, you must set the automatic start script.

To set automatic startup of the queueless agent service in the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start
```

2. In the file, delete the shaded part shown below.

```
: # /opt/jp1ajs2/bin/ajsqlstart >/dev/null 2>/dev/null
```

3. To use the host as a container host machine, in the file, delete the following shaded parts:


```
## Container Host Settings
```

```
: # CONTAINER_HOST=yes
```

```
## Agent Services
```

```
: # CONTAINER_HOST_QLAGT=yes
```

```
: # CONTAINER_HOST_ATMSG=yes
```

```
: # CONTAINER_HOST_ATAGT=yes
```

```
: # CONTAINER_HOST_CHKAGT=yes
```

4. Close the file.

■ Setting automatic termination of the queueless agent service

To set automatic termination of the queueless agent service in the automatic termination script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop
```

2. In the file, delete the shaded part shown below.

```
: # /opt/jp1ajs2/bin/ajsqstop
```

3. Close the file.

(b) Setting automatic startup and termination of the queueless file transfer service

The following describes how to set automatic startup and termination of the queueless file transfer service.

■ Setting automatic startup of the queueless file transfer service

To ensure that the queueless file transfer service is started automatically when the system starts, you must set the automatic start script so that this is done.

To set automatic startup of the queueless file transfer service in the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start
```

2. In the file, delete the shaded part shown below.

```
: # /opt/jp1ajs2/bin/ajsqftpstart >/dev/null 2>/dev/null
```

3. Close the file.

■ Setting automatic termination of the queueless file transfer service

To set automatic termination of the queueless file transfer service in the automatic termination script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop
```

2. In the file, delete the shaded part shown below.

```
: # /opt/jp1ajs2/bin/ajsqftpstop
```

3. Close the file.

(4) Setting automatic startup and termination of the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service

The following describes how to set automatic startup and termination of the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service.

(a) Setting automatic startup of the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service

To ensure that the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service is started automatically when the system starts, you must set the automatic start script.

To set automatic startup of the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service in the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start
```

2. In the file, delete the shaded part shown below.

```
if [ -x /opt/jp1ajs2/bin/ajschkmand ] ; then
pids= $PS |awk '/\#/opt\#/jp1ajs2\#/bin\#/ajschkmand/ {print $2}'
if [ "$pids" = "" ] ; then
trap "" 1 2 3
### The JP1/AJS2 Check Manager service started ###
: #/opt/jp1ajs2/bin/ajschkstart -m >/dev/null 2>/dev/null &
fi
fi
if [ -x /opt/jp1ajs2/bin/ajschkagtd ] ; then
if [ "$JP1AJS3_STATUS_CHECK_TYPE" = "1" ] ; then
pids="0"
if [ "$CONTAINER_HOST_CHKAGT" = "yes" ] ; then
pids= $PS |awk '/\#/opt\#/jp1ajs2\#/bin\#/ajschkagtd.*-container-host/ {print $2}'
fi
else
pids= $PS |awk '/\#/opt\#/jp1ajs2\#/bin\#/ajschkagtd/ {print $2}'
fi
if [ "$pids" = "" ] ; then
trap "" 1 2 3
### The JP1/AJS2 Check Agent service started ###
: #/opt/jp1ajs2/bin/ajschkstart -a >/dev/null 2>/dev/null &
fi
fi
```

3. To use the JP1/AJS3 Check Agent service on a container host machine, in the file, delete the following shaded parts:

```
## Container Host Settings

: # CONTAINER_HOST=yes

## Agent Services
: # CONTAINER_HOST_QLAGT=yes
: # CONTAINER_HOST_ATMSG=yes
: # CONTAINER_HOST_ATAGT=yes
: # CONTAINER_HOST_CHKAGT=yes
```

4. Close the file.

(b) Setting automatic termination of the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service

To set automatic termination of the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service in the automatic termination script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop
```

2. In the file, delete the shaded part shown below.

```
if [ -x /opt/jp1ajs2/bin/ajschkstop ]; then  
: #/opt/jp1ajs2/bin/ajschkstop  
fi
```

3. Close the file.

(5) Setting automatic startup and termination of the JP1/AJS3 Autonomous Agent service or the JP1/AJS3 Autonomous Agent Messenger service

The following describes how to set automatic startup and termination of the JP1/AJS3 Autonomous Agent service or the JP1/AJS3 Autonomous Agent Messenger service.

(a) Setting automatic startup of the JP1/AJS3 Autonomous Agent service or the JP1/AJS3 Autonomous Agent Messenger service

To start the JP1/AJS3 Autonomous Agent service or JP1/AJS3 Autonomous Agent Messenger service automatically when the system starts, set the automatic start script. The following describes how to set the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start
```

2. In the file, delete the shaded part shown below.

```

if [ -x /opt/jp1ajs2/embsch/bin/as_iescsvr ]; then
  if [ "$JP1AJS3_STATUS_CHECK_TYPE" = "1" ]; then
    pids="0"
    if [ "$CONTAINER_HOST_ATMSG" = "yes" ]; then
      atstatus=`LANG=C /opt/jp1ajs2/bin/ajsatstatus | awk '/^JP1\$/AJS3 Autonomous Agent
Messenger service/ {print $6}'`
      if [ "$atstatus" = "inactive" ]; then
        pids=""
      fi
    fi
  else
    pids=`$PS |awk '/\$/opt\$/jp1ajs2\$/embsch\$/bin\$/as_iescsvr/ {print $2}'`
    fi
  if [ "$pids" = "" ]; then
    trap "" 1 2 3
    ### JP1/AJS3 Autonomous Agent Messenger Service started ###
    : #/opt/jp1ajs2/bin/ajsatmstart >/dev/null 2>/dev/null
  fi
fi
if [ -x /opt/jp1ajs2/embsch/bin/as_manager ]; then
  if [ "$JP1AJS3_STATUS_CHECK_TYPE" = "1" ]; then
    pids="0"
    if [ "$CONTAINER_HOST_ATAGT" = "yes" ]; then
      atstatus=`LANG=C /opt/jp1ajs2/bin/ajsatstatus | awk '/^JP1\$/AJS3 Autonomous Agent service/
{print $5}'`
      if [ "$atstatus" = "inactive" ]; then
        pids=""
      fi
    fi
  else
    pids=`$PS |awk '/\$/opt\$/jp1ajs2\$/embsch\$/bin\$/as_manager/ {print $2}'`
    fi
  if [ "$pids" = "" ]; then
    trap "" 1 2 3
    ### JP1/AJS3 Autonomous Agent service started ###
    : #/opt/jp1ajs2/bin/ajsatstart >/dev/null 2>/dev/null
  fi
fi
fi

```

3. To use the host as a container host machine, in the file, delete the following shaded parts:

```

## Container Host Settings

: # CONTAINER_HOST=yes

## Agent Services
: # CONTAINER_HOST_QLAGT=yes
: # CONTAINER_HOST_ATMSG=yes
: # CONTAINER_HOST_ATAGT=yes
: # CONTAINER_HOST_CHKAGT=yes

```

4. Close the file.

(b) Setting automatic termination of the JP1/AJS3 Autonomous Agent service or the JP1/AJS3 Autonomous Agent Messenger service

The following describes how to set the automatic termination script for the JP1/AJS3 Autonomous Agent service or JP1/AJS3 Autonomous Agent Messenger service:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop
```

2. In the file, delete the shaded part shown below.

```
if [ -x /opt/jp1ajs2/bin/ajsatstop ] ; then
: # /opt/jp1ajs2/bin/ajsatstop
fi

if [ -x /opt/jp1ajs2/bin/ajsatmstop ] ; then
: # /opt/jp1ajs2/bin/ajsatmstop
fi
```

3. Close the file.

(6) Setting automatic startup and termination of the JP1/AJS3 HTTP Server service or the JP1/AJS3 Web Application Server service (JP1/AJS3 - Web Console)

The following describes how to set automatic startup and termination of the JP1/AJS3 HTTP Server service or the JP1/AJS3 Web Application Server service (JP1/AJS3 - Web Console).

(a) Setting automatic startup of the JP1/AJS3 HTTP Server service or the JP1/AJS3 Web Application Server service (JP1/AJS3 - Web Console)

To start the JP1/AJS3 HTTP Server service or JP1/AJS3 Web Application Server service (JP1/AJS3 - Web Console) automatically when the system starts, set the automatic start script. The following describes how to set the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/rc.d/init.d/jp1ajs3web
```

2. In the file, delete the shaded part shown below.

```
: # /etc/opt/jp1ajs3web/jajs_web
```

3. Close the file.

(b) Setting automatic termination of the JP1/AJS3 HTTP Server service or the JP1/AJS3 Web Application Server service (JP1/AJS3 - Web Console)

The following describes how to set the automatic termination script for the JP1/AJS3 HTTP Server service or JP1/AJS3 Web Application Server service (JP1/AJS3 - Web Console):

1. Open the following file with a text editor such as vi:

```
/etc/rc.d/init.d/jp1ajs3web
```

2. In the file, delete the shaded part shown below.

```
: # /etc/opt/jp1ajs3web/jajs_web_stop
```

3. Close the file.

(c) Setting the language type when the JP1/AJS3 HTTP Server service and JP1/AJS3 Web Application Server service (JP1/AJS3 - Web Console) are started

To set the language type when the JP1/AJS3 HTTP Server service and JP1/AJS3 Web Application Server service (JP1/AJS3 - Web Console) are started:

1. Open the following file with a text editor such as vi:

```
/etc/rc.d/init.d/jp1ajs3web
```

2. In the file, change the shaded character shown below to any of the values indicated in the table:

```
LANG=C  
or  
LANG=en_US.UTF-8
```

Table 15–79: Value that can be set for LANG

Language	Value that can be set for LANG
Japanese	<ul style="list-style-type: none">• ja_JP.UTF-8• ja_JP.utf8• ja_JP.SJIS#1• ja_JP.sjis#1
English	<ul style="list-style-type: none">• C• en_US.UTF-8#2• en_US.utf8#2

#1:

Can be used only in SUSE Linux.

#2:

Only 7-bit ASCII characters can be used. Do not use characters other than 7-bit ASCII characters.

3. Close the file.

(7) Setting automatic startup and termination of the JP1/AJS3 System Control Manager service and the JP1/AJS3 System Control Agent service

This section describes how to set automatic startup and termination for the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service.

(a) Setting automatic startup of the JP1/AJS3 System Control Manager service and the JP1/AJS3 System Control Agent service

Specify the settings of the automatic startup script that starts the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service when the system starts. The following describes how to specify the setting.

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start
```

2. In the file, delete the shaded part shown below.

```

if [ -x /opt/jp1ajs2/bin/ajssysctlmd ] ; then
sysctlmdstatus=`LANG=$EN_LANG /opt/jp1ajs2/bin/ajssysctlstatus -m 2> /dev/null
| awk '/^Service status/ {print $3}'`
if [ "$sysctlmdstatus" = "inactive" ] ; then
trap "" 1 2 3
### JP1/AJS3 System Control Manager service started ###
# /opt/jp1ajs2/bin/ajssysctlstart -m > /dev/null 2> /dev/null &
fi
fi
if [ -x /opt/jp1ajs2/bin/ajssysctlad ] ; then
sysctladstatus=`LANG=$EN_LANG /opt/jp1ajs2/bin/ajssysctlstatus -a 2> /dev/null
| awk '/^Service status/ {print $3}'`
if [ "$sysctladstatus" = "inactive" ] ; then
trap "" 1 2 3
### JP1/AJS3 System Control Agent service started ###
# /opt/jp1ajs2/bin/ajssysctlstart -a > /dev/null 2> /dev/null &
fi
fi

```

3. Close the file.

(b) Setting automatic termination of the JP1/AJS3 System Control Manager service and the JP1/AJS3 System Control Agent service

Use the following procedure to specify the settings of the script that automatically terminates the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop
```

2. In the file, delete the shaded part shown below.

```

if [ -x /opt/jp1ajs2/bin/ajssysctlstop ] ; then
# /opt/jp1ajs2/bin/ajssysctlstop -m
# /opt/jp1ajs2/bin/ajssysctlstop -a
fi

```

To stop the JP1/AJS3 System Control Manager service, delete the shaded part of the line where "/opt/jp1ajs2/bin/ajssysctlstop -m" is being described.

To stop the JP1/AJS3 System Control Agent service, delete the shaded part of the line where "/opt/jp1ajs2/bin/ajssysctlstop -a" is being described.

3. Close the file.

(8) Outputting the JP1/AJS3 process status when JP1/AJS3 is started automatically

The JP1/AJS3 process status can be output when JP1/AJS3 services are started automatically. To enable output of the process status, you must set the automatic start script.

Cautionary note:

Be careful if you installed JP1/AJS3 - Manager as an upgrade installation but did not specify the settings for enhancing the embedded database management function. In such a case, do not uncomment the entry : # WAIT_READY=YES in step 3 of the procedure described below. If you uncomment this entry, JP1/AJS3 - Manager fails to start. If JP1/AJS3 - Manager fails to start, the automatic start script for outputting the processing status also fails to start.

For details about the settings for enhancing the embedded database management function, see [13.5.1 Settings for enhancing the embedded database management function](#).

To specify the settings for outputting the JP1/AJS3 process status when JP1/AJS3 is started automatically:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jplajs2/jajs_start
```

2. In the file, delete the shaded part shown below.

```
:#/opt/jp1ajs2/bin/jajs_spmc_status # Display the running processes
```

3. In the file, uncomment the entry : # WAIT_READY=YES.
4. Close the file.

(9) Setting the process behavior when memory becomes insufficient (AIX only)

In AIX, if memory becomes insufficient, the system might issue SIGKILL, causing the JP1/AJS3 process to terminate. To prevent termination, set `early` for the `PSALLOC` environment variable, and start JP1/AJS3.

Note that the `NODISCLAIM` environment variable must be set to `true` if the `PSALLOC` environment variable is set to `early`.

The following shows an example of setting the process behavior in the automatic script.

To set the process behavior in the automatic start script:

1. In the automatic start script, find the following line:

```
unset LC_MESSAGES
```

2. Insert the following entries before the line:

```
----- Start of entries to be inserted
PSALLOC=early
NODISCLAIM=true
export PSALLOC NODISCLAIM
----- End of entries to be inserted
unset LC_MESSAGES
cd /opt/jplajs2/bin
```

Cautionary note:

If you set automatic startup of the queueless agent service, queueless jobs are executed with `early` set for the `PSALLOC` environment variable.

If you do not want to set `early` for the `PSALLOC` environment variable when queueless jobs are executed, change the applicable login scripts as shown in the following example:

```
if [ "$JP1JobID" != "" ] ; then
unset PSALLOC >/dev/null 2>/dev/null
unset NODISCLAIM >/dev/null 2>/dev/null
fi
```

For details about how to change the applicable login script, see [13.4.2 Changing the login scripts](#).

(10) Setting automatic startup and termination of the JP1/AJS3 service that do not depend on the JP1_HOSTNAME environment variable

The JP1/AJS3 service can be automatically started or terminated without being depending on the JP1_HOSTNAME environment variable set in the environment.

To ensure that the JP1/AJS3 service is automatically started or terminated without being dependent on the JP1_HOSTNAME environment variable:

1. Open the following file with a text editor such as vi:
 - (a) For automatic startup of the JP1/AJS3 service
/etc/opt/jplajs2/jajs_start
 - (b) For automatic termination of the JP1/AJS3 service
/etc/opt/jplajs2/jajs_stop
2. In the file, delete the shaded part shown below.

```
:#unset JP1_HOSTNAME
```

3. Close the file.

15.10.2 Changing the JP1/AJS3 database configuration to the standard configuration without ISAM

This subsection describes how to change the JP1/AJS3 database configuration from the *standard configuration* to the *standard configuration without ISAM*. In JP1/AJS3 - Manager installed as a new installation, the database configuration is the standard configuration, not the standard configuration without ISAM.

To change the database configuration to the standard configuration without ISAM, edit the jplajs_hstd.conf file in the service configuration file storage directory.

- If you updated the jplajs_hstd.conf file during configuration of the scheduler status monitoring
Back up the jplajs_hstd.conf file, and then delete the following line from the jplajs_hstd.conf file:

```
jpqman_hst|/opt/jplajs2/bin/jpqman|||1800|
```

- For any other cases:
Back up the jplajs_hstd.conf file, and then delete it. Next, copy the jplajs_hstd.conf.isamless.model file, and then rename the copy to jplajs_hstd.conf.

To return the database configuration to the standard configuration, overwrite the jplajs_hstd.conf file with a copy of the backup file.

In a physical host environment, the service configuration file storage directory is /etc/opt/jplajs2/conf/. In a logical host environment, the service configuration file storage directory is *shared-disk-directory-specified-by-the-jajs_setup_cluster-command*/jplajs2/conf.

Cautionary note:

If you change the database configuration to the standard configuration without ISAM, some functions are no longer available. For details, see *1.4 JP1/AJS3 database configurations* in the manual *JP1/Automatic Job Management System 3 Overview*.

15.10.3 Settings for permitting changing JP1 user passwords in JP1/AJS3 - View

To be able to change the password of a logged-in JP1 user in the connected JP1/AJS3 - View, enable the change password functionality for JP1 users in that JP1/AJS3 - View.

When this functionality is enabled, you can change the password of a JP1 user by selecting **Options** and then **Change Password** in the connected JP1/AJS3 - View.

(1) Definition procedure

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop
# /opt/jp1ajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name-1"=value-1 ["parameter-name-2"=value-2]
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameters

Table 15–80: The environment setting parameter for permitting changing JP1 user passwords in JP1/AJS3 - View

Definition key	Environment setting parameter	Explanation
[{ JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER] #	"CHANGEPASSWORD"=	Sets whether the change password functionality for JP1 users is to be used in JP1/AJS3 - View.
	"CHANGEPWDLOG"=	Sets whether messages related to changing of the JP1 user password are to be output in JP1/AJS3 - View.

#:

The specification of the { JP1_DEFAULT | *logical-host* } part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(26\) CHANGEPASSWORD](#)
- [20.4.2\(27\) CHANGEPWDLOG](#)

(3) Notes

- If you use this functionality to change the password of a JP1 user, the password used by that JP1 user to log in to other JP1 products also changes. We recommend that you disable the change password functionality for JP1 users used for products other than JP1/AJS3.
- Only standard users can change their passwords by using the change password functionality. A JP1 user (linkage user) whose password is managed on the directory server cannot change the user password.
For details about standard users and linkage users, see the *JP1/Base User's Guide*.
- Only the password for the primary authentication server can be changed by using this functionality. The password for the secondary authentication server cannot be changed. If you use this functionality to change the password, the passwords for the two servers will not match immediately after the change. Accordingly, the administrator of the authentication server needs to copy the setting information of the primary authentication server to the secondary authentication server.

If you are unable to configure and run the facility for copying the setting information of the primary authentication server to the secondary authentication server, disable this functionality.

For details about the primary and secondary authentication servers, see 6.2 *Ranges for setting access permissions* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For details about how to copy the setting information of the primary authentication server, see the *JP1/Base User's Guide*.

16

Collecting Log Data

This chapter describes how to collect log data useful for investigating and analyzing failures that occur in JP1/AJS3.

16.1 Collecting log data

This section describes the settings for collecting log information, which can be used to investigate failures.

16.1.1 Setting up the data collection tools

The UNIX versions of JP1/AJS3 - Manager, JP1/AJS3 - Agent, and JP1/AJS3 - Web Console provide *data collection tools* that can be used for collecting log data.

There are two data collection tools:

- *jajs_log*
Use this tool if you did not change the output destinations of log files and other data from their default values, or if you need to collect standard data items only. You cannot customize this tool.
- *_04*
Use this tool if you changed the output destinations of log files and other data from their default values, or if you need to collect non-standard data items. You can customize this tool to change the output destinations of log data and the storage locations of data to be collected.
Note that *_04* is not provided by JP1/AJS3 - Web Console.

After installing JP1/AJS3 - Manager or JP1/AJS3 - Agent, copy the data collection tool (*_04*) to another directory and use it from that directory.

To set up the environment needed to use the data collection tool (*_04*):

1. Copy the data collection tool (*_04*) to any directory.

The following shows an example of the command you execute.

```
cp /opt/jplajs2/lib/sample_script/_04 /home/jplajs2/trouble.sh
```

2. Specify the permission settings required to edit the copied data collection tool.

The following shows an example of the command you execute.

```
chmod +rw /home/jplajs2/trouble.sh
```

3. Edit the copied data collection tool, and then change the file name to any convenient name.

Use an editor to edit the data collection tool.

The following table lists the initial values specified in the data collection tool. You can change any inappropriate initial values to the appropriate values. If you change a value, do not use characters and symbols that have special meanings in a script. If you use such characters and symbols, an error might occur.

Table 16–1: Initial values specified in the data collection tool

No.	Item	Initial value
1	Directory for storing integrated trace log files	HNTRLOG="/opt/hitachi/HNTRLib/spool" HNTR2LOG="/var/opt/hitachi/HNTRLib2/spool"
2	Directory for storing user mapping and authentication settings files	AUTHSV="/etc/opt/jplbase/conf/user_acl"
3	syslog and syslog storage directory ^{#1}	In HP-UX: SYSLOGFILE="/var/adm/syslog/syslog.log"

No.	Item	Initial value
3	syslog and syslog storage directory ^{#1}	In Solaris: SYSLOGFILE="/var/adm/messages" In AIX: SYSLOGFILE="/var/adm/syslog" In Linux: SYSLOGFILE="/var/log/messages*"
4	OS system file ^{#2, #3}	SYSTEMFILES="./etc/hosts ./etc/services ./etc/passwd"
5	Database storage directory ^{#3, #4}	DATABASE="./var/opt/jplajs2/database[sql]*"
6	Job error information directory ^{#3, #5}	JOBINF="./var/opt/jplajs2/jobinf"
7	Directory used for storing data other than the above	ADDFILE= Specify the absolute path of the directory to be used for the purpose on the left. Specify an additional directory in cases such as the following: <ul style="list-style-type: none"> • If you want to output information, such as log data on a logical host, to a directory other than the default directory in a cluster environment • If you want to change a log file destination^{#6} from its default value^{#7} • If you want to collect data other than the above For example, after changing the shared directory, to collect information about the new shared directory, specify the following: <pre>ADDFILE="/new-shared-directory/jplajs2" ADDFILE="\$ADDFILE /new-shared-directory/jplbase/log /new-shared-directory/jplbase/conf"</pre>

#1:

Depending on the system environment, the syslog and the syslog storage directory settings might have been changed. Make sure that you set an appropriate syslog or a directory in which only syslog is stored, according to the system environment.

#2:

If OS system files will not be collected, delete the names of the files that are not to be collected.

#3:

If you want to change a file name, specify a period (.) followed by a relative path from the root directory.

#4:

Do not delete the directory name that is set by default. If a database directory that does not exist under this directory has been specified because a scheduler service has been added on the physical host, specify the directory name prefixed with a period (.).

Example:

```
DATABASE="./var/opt/jplajs2/database ./adddir/database2"
```

If you are using only logical hosts and you specified directories that differ from the default, specify the name of the parent directory of the database directory on the shared disk for ADDFILE. Do not change the DATABASE specification.

#5:

In the scheduler service settings on the physical host, if the job error information directory has been changed or a job error information directory has been added, modify the value to reflect the change. If you are using only logical hosts for operation and if you changed directories from the default directories, specify the name of the parent directory of the job error information directory on the shared disk for ADDFILE.

#6:

For details about the default storage directories for the log files specified in the data collection tool, see *1.2.5 List of log files and directories* in the manual *JP1/Automatic Job Management System 3 Troubleshooting* and the list of files and directory in the appendix of the *JP1/Base User's Guide*.

#7:

The following table lists the output destinations that can be changed after JP1/AJS3 is installed.

Table 16–2: List of output destinations that can be changed after JP1/AJS3 is installed

Control	Output destination that can be changed	Environment setting parameter
System management	System directory	AJSSYSDIR
	Log directory	AJSLOGDIR
	Host-based scheduler log file 1	HOSTLOGFILE1
	Host-based scheduler log file 2	HOSTLOGFILE2
Scheduler service	Scheduler trace log file	TRACELOGFILE
	Scheduler trace log file per scheduler service	TRACELOGDIVDIR
	Scheduler log file 1	AJSLOGFILE1
	Scheduler log file 2	AJSLOGFILE2
	Job error information directory	JOBINFDIR
	Database directory	AJSDBDIRECTORY
	System directory	AJSSYSDIR
	Log directory	AJSLOGDIR
	The directory to which performance log files are to be output	AJSREPORTDIR
JP1/AJS3 definition pre-check function	Definition check log directory	AJSCHK_LOGDIR
	Trace log file	AJSCHK_TRACELOGFILE
Queueless job execution environment	Trace log file	AJSQL_TRACELOGFILE
	Storage directory for internal log data output by the queueless file transfer service	AJSQL_EXECLOG_FTPPATH
	Storage directory for internal log data output by the queueless agent service	AJSQL_EXECLOG_AGTPATH
	Work path for queueless jobs or directory for temporary files	AJSQL_AGTWORKPATH

16.1.2 Note on the output setting of core file

Do not limit the core file output setting of the JP1/AJS3 processes when not the setting violates the security policies of the host you are using. If the output of core file is incomplete, you might not be able to identify the cause of the error. For details about the setting, see the documentation for your OS.

17

Setup for Operation in a Cluster System

This chapter describes the setup required to use JP1/AJS3 in a cluster system.

Note that previous editions of JP1 manuals referred to a cluster system as a *node switching system*.

17.1 Installation and setup required for cluster system operation

This section describes the installation and setup required to enable cluster system operation.

For an overview of cluster system operation, see *10.1 Overview of cluster systems* in the *JP1/Automatic Job Management System 3 Administration Guide*.

17.1.1 Installation required for cluster system operation

Install JP1/AJS3 on the local disks of the primary and secondary nodes.

Important

Do not install JP1/AJS3 on a shared disk.

17.1.2 Setup required for cluster system operation

This subsection describes the procedure for setting up a UNIX host when you are constructing a system that uses JP1/AJS3 for cluster operation.

(1) Points to be noted when setting up a cluster system

- Verify that the cluster system is compatible with the cluster software to be used before starting setup and operation. For details about the setup of a cluster system, see the documentation for the cluster system to be used.
- Before setting up a cluster system for JP1/AJS3, set up a cluster system for JP1/Base. For JP1/AJS3 - Web Console, however, you do not have to set up JP1/Base.
- On the primary and secondary nodes, install JP1 series programs in the same directories in the same drive.
- For the setup required for JP1/AJS3, also see *13. Setup*.

(2) Setup of JP1/AJS3 - Manager

The following figure shows the procedure to set up JP1/AJS3 - Manager for cluster operation.

Figure 17–1: Setup procedure to enable cluster operation (in UNIX version of JP1/AJS3 - Manager)

(1) Preparing to set up a cluster system

Install the cluster system.

Install JP1/Base and set up cluster operation.

Install JP1/AJS3 - Manager in the same folders on the primary and secondary nodes.

Prepare a shared disk that can be used by the logical hosts.

(2) Setting up the primary node

Set up the environment for cluster operation.

Set up the embedded database for cluster operation if the scheduler database will be used.

(3) Setting up the secondary node

Copy the configuration definition information from the primary node to the secondary node.

Set up the environment for cluster operation.

Set up the embedded database for cluster operation if the scheduler database will be used.

Start operation.

(3) Setup of JP1/AJS3 - Agent

The following figure shows the procedure to set up JP1/AJS3 - Agent for cluster operation.

Figure 17–2: Setup procedure to enable cluster operation (in UNIX version of JP1/AJS3 - Agent)

(1) Preparing to set up a cluster system

Install the cluster system.

Install JP1/Base and set up cluster operation.

Install JP1/AJS3 - Agent in the same folders on the primary and secondary nodes.

Prepare a shared disk that can be used by the logical hosts.

(2) Setting up the primary node

Set up the environment for cluster operation.

(3) Setting up the secondary node

Copy the configuration definition information from the primary node to the secondary node.

Set up the environment for cluster operation.

Start operation.

(4) Setup of JP1/AJS3 - Web Console

The following figure shows the procedure to set up JP1/AJS3 - Web Console for cluster operation.

Figure 17–3: Setup procedure to enable cluster operation (in Linux version of JP1/AJS3 - Web Console)

(1) Preparing to set up a cluster system

Install the cluster system.

Install JP1/AJS3 - Web Console in the same folders on the primary and secondary nodes.

Prepare a shared disk that can be used.

(2) Setting up the primary node

Set up the environment for cluster operation.

(3) Setting up the secondary node

Set up the environment for cluster operation.

Start operation.

17.2 Setting up the operating environment for cluster system operation

This section describes how to set up the JP1/AJS3 environment to support cluster operation.

For details about the commands shown in the description in this section, see 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference* and 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

17.2.1 Environment setup items for a cluster system

This subsection describes each of the items related to environment setup. For details about the specific setup procedure, see the following:

- [17.2.2 Procedure for setting up a cluster system environment \(in UNIX version of JP1/AJS3 - Manager\)](#)
- [17.2.3 Procedure for setting up a cluster system environment \(in UNIX version of JP1/AJS3 - Agent\)](#)
- [17.2.4 Procedure for setting up a cluster system environment \(in Linux version of JP1/AJS3 - Web Console\)](#)

For JP1/AJS3 - Web Console, you only have to perform the operation in [\(1\) Creating shared files on the shared disk](#).

(1) Creating shared files on the shared disk

To inherit information when the primary and secondary nodes are switched, create directories and files on the shared disk. The table below lists the information that is created in the shared directories on the shared disk and the names of the directories.

Table 17–1: Information created in the shared directories and the names of the directories (JP1/AJS3 - Manager)

Information created in the shared directories	Directory name ^{#1}
Environment settings file	<i>shared-directory-name</i> /jplajs2/conf
Job execution environment file	<i>shared-directory-name</i> /jplajs2/database
Job information file	<i>shared-directory-name</i> /jplajs2/jobinf
Log file	<i>shared-directory-name</i> /jplajs2/log
System file	<i>shared-directory-name</i> /jplajs2/sys
Work file	<i>shared-directory-name</i> /jplajs2/tmp
Backup file	<i>shared-directory-name</i> /jplajs2/backup
Embedded database data area file	<i>shared-directory-name</i> /jplajs2/embddb ^{#2}

#1:

These directories are automatically generated when the `jajs_setup_cluster` command is executed in the shared directory specified in the `-d` option of the `jajs_setup_cluster` command.

#2:

This directory is not created when the `-S` option is specified for the `jajs_setup_cluster` command.

Table 17–2: Information created in the shared directories and the names of the directories (JP1/AJS3 - Agent)

Information created in the shared directories	Directory name [#]
Environment settings file	<i>shared-directory-name</i> /jplajs2/conf
Log file	<i>shared-directory-name</i> /jplajs2/log
System file	<i>shared-directory-name</i> /jplajs2/sys
Work file	<i>shared-directory-name</i> /jplajs2/tmp

#:

These directories are automatically generated when the `jajs_setup_cluster` command is executed in the shared directory specified in the `-d` option of the `jajs_setup_cluster` command.

Table 17–3: Information created in the shared directories and the names of the directories (JP1/AJS3 - Web Console)

Information created in the shared directories	Directory name [#]
User environment settings file	<i>shared-directory-name</i> /jplajs3web/sys/user
Environment settings file	<i>shared-directory-name</i> /jplajs3web/conf
Log file	<i>shared-directory-name</i> /jplajs3web/log
Work file	<i>shared-directory-name</i> /jplajs3web/tmp

#:

These directories are automatically generated when the `ajswbsetup` command is executed in the shared directory specified in the `-d` option of the `ajswbsetup` command.

As the shared directory, specify one of the directories specified during setup of the logical host environment for JP1/Base. Do not assign the same directory to more than one logical host. Create the directories and files to be shared under the directory assigned to each logical host.

Example:

The following example shows the directories created when the shared directory of logical host `node0` is `/shdsk/node0`.

```

/shdsk/node0/jplajs2/conf
/shdsk/node0/jplajs2/database
/shdsk/node0/jplajs2/jobinf
/shdsk/node0/jplajs2/log
/shdsk/node0/jplajs2/sys
/shdsk/node0/jplajs2/tmp
/shdsk/node0/jplajs2/backup
/shdsk/node0/jplajs2/embdb

```

(2) Setting the communication method

Select the method to be used to bind an IP address to the TCP/IP socket that will be used for communication. To start multiple scheduler services in the cluster system, use the method that binds all hosts, including the physical hosts, to one IP address. For the operation described in [17.2.2 Procedure for setting up a cluster system environment \(in UNIX version of JP1/AJS3 - Manager\)](#), the method used to bind to an IP address can be set automatically.

Set the port number when you are using the multi-startup setting of the scheduler service to add a port number for the service name of the job-status notification port.

(3) Setting common definition information

JP1/AJS3, JP1/Base, and JP1/IM have information specific to each logical host on the local disks of both physical hosts. Because the information is used as common definition information, it must be identical on both physical hosts.

The common definition information includes the environment settings file and job execution environment file.

(4) Obtaining server certificates

To use SSL communication on the logical hosts in a cluster system, obtain a server certificate for each logical host under the name of the host name of the logical host. If the host name of a physical host is used to obtain a server certificate, the server certificate cannot be used for the corresponding logical host. Note, however, that the same server certificate can be used for both a physical host and a logical host in the following cases:

- When the logical host name of the logical host is written as a subject alternative name (SAN) in the server certificate for the physical host
- When the server certificate for the physical host is a wildcard certificate and the host name written in the certificate is the same as the logical host name of the logical host

For details about how to set up SSL communication for, for example, obtaining server certificates, see [21.4 Setting up the communication using SSL](#).

17.2.2 Procedure for setting up a cluster system environment (in UNIX version of JP1/AJS3 - Manager)

To set up a cluster system environment in JP1/AJS3 - Manager, define the items described in [17.2.1 Environment setup items for a cluster system](#) on both the primary and secondary nodes.

The following figure provides an overview of setting up the environment.

Figure 17–4: Overview of setting up the environment (JP1/AJS3 - Manager)



(1) Tasks required on the primary node

To set up a cluster system environment for JP1/AJS3 - Manager on the primary node:

1. Perform the JP1/Base tasks required on the primary node.

For details about the JP1/Base tasks, see the *JP1/Base User's Guide*.

When you use `jp1hosts2` information, use the physical merge mechanism to apply the `jp1hosts2` information set in the physical host to the logical host. For details about the physical merge mechanism, see the *JP1/Base User's Guide*.

Note that, depending on the network configuration or operating environment, you might need to set the `jp1hosts` or `jp1hosts2` information. Specify the necessary settings by referring to the notes on cluster system operation and the procedure for setting the `jp1hosts` or `jp1hosts2` information in the *JP1/Base User's Guide*.

2. Set up JP1/AJS3 - Manager on the physical host.

Set up JP1/AJS3 - Manager on the physical host. When you use JP1/AJS3 - Web Console on the same host where JP1/AJS3 - Manager is installed, set up also JP1/AJS3 - Web Console.

For details, see [13. Setup](#).

3. Execute the `jajs_setup_cluster` command to set up the logical host, and create the shared files and directory on the shared disk.

Stop the JP1/AJS3 services on all logical hosts and physical hosts. Enable communication by using the IP address of the logical host that is being set up, and then execute the `jajs_setup_cluster` command.

The following shows the format of the `jajs_setup_cluster` command you execute:

```
jajs_setup_cluster
[-h logical-host-name]
-F scheduler-service-name
-d shared-directory-name
[-n scheduler-service-ID]
[-m {cold|warm|hot}]
{-P port-number-for-the-embedded-database
-I embedded-database-setup-ID
[-M {s|m|l}]
[-B]
-S
}
```

For details about the `jajs_setup_cluster` command, see *jajs_setup_cluster* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- For the `-h` option, specify the logical host name set in JP1/Base.
- The `-F` option is required.
- The `-d` option must be specified during setup of the primary node environment. For this option, specify a directory on the shared disk in which the shared directory and files will be created. As the shared directory, *specified-directory-name*/`jp1ajs2/` is created, and the definition files on the local disk (files in `/etc/opt/jp1ajs2/conf/`) are copied to the directory that is created. Before you execute the command, make sure that the shared disk is mounted. If the `-d` option is omitted, the secondary node environment is set up.
- If the `-n` option is omitted, the smallest available ID is assumed.
- For the `-m` option, specify the scheduler service start mode. The specification of this option takes effect only during setup of the primary node environment. If this option is omitted, the value for the scheduler service specified in the `DEFAULTSERVICENAME` environment setting parameter is inherited.
- Specify the `-P` and `-I` options only if you set up the embedded database when you set up the logical host. For the `-P` option, specify the port number for the embedded database used by the logical host. For the `-I` option, specify the setup ID of the embedded database used by the logical host. When the `-P` and `-I` options have been specified, the embedded database is set up with the following settings:
 - System logging: Not performed
 - System file duplication: Not performed
 - Unload log file: Not used
 - Data area directory: *shared-directory*/`jp1ajs2/embdb/value-specified-for-the-I-option/dbarea`
 - Work area directory: `/opt/jp1ajs2/embdb/value-specified-for-the-I-option/dbarea`
 - Embedded database practical directory: `/opt/jp1ajs2/embdb/value-specified-for-the-I-option`
 - Database area auto-increment: Enabled
 - System log auto-increment: EnabledFor the other items, the default values are set.
- For the `-M` option, specify the database model. If this option is omitted, `s` (small scale) is assumed. You can use this option only when the JP1/AJS3 version is 10-00 or later.

- Specify the `-B` option if the backup enhancement function is to be enabled. For details about the backup enhancement function, see [5.2.5 Backing up and recovering an embedded database by using the backup enhancement function](#) in the *JPI/Automatic Job Management System 3 System Design (Configuration) Guide*.
- Specify the `-S` option only if advanced setup is to be performed for the embedded database. If the `-S` option is specified, setup of the embedded database is skipped during setup of the logical host. Accordingly, the embedded database must be set up separately.

4. Execute the following command to create the environment for executing jobs:

```
jqpimport -dt isam -ci execution-environment-configuration-definition-file
-for-queue-and-submit-jobs [-mh logical-host-name]
```

For details about the `jqpimport` command, see `jqpimport` in [4. Commands Used for Special Operation](#) in the manual *JPI/Automatic Job Management System 3 Command Reference*.

5. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 3, perform advanced setup for the embedded database.

For details about advanced setup for the embedded database, see [23.5 Advanced setup for the embedded database \(in a cluster configuration\)](#).

6. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqlsetup -h logical-host-name -F scheduler-service-name
```

For details about the `ajsqlsetup` command, see `ajsqlsetup` in [4. Commands Used for Special Operation](#) in the manual *JPI/Automatic Job Management System 3 Command Reference*.

Cautionary note:

Executing the `ajsqlsetup` command causes the files needed for queueless job execution to be created on the shared disk. Because the files are then checked, make sure that the shared disk is mounted before you attempt to execute this command.

7. Setting the restrictions for connection sources.

If the setting for whether the connection source restriction function is enabled or the IP addresses permitted to connect are different from those on the physical host, set restrictions for connection sources on the logical host.

Even if there is no problem if the connection source restriction setting is the same on the physical and logical hosts, the IP address of the logical host is required in the connection permission configuration files of the physical host and the logical host on which the connection source restriction function is enabled. The reason for adding the specifications is that the IP address for the logical host is newly assigned as the IP address of the local host.

For details about how to set the connection source restriction function, see [21.2 Restricting connections to JPI/AJS3](#).

8. Change the value of the environment setting parameter `EventServerName` on the logical host.

If a physical host name is specified in FQDN format for the environment setting parameter `EventServerName` on the physical host, change the value of the logical host's parameter `EventServerName` to a logical host name in FQDN format.

For details about the environment setting parameter `EventServerName`, see [15.3.16 Setting the event server name in the system using DNS](#).

This completes the tasks required on the primary node.

Cautionary notes:

- Setup must be performed on each logical host.
- When the logical host for the primary node is set up by using the `jaajs_setup_cluster` command, the environment of the scheduler service specified in the `DEFAULTSERVICENAME` environment setting parameter is copied to create the logical host environment.
- If the setting for adding scheduler services is required on a logical host, see [17.2.10\(1\) Adding scheduler services on a logical host](#).
- When the `jaajs_setup_cluster` command is executed to set up a logical host on the primary node, a logical host settings file is created in the `conf` directory within the shared directory. If you want to change the logical host settings, edit the logical host settings file.

(2) Tasks required on the secondary node

To set up a cluster system environment for JP1/AJS3 - Manager on the secondary node:

1. Set up JP1/Base and JP1/AJS3 - Manager on the physical host.

Set up JP1/Base and JP1/AJS3 - Manager on the physical host. When you use JP1/AJS3 - Web Console on the same host where JP1/AJS3 - Manager is installed, set up also JP1/AJS3 - Web Console.

For details, see [13. Setup](#).

2. After completing the JP1/Base, JP1/AJS3, and JP1/IM tasks on the primary node, save the common definition information to the primary node and then set up the common definition information on the secondary node.

After completing these tasks on the primary node, execute the `jbsgetcnf` command on the primary node to save the common definition information. Copy the backup file to the secondary node, specify the backup file as an argument of the `jbssetcnf` command, and then execute the command. The commands to be executed are as follows:

On the primary node:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

On the secondary node:

```
jbssetcnf backup-file-name
```

3. Perform the JP1/Base tasks required on the secondary node.

For details about the JP1/Base tasks, see the *JP1/Base User's Guide*.

When you use `jp1hosts2` information, use the physical merge mechanism to apply the `jp1hosts2` information set in the physical host to the logical host. For details about the physical merge mechanism, see the *JP1/Base User's Guide*. Also, in the physical host on the secondary node, set the `jp1hosts2` information that has the same content as the `jp1hosts2` information in the physical host on the primary node.

4. Execute the `jaajs_setup_cluster` command to set up the logical host.

The following shows the format of the `jaajs_setup_cluster` command you execute:

```
jaajs_setup_cluster  
[-h logical-host-name]  
-F scheduler-service-name  
[-S|-C embedded-database-settings-file-name]
```

- For the `-h` option, specify the logical host name set in JP1/Base.
- For the `-F` option, always specify the scheduler service name that was specified on the primary node.
- Specify the `-S` option only if advanced setup is performed for the embedded database.

If the `-S` option is specified, setup of the embedded database is skipped during setup of the logical host. Accordingly, the embedded database must be set up separately.

- Specify the `-C` option if you performed advanced setup during creation of an embedded database on the primary node or if you executed the `ajajs_setup_cluster` command with the `-M` option specified on the primary node. Before you execute the command with this option specified, you need to copy the embedded database settings file to the secondary node from the primary node.

Also, for an advanced setup of the embedded database on the executing host, before executing the `ajajs_setup_cluster` command, on the standby host, create the following directories specified when the `ajsembdbinstl` and `ajsembdbbuild` commands are executed.

- Unload log file creation directory
- Embedded database work area directory
- Embedded database installation directory

Note that the unload log file creation directory must also be created on the standby host if you specify a directory on the local disk when setting up the executing host.

When this option is specified, the embedded database on the logical host is set up with the same settings as for the primary node.

The following indicates the output destination of the embedded database settings file.

embedded-database-practical-directory/conf/ajdsbst/ajsembdbsetup-identifier.conf

You cannot specify this option for an embedded database created in JP1/AJS3 whose version is 09-50 or earlier.

5. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 3, perform advanced setup for the embedded database.

For details about advanced setup for the embedded database, see [23.5 Advanced setup for the embedded database \(in a cluster configuration\)](#).

6. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqlsetup -h logical-host-name -F scheduler-service-name -nc
```

For details about the `ajsqlsetup` command, see `ajsqlsetup` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

This completes the tasks required on the secondary node.

Cautionary notes:

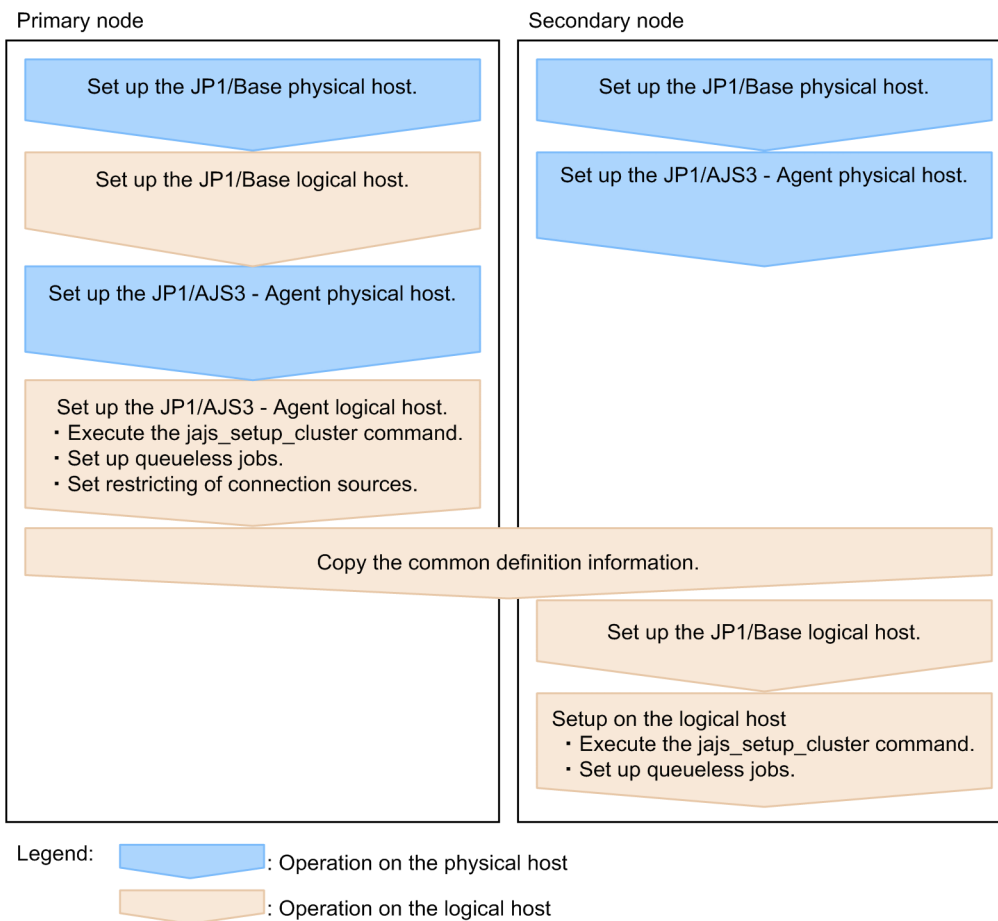
- Setup must be performed on each logical host.
- If the setting for adding scheduler services is required on a logical host, see [17.2.10\(1\) Adding scheduler services on a logical host](#).

17.2.3 Procedure for setting up a cluster system environment (in UNIX version of JP1/AJS3 - Agent)

To set up a cluster system environment in JP1/AJS3 - Agent, define the items described in [17.2.1 Environment setup items for a cluster system](#) on both the primary and secondary nodes.

The following figure provides an overview of setting up the environment.

Figure 17–5: Overview of setting up the environment (JP1/AJS3 - Agent)



(1) Tasks required on the primary node

To set up a cluster system environment for JP1/AJS3 - Agent on the primary node:

1. Perform the JP1/Base tasks required on the primary node.

For details about the JP1/Base tasks, see the *JP1/Base User's Guide*.

When you use `jp1hosts2` information, use the physical merge mechanism to apply the `jp1hosts2` information set in the physical host to the logical host. For details about the physical merge mechanism, see the *JP1/Base User's Guide*.

Note that, depending on the network configuration or operating environment, you might need to set the `jp1hosts` or `jp1hosts2` information. Specify the necessary settings by referring to the notes on cluster system operation and the procedure for setting the `jp1hosts` or `jp1hosts2` information in the *JP1/Base User's Guide*.

2. Setup JP1/AJS3 - Agent on the physical host.

Set up JP1/AJS3 - Agent on the physical host.

For details, see [13. Setup](#).

3. Execute the `jajs_setup_cluster` command to set up the logical host, and create the shared files and directory on the shared disk.

The following shows the format of the `jajs_setup_cluster` command you execute:

```
jajs_setup_cluster -h logical-host-name [-d shared-directory-name]
```

- For the `-h` option, specify the logical host name set in JP1/Base.

- The `-d` option must be specified during setup of the primary node environment. For this option, specify a directory on the shared disk in which the shared directory and files will be created. As the shared directory, *specified-directory-name*/`jp1ajs2/` is created, and the definition files on the local disk (files in `/etc/opt/jp1ajs2/conf/`) are copied to the directory that is created. Before you execute the command, make sure that the shared disk is mounted. If the `-d` option is omitted, the secondary node environment is set up.
4. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqlsetup -h logical-host-name
```

For details about the `ajsqlsetup` command, see *ajsqlsetup* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Specify the settings for restricting connection sources.

If the setting for whether the connection source restriction function is enabled or the IP addresses permitted to connect are different from those on the physical host, set restrictions for connection sources on the logical host.

If the setting for restricting connection sources is the same on the physical and logical host, you do not need to specify this setting on the logical host.

For details about how to set the connection source restriction function, see *21.2 Restricting connections to JP1/AJS3*.

6. Change the value of the environment setting parameter `EventServerName` on the logical host.

If a physical host name is specified in FQDN format for the environment setting parameter `EventServerName` on the physical host, change the value of the logical host's parameter `EventServerName` to a logical host name in FQDN format.

For details about the environment setting parameter `EventServerName`, see *15.3.16 Setting the event server name in the system using DNS*.

This completes the tasks required on the primary node.

Cautionary note:

Setup must be performed on each logical host.

(2) Tasks required on the secondary node

To set up a cluster system environment for JP1/AJS3 - Agent on the secondary node:

1. Set up JP1/Base and JP1/AJS3 - Agent on the physical host.

Set up JP1/Base and JP1/AJS3 - Agent on the physical host.

For details, see *13. Setup*.

2. After completing the JP1/Base, JP1/AJS3, and JP1/IM tasks on the primary node, save the common definition information to the primary node and then set up the common definition information on the secondary node.

After completing these tasks on the primary node, execute the `jbsgetcnf` command on the primary node to save the common definition information. Copy the backup file to the secondary node, specify the backup file as an argument of the `jbssetcnf` command, and then execute the command. The commands to be executed are as follows:

On the primary node:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

On the secondary node:

```
jbssetcnf backup-file-name
```

3. Perform the JP1/Base tasks required on the secondary node.

For details about the JP1/Base tasks, see the *JP1/Base User's Guide*.

When you use `jp1hosts2` information, use the physical merge mechanism to apply the `jp1hosts2` information set in the physical host to the logical host. For details about the physical merge mechanism, see the *JP1/Base User's Guide*. Also, in the physical host on the secondary node, set the `jp1hosts2` information that has the same content as the `jp1hosts2` information in the physical host on the primary node.

4. Execute the `jaajs_setup_cluster` command to set up the logical host.

The following shows the format of the `jaajs_setup_cluster` command you execute:

```
jaajs_setup_cluster -h logical-host-name
```

For the `-h` option, specify the logical host name set in JP1/Base.

5. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqlsetup -h logical-host-name
```

For details about the `ajsqlsetup` command, see `ajsqlsetup` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

This completes the tasks required on the secondary node.

Cautionary note:

Setup must be performed on each logical host.

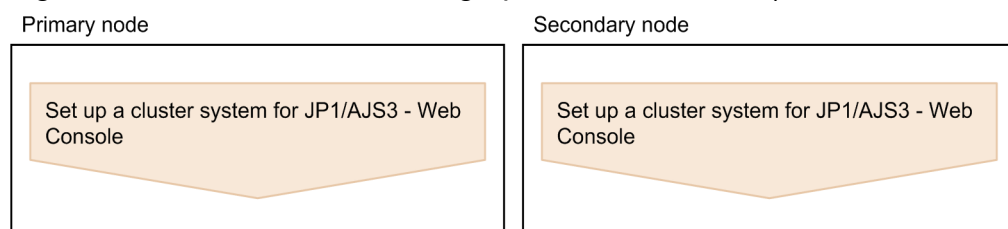
17.2.4 Procedure for setting up a cluster system environment (in Linux version of JP1/AJS3 - Web Console)

This subsection describes how to set up a cluster system environment for JP1/AJS3 - Web Console.

To set up a cluster system environment in JP1/AJS3 - Web Console, define the items described in *17.2.1 Environment setup items for a cluster system* on both the primary and secondary nodes.

The following figure provides an overview of setting up the environment.

Figure 17–6: Overview of setting up the environment (JP1/AJS3 - Web Console)



(1) Tasks required on the primary node

Execute the `ajswbsetup` command to generate shared files and directories on the shared disk.

Execute the following command:

```
ajswbsetup -d shared-directory -m
```

For the `-d` option, specify a directory on the shared disk in which the shared directory and files will be created. The shared directory `shared-directory/jp1ajs3web/` is created, and the definition files on the local disk are copied to the created directory. Before you execute the command on the primary node, make sure that the shared disk is mounted.

For details about the `ajswbsetup` command, see *ajswbsetup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

This completes the tasks required on the primary node.

(2) Tasks required on the secondary node

Execute the `ajswbsetup` command to set up the cluster environment for JP1/AJS3 - Web Console.

Execute the following command:

```
ajswbsetup -d shared-directory -s
```

For the `-d` option, be sure to specify the shared directory that was specified on the primary node.

For details about the `ajswbsetup` command, see *ajswbsetup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

This completes the tasks required on the secondary node.

17.2.5 Changing the common definition information

In a cluster system, JP1/Base, JP1/AJS3, and JP1/IM have specific information for each logical host on the physical hosts of both nodes. Because the information is used as common definition information, it must be identical on both physical hosts. After setting up JP1/Base, JP1/AJS3, and JP1/IM on the primary node physical host, and then changing the common definition information[#], perform an operation such as the following to ensure that the information on both physical hosts matches.

Note that this operation affects all JP1/Base, JP1/AJS3, and JP1/IM products.

On the primary node:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

On the secondary node:

```
jbssetcnf backup-file-name
```

#:

While JP1/AJS3 is being used, the common definition information for JP1/Base, JP1/AJS3, and JP1/IM is updated at the following times:

- When the common definition information is changed by using the JP1/Base `jbssetcnf` command. (This command adds the information in the environment settings files to the registry.)
- When the JP1/AJS3 settings are changed by using either of the following JP1/AJS3 commands:
 - `jpqregguestuser`

- jppreguser
- When JP1/AJS3 is set up by using any of the following JP1/AJS3 commands:
 - jajs_setup
 - jajs_config
 - jajs_setup_cluster
 - jplajs2_setup_cluster
 - ajsembdbsetup
- When linkage with JP1/AJS3 is set by using the JP1/Power Monitor `jaomajs2confset` command. (This command sets up the environment for controlling the host power in collaboration with JP1/AJS3.)

17.2.6 Registering the JP1/AJS3 service in the cluster software

This subsection describes the information to be set in the cluster software and how to operate services.

(1) For JP1/AJS3 - Manager and JP1/AJS3 - Agent

Register the JP1/AJS3 service for the logical host in the cluster software that will be used. For details about how to register the service, see the documentation for the cluster software.

Note the following when registering the service:

- Set the cluster software so that the secondary node can inherit the IP address and shared disk together with the JP1/AJS3 service from the primary node. In addition, set the cluster software so that the application program is also inherited.
- Set the cluster software so that JP1/AJS3 starts after the secondary node has inherited the IP address and shared disk, and JP1/Base has started on the secondary node.

The following table describes the information that needs to be registered in the cluster software.

Table 17–4: JP1/AJS3 information that needs to be registered in the cluster software

Function to be registered	Explanation
Start	<p>Starts JP1/AJS3.</p> <p>Command used</p> <pre>jajs_start.cluster</pre> <p>Example</p> <pre>jajs_start.cluster logical-host-name</pre> <p>or</p> <pre>jajs_start.cluster logical-host-name -HA</pre> <p>Time the start command ends</p> <p>The start command ends when JP1/AJS3 starts. However, if for some reason the startup processing is not completed within the timeout period (default: 60 seconds), the command ends midway. When the command ends, the startup processing is not canceled and still continues.</p> <p>Determining the result of the start command</p> <p>Use the operation monitoring function described below to determine the result of JP1/AJS3 startup.</p> <p>For details about the <code>jajs_start.cluster</code> command, see <i>jajs_start.cluster (UNIX only)</i> in <i>3. Commands Used for Normal Operations</i> in the manual <i>JP1/Automatic Job Management System 3 Command Reference</i>.</p>

Function to be registered	Explanation
Start	For details about the <code>-HA</code> option, see <code>jajs_spm�</code> in 3. <i>Commands Used for Normal Operations</i> in the manual <i>JP1/Automatic Job Management System 3 Command Reference</i> .
Stop	<p>Stops JP1/AJS3.</p> <p>Command used</p> <pre>jajs_stop.cluster</pre> <p>Example</p> <pre>jajs_stop.cluster logical-host-name</pre> <p>Time the stop command ends</p> <p>The stop command ends when JP1/AJS3 stops. However, if for some reason the stop processing is not completed within the timeout period (default: 60 seconds), the command ends midway. When the command ends, the stop processing is not canceled and still continues.</p> <p>Determining the result of the stop command</p> <p>Use the operation monitoring function described below to determine the result of stopping JP1/AJS3.</p> <p>For details about the <code>jajs_stop.cluster</code> command, see <code>jajs_stop.cluster (UNIX only)</code> in 3. <i>Commands Used for Normal Operations</i> in the manual <i>JP1/Automatic Job Management System 3 Command Reference</i>.</p>
Operation monitoring	<p>Monitors whether JP1/AJS3 is operating normally.</p> <p>Do not register this function if a failover is not required when a failure occurs in JP1/AJS3.</p> <p>Command used</p> <pre>jajs_spm�_status</pre> <p>Example</p> <pre>jajs_spm�_status -h logical-host-name</pre> <p>Determining the operation monitoring result</p> <p>The following describes the return values:</p> <p>Return value = 0 (normal)</p> <p>JP1/AJS3 is operating normally.</p> <p>Return value = 1 (error)</p> <p>An irrecoverable error has occurred. Assume that an error has occurred.</p> <p>Return value = 4 (partial stop)</p> <p>Some JP1/AJS3 processes have stopped for some reason. Assume that an error has occurred.</p> <p>Return value = 8 (all stop)</p> <p>All JP1/AJS3 processes have stopped for some reason. Assume that an error has occurred.</p> <p>Return value = 12 (status confirmation error)</p> <p>An error has occurred in the status confirmation processing of the <code>jajs_spm�_status</code> command. Retry checking of the operating status for the predefined number of times.</p> <p>For details about the <code>jajs_spm�_status</code> command, see <code>jajs_spm�_status</code> in 3. <i>Commands Used for Normal Operations</i> in the manual <i>JP1/Automatic Job Management System 3 Command Reference</i>.</p>
Forcible stop	<p>Forcibly stops JP1/AJS3 and releases the resource being used.</p> <p>Command used</p> <pre>jajs_killall.cluster</pre> <p>Example</p> <pre>jajs_killall.cluster logical-host-name</pre> <p>Executing the <code>jajs_killall.cluster</code> command forcibly stops processes without performing any termination processing for JP1/AJS3. Execute this command only when a problem occurs (for example, processing does not stop when the stop command is executed).</p> <p>For details about the <code>jajs_killall.cluster</code> command, see <code>jajs_killall.cluster (UNIX only)</code> in 3. <i>Commands Used for Normal Operations</i> in the manual <i>JP1/Automatic Job Management System 3 Command Reference</i> and 10.4.1 <i>Script for forcibly stopping JP1/AJS3 (jajs_killall.cluster)</i> in the <i>JP1/Automatic Job Management System 3 Administration Guide</i>.</p>

Setting the environment setting parameters

When the following environment setting parameter is set, the JP1/AJS3 services are stopped so that the cluster software can detect the error whenever the embedded database service is stopped due to an irrecoverable error.

Environment setting parameter	Explanation
"RDBCHECKINTERVAL"=	Checks the connection with the embedded database service, and automatically stops the scheduler service whenever disconnection is detected.

For details about these environment parameters, see [20.4 Setting up the scheduler service environment](#).

For details about how to set up a scheduler service environment, see [14.2 Environment setting parameter settings](#) and [17.2.5 Changing the common definition information](#).

(2) For JP1/AJS3 - Web Console

Register JP1/AJS3 - Web Console services in the cluster software to be used. For details about the procedure for registration, see the documentation for the cluster software to be used. Note the following when registering the services:

- Make sure that the secondary node can inherit the IP address and shared disk together with the JP1/AJS3 - Web Console services from the primary node.
- Make sure that the JP1/AJS3 - Web Console services start after the secondary node has inherited the IP address and shared disk.
- If automatic startup of the JP1/AJS3 - Web Console service is set, you must change the setting so that the service does not start automatically.

The following table describes the information on JP1/AJS3 - Web Console required to register the JP1/AJS3 - Web Console service in the cluster software.

Table 17–5: Information on JP1/AJS3 - Web Console required to register the JP1/AJS3 - Web Console service in the cluster software

Function to be registered	Explanation
Start	Starts JP1/AJS3 - Web Console. Command used <code>/etc/opt/jp1ajs3web/jajs_web</code> JP1/AJS3 - Web Console starts after the shared disk and logical IP address become available. For details about the <code>jajs_web</code> command, see <i>jajs_web (Linux only)</i> in <i>3. Commands Used for Normal Operations</i> in the manual <i>JP1/Automatic Job Management System 3 Command Reference</i> .
Stop	Stops JP1/AJS3 - Web Console. Command used <code>/etc/opt/jp1ajs3web/jajs_web_stop</code> JP1/AJS3 - Web Console stops after the shared disk and logical IP address become unavailable. For details about the <code>jajs_web_stop</code> command, see <i>jajs_web_stop (Linux only)</i> in <i>3. Commands Used for Normal Operations</i> in the manual <i>JP1/Automatic Job Management System 3 Command Reference</i> .
Operation monitoring	Uses the <code>ps</code> command to check whether processes exist and to determine whether JP1/AJS3 - Web Console has terminated abnormally. Example of using the <code>ps</code> command: <code>ps -ef grep "monitoring-target-process" grep -v "grep"</code> Monitoring-target processes are as follows: <ul style="list-style-type: none"> • JP1/AJS3 HTTP Server service <code>/opt/jp1ajs3web/uCPSB/httpd/sbin/httpd</code>

Function to be registered	Explanation
Operation monitoring	<ul style="list-style-type: none"> JP1/AJS3 Web Application Server service /opt/jp1ajs3web/uCPSB/CC/server/bin/cjstartsv ajs3web
Forcible stop	Same as the stop function

17.2.7 Setting up the queueless job execution environment

With the default settings, all processing for queueless jobs is disabled. Edit the `jajs_start.cluster` and `jajs_stop.cluster` commands to match operating requirements.

(1) To ensure that the queueless agent service does not stop when the nodes are switched

The following describes how to switch the nodes by detaching and re-attaching logical hosts.

If you use both physical and logical hosts at the same time or if you use multiple logical hosts at the same time, use the procedures described below.

(a) Edit `jajs_start.cluster`

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start.cluster
```

2. In the file, delete the shaded parts shown below.

```

:
if [ "$QLATCCHK" = "cannot" ]; then
### Logical host attach to Queueless Agent service ###
: # /opt/jp1ajs2/bin/ajsqattach -h $JP1_HOSTNAME
RC=$?
if [ $RC -ne 0 ]; then
: # exit 1 . . . (1)
fi
fi
:
/opt/jp1ajs2/bin/jajs_spmc_status -h $JP1_HOSTNAME
: # /opt/jp1ajs2/bin/ajsqdetach -h $JP1_HOSTNAME -k

exit 8
:

```

3. Close the file.

Supplementary note:

After deletion of the comment symbol (: #) indicated by (1) in step 2, the start processing of the JP1/AJS3 service stops if the attachment of a logical host fails. If you want the start processing to continue, do not delete the comment symbol (: #).

(b) Edit `jajs_stop.cluster`

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop.cluster
```

2. In the file, delete the shaded parts shown below.

```
    :  
if [ "$QLDTCCHK" = "can" ] || [ "$QLDTCCHK" = "detach" ]; then  
: # /opt/jp1ajs2/bin/ajsqldetach -h $JP1_HOSTNAME -k  
RC=$?  
  if [ $RC -ne 0 ]; then  
    : # ExitCord=1 ... (2)  
    : # exit $ExitCord ... (3)  
  fi  
    :
```

3. Close the file.

Supplementary notes:

- After deletion of the comment symbol (: #) indicated by (2) in step 2, error code 1 is returned if the detachment of a logical host fails.
- After deletion of the comment symbol (: #) indicated by (3) in step 2, the start processing of the JP1/AJS3 service stops if the detachment of a logical host fails. If you want the start processing to continue, do not delete the comment symbol (: #).
- After deleting the comment symbol (: #) indicated by (3) in step 2, you must also delete the comment symbol (: #) indicated by (2).

(2) To ensure that the queueless agent service stops when the nodes are switched

The following describes how to switch the nodes by stopping the queueless agent service.

If you use only logical hosts, use the procedures described below.

(a) Edit jajs_start.cluster

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start.cluster
```

2. In the file, delete the shaded parts shown below.

```
### JP1/AJS2 - Queueless Agent service started ###  
: # /opt/jp1ajs2/bin/ajsqldstart >/dev/null 2>/dev/null  
fi  
:  
  
### Logical host attach to Queueless Agent service ###  
: # /opt/jp1ajs2/bin/ajsqldattach -h $JP1_HOSTNAME  
RC=$?  
if [ $RC -ne 0 ]; then  
: # exit 1 ... (1)  
fi  
:  
  
/opt/jp1ajs2/bin/jajs_spmd_status -h $JP1_HOSTNAME  
: # /opt/jp1ajs2/bin/ajsqldetach -h $JP1_HOSTNAME -k  
exit 8
```

3. To use a machine on which a logical host operates as a container host machine, in the file, delete the following shaded parts:

```
## Container Host Settings
: # CONTAINER_HOST=yes

## Agent Services
: # CONTAINER_HOST_QLAGT=yes
: # CONTAINER_HOST_ATMSG=yes
: # CONTAINER_HOST_ATAGT=yes
: # CONTAINER_HOST_CHKAGT=yes
```

4. Close the file.

Supplementary note:

After deletion of the comment symbol (: #) indicated by (1) in step 2, the start processing of the JP1/AJS3 service stops if the attachment of a logical host fails. If you want the start processing to continue, do not delete the comment symbol (: #).

(b) Edit `jajs_stop.cluster`

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop.cluster
```

2. In the file, delete the shaded parts shown below.

```
:
if [ "$QLDTCCHK" = "can" ] || [ "$QLDTCCHK" = "detach" ]; then
: # /opt/jp1ajs2/bin/ajsqldetach -h $JP1_HOSTNAME -k
RC=$?
if [ $RC -ne 0 ]; then
: # ExitCord=1 ... (2)
: # exit $ExitCord ... (3)
fi
:
if [ -x /opt/jp1ajs2/bin/ajsqstop ]; then
: # /opt/jp1ajs2/bin/ajsqstop -c
fi
:
```

3. Close the file.

Supplementary notes:

- After deletion of the comment symbol (: #) indicated by (2) in step 2, error code 1 is returned if the detachment of a logical host fails.
- After deletion of the comment symbol (: #) indicated by (3) in step 2, the start processing of the JP1/AJS3 service stops if the detachment of a logical host fails. If you want the start processing to continue, do not delete the comment symbol (: #).
- After deleting the comment symbol (: #) indicated by (3) in step 2, you must also delete the comment symbol (: #) indicated by (2).

(3) Notes

- Before deleting a comment symbol (: #), review operation of the script without the comment symbol.

- If you are performing an upgrade installation, copy the `jajs_start.cluster.model` and `jajs_stop.cluster.model` files, and then edit these files according to operating requirements. After editing the files, rename them to `jajs_start.cluster` and `jajs_stop.cluster`.
- Attaching a logical host by setting the `AJSQL_ATTACH` environment parameter to `yes` requires that, for example, cluster software be used to stop the queueless agent service on the switch-from node, and to start the service on the switch-to node.
As a result of this operation, however, the status of a queueless job being executed on another logical host attached to the queueless agent service on the physical host or switch-from node might become *Failed to start*, *Ended abnormally*, or *Unknown end status*.
If you use queueless jobs on multiple hosts, use the procedures described here instead of using `AJSQL_ATTACH`. For details about the `AJSQL_ATTACH` environment setting parameter, see [20.10 Setting up the queueless job execution environment](#).
- Do not operate the system in a state with only logical hosts created by detaching the physical host from the queueless agent service.
If you do so, error messages normally output if startup of a queueless job fails and the information output to the standard error output during job execution might not be reported to the manager host.

17.2.8 Deleting logical hosts

If you want to delete a logical host, you must do so on both the primary and secondary nodes. The following describes how to delete a logical host.

Most of the procedures described in this subsection must be performed on both the primary and secondary nodes. Procedures to be performed on only one node or only under certain conditions are noted accordingly.

(1) JP1/AJS3 - Manager

To delete the JP1/AJS3 - Manager logical host:

1. Stop the JP1/AJS3 service.

Stop the processes related to the JP1/AJS3 services on the physical host and all logical hosts. If processes for using additional JP1/AJS3 functions such as the definition pre-check function are running, also stop such processes.

For details about the command that stops processes related to the JP1/AJS3 services, see [3. Commands Used for Normal Operations](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Execute the `ajsshmdel` command to delete the information about the shared memory.

The `ajsshmdel` command is located in `/opt/jplajs2/bin/ajsshmdel`.

If the shell is `sh`, the command line is as follows:

```
ajsshmdel -all>/dev/null 2>&1
```

If the shell is `csh`, the command line is as follows:

```
ajsshmdel -all>&/dev/null
```

3. Uninstall the database environment set up on the logical host.

Execute the `ajsembdbuninstl` command to uninstall the database environment set up on the logical host. If you delete the logical host without also uninstalling the database environment, you will be no longer able to uninstall the database environment. For details about the `ajsembdbuninstl` command, see [ajsembdbuninstl](#) in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

The command is executed in the following format:

```
ajsembdbuninst1 -mh logical-host-name
```

4. Delete the logical host information from the common definition information.

To do this, execute the `jbsunsetcnf -i -h logical-host-name` command of JP1/Base. For details about the `jbsunsetcnf` command, see the *JP1/Base User's Guide*.

If you want to delete only the common definition information for JP1/AJS3 on logical hosts without deleting JP1/Base, execute the following commands to delete the information:

```
jbsunsetcnf -i -h logical-host-name -c JP1AJS2
jbsunsetcnf -i -h logical-host-name -c JP1NBQAGENT
jbsunsetcnf -i -h logical-host-name -c JP1NBQMANAGER
jbsunsetcnf -i -h logical-host-name -c JP1NBQCLIENT
jbsunsetcnf -i -h logical-host-name -c JP1NBQNOTIFY
jbsunsetcnf -i -h logical-host-name -c JP1AOMMANAGER
jbsunsetcnf -i -h logical-host-name -c JP1AOMAGENT
jbsunsetcnf -i -h logical-host-name -c JP1AJSMANAGER
jbsunsetcnf -i -h logical-host-name -c JP1AJS2COMMON
jbsunsetcnf -i -h logical-host-name -c JP1QLAGENT
```

If no information has been set when you execute the above commands, the following message might appear. If the message appears, ignore it.

```
KAVA0405-I The specified string-specified-in-the-c-option does not exist
[logical-host-name]. Processing Stops.
```

5. Delete the shared files and directories on the shared disk.

When you execute the `jbsunsetcnf` command, the logical host information for JP1/Base, JP1/IM, and JP1/AJS3 is deleted. However, the shared files and shared directories on the shared disk are not deleted, and must be deleted manually.

Perform this step on either the primary node or secondary node.

6. Change the common definition information on the JP1/AJS3 physical host so that cluster operation is not set.

If you have deleted all logical hosts, change the common definition information on the JP1/AJS3 physical host so that cluster operation is not set. Note that, after deleting all logical hosts, if you immediately rebuild logical hosts without starting the physical host even once, this step is unnecessary.

To do this, execute the following command to set the environment setting parameters described in [\(3\) Environment setting parameters](#) below.

```
jajs_config -k "definition-key" "parameter-name"=value
```

Cautionary note:

The `jajs_config` command must be executed for each definition key.

7. If the `JP1_HOSTNAME` environment variable has been set, delete it.

(2) JP1/AJS3 - Agent

To delete the JP1/AJS3 - Agent logical host:

1. Stop the JP1/AJS3 service.

Stop the processes related to the JP1/AJS3 services on the physical host and all logical hosts. If processes for using additional JP1/AJS3 functions such as the definition pre-check function are running, also stop such processes.

For details about the command that stops processes related to the JP1/AJS3 services, see 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Delete the logical host information from the common definition information.

To do this, execute the `jbsunsetcnf -i -h logical-host-name` command of JP1/Base. For details about the `jbsunsetcnf` command, see the *JP1/Base User's Guide*.

If you want to delete only the common definition information for JP1/AJS3 on logical hosts without deleting JP1/Base, execute the following commands to delete the information:

```
jbsunsetcnf -i -h logical-host-name -c JP1AJS2
jbsunsetcnf -i -h logical-host-name -c JP1NBQAGENT
jbsunsetcnf -i -h logical-host-name -c JP1NBQCLIENT
jbsunsetcnf -i -h logical-host-name -c JP1NBQNOTIFY
jbsunsetcnf -i -h logical-host-name -c JP1AOMAGENT
jbsunsetcnf -i -h logical-host-name -c JP1AJS2COMMON
jbsunsetcnf -i -h logical-host-name -c JP1QLAGENT
```

If no information has been set when you execute the above commands, the following message might appear. If the message appears, ignore it.

```
KAVA0405-I The specified string-specified-in-the-c-option does not exist
[logical-host-name]. Processing Stops.
```

3. Delete the shared files and directories on the shared disk.

When you execute the `jbsunsetcnf` command, the logical host information for JP1/Base, JP1/IM, and JP1/AJS3 is deleted. However, the shared files and shared directories on the shared disk are not deleted, and must be deleted manually.

Perform this step on either the primary node or secondary node.

4. Change the common definition information on the JP1/AJS3 physical host so that cluster operation is not set.

If you have deleted all logical hosts, change the common definition information on the JP1/AJS3 physical host so that cluster operation is not set. Note that, after deleting all logical hosts, if you immediately rebuild logical hosts without starting the physical host even once, this step is unnecessary.

To do this, execute the following command to set the environment setting parameters described in (3) *Environment setting parameters* below.

```
jajs_config -k "definition-key" "parameter-name"=value
```

Cautionary note:

The `jajs_config` command must be executed for each definition key.

5. If the `JP1_HOSTNAME` environment variable has been set, delete it.

(3) Environment setting parameters

Table 17–6: Environment setting parameters to set when deleting JP1/AJS3 - Manager and JP1/AJS3 - Agent logical hosts

Definition key	Environment setting parameter	Value
[JP1_DEFAULT\JP1NBQAGENT\Process]	IsSHA	dword:00000000
[JP1_DEFAULT\JP1NBQCLIENT\Process]	IsSHA	dword:00000000
[JP1_DEFAULT\JP1NBQMANAGER\Process] [#]	IsSHA	dword:00000000

Definition key	Environment setting parameter	Value
[JP1_DEFAULT\JP1NBQNOTIFY\Process]	IsSHA	dword:00000000

#:

Because this is a JP1/AJS3 - Manager environment setting parameter, change the setting only in JP1/AJS3 - Manager. You do not need to change this setting in JP1/AJS3 - Agent.

For details about these environment parameters, see [20.5 Setting up the job execution environment](#).

17.2.9 Canceling the setup of a cluster system (Linux version of JP1/AJS3 - Web Console)

This section describes the procedure for unsetting up the cluster system of JP1/AJS3 - Web Console.

1. Stop the JP1/AJS3 HTTP Server and JP1/AJS3 Web Application Server services.

Perform this step on both the primary and secondary nodes.

2. Execute the `ajswebsetup` command to cancel the setup of the cluster environment.

To return operation control from the shared directory in the shared disk to the local disk where JP1/AJS3 - Web Console has been installed, execute the following command:

```
ajswebsetup -p
```

Perform this step on both the primary and secondary nodes.

For details about the `ajswebsetup` command, see *ajswebsetup* in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Delete the shared files and directories on the shared disk.

The shared files and shared directory on the shared disk are not deleted, and must be deleted manually.

Perform this step on either the primary node or the secondary node that can access the shared disk.

17.2.10 Setting startup of multiple scheduler services on a logical host

To start multiple scheduler services, first set information such as the names of the scheduler services to be added and then create databases for those scheduler services.

The following describes the procedure for adding scheduler services on a logical host and the procedure for deleting scheduler services that have been added.

(1) Adding scheduler services on a logical host

The following describes the procedure for adding scheduler services on a logical host.

(a) Tasks required on the primary node

To specify the necessary settings on the primary node:

1. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes on the logical host have stopped:

```
jajs_spmd_stop -h logical-host-name
jajs_spmd_status -h logical-host-name
```

Important

All embedded databases configured on the target logical host must be operating. Execute the `ajsembdbstatus` command with `-s ust -id _JFn` (n : 1 to 9 or A to Z) specified to confirm that the embedded database is operating (UNIT-STAT is ONLINE). If the database is not operating, use the `ajsembdbstart` command with `-id _JFn` specified to activate it.

Execute the `ajsembdbidlist` command to check the setup identifier (`_JFn`) of the embedded database to be activated.

2. Use the `mkdir` command or another means to create the following directories on the shared disk:

- Database directory
- Directory for temporary files
- Job information directory
- Backup information directory

Make sure that the above directories, other than the backup information directory, are neither directories used by other scheduler services set on the local hosts (the physical host and all logical hosts) nor subdirectories of those directories.

3. Execute the `jajs_setup` command to add the scheduler service.

```
jajs_setup -a -h logical-host
-F scheduler-service
-p service-for-the-port-reporting-the-job-status
-d database-directory
-t directory-for-temporary-files
-j job-information-directory
-b backup-information-directory
-n scheduler-service-ID-number
-D logical-host-shared-directory
[-I setup-identifier
-P embedded-database-port-number
[-M {s|m|l}]
[-B]
|-S]
```

Example of adding a scheduler service named AJSROOT3 to the logical host `node0` whose shared directory is `/shdisk/node0`:

```
jajs_setup -a -h node0
-F AJSROOT3
-p jplajs2report3
-d "/shdisk/node0/jplajs2/database/schedule/AJSROOT3"
-t "/shdisk/node0/jplajs2/tmp/schedule3"
-j "/shdisk/node0/jplajs2/jobinf3"
-b "/shdisk/node0/jplajs2/backup/schedule3"
-n 3
-D "/shdisk/node0"
-I _JF3
-P 22222
```

For details about the `jajs_setup` command, see *jajs_setup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Important

The port numbers of the embedded database port and job status notification port must be unique within the system. Therefore, you must specify different values for the `-P` option (*embedded-database-port-number*) and the `-p` option (*service-for-the-port-reporting-the-job-status*).

4. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 3, perform advanced setup for the embedded database. For details about advanced setup for the embedded database, see *23.5 Advanced setup for the embedded database (in a cluster configuration)*.

5. For the service name of the port that reports the job status specified in step 3, set the port number.

Open the `/etc/services` file with a text editor, and add the port number. When you add a scheduler service to a logical host, make sure that the scheduler service does not use a port number that is used by another scheduler service that runs on the logical host. However, this note does not apply if you add a new logical host and add a scheduler service to the logical host. In this case, no problems occur if the scheduler services on different logical hosts use the same port number.

Example of setting 20248 as the port number:

```
jplajs2report3 20248/tcp
```

6. If you want to use queueless jobs, you must perform the setup required for using queueless jobs.

Execute the following command:

```
ajsqlsetup -F scheduler-service -h logical-host
```

For details about the `ajsqlsetup` command, see *ajsqlsetup* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. Restart the JP1/AJS3 service to which you have added the scheduler service.

The scheduler service is added and started with the specified settings.

(b) Tasks required on the secondary node

To specify the necessary settings on the secondary node:

1. Set up the embedded database on the secondary node.

Note: This step is required only if the setup identifier specified during setup on the primary node is an identifier that is not output by the `ajsembdbidlist` command.

This step is required only if a new embedded database is created (the setup identifier of an existing embedded database is not specified for the `-I` option of the command) during setup on the primary node. You can check the setup identifier of the embedded database by using the `ajsembdbidlist` command.

Execute the following commands:

```
ajsembdbinstl
-s directory-containing-the-embedded-database-installation-media
-id setup-identifier
-mh logical-host-name
```

```
ajsembdbbuild
-conf embedded-database-settings-file-name
```

For *setup-identifier*, specify the value you specified on the primary node.

For the embedded database settings file, copy the file that was output when the embedded database was created on the primary node to the secondary node.

The following indicates the output destination of the embedded database settings file:

```
embedded-database-practical-directory/conf/ajsdbst/ajsembdbsetup-identifier.conf
```

For details about the commands executed in this step, see 2. *Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

For example, if the setup identifier is `_JF3` and the embedded database settings file is placed in `/tmp/ajsembdb__JF3.conf`, execute commands as follows to set up the embedded database on logical host `node0`:

```
ajsembdbinstall
-s /opt/jplajs2/tools/AJS3DB
-id _JF3
-mh node0

ajsembdbbuild
-conf /tmp/ajsembdb__JF3.conf
```

2. Set the common definition information of the primary node on the secondary node.

When you have completed the tasks for the primary node, execute the `jbsgetcnf` command on the primary node to save the common definition information. Copy the saved file to the secondary node, specify the name of the saved file as an argument, and execute the `jbssetcnf` command.

Execute the commands as follows:

On the primary node:

```
jbsgetcnf -h logical-host > backup-file
```

On the secondary node:

```
jbssetcnf backup-file
```

3. On the secondary host, set the port number that you set in step 5 in (a) above.

Open the `/etc/services` file with a text editor, and add the port number. make sure that you add the same port number that you set on the primary node.

Example of setting 20248 as the port number:

```
jplajs2report3 20248/tcp
```

4. If you want to use queueless jobs, you must perform the setup required for using queueless jobs.

Execute the following command:

```
ajsqlsetup -F scheduler-service -h logical-host -nc
```

For details about the `ajsqlsetup` command, see *ajsqlsetup* in 4. *Commands Used for Special Operation* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

Supplementary note on commands executed:

If multiple scheduler services are running and you execute the command without specifying the `-F scheduler-service` option, the system assumes the command is being executed for the default scheduler service.

You can omit the `-F` option if you specify a scheduler service name in the `AJSCONF` environment variable.

(2) Deleting an added scheduler service

When you delete a scheduler service that has been added, you must delete it from both the primary node and the secondary node.

To delete an added scheduler service:

1. Execute the `jaajs_spmd_stop` command to stop JP1/AJS3 services.

Stop all JP1/AJS3 services, including JP1/AJS3 - Manager on the physical host.

Important

All embedded databases configured on the target logical host must be operating. Execute the `ajsembdbstatus` command with `-s ust -id _JFn` (n : 1 to 9 or A to Z) specified to confirm that the embedded database is operating (UNIT-STAT is ONLINE). If the database is not operating, use the `ajsembdbstart` command with `-id _JFn` specified to activate it.

Execute the `ajsembdbidlist` command to check the setup identifier (`_JFn`) of the embedded database to be activated.

2. Execute the `ajsshmdel` command to delete the information about the shared memory.

The `ajsshmdel` command is located in `/opt/jplajs2/bin/ajsshmdel`.

If the shell is `sh`, the command line is as follows:

```
/opt/jplajs2/bin/ajsshmdel >/dev/null 2>&1
```

If the shell is `csh`, the command line is as follows:

```
/opt/jplajs2/bin/ajsshmdel >&/dev/null
```

3. Execute the `jaajs_setup` command to delete the scheduler service.

```
jaajs_setup -e -F scheduler-service
```

Example of the command executed when the scheduler service to be deleted is `AJSROOT3`:

```
jaajs_setup -e -F AJSROOT3
```

For details about the `jaajs_setup` command, see `jaajs_setup` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

On the secondary node, use the `jbsunsetcnf` command instead of the `jaajs_setup` command.

```
jbsunsetcnf -i -h logical-host-name -c JP1AJSMANAGER -n scheduler-service  
-name
```

Example of the command for deleting the scheduler service `AJSROOT3`:

```
jbsunsetcnf -i -h LHOST -c JP1AJSMANAGER -n AJSROOT3
```

4. Delete the directories that you created when you added the scheduler service.

Delete the following directories that were created when you executed the `jaajs_setup` command:

- Database directory specified in the `-d` option
- Directory for temporary files specified in the `-t` option
- Job information directory specified in the `-j` option
- Backup information directory specified in the `-b` option

Important

Do not delete the logical host shared directory specified in the `-D` option.

5. If a trace log has been output per scheduler service, delete the trace log file for the deleted scheduler service.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, delete the trace log file for the deleted scheduler service.

6. Start the JPI/AJS3 services.

Restart the JPI/AJS3 services that you stopped in step 1, and confirm that the scheduler service has been deleted.

(3) Uninstalling a database environment that is no longer necessary

For details about how to uninstall a database environment that is no longer necessary, see [6.1.1\(3\) Uninstalling an unnecessary database environment](#).

(4) Renaming a scheduler service

Renaming a scheduler service affects many types of JPI/AJS3 functions. For example, a unit might end abnormally or might not be executed properly. To prevent such problems, we recommend that you rename a scheduler service before operation starts.

To rename a scheduler service in a cluster environment, you must execute the `jaajs_setup` command on both the primary node and secondary node. You must execute the `jaajs_setup` command on the secondary node before the common definition information for the primary node is applied to the secondary node.

To rename a scheduler service in a cluster environment:

1. On the primary node, rename the scheduler service.

The procedure varies depending on whether you rename the scheduler service before or after operation starts. For details about this procedure, see [\(a\) How to rename a scheduler service before operation starts](#) or [\(b\) How to rename a scheduler service after operation starts](#).

2. On the primary node, execute the following command to save the common definition information for the logical host that contains the new scheduler service name.

```
jbsgetcnf -h logical-host > backup-file
```

For details on the `jbsgetcnf` command, see the *JPI/Base User's Guide*.

3. On the secondary node, rename the scheduler service.

The procedure varies depending on whether you rename the scheduler service before or after operation starts. For details about this procedure, see [\(a\) How to rename a scheduler service before operation starts](#) or [\(b\) How to rename a scheduler service after operation starts](#).

4. On the secondary node, execute the following command to apply the logical host common definition information you saved in step 2.

```
jbssetcnf backup-file
```

For details on the `jbssetcnf` command, see the *JPI/Base User's Guide*.

The following describes how to rename a scheduler service before and after operation starts.

(a) How to rename a scheduler service before operation starts

To rename a scheduler service before operation starts:

1. Execute the `jaajs_setup` command to rename the scheduler service.

Execute the following command:

```
jaajs_setup -r -F scheduler-service-name-before-the-change -A new-scheduler-service-name
```

For details about the `jaajs_setup` command, see `jaajs_setup` in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

(b) How to rename a scheduler service after operation starts

To rename a scheduler service after operation starts:

1. Stop the scheduler service to be renamed, and then cold-start the scheduler service.
After the cold-start, do not register a jobnet for execution until the renaming procedure is finished.
2. Stop the JP1/AJS3 services on the physical host and all logical hosts.
3. Execute the `ajsshmdel` command to delete the shared memory information.
The path to the `ajsshmdel` command is `/opt/jp1ajs2/bin/ajsshmdel`.

Example:

```
For sh: /opt/jp1ajs2/bin/ajsshmdel >/dev/null 2>&1
```

```
For csh: opt/jp1ajs2/bin/ajsshmdel >&/dev/null
```

4. Execute the `jaajs_setup` command to rename the scheduler service.

Example: To change AJSROOT2 to AJSROOT5:

```
jaajs_setup -r -F AJSROOT2 -A AJSROOT5
```

If the KAVS1133-W message is not output during execution of the `jaajs_setup` command, skip step 5 and step 6 and go to step 7.

If the KAVS1133-W message is output during execution of the `jaajs_setup` command, check the setting name indicated in the message. If `Local date and time` is indicated, go to step 5. If `Suspend feature` is indicated, go to step 6, and then proceed to step 7.

Cautionary note:

Before you rename a scheduler service for which the local date and time is set, obtain the difference between the local date and time for the scheduler service and the system date and time. Use the `ajslaldate` command to obtain the scheduler service local date and time.

For details about how to obtain the system date and time, see the documentation for your OS.

If an attempt to set the scheduler service local date and time fails and the KAVS1133-W message appears, use the time difference obtained above to set the scheduler service local date and time in step 5.

5. Set the scheduler service local date and time again.

Execute the `ajslocaldate` command to set the scheduler service local date and time for the renamed scheduler service.

Example: To set the local date and time for the scheduler service `AJSROOT5` forward five minutes (300 seconds) from the current time, execute the command as follows:

```
ajslocaldate -F AJSROOT5 -s 300
```

For details about the `ajslocaldate` command, see `ajslocaldate` in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Set the suspend function again.

Execute the `ajssetup` command to enable the suspend function for the renamed scheduler service. For a cluster environment, perform this step on either the primary node or the secondary node that can access the shared disk.

Example: To enable the suspend function for the scheduler service `AJSROOT5`, execute the command as follows:

```
ajssetup -F AJSROOT5 -m
```

For details about the `ajssetup` command, see `ajssetup` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. If the scheduler service name before the change is set for the following environment setting parameters, use the `jajs_config` command to change them to the new scheduler service name.

Table 17–7: Environment setting parameters whose settings need to be changed

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJSMANAGER]	"DEFAULTSERVICENAME"=	Default scheduler service name
	"REMNETSERVICENAME"=	Name of the scheduler service that executes a remote jobnet

Example: To change the default scheduler service name to `AJSROOT5`, execute the command as follows:

```
jajs_config -k
"[JP1_DEFAULT\JP1AJSMANAGER]" "DEFAULTSERVICENAME"="AJSROOT5"
```

Example: To change the name of the scheduler service that executes remote jobnets to `AJSROOT5`, execute the command as follows:

```
jajs_config -k
"[JP1_DEFAULT\JP1AJSMANAGER]" "REMNETSERVICENAME"="AJSROOT5"
```

8. If a trace log has been output per scheduler service, change the name of the trace log file used for each scheduler service before changing the scheduler service name.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, change the `scheduler-service-name` part from the scheduler service name before the change to the new scheduler service name.

9. Start the JP1/AJS3 services.

10. In either of the following cases, after the scheduler services start, change or set the scheduler service settings if necessary:

- The scheduler service name before the change is specified in the unit definition.

- The JP1/AJS3 linkage facility was monitoring or collecting information from the scheduler service before it was renamed.

(c) Notes on renaming scheduler services

The following environment setting parameters for scheduler services use the directory path that contains the scheduler service name as a standard:

- AJSSYSDIR
- AJSLOGDIR
- AJSDBDIRETORY
- AJSLOGFILE1
- AJSLOGFILE2
- AJSTMPDIR
- JOBINFDIR
- AJSREPORTDIR

Operation is not affected even if the environment setting parameters are not changed after the scheduler service is renamed. However, if necessary, consider changing the directory path that contains the new scheduler service name.

When you change the setting of the AJSDBDIRETORY environment setting parameter in an environment using the suspend function or queueless jobs, you must reset the suspend or queueless job function after changing the parameter setting. Perform resetting on one of the primary and secondary nodes in which the shared disk can be referenced.

Use the `jajs_config` command to change the environment setting parameters. For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the parameters, see *20.4 Setting up the scheduler service environment*.

17.2.11 Specifying the settings that control startup and termination of JP1/AJS3 in a logical host environment

This subsection describes how to specify the settings that control JP1/AJS3 when the JP1/AJS3 service in a logical host environment is started or terminated.

(1) Settings for the queueless agent service and the queueless file transfer service

For details about starting and stopping the queueless agent service and queueless file transfer service, see *17.2.7 Setting up the queueless job execution environment*.

(2) Settings for the JP1/AJS3 Check Manager service and the JP1/AJS3 Check Agent service

The following describes how to specify the settings for starting and stopping the JP1/AJS3 Check Manager service and the JP1/AJS3 Check Agent service.

(a) Setting startup of the JP1/AJS3 Check Manager service and the JP1/AJS3 Check Agent service

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start.cluster
```

2. In the file, delete the shaded parts shown below.

```
if [ -x /opt/jp1ajs2/bin/ajschkmand ]; then
pids=$(PS|awk '/opt/jp1ajs2/bin/ajschkmand/ {print $2}'
if [ "$pids" = "" ]; then
trap "" 1 2 3
### The JP1/AJS2 Check Manager service started ###
: # /opt/jp1ajs2/bin/ajschkstart -m >/dev/null 2>/dev/null &
fi
fi
if [ -x /opt/jp1ajs2/bin/ajschkagtd ]; then
if [ "$JP1AJS3_STATUS_CHECK_TYPE" = "1" ]; then
pids="0"
if [ "$CONTAINER_HOST_CHKAGT" = "yes" ]; then
pids=$(PS|awk '/opt/jp1ajs2/bin/ajschkagtd.*-container-host/ {print $2}'
fi
else
pids=$(PS|awk '/opt/jp1ajs2/bin/ajschkagtd/ {print $2}'
fi
if [ "$pids" = "" ]; then
trap "" 1 2 3
### The JP1/AJS2 Check Agent service started ###
: # /opt/jp1ajs2/bin/ajschkstart -a >/dev/null 2>/dev/null &
fi
fi
```

3. To use a machine running a logical host as a container host machine for the JP1/AJS3 Check Agent service, in the file, delete the following shaded parts:

```
## Container Host Settings

: # CONTAINER_HOST=yes

## Agent Services
: # CONTAINER_HOST_QLAGT=yes
: # CONTAINER_HOST_ATMSG=yes
: # CONTAINER_HOST_ATAGT=yes
: # CONTAINER_HOST_CHKAGT=yes
```

4. Close the file.

(b) Setting stoppage of the JP1/AJS3 Check Manager service and the JP1/AJS3 Check Agent service

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop.cluster
```

2. In the file, delete the shaded parts shown below.

```
if [ -x /opt/jp1ajs2/bin/ajschkstop ]; then
: # /opt/jp1ajs2/bin/ajschkstop
fi
```

3. Close the file.

(3) Setting stoppage of the JP1/AJS3 Autonomous Agent service and the JP1/AJS3 Autonomous Agent Messenger service

The following describes how to specify the settings for starting and stopping the JP1/AJS3 Autonomous Agent service and the JP1/AJS3 Autonomous Agent Messenger service.

(a) Setting startup of the JP1/AJS3 Autonomous Agent service and the JP1/AJS3 Autonomous Agent Messenger service

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start.cluster
```

2. In the file, delete the shaded parts shown below.

```
if [ -x /opt/jp1ajs2/embsch/bin/as_iescsvr ]; then
  if [ "$JP1AJS3_STATUS_CHECK_TYPE" = "1" ]; then
    pids="0"
    if [ "$CONTAINER_HOST_ATMSG" = "yes" ]; then
      atstatus=`LANG=C /opt/jp1ajs2/bin/ajsatstatus | awk '/^JP1\#/AJS3 Autonomous Agent Messenger
service/ {print $6}'
      if [ "$atstatus" = "inactive" ]; then
        pids=""
      fi
    fi
  else
    pids=`$PS |awk '/\#/opt\#/jp1ajs2\#/embsch\#/bin\#/as_iescsvr/ {print $2}'
    fi
    if [ "$pids" = "" ]; then
      trap "" 1 2 3
      ### JP1/AJS3 Autonomous Agent Messenger Service started ###
      :#/opt/jp1ajs2/bin/ajsatmstart >/dev/null 2>/dev/null
    fi
  fi
  if [ -x /opt/jp1ajs2/embsch/bin/as_manager ]; then
    if [ "$JP1AJS3_STATUS_CHECK_TYPE" = "1" ]; then
      pids="0"
      if [ "$CONTAINER_HOST_ATAGT" = "yes" ]; then
        atstatus=`LANG=C /opt/jp1ajs2/bin/ajsatstatus | awk '/^JP1\#/AJS3 Autonomous Agent service/
{print $5}'
        if [ "$atstatus" = "inactive" ]; then
          pids=""
        fi
      fi
    else
      pids=`$PS |awk '/\#/opt\#/jp1ajs2\#/embsch\#/bin\#/as_manager/ {print $2}'
      fi
      if [ "$pids" = "" ]; then
        trap "" 1 2 3
        ### JP1/AJS3 Autonomous Agent service started ###
        :#/opt/jp1ajs2/bin/ajsatstart >/dev/null 2>/dev/null
      fi
    fi
  fi
fi
```

3. To use a machine on which a logical host operates as a container host machine, in the file, delete the following shaded parts:

```
## Container Host Settings
```

```
: # CONTAINER_HOST=yes
```

```
## Agent Services
```

```
: # CONTAINER_HOST_QLAGT=yes
```

```
: # CONTAINER_HOST_ATMSG=yes
```

```
: # CONTAINER_HOST_ATAGT=yes
```

```
: # CONTAINER_HOST_CHKAGT=yes
```

4. Close the file.

(b) Setting stoppage of the JP1/AJS3 Autonomous Agent service and the JP1/AJS3 Autonomous Agent Messenger service

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop.cluster
```

2. In the file, delete the shaded parts shown below.

```
if [ -x /opt/jp1ajs2/bin/ajsatstop ] ; then  
: # /opt/jp1ajs2/bin/ajsatstop  
fi
```

```
if [ -x /opt/jp1ajs2/bin/ajsatmstop ] ; then  
: # /opt/jp1ajs2/bin/ajsatmstop  
fi
```

3. Close the file.

(4) Settings for the JP1/AJS3 System Control Manager service and the JP1/AJS3 System Control Agent service

This section describes how to specify the settings for starting and stopping the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service.

(a) Specifying the settings for starting the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start.cluster
```

2. In the file, delete the shaded part shown below.

```

if [ -x /opt/jp1ajs2/bin/ajssysctlmd ] ; then
  sysctlmdstatus=`LANG=$EN_LANG /opt/jp1ajs2/bin/ajssysctlstatus -m 2> /dev/null
  | awk '/^Service status/ {print $3}'`
  if [ "$sysctlmdstatus" = "inactive" ] ; then
    trap "" 1 2 3
    ### JP1/AJS3 System Control Manager service started ###
    # /opt/jp1ajs2/bin/ajssysctlstart -m > /dev/null 2> /dev/null &
  fi
fi
if [ -x /opt/jp1ajs2/bin/ajssysctlad ] ; then
  sysctladstatus=`LANG=$EN_LANG /opt/jp1ajs2/bin/ajssysctlstatus -a 2> /dev/null
  | awk '/^Service status/ {print $3}'`
  if [ "$sysctladstatus" = "inactive" ] ; then
    trap "" 1 2 3
    ### JP1/AJS3 System Control Agent service started ###
    # /opt/jp1ajs2/bin/ajssysctlstart -a > /dev/null 2> /dev/null &
  fi
fi

```

3. Close the file.

(b) Specifying the settings for stopping the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_stop.cluster
```

2. In the file, delete the shaded part shown below.

```

if [ -x /opt/jp1ajs2/bin/ajssysctlstop ] ; then
  # /opt/jp1ajs2/bin/ajssysctlstop -m
  # /opt/jp1ajs2/bin/ajssysctlstop -a
fi

```

To stop the JP1/AJS3 System Control Manager service, delete the shaded part of the line where "/opt/jp1ajs2/bin/ajssysctlstop -m" is being described.

To stop the JP1/AJS3 System Control Agent service, delete the shaded part of the line where "/opt/jp1ajs2/bin/ajssysctlstop -a" is being described.

3. Close the file.

(5) Settings for outputting the status of JP1/AJS3 processes when JP1/AJS3 starts

To output the status of JP1/AJS3 processes when JP1/AJS3 starts:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajs_start.cluster
```

2. In the file, delete the shaded parts shown below.

```

# /opt/jp1ajs2/bin/jajs_spmc_status -h $JP1_HOSTNAME #
Display the running processes

```

3. Close the file.

(6) Adjusting the time to wait for JP1/AJS3 to start or to stop

(a) Adjusting the time to wait for JP1/AJS3 to start

The `jaajs_start.cluster` command waits a maximum of 60 seconds for startup of JP1/AJS3 to be confirmed. In cases such as when the automatic reorganization feature for ISAM files is used, JP1/AJS3 might not start within 60 seconds. For these cases, you must adjust the wait time.

The following describes how to set the time to wait for startup of JP1/AJS3 to be confirmed. Note that the following procedure assumes that startup of JP1/AJS3 requires 140 seconds.

1. Open the following file with a text editor such as vi:

```
/etc/opt/jplajs2/jaajs_start.cluster
```

2. In the file, change the shaded parts shown below.

Before the change:
MAX_RETRY=6 # 10 x 6 = 60 [seconds]

After the change:
MAX_RETRY=14 # 10 x 14 = 140 [seconds]

3. Close the file.

(b) Adjusting the time to wait for JP1/AJS3 to stop

The `jaajs_stop.cluster` command waits a maximum of 60 seconds for stoppage of JP1/AJS3 to be confirmed. If JP1/AJS3 does not stop within 60 seconds, you must adjust the wait time.

The following describes how to set the time to wait for stoppage of JP1/AJS3 to be confirmed. Note that the following procedure assumes that stoppage of JP1/AJS3 requires 140 seconds.

1. Open the following file with a text editor such as vi:

```
/etc/opt/jplajs2/jaajs_stop.cluster
```

2. In the file, change the shaded parts shown below.

Before the change:
MAX_RETRY=6 # 10 x 6 = 60 [seconds]

After the change:
MAX_RETRY=14 # 10 x 14 = 140 [seconds]

3. Close the file.

(7) Settings for use as a container host machine

The following describes the procedure for specifying the settings for using a logical host on a container host machine so that JP1/AJS3 - Agent can also be used in containers.

1. Open the following file with a text editor such as vi:

```
/etc/opt/jplajs2/jaajs_start.cluster
```

2. In the file, change the shaded parts shown below.

```
## Container Host Settings  
: # CONTAINER_HOST=yes
```

3. Close the file.

17.2.12 Settings for using the host connected from the Web GUI (Management Portal) in a cluster environment

The host connected from the Web GUI (Management Portal) can be used in a cluster environment. In this case, however, the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service are excluded from the failover-target resources. Therefore, you must specify the settings to achieve either of the following statuses:

- The JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service are running on both the active and standby server machines.
- The cluster software or `jajs_start.cluster.model` settings are configured so that the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service automatically start when the logical hosts of the active and standby servers start.

17.3 Notes on cluster operation

For notes that apply during cluster operation, see *10.6 Cautionary notes on using a cluster system* in the *JP1/Automatic Job Management System 3 Administration Guide*.

18

Setup Required for Disaster Recovery Operation

This chapter describes how to set up a UNIX host when you are building a system that uses JP1/AJS3 for disaster recovery.

18.1 Overview of the setup required for disaster recovery operation

This section provides an overview of the setup required to use JP1/AJS3 for disaster recovery operation.

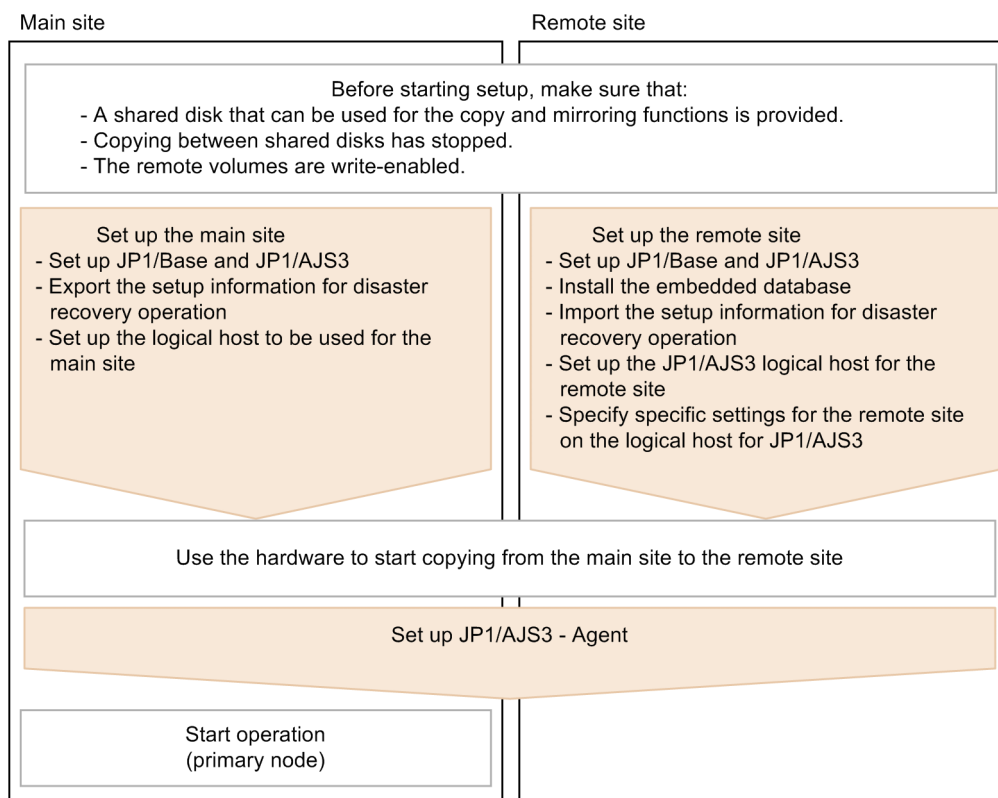
The setup procedure varies depending on whether you use the same names for the main-site and remote-site logical hosts.

For an overview of disaster recovery operation, see *11.1 Disaster recovery in JP1/AJS3* in the *JP1/Automatic Job Management System 3 Administration Guide*.

18.1.1 Overview of the setup required for disaster recovery operation (when using different names for the main-site and remote-site logical hosts)

The following figure gives an overview of the setup required for disaster recovery operation when using different names for the main-site and remote-site logical hosts.

Figure 18–1: Overview of the setup required for disaster recovery operation (when using different names for the main-site and remote-site logical hosts)



Before starting setup, check the following:

- Make sure there are available shared disks that can be used for the copy and mirroring functions.
When you set up prerequisite products and related products in the logical host environment at the main site and the remote site, select only products that support the disk copy and mirroring for the copy destination.
- Make sure that copying between shared disks has stopped.
If copying between shared disks is in progress, use the hardware to stop it.

- Make sure that remote volumes are write-enabled.
For details about the procedure, see the hardware documentation.

For details about how to set up the main site and the remote site, see the following subsections:

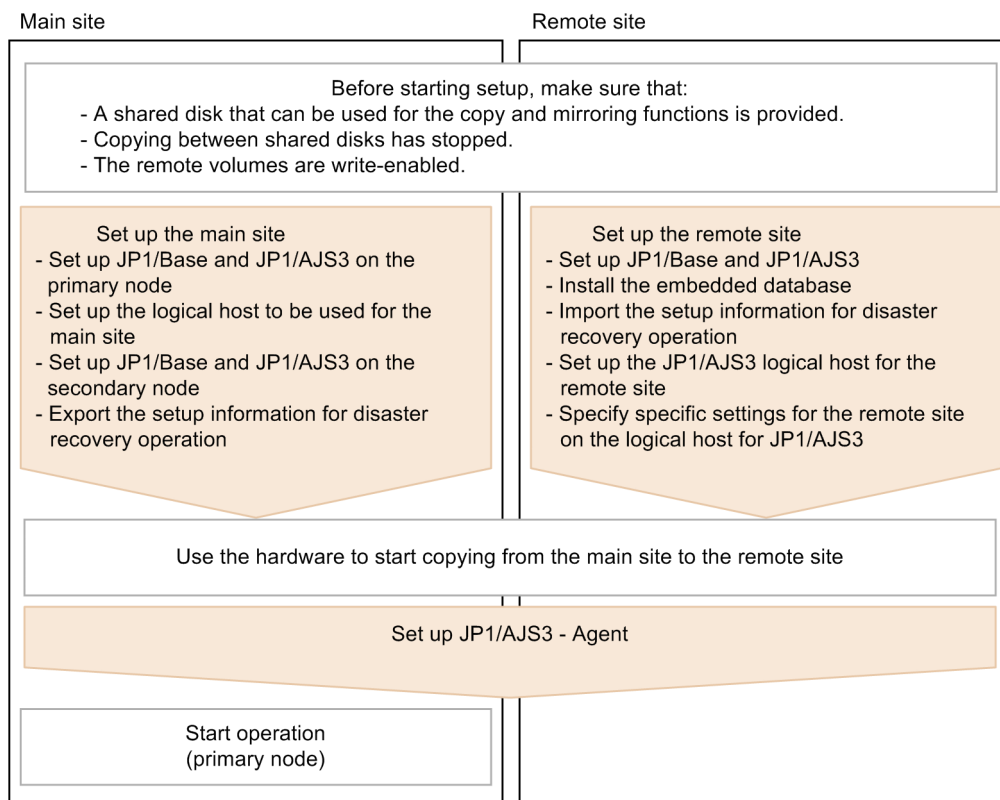
- To set up the main site:
18.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts
- To set up the remote site:
18.2.3 Setting up the remote site

For details about how to set up JP1/AJS3 - Agent, see *18.3 Setting up JP1/AJS3 - Agent* if necessary.

18.1.2 Overview of the setup required for disaster recovery operation (when using the same name for the main-site and remote-site logical hosts)

The following figure gives an overview of the setup required for disaster recovery operation when using the same name for the main-site and remote-site logical hosts.

Figure 18–2: Overview of the setup required for disaster recovery operation (when using the same name for the main-site and remote-site logical hosts)



Before starting setup, check the following:

- Make sure there are available shared disks that can be used for the copy and mirroring functions.
When you set up prerequisite products and related products in the logical host environment at the main site and the remote site, select only products that support the disk copy and mirroring for the copy destination.

- Make sure that copying between shared disks has stopped.
If copying between shared disks is in progress, use the hardware to stop it.
- Make sure that remote volumes are write-enabled.
For details about the procedure, see the hardware documentation.

For details about how to set up the main site and the remote site, see the following subsections:

- To set up the main site:
18.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts
- To set up the remote site:
18.2.3 Setting up the remote site

For details about how to set up JP1/AJS3 - Agent, see *18.3 Setting up JP1/AJS3 - Agent* if necessary.

18.2 Setting up the main site and remote site

This section describes how to set up the main site and the remote site to enable disaster recovery operation.

18.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts

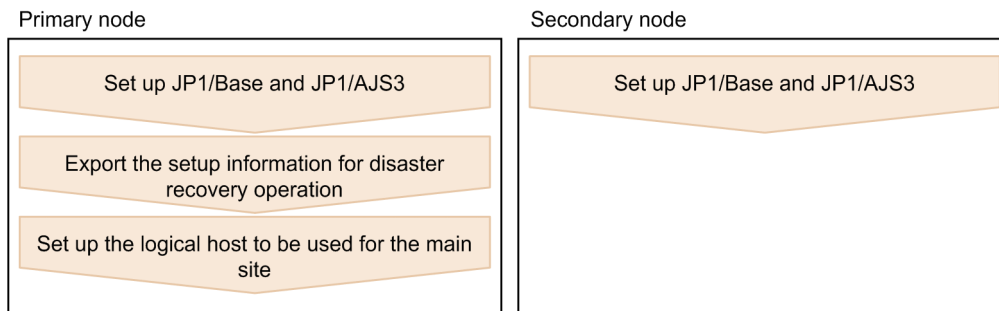
This subsection describes the procedure for setting up the main site when using different names for the main-site and remote-site logical hosts.

For a non-cluster environment, perform the procedure only on the primary node.

Cautionary note:

The procedure described here applies only when different names are to be used for the main-site and remote-site logical hosts. For the procedure when the same name is to be for these hosts, see [18.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts](#).

Figure 18–3: Main site setup procedure



1. Set up the following hosts on the primary and secondary nodes:

- JP1/Base physical host^{#1}
- JP1/Base logical host
- JP1/AJS3 physical host^{#1}
- JP1/AJS3 logical host^{#2}

#1

If the host has already been set up, no action is required.

#2

For the JP1/AJS3 logical host, use a shared disk that can be used by the hardware disk copy and mirroring functionalities.

The procedure for setting up the main site is the same as the procedure used for cluster system operation. For details about the setup procedure, see [17. Setup for Operation in a Cluster System](#).



Important

- To execute submit jobs or QUEUE jobs when JP1/AJS3 is in a standard configuration, add the manager host of the remote site as a job execution agent to the configuration definition file for the

execution environment for submit jobs. The manager host must be added before you execute the `jpgimport` command for JP1/AJS3 - Manager on the primary node.

By setting the manager hosts at the main and remote sites as job execution agents in advance, you can execute submit jobs and QUEUE jobs on the manager host of the remote site after operation switches to the remote site. There is no need to set up anything on the manager host of the remote site.

For details about the `jpgimport` command and the configuration definition file for the execution environment for submit jobs, see `jpgimport` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- If the manager connection-source restriction function is enabled and if the IP addresses of the main-site and remote-site logical hosts are different, you must also specify the IP address of the remote-site logical host in the manager connection permission configuration file.

If the agent connection-source restriction function is enabled and if the IP addresses of the main-site and remote-site logical hosts are different, note the following: To execute jobs on the local host, you must also specify the IP address of the remote-site logical host in the agent connection permission configuration file.

If you set the IP addresses of both the main and remote sites, you do not need to respecify the settings in the connection permission configuration file on the remote site after performing failover to the remote site.

For details about the settings for restricting connections to JP1/AJS3, see [21.2 Restricting connections to JP1/AJS3](#).

- When you use the communication encryption function, obtain separate private keys and server certificates for the main and remote sites. However, the same private key and server certificate can be used for the main and remote sites in the following cases:
 - When the logical host name of the remote site is written as a subject alternative name (SAN) in the server certificate for the main site
 - When the logical hosts of both the main and remote sites are in the same domain and the server certificates are obtained as wildcard certificates

2. On the primary node, execute the command `ajsembdbidlist`, and then record the information about the embedded database on the JP1/AJS logical host.

The information to be recorded is as follows:

After you have completed setup at the main site, execute the `ajsembdbidlist` command, and then record the following information for the embedded database for the logical host you have set up at the main site:

- Embedded database installation directory
- Setup identifier

These values will be used when you set up the remote site.

For details about the `ajsembdbidlist` command, see `ajsembdbidlist` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. On the primary node, export the disaster recovery operation setup information.

Execute the following command:

```
jajs_rpenvexport -h logical-host-name-of-the-main-site -d output-directory  
-name
```

4. On the primary node, set the JP1/AJS3 logical host as the main site.

Execute the following command:

```
jajs_rpsite -h logical-host-name-of-the-main-site -m SET
```

18.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts

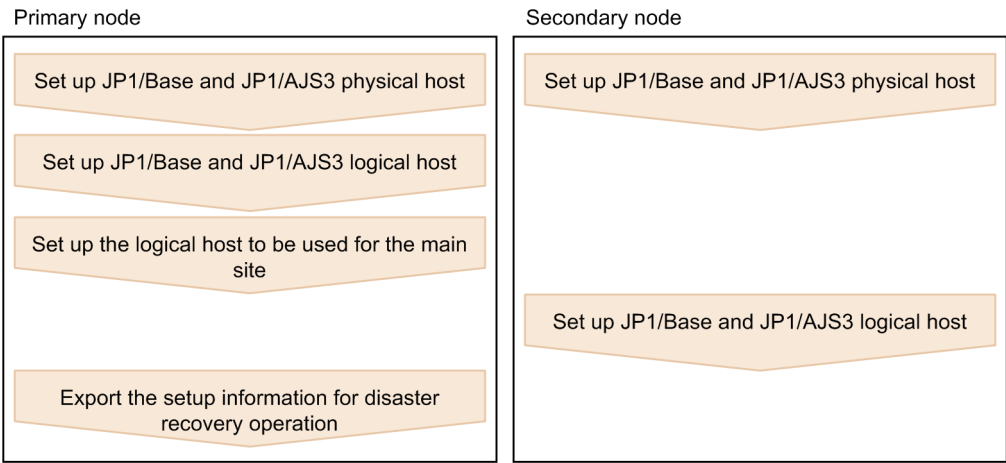
This subsection describes the procedure for setting up the main site when using the same name for the main-site and remote-site logical hosts.

For a non-cluster environment, perform the procedure only on the primary node.

Cautionary notes:

- The procedure described here applies only when the same name is to be used for the main-site and remote-site logical hosts. For the procedure when different names are to be used for these hosts, see *18.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts*.
- For example, if you change the settings for disaster recovery operation, the logical hosts are already set up. In such a case, perform the following procedure:
 1. On the primary node, set the JP1/AJS3 logical host as the main site. To do this, execute the following command:
`jajs_rpsite -h logical-host-name -m SETSAME`
 2. Back up the common definition information on the primary node by copying the information to the secondary node. To do this, execute the following command:
`jbsgetcnf -h logical-host-name > backup-file-name`
 3. Confirm that the backup file was copied to the secondary node. Then, execute the command `jbssetcnf` by specifying the backup file as an argument as follows:
`jbssetcnf backup-file-name`
 4. Change the settings for disaster recovery operation. For details about the procedure, see *11.3.2 Changing the settings of a disaster recovery environment in the JP1/Automatic Job Management System 3 Administration Guide*.

Figure 18–4: Main site setup procedure



1. Set up the following hosts on the primary node:
 - JP1/Base physical host^{#1}
 - JP1/Base logical host

- JP1/AJS3 physical host^{#1}
- JP1/AJS3 logical host^{#2}

#1

If the host has already been set up, no action is required.

#2

For the JP1/AJS3 logical host, use a shared disk that can be used by the hardware disk copy and mirroring functionalities.

The procedure for setting up is the same as the procedure used for cluster system operation. For details about the setup procedure, see [17.2.2\(1\) Tasks required on the primary node](#).

Important

If the manager connection-source restriction function is enabled and if the IP addresses of the main-site and remote-site logical hosts are different, you must also specify the IP address of the remote-site logical host in the manager connection permission configuration file.

If the agent connection-source restriction function is enabled and if the IP addresses of the main-site and remote-site logical hosts are different, note the following: To execute jobs on the local host, you must also specify the IP address of the remote-site logical host in the agent connection permission configuration file.

If you set the IP addresses of both the main and remote sites, you do not need to respecify the settings in the connection permission configuration file on the remote site after performing failover to the remote site.

For details about the settings for restricting connections to JP1/AJS3, see [21.2 Restricting connections to JP1/AJS3](#).

2. On the primary node, execute the command `ajsembdbidlist`, and then record the information about the embedded database on the JP1/AJS logical host.

The information to be recorded is as follows:

- Embedded database installation directory
- Setup identifier

These values will be used when you set up the remote site.

For details about the `ajsembdbidlist` command, see `ajsembdbidlist` in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Set up the following hosts on the secondary node:

- JP1/Base physical host[#]
- JP1/AJS3 physical host[#]

#

If the host has already been set up, no action is required.

4. On the primary node, set the JP1/AJS3 logical host as the main site.

Execute the following command:

```
jajs_rpsite -h logical-host-name -m SETSAME
```


5. Set up the following hosts on the secondary node:

- JP1/Base logical host
- JP1/AJS3 logical host[#]

#

For the JP1/AJS3 logical host, use a shared disk that can be used by the hardware disk copy and mirroring functionalities.

The procedure for setting up is the same as the procedure used for cluster system operation. For details about the setup procedure, see *17.2.2(2) Tasks required on the secondary node*.

6. On the primary node, export the disaster recovery operation setup information.

Execute the following command:

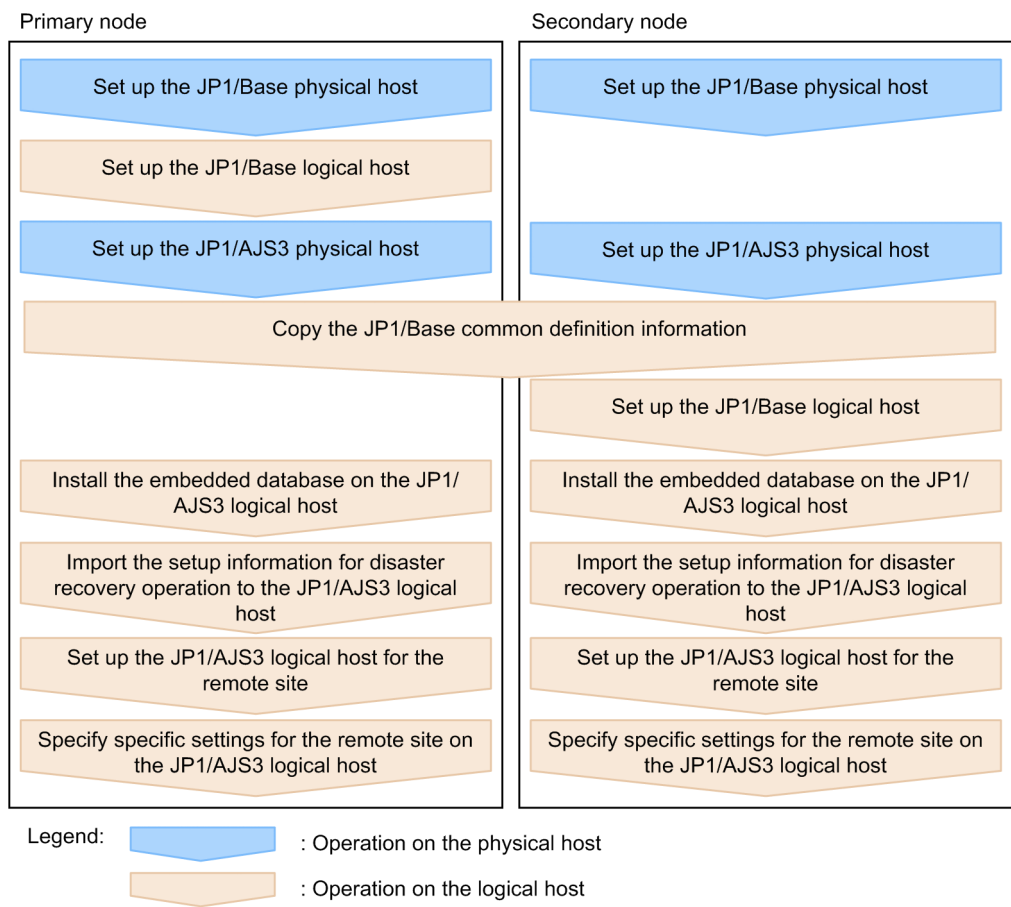
```
jajs_rpenvexport -h logical-host-name -d output-directory-name
```

18.2.3 Setting up the remote site

This subsection describes how to set up the remote site.

For a non-cluster environment, perform the procedure only on the primary node.

Figure 18–5: Remote site setup procedure



(1) Remote site setup procedure

The following describes the procedure for setting up the remote site:

Cautionary notes:

- The procedure described here applies regardless of whether you use the same name or different names for the main-site and remote-site logical hosts.
- If you use the same name for the main-site and remote-site logical hosts, the value of *logical-host-name-of-the-remote-site* to be specified as a command argument in the procedure is the same as the main-site logical host name.

1. Set up the JP1/Base physical hosts on the primary and secondary nodes.

If JP1/Base has already been set up, you do not need to perform this step.

The procedure for setting up JP1/Base is same as the procedure used for cluster system operation. For details, see [17. Setup for Operation in a Cluster System](#).

2. Set up the JP1/Base logical host on the primary node.

The procedure for setting up JP1/Base is same as the procedure used for cluster system operation. For details, see [17. Setup for Operation in a Cluster System](#).

Note that, when you use the communication encryption function, you need to specify one of the following settings:

- When different server certificates are used separately for the main and remote sites, allocate the main and remote site private key and server certificate to the remote site.
- When the same server certificate is used for the main and remote sites, allocate the same private key and server certificate as those for the main site to the remote site.

3. Set up the JP1/AJS3 physical hosts on the primary and secondary nodes.

During setup, specify the same options specified for the main site.

If JP1/AJS3 has already been set up, you do not need to perform this step.

The procedure for setting up the JP1/AJS3 physical host is same as the procedure used for cluster system operation. For details, see [17. Setup for Operation in a Cluster System](#).

4. On the primary node, save the JP1/Base common definition information, and then set up the common definition information on the secondary node.

After completing the tasks required on the primary node, execute the `jbsgetcnf` command on the primary node to save the JP1/Base common definition information. Copy the backup file to the secondary node, specify the backup file as an argument of the `jbssetcnf` command, and then execute the command. The following are the commands to execute.

On the primary node:

```
jbsgetcnf -h logical-host-name-of-the-remote-site > backup-file-name
```

On the secondary node:

```
jbssetcnf backup-file-name
```

5. Set up the JP1/Base logical host on the secondary node.

The procedure for setting up JP1/Base is same as the procedure used for cluster system operation. For details, see [17. Setup for Operation in a Cluster System](#).

6. On the primary node, install the embedded database of the JP1/AJS3 logical host.

Execute the following command:

```
ajsembdbinstl  
-s directory-containing-the-embedded-database-installation-media
```

```
-mh logical-host-name-of-the-remote-site
-i embedded-database-installation-directory
-id setup-identifier
```

For the `-i` and `-id` options, specify the recorded values as described in the sections listed below.

If you are assigning the remote-site logical host a name that is different from the main-site logical host:

Perform step 2 in [18.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts](#).

If you are assigning the remote-site logical host the same name as the main-site logical host:

Perform step 2 in [18.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts](#).

For details about the `ajsembdbinstl` command, see `ajsembdbinstl` in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. Import the setup information for disaster recovery operation to the primary node.

Execute the command `jajs_rpenvimport` to import the settings for disaster recovery operation from the main site to the remote site.

Before executing the command, make sure that the same disaster recovery operation setup information does not exist on any other host at the remote site. Also see the precautionary notes in `jajs_rpenvimport` in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

The format of the command `jajs_rpenvimport` is as follows:

```
jajs_rpenvimport -e executing-physical-host-at-the-remote-site
                 -h logical-host-name-of-the-remote-site
                 -d input-directory-name
```

For the `-d` option, specify the same value as the output directory name that you specified as described in the sections listed below.

When setting up a new remote site (if you are assigning the remote-site logical host a name that is different from the main-site logical host):

Perform step 3 in [18.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts](#).

When setting up a new remote site (if you are assigning the remote-site logical host the same name as the main-site logical host):

Perform step 6 in [18.2.2 Setting up the main site when using the same name for the main-site and remote-site logical hosts](#).

To reconfigure the main site:

Perform step 1 in [11.2.2 Rebuilding the main site](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

8. Set up the JP1/AJS3 logical host for the remote site on the primary node.

Execute the following command:

```
jajs_setup_cluster -h logical-host-name-of-the-remote-site
                  -F scheduler-service-name
                  -R
```

For the `-F` option, specify the same scheduler service name specified for the primary node of the main site.

9. If necessary, specify individual settings on the primary node.

Some information is not set by importing the setup information for disaster recovery operation. If you need the information that is not imported, specify the individual settings as described in (3) *Specifying specific settings on the remote site*.

10. Perform steps 6 to 9 on the secondary node.

(2) Importing and exporting the setup information for disaster recovery operation

When you perform one of the following operations, the JP1/AJS3 - Manager settings must be the same on both the main and the remote sites. To ensure that the settings are the same, export the setup information for disaster recovery operation on either site, and then import that information to the other site.

1. Build a new main site environment, and apply it to the remote site.
2. After the site stops, apply the remote site settings during rebuilding of the main site environment.
3. During operation, change the settings or configuration of the main site, and apply the changes to the remote site.

The following table describes the information set by exporting and importing the setup information for disaster recovery operation.

Table 18–1: Information set by exporting and importing the setup information for disaster recovery operation

No.	Information to be set
1	All environment setting parameters for the following definition keys, including subkeys: <ul style="list-style-type: none"> • [logical-host-name\JP1AJS2] • [logical-host-name\JP1AJS2COMMON] #1 • [logical-host-name\JP1AJSMANAGER] #2 • [logical-host-name\JP1AOMMANAGER] • [logical-host-name\JP1AOMAGENT] • [logical-host-name\JP1NBQAGENT] • [logical-host-name\JP1NBQMANAGER] • [logical-host-name\JP1NBQCLIENT] • [logical-host-name\JP1NBQNOTIFY] • [logical-host-name\JP1QLAGENT] #1
2	Embedded database definition file

#1

This definition key is used by optional functions and might not exist.

#2

If this definition key does not exist, information will not be exported because the system assumes that no logical host has been created.

(3) Specifying specific settings on the remote site

You need to manually set information on the remote site that is not set by exporting and importing the setup information for disaster recovery operation.

The following table describes the information that is not set.

Table 18–2: Information that is not set by exporting and importing the setup information for disaster recovery operation

No.	Type of information	Information that is not set	Required settings
1	System settings	Port number	Set the port number in the <code>services</code> file.
2		Firewall settings	Set up a firewall for the port.
3	General	Trace file size	Set the sizes of the following trace log files: <ul style="list-style-type: none"> • JP1/AJS3 trace log file • Trace log file for the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service • Trace log file for the queueless job function
4		Environment setting parameters	Set the environment setting parameters for physical hosts.
5		Shell	Shell customization
6	Scheduler	Adding or deleting a scheduler service	If a scheduler service was added or deleted, install or uninstall the corresponding embedded database.
7		Local date and time for the JP1/AJS3 scheduler service	Use the <code>ajslocaldate</code> command to change the local date and time for the JP1/AJS3 scheduler service.
8	Events and actions	Destination host for the JP1 event-sending job	Set up communication when the JP1 event-sending job is used to send JP1 events to another host.
9		Linkage with mail systems	Set up the mail system linkage function.
10	Definition pre-check	Definition pre-check function	Either set up or remove the setup of the definition pre-check function.
11	Queueless job	Queueless job function	Either set up or remove the setup of the queueless job function.
12	JP1/AJS3 - View	Function for disabling specific menus in JP1/AJS3 - View	Allocate the settings file on the manager host.
13	Prerequisite products, related products, and linkage products	Transfer destination host for the JP1 event service	Specify the settings when you use the JP1 event reception monitoring job to monitor JP1 events transferred from other hosts.
14		Linkage with HP NNM	Set up the HP NNM linkage function.

The following describes the specific information that you need to set.

(a) Port number

Set the port number used at the other site.

Change the port number set in the `services` file.

(b) Firewall settings

Specify the firewall settings for the port number that was specified at the other site.

For details, see *2.3.4 Communications in firewall environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(c) Trace file size

Set the sizes of the following trace log files to the settings used at the other site:

- JP1/AJS3 trace log file
- Trace log file for the JP1/AJS3 Check Manager service or JP1/AJS3 Check Agent service
- Trace log file for the queueless job function

To change the size of the trace log file for JP1/AJS3, the JP1/AJS3 Check Manager service, or the JP1/AJS3 Check Agent service, use the `ajstrsetsz` or `ajschktrsetsz` command. For details about these commands, see *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

To change the trace log file size for the queueless job function, use the `ajsqltrsetsz` and `ajsqlexecsetsz` commands. For details about these commands, see *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(d) Environment setting parameters

Set the environment setting parameters for physical hosts to the settings used at the other site. These environment setting parameters exist for definition keys that the physical host and logical host do not share (that is, a definition key beginning with `[JP1_DEFAULT\ . . .]`). For details about how to set the environment setting parameters, see *14.2 Environment setting parameter settings*.

Note that the environment setting parameters for logical hosts are imported when the setup information for disaster recovery operation is imported.

(e) Shells

Customize shells in accordance with the settings at the other site.

Table 18–3: Files (shells) that need to be customized in accordance with the settings at the other site

No.	Shell	See:
1	<code>jajs_killall.cluster</code>	<i>10.4.1 Script for forcibly stopping JP1/AJS3 (<code>jajs_killall.cluster</code>) in the JP1/Automatic Job Management System 3 Administration Guide or <code>jajs_killall.cluster (UNIX only)</code> in <i>3. Commands Used for Normal Operations</i> in the manual <i>JP1/Automatic Job Management System 3 Command Reference</i></i>
2	<code>jajs_start</code>	<i>15.10.1 Setting automatic startup and termination of the JP1/AJS3 service</i>
3	<code>jajs_stop</code>	
4	<code>jajs_start.cluster</code>	<i>17.2.7 Setting up the queueless job execution environment</i>
5	<code>jajs_stop.cluster</code>	

(f) Adding or deleting a scheduler service

If a scheduler service was added or deleted, install or uninstall the corresponding embedded database. To install an embedded database, execute the `ajsembdbinstl` command. To uninstall an embedded database, execute the `ajsembdbuninstl` command.

For details about these commands, see *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(g) Local date and time for the JP1/AJS3 scheduler service

Set the same local data and time for the JP1/AJS3 scheduler service that is set at the other site. If you use the `ajslcaldate` command to change the local date and time, you also need to execute the `ajslcaldate` command at the remote site before starting JP1/AJS3 at the remote site.

For details about the `ajslocaldate` command, see *7.6 Defining a local date and time for the scheduler service* in the *JP1/Automatic Job Management System 3 Administration Guide*.

(h) Destination host for the JP1 event-sending job

When you use the JP1 event-sending job to send JP1 events to another host, specify the setting so that communication with the destination host is possible at both the main site and the remote site.

(i) Linkage with mail systems

Set up linkage with mail systems in accordance with the settings at the other site.

For details about linkage with mail systems, see *2. Linking Mail Systems* in the *JP1/Automatic Job Management System 3 Linkage Guide*.

If you change the linkage of a mail system, you need to restart the JP1/AJS3 Mail service on the physical host.

(j) Definition pre-check function

Set up the definition pre-check function if it has been set up at the other site.

Use the `ajschksetup` command to set up the definition pre-check function. For details, see *15.5.1 Setting up the JP1/AJS3 definition pre-check function*.

Note that if you change the definition pre-check function setting, you need to restart the following services on the physical host:

- JP1/AJS3 Check Manager service
- JP1/AJS3 Check Agent service

(k) Queueless job function

Set up the queueless job function if it has been set up at the other site. To set up the queueless job function at the remote site, execute the `ajsqlsetup` command with the `-nc` option specified.

For details about the `ajsqlsetup` command, see *ajsqlsetup* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Note that if you change the queueless job setting, you need to restart the queueless agent service on the physical host.

(l) Function for disabling specific menus in JP1/AJS3 - View

Enable the function for disabling specific menus in JP1/AJS3 - View if the function is enabled at the other site.

For details, see *11.3.9 Disabling menus* in the *JP1/Automatic Job Management System 3 Operator's Guide*.

(m) Transfer destination hosts for the JP1 event service

When you use the JP1 event-reception monitoring job to monitor JP1 events transferred from hosts not at the main site, set up transfer to both the main site and the remote site on the transfer source.

(n) Linkage with HP NNM

Set up linkage with NNM at both the main site and the remote site. The same symbol cannot be used twice for monitoring, so create symbols for the main site and the remote site on NNM.

For details about linking JP1/AJS3 with HP NNM, see the following:

- *A. Monitoring Jobnets Using HP NNM in the JP1/Automatic Job Management System 3 Linkage Guide*
- *B. Events Reported to HP NNM in the JP1/Automatic Job Management System 3 Linkage Guide*
- *C. Commands Used When Linking with HP NNM in the JP1/Automatic Job Management System 3 Linkage Guide*

18.3 Setting up JP1/AJS3 - Agent

This section describes how to set up JP1/AJS3 - Agent to enable disaster recovery operation.

When the main site and the remote site share JP1/AJS3 - Agent:

Make sure that setup of a JP1/AJS3 - Agent environment has been completed.

Cautionary note:

If the IP addresses of the main-site and remote-site logical hosts are different, make sure that the following conditions are also met:

- The agent host can communicate with the manager hosts on both the main and remote sites.
- (If the setting to restrict connections to JP1/AJS3 is enabled) The IP addresses of the manager hosts on both the main and remote sites are set in the agent connection permission configuration file.
- When you use the communication encryption function, the root certificates corresponding to the appropriate server certificates for the main and remote sites are associated with the corresponding server certificates and separately allocated to the main and remote sites.

When the main site and the remote site do not share JP1/AJS3 - Agent:

Make sure that setup of a JP1/AJS3 - Agent environment has been completed.

19

Uninstallation

This chapter describes how to uninstall JP1/Base and JP1/AJS3.

19.1 Precautions for uninstallation

- Before you uninstall JP1/Base, make sure that JP1/AJS3 has been uninstalled. If you uninstall JP1/Base first, you can no longer uninstall JP1/AJS3 because the definition files shared with JP1/AJS3 are deleted.
- If you uninstalled JP1/Base before JP1/AJS3, re-install JP1/Base, delete information about the embedded database, and then uninstall JP1/AJS3. Note that, when you uninstall JP1/AJS3 - Agent, you do not need to delete information about the embedded database.

The following describes how to delete information about the embedded database.

If a value other than `_JF0` is used as the embedded database setup identifier, replace the `_JF0` portion in the command name and in the directory path with the value used as the embedded database setup identifier, and then perform the following operations for all of the embedded database setup identifiers.

1. Execute the following command.

```
/opt/jp1ajs2/embdb/_JF0/pdistup/bin/pdirst /opt/jp1ajs2/embdb/_JF0
```

2. Execute the following command.

```
/opt/jp1ajs2/tools/AJS3DB/pdeinstall -d -r /var/opt/jp1ajs2/sys/install/  
embdbuninstlresult_JF0.log /opt/jp1ajs2/embdb/_JF0
```

3. Delete all of the following directories and files:

Directories and files under `/opt/jp1ajs2/embdb/_JF0`

19.2 Uninstalling JP1/AJS3 series programs

This section describes how to uninstall JP1/AJS3 series programs (JP1/AJS3 - Manager, JP1/AJS3 - Agent and JP1/AJS3 - Web Console) for each OS of the hosts from which JP1/AJS3 series programs are to be uninstalled.

Important

- Because uninstalling JP1/AJS3 also causes the JP1/AJS3 programs to be deleted, the user environment (such as the database and environment settings files) is also deleted. Therefore, if you uninstall and then reinstall JP1/AJS3, you must specify all the settings again.

If JP1/AJS3 is set up on a logical host, uninstallation does not delete the user environment (such as the database and environment settings files) on the logical host. If the user environment is no longer necessary, you will need to delete it manually. For details about how to delete the user environment on a logical host, see [17.2.8 Deleting logical hosts](#).

- If you uninstall JP1/Base before uninstalling JP1/AJS3 (except JP1/AJS3 - Web Console), you will no longer be able to uninstall JP1/AJS3 (except JP1/AJS3 - Web Console). Always make sure that JP1/Base is installed before you uninstall JP1/AJS3 (except JP1/AJS3 - Web Console).
- In a cluster system, use JP1/Base to delete logical hosts before you uninstall JP1/AJS3. For details about deleting logical hosts, see [17.2.8 Deleting logical hosts](#).
- If you are using JP1/AJS3 for disaster recovery operation, you need to cancel disaster recovery operation at the main site and at the remote site before you uninstall JP1/AJS3. For details, see [11.4 Exiting disaster recovery mode](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

Uninstalling JP1/AJS3 series programs deletes all the directories listed below them, including all the files in the directories. If these directories contain any files you need, copy the files to another directory before starting uninstallation. If any directories remain after the uninstallation, delete the directories, including all the files in them.

- JP1/AJS3 - Manager
/etc/opt/jp1ajs2, /opt/jp1ajs2, /var/opt/jp1ajs2
- JP1/AJS3 - Agent
/etc/opt/jp1ajs2, /opt/jp1ajs2, /var/opt/jp1ajs2
- JP1/AJS3 - Web Console
/etc/opt/jp1ajs3web, /opt/jp1ajs3web, /var/opt/jp1ajs3web

19.2.1 Uninstallation in HP-UX

To uninstall a JP1/AJS3 series program in HP-UX:

1. Log in as superuser to the host from which you want to uninstall the JP1/AJS3 series program. Alternatively, use the `su` command to become superuser.
2. Terminate all programs.
If existing JP1 series programs are running, always stop them.
3. Execute the following command to start Hitachi Program Product Installer:

```
/etc/hitachi_setup
```

Hitachi Program Product Installer starts, and the initial screen appears.

4. On the initial screen, enter D.

A list of programs that can be uninstalled is displayed.

5. Select the JP1/AJS3 series program you want to uninstall, and then enter D.

The selected program is uninstalled. You can select a program by moving the cursor to the program, and then pressing the space bar.

6. When uninstallation of the program has been completed, enter Q.

The Hitachi Program Product Installer initial screen is displayed again.

If uninstallation of JP1/AJS3 - Manager has failed, check syslog for the KAVS2128-E message. If this message has been output, deletion of JP1/AJS3_Database has failed, in which case take action based on the KAVS2128-E message.

7. If necessary, delete the user files created in JP1/AJS3.

19.2.2 Uninstallation in Solaris

To uninstall a JP1/AJS3 series program in Solaris:

1. Log in as superuser to the host from which you want to uninstall the JP1/AJS3 series program. Alternatively, use the `su` command to become superuser.

2. Terminate all programs.

If existing JP1 series programs are running, always stop them.

3. Execute the following command to start Hitachi Program Product Installer:

```
/etc/hitachi_setup
```

Hitachi Program Product Installer starts, and the initial screen appears.

4. On the initial screen, enter D.

A list of programs that can be uninstalled is displayed.

5. Select the JP1/AJS3 series program you want to uninstall, and then enter D.

The selected program is uninstalled. You can select a program by moving the cursor to the program, and then pressing the space bar.

6. When uninstallation of the program has been completed, enter Q.

The Hitachi Program Product Installer initial screen is displayed again.

If uninstallation of JP1/AJS3 - Manager has failed, check syslog for the KAVS2128-E message. If this message has been output, deletion of JP1/AJS3_Database has failed, in which case take action based on the KAVS2128-E message.

7. If necessary, delete the user files created in JP1/AJS3.

19.2.3 Uninstallation in AIX

To uninstall a JP1/AJS3 series program in AIX:

1. Log in as superuser to the host from which you want to uninstall the JP1/AJS3 series program. Alternatively, use the `su` command to become superuser.
2. Terminate all programs.
If existing JP1 series programs are running, always stop them.
3. Execute the following command to start Hitachi Program Product Installer:

```
/etc/hitachi_setup
```


Hitachi Program Product Installer starts, and the initial screen appears.
4. On the initial screen, enter D.
A list of programs that can be uninstalled is displayed.
5. Select the JP1/AJS3 series program you want to uninstall, and then enter D.
The selected program is uninstalled. You can select a program by moving the cursor to the program, and then pressing the space bar.
6. When uninstallation of the program has been completed, enter Q.
The Hitachi Program Product Installer initial screen is displayed again.
If uninstallation of JP1/AJS3 - Manager has failed, check syslog for the KAVS2128-E message. If this message has been output, deletion of JP1/AJS3_Database has failed, in which case take action based on the KAVS2128-E message.
7. If necessary, delete the user files created in JP1/AJS3.

19.2.4 Uninstallation in Linux

To uninstall a JP1/AJS3 series program in Linux:

1. Log in as superuser to the host from which you want to uninstall the JP1/AJS3 series program. Alternatively, use the `su` command to become superuser.
2. Terminate all programs.
If existing JP1 series programs are running, always stop them.
3. Execute the following command to start Hitachi Program Product Installer:

```
/etc/hitachi_setup
```


Hitachi Program Product Installer starts, and the initial screen appears.
4. On the initial screen, enter D.
A list of programs that can be uninstalled is displayed.
5. Select the JP1/AJS3 series program you want to uninstall, and then enter D.
The selected program is uninstalled. You can select a program by moving the cursor to the program, and then pressing the space bar.

6. When uninstallation of the program has been completed, enter Q.

The Hitachi Program Product Installer initial screen is displayed again.

If uninstallation of JP1/AJS3 - Manager has failed, check syslog for the KAVS2128-E message. If this message has been output, deletion of JP1/AJS3_Database has failed, in which case take action based on the KAVS2128-E message.

7. If necessary, delete the user files created in JP1/AJS3.

19.3 Uninstalling JP1/Base

To uninstall JP1/Base, use the automatic uninstallation function. This function also uninstalls the integrated trace log function (HNTRLib2).

For details about JP1/Base uninstallation, see the *JP1/Base User's Guide*.

Before you uninstall JP1/Base, make sure that JP1/AJS3 has been uninstalled. If you uninstall JP1/Base before you uninstall JP1/AJS3, you might no longer be able to uninstall JP1/AJS3.

20

Environment Setting Parameters

This chapter lists the environment setting parameters, and describes how they are defined.

20.1 Customization of environment setting parameters

You can use environment setting parameters with default values without customizing them. If necessary, consider customization of environment setting parameters.

If you want to customize environment setting parameters, see the following manuals and descriptions:

- *JP1/Automatic Job Management System 3 Overview*
- *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*
- *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*
- Details of individual environment setting parameters

20.2 Format of the environment setting parameters

This section describes the format of the definition keys and environment setting parameters used in this manual.

20.2.1 Format of the definition keys

Definition keys are written in the following format:

[*name-of-definition-key*]

- The name of each definition key name is enclosed in square brackets ([]).
- In the { JP1_DEFAULT | *logical-host-name* } part, enter JP1_DEFAULT for the physical host, and enter the name of a logical host for *logical-host-name*.

20.2.2 Format of the environment setting parameters

Environment setting parameters are written in the following format:

"*name-of-environment-setting-parameter*"=*definition*

- The name of an environment setting parameter is enclosed in double quotation marks (").
- If a string is specified for a definition, the definition is enclosed in double quotation marks. If a numeric value is specified for a definition, `dword:` precedes the value.
- If multiple values are allowed for the definition of an environment setting parameter, the values are separated by a colon (:). Note that you must specify at least one value.

Example:

If the definition key is {`backup:export:name:print:schedule:show:rgexport:release`}, you can specify more than one of the following values:

`backup, export, name, print, schedule, show, rgexport, and release`

20.3 Setting up the system management environment

This section describes the environment setting parameters for the system management.

20.3.1 List of environment setting parameters for the system management

The system management environment requires different settings in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

The table below describes the environment setting parameters to be used to set the system management in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column. To determine whether an environment setting parameter is to be set in the manager environment (JP1/AJS3 - Manager) or the agent environment (JP1/AJS3 - Agent), see the *Applicable product* column.

Table 20–1: Environment setting parameters (system management)

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[{JP1_DEFAULT logical-host-name} \JP1AJS2]#	"SEND_PROCESS_TERMINATED_ABNORMALY_EVENT"=	Whether a JP1 event is issued when a process terminates abnormally or times out at startup (Used to ensure compatibility when an upgrade is performed)	Windows UNIX	M, A, ME
2		"SEND_PROCESS_RESTART_EVENT"=	Whether a JP1 event is issued when a process is restarted (Used to ensure compatibility when an upgrade is performed)	Windows UNIX	M, A, ME
3		"SEND_SYSTEM_STARTSTOP_EVENT"=	Whether a JP1 event is issued when JP1/AJS3 starts or stops	Windows UNIX	M, A, ME
4		"SEND_SYSTEM_CHILD_STARTSTOP_EVENT"=	Whether a JP1 event is issued when a process starts or stops	Windows UNIX	M, A, ME
5		"SEND_SYSTEM_TERMINATED_ABNORMALY_EVENT"=	Whether a JP1 event is issued when a process terminates abnormally or times out at startup	Windows UNIX	M, A, ME
6		"SEND_SYSTEM_RESTART_EVENT"=	Whether a JP1 event is issued when a process is restarted	Windows UNIX	M, A, ME
7	[{JP1_DEFAULT logical-host-name} \JP1AJS2\HOST]#	"AJSSYSYSDIR"=	The system folder of a host	Windows UNIX	M
8		"AJSLOGDIR"=	The log folder of a host	Windows UNIX	M
9		"HOSTLOGSIZE"=	The size of the scheduler log file of a host	Windows UNIX	M
10		"HOSTLOGFILE1"=	The name of the scheduler log file 1 of a host	Windows UNIX	M
11		"HOSTLOGFILE2"=	The name of the scheduler log file 2 of a host	Windows UNIX	M

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
12	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\HOST]#	"HOSTLOGOUTPUTYEAR"=	Setting for whether the year in the date of a host's scheduler log is to be output	Windows UNIX	M
13		"HOSTLOGHEADER"=	Whether a host's scheduler log history information is to be output with the process ID added	Windows UNIX	M
14		"HLOGDLOG"=	Setting for whether to output the start and stop history of the scheduler-log output process (ajshlogd.exe in Windows, or ajshlogd in UNIX) to the scheduler log for hosts	Windows UNIX	M
15		"HLOGDSYSLOG"=	In Windows: Setting for whether to output the start and stop history of the scheduler-log output process ajshlogd.exe to the Windows event log and the integrated trace log for hosts In UNIX: Setting for whether to output the start and stop history of the scheduler-log output process ajshlogd to the syslog file and the integrated trace log for hosts	Windows UNIX	M
16		"AGENTLIMITTEXTEND"=	Setting to increase the maximum number of execution agents that can be registered in a manager host	Windows UNIX	M
17		"DBAUTOMAINTENANCE"=	Setting for whether to use the automatic maintenance function for embedded databases	Windows UNIX	M
18		"DBAUTOMAINTENANCE TIME"=	Automatic maintenance time for an embedded database	Windows UNIX	M
19		[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\LOG_CONTROL\JAJS_SPM]	"LOGSIZE"=	The size of the system management log	Windows UNIX
20	"LOGFILENUM"=		The number of system management log files	Windows UNIX	M, A, ME
21	[JP1_DEFAULT\JP1AJS2\HOST]	"CONTAINER_HOST"=	Setting that indicates whether the host on which JP1/AJS3 operates is a container host machine	Linux	M, A, ME

Legend:

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

ME: JP1/AJS3 - Agent Minimal Edition

#

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

Parameters that are not described here are used for maintenance purposes. Do not change the values of those parameters.

20.3.2 Details of the environment setting parameters for the system management

This subsection describes details of the environment setting parameters for system management.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) SEND_PROCESS_TERMINATED_ABNORMALLY_EVENT

Use this parameter to specify whether to issue a JP1 event when a process terminates abnormally or times out at startup.

This parameter ensures compatibility when you upgrade from an old version. In an upgrade, the parameter setting is inherited.

Format

"SEND_PROCESS_TERMINATED_ABNORMALLY_EVENT" = dword:*Whether-to-issue-a-JP1-event-when-a-process-terminates-abnormally-or-times-out-at-startup*

Specifiable values

0
A JP1 event is not issued.

1
A JP1 event is issued.

Default value

dword:00000000 (0 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(2) SEND_PROCESS_RESTART_EVENT

Use this parameter to specify whether to issue a JP1 event when the process is restarted.

This parameter ensures compatibility when you upgrade from an old version. In an upgrade, the parameter setting is inherited.

Format

"SEND_PROCESS_RESTART_EVENT" = dword:*whether-to-issue-a-JP1-event-when-a-process-is-restarted*

Specifiable values

0
A JP1 event is not issued.

1
A JP1 event is issued.

Default value

dword:00000000 (0 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(3) SEND_SYSTEM_STARTSTOP_EVENT

Use this parameter to specify whether to issue a JP1 event when the JP1/AJS3 service starts or stops.

Format

"SEND_SYSTEM_STARTSTOP_EVENT" = dword: *whether-to-issue-a-JP1-event-when-JP1/AJS3-starts-or-stops*

Specifiable values

0

A JP1 event is not issued.

1

A JP1 event is issued.

Default value

dword:00000000 (0 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(4) SEND_SYSTEM_CHILD_STARTSTOP_EVENT

Use this parameter to specify whether to issue a JP1 event when a process starts or stops.

The applicable processes are as follows:

In Windows:

- Child process of jajs_spm�.exe
- Child process of jajs_dbmd.exe, jajs_hstd.exe, jajs_agtd.exe, and jajs_schd.exe

In UNIX:

- Child process of jajs_spm�
- Child process of jajs_dbmd, jajs_hstd, jajs_agtd, and jajs_schd

For details about processes, see the *B.2 Processes (for Windows)* in the manual *JP1/Automatic Job Management System 3 Troubleshooting* or *B.3 Processes (for UNIX)* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

Format

"SEND_SYSTEM_CHILD_STARTSTOP_EVENT" = dword: *whether-to-issue-a-JP1-event-when-a-process-starts-or-stops*

Specifiable values

0

A JP1 event is not issued.

1

A JP1 event is issued.

Default value

dword:00000000 (0 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(5) SEND_SYSTEM_TERMINATED_ABNORMALLY_EVENT

Use this parameter to specify whether to issue a JP1 event when a process terminates abnormally or times out at startup.

The applicable processes are as follows:

In Windows:

- Child process of jajs_spmd.exe
- Child process of jajs_dbmd.exe, jajs_hstd.exe, jajs_agtd.exe, and jajs_schd.exe

In UNIX:

- Child process of jajs_spmd
- Child process of jajs_dbmd, jajs_hstd, jajs_agtd, and jajs_schd

For details about the processes, see *B.2 Processes (for Windows)* in the manual *JP1/Automatic Job Management System 3 Troubleshooting* or *B.3 Processes (for UNIX)* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

This environment setting parameter has the same functionality as the `SEND_PROCESS_TERMINATED_ABNORMALLY_EVENT` environment setting parameter. In an environment configured by a new installation, specify the `SEND_SYSTEM_TERMINATED_ABNORMALLY_EVENT` environment setting parameter.

Do not specify this parameter together with the `SEND_PROCESS_TERMINATED_ABNORMALLY_EVENT` environment setting parameter. If you specify these parameters concurrently with 1 specified for either parameter, a JP1 event will be issued.

Format

"SEND_SYSTEM_TERMINATED_ABNORMALLY_EVENT" = dword:*Whether-to-issue-a-JP1-event-when-a-process-terminates-abnormally-or-times-out-at-startup*

Specifiable values

0

A JP1 event is not issued.

1

A JP1 event is issued.

Default value

dword:00000000 (0 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(6) SEND_SYSTEM_RESTART_EVENT

Use this parameter to specify whether to issue a JP1 event when a process is restarted.

This environment setting parameter has the same functionality as the SEND_PROCESS_RESTART_EVENT environment setting parameter. In an environment configured by a new installation, specify the SEND_SYSTEM_RESTART_EVENT environment setting parameter.

Do not specify this parameter together with the SEND_PROCESS_RESTART_EVENT environment setting parameter. If you specify these parameters concurrently with 1 specified for either parameter, a JP1 event will be issued.

Format

"SEND_SYSTEM_RESTART_EVENT" = dword:*Whether-to-issue-a-JP1-event-when-a-process-is-restarted*

Specifiable values

0

A JP1 event is not issued.

1

A JP1 event is issued.

Default value

dword:00000000 (0 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(7) AJSSYSDIR (for system management)

Use this parameter to specify the name of the directory in which the JP1/AJS3 system files are to be created. Specify a full path name.

Determine the name based on operating requirements and an estimate of required disk space.

For users with administrator permissions or superuser permissions, set the update permission (rwx for UNIX) for this directory. For all users, set the operation permission (rx for UNIX).

Format

"AJSSYSDIR" = "*name-of-system-directory*"

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Do not use either semicolons (;) or spaces.

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\sys
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\sys
- In UNIX:
/var/opt/jp1ajs2/sys/

Recommended value

- For a physical host:
Default value
- For a logical host:
The value set at the time of setup.

When the setting takes effect

The next time the JP1/AJS3 service starts

Cautionary notes

- The default folders and directories also have uses that are not related to this environment setting parameter. Do not delete the default folders or directories even if you have changed the environment setting parameter.
- Specify different paths for the physical and logical hosts.
- Specify a path on the shared disk for logical hosts in a cluster configuration.

(8) AJSLOGDIR (for system management)

Use this parameter to specify the name of the directory in which JP1/AJS3 log files are to be created. Specify a full path name.

Determine the name based on operating requirements and an estimate of the required disk space.

For all users, set the update permission (rwx for UNIX) for this directory.

Format

"AJSLOGDIR" = "*directory-name-for-log*"

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Do not use either semicolons (;) or spaces.

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log
- In UNIX:
/var/opt/jp1ajs2/log

Recommended value

- For a physical host:
Default value
- For a logical host:
The value set at the time of setup.

When the setting takes effect

The next time the JP1/AJS3 service starts

Cautionary notes

- The default folders and directories also have uses that are not related to this environment setting parameter. Do not delete the default folders or directories even if you have changed the environment setting parameter.
- Specify different paths for the physical and logical hosts.
- Specify a path on the shared disk for logical hosts in a cluster configuration.

(9) HOSTLOGSIZE

Use this parameter to specify the size of log files.

The *ajsinetd* authentication error log (KAVS1009-W) and the log data when *ajshlogd* starts (KAVS0220-I) and when it stops (KAVS0221-I), are output to log files. However, if *host* is output to *AJSLOGOUTPUTDEST*, which is an environment setting parameter in scheduler service environment settings, the scheduler log of the appropriate scheduler service is output. Accordingly, specify a size sufficient for storing the data of at least one day so that you can check the execution status of a job or jobnet.

For details about how to estimate the log file size when specifying the settings for outputting the scheduler log of a scheduler service, see *3.4.1 Estimating the size of scheduler log files* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

"HOSTLOGSIZE" = dword:*size-of-scheduler-log-file-for-a-host*

Specifiable values

A hexadecimal value (in kilobytes) from 0 to 1E8480 (0 to 2,000,000 in decimal).

If you specify `dword:00000000`, the system does not create a log file.

Default value

dword:00000000 (0 in decimal)

During a new installation of JP1/AJS3 or upgrade installation from version 8 or earlier, and during setup of cluster operation, dword:00002800 (10,240 in decimal) is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(10) HOSTLOGFILE1

Use this parameter to specify a log file name. Specify a full path name.

Specify a file name that is different from the name of the scheduler log file 2 on any other host.

When the amount of information written to this log file equals or is greater than the specified size, the system writes subsequent information to log file 2.

Specify different paths for the physical and logical hosts.

In UNIX, you cannot omit this parameter if you use a scheduler log file for a host.

Format

"HOSTLOGFILE1" = "*name-of-scheduler-log-file-1-for-a-host*"

Specifiable values

A character string of no more than 255 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\ajs-host-log1.log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log\ajs-host-log1.log
- In UNIX:
/var/opt/jp1ajs2/log/ajs-host-log1.log

Recommended value

- For a physical host:
Default value
- For a logical host:
The value set at the time of setup.

When the setting takes effect

The next time the JP1/AJS3 service starts

(11) HOSTLOGFILE2

Use this parameter to specify a log file name. Specify a full path name.

Specify different paths for the physical and logical hosts.

In UNIX, you cannot omit this parameter when you use a scheduler log file for a host.

Format

```
"HOSTLOGFILE2" = "name-of-scheduler-log-file-2-for-a-host"
```

Specifiable values

A character string of no more than 255 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\ajs-host-log2.log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log\ajs-host-log2.log
- In UNIX:
/var/opt/jp1ajs2/log/ajs-host-log2.log

Recommended value

- For a physical host:
Default value
- For a logical host:
The value set at the time of setup.

When the setting takes effect

The next time the JP1/AJS3 service starts

(12) HOSTLOGOUTPUTYEAR

Use this parameter to specify whether to output the year as part of the date of a host's scheduler log. The scheduler log is specified when you specify the HOSTLOGFILE1 and HOSTLOGFILE2 environment setting parameters.

Change the parameter value if you use the year to manage scheduler log information.

Format

```
"HOSTLOGOUTPUTYEAR" = "{yes|no}"
```

Specifiable values

yes

The year is output. The system outputs the year, month, and day in the date section.

no

The year is not output. The system outputs only the month and day in the date section.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(13) HOSTLOGHEADER

Use this parameter value to specify whether to output the history information with the process ID added in a host's scheduler log file.

Change the parameter value to output history information without adding process ID information.

Format

```
"HOSTLOGHEADER" = "{none|PID}"
```

Specifiable values

none

A process ID is not added to the history information to be output.

PID

A process ID is added to the history information to be output.

Default value

none

During a new installation of JP1/AJS3 or upgrade installation from version 8 or earlier, and during setup of cluster operation, PID is set.

Recommended value

PID

When the setting takes effect

The next time the JP1/AJS3 service starts

(14) HLOGDLOG

Use this parameter value to specify whether to output the start and stop messages related to the scheduler-log output process (`ajshlogd.exe` in Windows, or `ajshlogd` in UNIX) to the scheduler log for hosts.

Format

```
"HLOGDLOG" = "{none|all}"
```

Specifiable values

none

Does not output messages related to starting and stopping the scheduler-log output process for hosts.

all

Outputs messages KAVS0220-I and KAVS0221-I, which are the messages related to starting and stopping the scheduler-log output process for hosts.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts or stops

(15) HLOGDSYSLOG

In Windows:

Use this parameter value to specify whether to output the start and stop messages related to the scheduler-log output process `ajshlogd.exe` to the Windows event log and the integrated trace log for hosts.

In UNIX:

Use this parameter value to specify whether to output the start and stop messages related to the scheduler-log output process `ajshlogd` to the syslog and the integrated trace log for hosts.

Format

"HLOGDSYSLOG" = "{none|all}"

Specifiable values

none

Does not output messages related to starting and stopping the scheduler-log output process for hosts.

all

Outputs messages KAVS0220-I and KAVS0221-I, which are the messages related to starting and stopping the scheduler-log output process for hosts.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts or stops

(16) AGENTLIMITEXTEND

Use this parameter to specify whether to increase the maximum number of execution agents that can be registered in a manager host.

For details, see [6.2.28 Setting to increase the maximum number of execution agents that can be registered in a manager host](#) (for Windows) or [15.2.25 Setting to increase the maximum number of execution agents that can be registered in a manager host](#) (for UNIX).

Format

"AGENTLIMITEXTEND"=dword:*whether-to-increase-the-number-of-execution-agents-that-can-be-registered-in-a-manager-host*

Specifiable values

dword:00000001

The maximum number of execution agents that can be registered in a manager host is set to 1,024.

dword:00000002

The maximum number of execution agents that can be registered in a manager host is set to 2,048.

Default value

dword:00000001

During a new installation of JP1/AJS3, dword:00000002 is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

Cautionary note

If you cancel the increase of the maximum number of execution agents later, you will have to re-create the embedded database. Therefore, give due consideration before changing the setting of the maximum number.

(17) DBAUTOMAINTENANCE

Use this parameter to specify whether to use the automatic maintenance function for embedded databases.

Format

"DBAUTOMAINTENANCE" = "{yes|no}"

Specifiable values

yes

The automatic maintenance function for embedded databases is used.

no

The automatic maintenance function for embedded databases is not used.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately

Cautionary notes

- In the case of maintenance of an embedded database by using the automatic maintenance function, make sure that maintenance is not performed by using any other methods.
- If you want to temporarily stop the automatic maintenance of an embedded database because, for example, a failure occurred, specify no for this environment setting parameter. If you want to resume automatic maintenance after it was temporarily stopped, specify yes for this environment setting parameter.

(18) DBAUTOMAINTENANCETIME

Use this parameter to specify the automatic maintenance time for an embedded database. This environment setting parameter is based on the system time.

Format

"DBAUTOMAINTENANCETIME" = "*Automatic-maintenance-time-for-an-embedded-database*"

Specifiable values

A 5-byte character string from 00:00 to 23:59.

Specify the start time of automatic maintenance of the embedded database in *hh:mm* format.

For *hh*, specify the hour as a number in the range from 00 to 23. For example, specify 01 for 1 o'clock.

For *mm*, specify the minute as a number in the range from 00 to 59. For example, specify 01 for 1 minute past the hour.

Default value

00:00

Recommended value

A time when the execution of jobs and jobnets does not put a heavy load on the system and when commands and JP1/AJS3 - View are not operating on any units

When the setting takes effect

Immediately

Cautionary notes

If the automatic maintenance of the embedded database starts at any of the following times, a timeout error might result:

- When the execution of jobs and jobnets creates a heavy load on the system
- When a command or JP1/AJS3 - View is operating on a unit

If a timeout error occurs, specify the time when the execution of jobs and jobnets does not put a heavy load on the system and when commands and JP1/AJS3 - View are not operating on any units.

(19) LOGSIZE (system management log)

Use this parameter to specify the size of the system management log.

For details about the log files, see *1.2.5 List of log files and directories* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

Format

"LOGSIZE" = dword:*size-of-the-system-management-log*

Specifiable values

A hexadecimal value (in bytes) from 1000 to 7FFFFFFF (4,096 to 2,147,483,647 in decimal)

Default value

dword:1F400 (128,000 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service starts

Cautionary note

If the value specified for the log file size and the number of log files are too small, you might not be able to identify the cause of an error. When you change the log file size, do not specify a log file size smaller than the default value.

(20) LOGFILENUM

Use this parameter to specify the number of system management log files.

For details about the log files, see *1.2.5 List of log files and directories* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

Format

"LOGFILENUM" = dword:number-of-system-management-log-files

Specifiable values

A hexadecimal value from 1 to 10 (1 to 16 in decimal)

Default value

dword:00000003 (3 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service starts

Cautionary note

If the value specified for the log file size and the number of log files are too small, you might not be able to identify the cause of an error. When you change the number of log files, do not specify a value smaller than the default value.

(21) CONTAINER_HOST

Use this parameter to set whether the host on which JP1/AJS3 operates is a container host machine.

Format

"CONTAINER_HOST"="{yes|no}"

Specifiable values

yes

Set this value if the host on which JP1/AJS3 operates is a container host machine.

no

Set this value if the host on which JP1/AJS3 operates is not a container host machine.

Default value

no

Recommended value

To install JP1/AJS3 both on a container host machine and in containers, set this environment setting parameter to **yes** on the container host machine.

When the setting takes effect

Immediately

Cautionary notes

- Do not set this environment setting parameter to **yes** on a machine that is not a container host machine.
- When you set this environment setting parameter, make sure that the following services are stopped:
 - JP1/AJS3 Check Agent service
 - JP1/AJS3 Autonomous Agent service

20.4 Setting up the scheduler service environment

This section describes the environment setting parameters for the scheduler service environment.

20.4.1 List of environment setting parameters for the scheduler service environment

To set up the scheduler service environment, perform the necessary setup operations in the manager environment (JP1/AJS3 - Manager). Nothing is required in the agent environment (JP1/AJS3 - Agent).

The table below describes the environment setting parameters to be used to set the scheduler service environment in the manager environment (JP1/AJS3 - Manager).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column.

Table 20–2: Environment setting parameters (scheduler service environment setup)

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[JP1_DEFAULT\JP1AJS MANAGER]	"DEFAULTSERVICE_NAME"=#1	The name of the default scheduler service	Windows UNIX	M
2		"REMNETSERVICE_NAME"=#1	The name of the scheduler service that executes a remote jobnet	Windows UNIX	M
3		"TRACELOGFILE"=#1	The name of the scheduler trace log file	Windows UNIX	M
4		"TRACELOGDIV"=#1	Specifies the method to output a scheduler trace log (whether to output a trace log per scheduler service).	Windows UNIX	M
5		"VRSHIFT_IMMINT"=#1	Whether a jobnet stops immediately when it is interrupted or killed	Windows UNIX	M
6		"VRSHIFT_INTRERUN"=#1	Whether succeeding units are rerun when a jobnet is interrupted	Windows UNIX	M
7		"IPC_TIMEOUT"=#1	Remote communication timeout	Windows UNIX	M
8		"IPC_LOCALTIMEOUT"=#1	Local communication timeout	Windows UNIX	M
9		"IPC_RETRYINTERVAL"=#1	Retry interval	Windows UNIX	M
10		"IPC_RETRYCOUNT"=#1	Retry count	Windows UNIX	M
11		"EVENT_RETRY"=#1	The action to be taken for an event service connection failure	Windows UNIX	M
12		"REUSELOGON"=#1	The method used to start the logon-session process	Windows	M

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
13	[JP1_DEFAULT\JP1AJSMANAGER]	"LOGONSHMAX"=#1	The number of sessions that can share logon resources	Windows	M
14	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER] #2	"MAXSESSION"=	The maximum number of simultaneous sessions	Windows UNIX	M
15		"AJSDINETDLOGSIZE"=	The size of the ajscinetd internal log	Windows UNIX	M
16		"MONLOG"=#1	Whether messages related to the connection and disconnection of JP1/AJS3 - View and JP1/AJS3 - Web Console to and from the scheduler service are to be output to the scheduler log	Windows UNIX	M
17		"MONSYSLOG"=	In Windows: Whether messages related to starting and terminating the <code>ajscinetd</code> processes, and connecting and disconnecting JP1/AJS3 - View are to be output to the Windows event log and integrated trace log In UNIX: Whether messages related to starting and terminating the <code>ajscinetd</code> processes, and connecting and disconnecting JP1/AJS3 - View are to be output to the syslog and integrated trace log	Windows UNIX	M
18		"AUTHLOG"=	Whether messages related to user authentication are to be output to the scheduler log	Windows UNIX	M
19	"AUTHSYSLOG"=	In Windows: Whether messages related to user authentication are to be output to the Windows event log and integrated trace log In UNIX: Whether messages related to user authentication are to be output to the syslog and integrated trace log	Windows UNIX	M	
20	"HIDEOOTHERLHOST"=	The scheduler services to be displayed for a login to JP1/AJS3 - View	Windows UNIX	M	
21	"CDMAXSESSION"=	Maximum number of allowed concurrent sessions for JP1/AJS3 - Web Console	Windows UNIX	M	
22	"AJSCDINETDLOGSIZE"=	The size of the ajscdinetd internal log	Windows UNIX	M	
23	"CONRESTRICTLOG"=	Whether messages related to restricting connection sources are to be output to the scheduler log	Windows UNIX	M	

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
24	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER] #2	"CONRESTRICTSYSLOG"=	In Windows: Whether messages related to restricting connection sources are to be output to the Windows event log In UNIX: Whether messages related to restricting connection sources are to be output to the syslog	Windows UNIX	M
25		"HIDEOTHERSERVICE"=	Whether to prevent the display of a scheduler service without access permissions in JP1/AJS3 - View	Windows UNIX	M
26		"CHANGEPASSWORD"=	Whether changing of the JP1 user password is to be permitted in JP1/AJS3 - View	Windows UNIX	M
27		"CHANGEPWDLOG"=	Whether messages related to changing of the password are to be output if the JP1 user password change function is enabled in JP1/AJS3 - View	Windows UNIX	M
28	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name] #2	"AJSLOGOUTPUTDEST"=	The output-destination setting for the scheduler log file	Windows UNIX	M
29		"LOGSIZE"=	The size of the scheduler log file (when the file is output by a scheduler service)	Windows UNIX	M
30		"AJSLOGFILE1"=	The name of scheduler log file 1	Windows UNIX	M
31		"AJSLOGFILE2"=	The name of scheduler log file 2	Windows UNIX	M
32		"LOGDLOG"=	Whether log data about starting and terminating the scheduler log output process (ajslod.exe for Windows and ajslod for UNIX) is to be output to the scheduler log	Windows UNIX	M
33		"LOGDSYSLOG"=	In Windows: Whether log data about starting and terminating the scheduler log output process (ajslod.exe) is to be output to the Windows event log and the integrated trace log In UNIX: Whether log data about starting and terminating the scheduler log output process (ajslod) is to be output to syslog and the integrated trace log	Windows UNIX	M
34		"AJSLOGOUTPUTYEAR"=	Whether the year in a scheduler log date is to be output	Windows UNIX	M
35		"AJSLOGOUTPUTTEXTEND"=	The setting for extended output of a scheduler log	Windows UNIX	M
36	"AUTOSTART"=	Whether a scheduler service is to be started automatically	Windows UNIX	M	

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
37	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name]#2	"SESSIONTIMEOUT" =	The connection timeout period	Windows UNIX	M
38		"AJSSERVICEID" =	The scheduler service identification number	Windows UNIX	M
39		"ISAMWRITEMODE" =	The write mode for updating an ISAM file	Windows UNIX	M
40		"TABLENAMEPREFIX" =	The table name prefix	Windows UNIX	M
41		"TABLENAMEPOSTFIX" =	The table ID	Windows UNIX	M
42		"RDBAUTHID" =	The RDB permission identifier	Windows UNIX	M
43		"RDBUSER" =	The RDB access user name	Windows UNIX	M
44		"RDBPASSWORD" =	The RDB user password	Windows UNIX	M
45		"RDBCHECKINTERVAL" =	The RDB server disconnection detection interval	Windows UNIX	M
46		"RDBHOST" =	The name of the host at the RDB connection destination	Windows UNIX	M
47		"RDBPORT" =	RDB port number	Windows UNIX	M
48		"RDBIPC" =	The method used to communicate with the RDB server	Windows UNIX	M
49		"RDBSENDMEMSIZE" =	The size of send-data memory for RDB interprocess memory communication	Windows UNIX	M
50		"RDBRECVMEMSIZE" =	The size of receive-data memory for RDB interprocess memory communication	Windows UNIX	M
51		"RDBCONNECTWAITTIME" =	The maximum wait time for connection to RDB	Windows UNIX	M
52		"AJSSCHARCODE" =	Character set	Windows UNIX	M
53		"AJSTMPDIR" =	The name of the directory for temporary files	Windows UNIX	M
54	"JOBINFDIR" =	The name of the directory for job error information	Windows UNIX	M	
55	"AJSBKUROOT" =	The name of the directory for backup information	Windows UNIX	M	
56	"HNTRLOGLEVEL" =	The level of the messages to be output to the integrated trace log file	Windows UNIX	M	
57	"SYSLOGCODE" =	The character set for outputting a log file	UNIX	M	

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
58	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name]#2	"AJSSYSLOG"=	In Windows: Whether messages about starting and terminating a scheduler service are to be output to the Windows event log In UNIX: Whether messages about starting and terminating a scheduler service are to be output to the syslog file	Windows UNIX	M
59		"NETSYSLOG"=	In Windows: Whether messages about starting and ending a jobnet are to be output to the Windows event log In UNIX: Whether messages about starting and ending a jobnet are to be output to the syslog file	Windows UNIX	M
60		"JOBSYSLOG"=	In Windows: Whether messages about starting and ending a job in a jobnet are to be output to the Windows event log In UNIX: Whether messages about starting and ending a job in a jobnet to be output to be output to the syslog file	Windows UNIX	M
61		"AJSLOG"=	Whether messages about starting and terminating a scheduler service are to be output to the scheduler log file	Windows UNIX	M
62		"NETLOG"=	Whether messages about starting and ending a jobnet are to be output to the scheduler log file	Windows UNIX	M
63		"JOBLOG"=	Whether messages about starting and ending a job in a jobnet are to be output to the scheduler log file	Windows UNIX	M
64		"OPELOG"=	Whether the operation log is to be output	Windows UNIX	M
65		"LOGINFOALL"=	The output format of logs	Windows UNIX	M
66		"REFLOG"=	Whether the reference log is to be output	Windows UNIX	M
67		"LOGHEADER"=	Whether log information is to be output with the process ID added	Windows UNIX	M
68		"INFOLOG"=	Whether the information log is to be output	Windows UNIX	M
69		"ROOTJOBNETSCHEDULERANGE"=	The valid range for a root jobnet schedule	Windows UNIX	M
70		"VIEWSTATUSRANGE"=	The range of the generation information to be used as the basis for acquiring the	Windows UNIX	M

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
70	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name]#2	"VIEWSTATUSRANGE"=	status via JP1/AJS3 - View or JP1/AJS3 - Web Console	Windows UNIX	M
71		"STARTMODE"=	The startup mode of a scheduler service	Windows UNIX	M
72		"OVERSCHEDULE"=	The mode for skipping a jobnet	Windows UNIX	M
73		"SUPPRESS"=	Whether the execution of a job in the jobnet and a jobnet is suppressed	Windows UNIX	M
74		"EXECDEFER"=	The repeat method of a jobnet	Windows UNIX	M
75		"JOBSTATUSPORT"=	The service name of the port used to acquire the job status	Windows UNIX	M
76		"QUEUELESSMULTIREQ"=	The maximum number of queueless job requests	Windows UNIX	M
77		"UNITDEFINERELOAD"=	Whether the jobnet definition is updated as soon as it is changed	Windows UNIX	M
78		"MAXSAVEGEN"=	The maximum number of saved generations	Windows UNIX	M
79		"AJSPRINTNETSCHEDULE"=	The method for handling the schedule rules of nested jobnets	Windows UNIX	M
80		"SUBMITRETRYINTERVAL"=	The retry interval for submit processing	Windows UNIX	M
81		"JOBEXECIPCBUFFER SIZE"=	The size of the job execution information communication buffer for a scheduler service	Windows UNIX	M
82		"BACKGROUNDLEAVE"=	The method used to delete generations due to cancellation of registration or management of the number of saved generations	Windows UNIX	M
83		"REQDAGTRECONNECTTIMEOUT"=	The timeout period for communication with the queueless agent service	Windows UNIX	M
84		"REQDAGTRECONNECTRECOVERYTIMEOUT"=	The timeout period for recovery processing for communication with a queueless agent service	Windows UNIX	M
85	"COMMANDEVENT"=	Whether a JP1 event is issued when a command is executed or when an operation is performed from JP1/AJS3 - View or JP1/AJS3 - Web Console	Windows UNIX	M	
86	"NONRELOADHOLDING"=	Whether the definition of a unit on hold is reloaded	Windows UNIX	M	
87	"RJCUSE"=	Whether the execution order of root jobnets spread among different scheduler services is to be controlled by using a jobnet connector	Windows UNIX	M	

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
88	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name]#2	"JOBDELAYWARNMSG" "="	Whether a start message is to be output to the integrated trace log when a scheduler service is started. The start message is generated when the scheduler service is stopped, if a job whose termination delay is monitored in accordance with a period of time required for the execution restarts its operation in the agent.	Windows UNIX	M
89		"FGRECONLMT"="	The number of reconnection attempts when the flow control process cannot communicate with the scheduler service inter-communication control process	Windows UNIX	M
90		"SAVEGENTYPE"="	The method for managing the number of logs to keep resulting from the execution of a jobnet for which start conditions are defined	Windows UNIX	M
91		"AJSDDBTYPE"="	The database type	Windows UNIX	M
92		"AJSDDBDIRECTORY" "="	The name of the database directory	Windows UNIX	M
93		"AJSSYSYSDIR"="	The system folder of each scheduler service	Windows UNIX	M
94		"AJSLOGDIR"="	The log folder of each scheduler service	Windows UNIX	M
95		"PREWAITUSE"="	Whether wait conditions are used	Windows UNIX	M
96		"PREWAITEXTEND"="	Extension of the wait condition function	Windows UNIX	M
97		"FLBDLOGSIZE"="	The size of an internal log file for a flow control subprocess	Windows UNIX	M
98		"AGENTPROFMEMSIZE" "="	The size of memory that can be used by an execution agent profile	Windows UNIX	M
99		"UNITPROFMEMSIZE" "="	The size of memory that can be used by a unit-attribute profile	Windows UNIX	M
100		"UNITDEFDIVIDEUP DATE"="	Whether writing to a database during unit operations is to be divided	Windows UNIX	M
101		"EXECREGISTRATION NUMBER"="	Whether an execution registration number is treated as a calendar date or an execution date	Windows UNIX	M
102		"SAVEPLANINFO"="	Whether the temporary-change operation and management functionality are used	Windows UNIX	M
103		"DEFLENTYPE"="	The number of characters that can be used in a UTF-8 environment	UNIX	M
104		"CDSESSIONTIMEOUT" "="	Timeout period for the connection with JP1/AJS3 - Web Console	Windows UNIX	M

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
105	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name]#2	"CDMONSVRLOGSIZE" "="	The size of the ajsmonsvr internal log	Windows UNIX	M
106		"RERUNSUBORDINATE" "="	Whether dependent units are to be re-executed	Windows UNIX	M
107		"SERVICEMAXSESSION" "="	The maximum allowable number of simultaneous sessions for a scheduler service	Windows UNIX	M
108		"DEFAULTPRIORITY" "="	Default execution priority of a job	Windows UNIX	M
109		"AJSPRINTSORTUNITINF"	The order of relation line information entries to be output when the <code>ajsprint</code> command is executed	Windows UNIX	M
110		"PREWAITRERUNSTATUS" "="	Whether to end waiting when the unit succeeding the waiting-target unit is re-executed	Windows UNIX	M
111		"NETCOMMENTEVENT" "="	Whether comments about units are to be output for JP1 events whose object type is <code>JOBNET</code>	Windows UNIX	M
112		"JOBCOMMENTEVENT" "="	Whether comments about units are to be output for JP1 events whose object type is <code>JOB</code>	Windows UNIX	M
113		"TRACELOGDIR" "="	The folder to store the trace log files for scheduler services.	Windows UNIX	M
114		"AJREPORTUSE" "="	The setting that determines whether the performance report output function is to be used	Windows UNIX	M
115		"AJREPORTDIR" "="	The directory to which performance log files are to be output	Windows UNIX	M
116		"AJREPORTSTOREDAYS" "="	The minimum number of days for which performance log files are not deleted	Windows UNIX	M
117		"ENHANCEDBACKUP" "="	Whether to use the function that creates a backup during operation (backup enhancement function)	Windows UNIX	M
118		"CONDGENWARNINT" "="	The interval for checking the number of retained execution generations of the jobnets with start conditions before a message is output	Windows UNIX	M
119	"CONDGENWARNNUM" "="	The threshold for the number of retained execution generations of the jobnets with start conditions	Windows UNIX	M	
120	"MULTIMONWARNNUM" "="	The threshold for the number of monitoring generations whose status is Now monitoring in a jobnet with start conditions	Windows UNIX	M	
121	"FLSTARTPERFIMP" "="	Whether to improve the startup processing of the scheduler service	Windows UNIX	M	

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
122	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name] #2	"PREWAITNOSCHUNITS" =	If wait conditions are set for a unit that is not scheduled for execution, the setting of this item determines whether a wait occurs when the unit satisfies its execution conditions (for example, execution of the preceding job or jobnet ends).	Windows UNIX	M
123		"SCHEDULELIMIT" =	Last year of the range in which jobs can be scheduled	Windows UNIX	M
124	[JP1_DEFAULT\JP1AJSMANAGER\scheduler-service-name]	"AJSODBC_DSNAME" =	The ODBC file data source name	Windows Linux	M
125		"AJSODBC_DBNAME" =	The database name	Windows Linux	M
126		"STDFILEOUTDIR" =	The name of the directory in which standard output files and standard error output files are stored	Windows Linux	M
127	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\GATEWAY] #2	"GWMAXCONNECTION" =	The maximum number of concurrent connections for the scheduler service inter-communication control process (ajsgwd.exe for Windows and ajsgwd for UNIX)	Windows UNIX	M
128		"GWPROCESSHA" =	Whether the process that manages the scheduler service inter-communication control process (ajsgwmasterd.exe for Windows and ajsgwmasterd for UNIX) terminates when the scheduler service inter-communication control process (ajsgwd.exe in Windows and ajsgwd in UNIX) terminates abnormally	Windows UNIX	M
129		"GWRESTARTCOUNT" =	The number of times automatic restart is to be attempted when the scheduler service inter-communication control process terminates abnormally	Windows UNIX	M

Legend:

M: JP1/AJS3 - Manager

#1

Specify this item directly under the [JP1_DEFAULT\JP1AJSMANAGER] key.

#2

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

Important

You can specify a maximum of 20 scheduler services for the physical and logical hosts on a machine. Specify a service name that is unique among all physical hosts of the local host and all logical hosts. For the service name, specify a character string of no more than 30 bytes. You can use alphanumeric characters and the following symbols:

!, #, \$, %, +, - (hyphen), . (period)[#], _ (underscore)

#

In Windows, do not use a period (.) at the end of the service name.

Do not use multi-byte characters, single-byte kana characters, or any symbols other than those above.

If you use an invalid character, the command interpreter will not correctly recognize the scheduler service name when it analyzes the command line, and a failure might occur.

Parameters that are not described here are used for maintenance purposes. Do not change the values of those parameters.

20.4.2 Details of the environment setting parameters for scheduler services

This subsection describes details of the environment setting parameters for scheduler services.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) DEFAULTSERVICENAME

Use this parameter to specify the name of the default scheduler service.

If you have not specified the target scheduler service name (for example, when you execute a command), the system executes processing by using the scheduler service specified in this parameter.

If you execute a command that performs an operation on a unit in an environment in which there are multiple scheduler services, you can omit the `-F schedule-service-name` option.

Format

```
"DEFAULTSERVICENAME" = "name-of-default-scheduler-service"
```

Specifiable values

A character string of no more than 30 bytes

Default value

```
AJSROOT1
```

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When a process starts

(2) REMNETSERVICENAME

Use this parameter to specify the name of the scheduler service that executes a remote jobnet. If you omit this parameter, the scheduler service cannot execute the remote jobnet even if requested to by another host.

Format

```
"REMNETSERVICENAME" = "name-of-scheduler-service-executing-a-remote-jobnet"
```

Specifiable values

A character string of no more than 30 bytes

Default value

None

Recommended value

Hitachi does not recommend that remote jobnet operation be used.

When the setting takes effect

Immediately (when a remote jobnet process is running)

(3) TRACELOGFILE

Use this parameter to specify the name of the file to which the trace information of the scheduler service is output. Specify a full path name.

If you omit this parameter, trace information is not output.

The system records the scheduler trace information for the physical host and all logical hosts in the file specified in this parameter. Specify the name of a file on the local disk so that trace information will be reliably recorded.

Because the system creates a new file whenever trace information is output, do not specify the name of an existing file.

Format

"TRACELOGFILE" = "*name-of-scheduler-trace-log-file*"

Specifiable values

A character string of no more than 255 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log\tracelog
- In UNIX:
/var/opt/jp1ajs2/log/tracelog

Recommended value

Default value

When the setting takes effect

When a process starts

(4) TRACELOGDIV

Use this parameter to specify whether to output the trace information for individual scheduler services.

If multiple scheduler services are running, we recommend that you specify `yes`. If you specify `no` in an environment in which multiple scheduler services are running, the scheduler services might wait for exclusive control of trace log output, and job execution performance might deteriorate as a result. Distributing trace log output to individual scheduler services prevents the scheduler services from waiting for exclusive control of trace log output and minimizes the deterioration of job execution performance.

Format

```
"TRACELOGDIV"="{yes|no}"
```

Specifiable values

`yes`

The trace information for individual scheduler services is output.

If `yes` is specified, the trace log is output not only to a trace log file for each scheduler service but also to the trace log file in the path specified for the `TRACELOGFILE` environment parameter.

Specify the destination of the trace log output for each scheduler service for the `TRACEDIVDIR` environment parameter. For details about the `TRACEDIVDIR` environment setting parameter, see [\(113\) TRACELOGDIVDIR](#).

`no`

The trace information for individual scheduler services is not output.

The trace information of all scheduler services is output to the file in the path specified for the `TRACELOGFILE` environment parameter.

Default value

`no`

During a new installation of JP1/AJS3, `yes` is set.

Recommended value

`yes`

When the setting takes effect

When the scheduler service starts

(5) VRSHIFT_IMMINT

Use this parameter to specify whether to immediately change the jobnet status (that is, whether to immediately stop a jobnet) when you interrupt or kill the root jobnet while a scheduler service is suppressing job execution.

Format

```
"VRSHIFT_IMMINT" = "{V5|V6}"
```

Specifiable values

`V5`

The jobnet status is changed immediately.

`V6`

The jobnet status is changed when the suppression of job execution is canceled.

Default value

`V5`

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(6) VRSHIFT_INTRERUN

Use this parameter to specify whether to rerun the succeeding units of a nested jobnet that has been interrupted.

Change the parameter value if you do not want to rerun the succeeding units.

In an interrupted nested jobnet, there are some units whose execution has not terminated. Specify V5 to give priority to rerunning the units that follow the interrupted nested jobnet without also executing the units that have not terminated.

This parameter is effective when there is an interrupted nested jobnet before a unit that is to be rerun.

When there is no interrupted nested job ahead of the units to be rerun, but there is a nested job that has ended abnormally, you can rerun the units regardless of the setting of this parameter.

Format

```
"VRSHIFT_INTRERUN" = "{V5|V6}"
```

Specifiable values

V5

The units following an interrupted nested jobnet are rerun.

V6

The units following an interrupted nested jobnet are not rerun.

Default value

V6

During a new installation and setup of JP1/AJS3, V5 is set.

Recommended value

V5

When the setting takes effect

When the scheduler service starts

(7) IPC_TIMEOUT

Use this parameter to specify the time to wait (timeout) for the originator to start communication with another host.

Customize this parameter if you want to quickly detect, on a fast network connecting hosts, a host that has failed to be activated.

Specify a value other than 0 when you want to set an explicit timeout period rather than depend on the OS timeout period.

For this parameter, the originator's settings are used for execution of the following operations:

- When execution of a remote jobnet starts or ends
(Between the originator's JP1/AJS3 - Manager and the destination JP1/AJS3 - Manager)
- When you execute operation commands remotely for a job or jobnet
(From the originator's JP1/AJS3 - Manager to the destination JP1/AJS3 - Manager)
- When you execute a command from a menu by choosing **Management, JP1AJS3 management, and JP1AJS3 status** from HP NNM
(From JP1/AJS3 - Manager at the NNM end to the monitored JP1/AJS3 - Manager)

If the originator is unable to start communication when the timeout period specified in this parameter expires, an error occurs.

Format

"IPC_TIMEOUT" = dword:*remote-communication-timeout-period*

Specifiable values

A hexadecimal value (in seconds) from 0 to 258 (0 to 600 in decimal)

When dword:00000000 is specified, control is determined by the OS timeout period.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

When a process starts

(8) IPC_LOCALTIMEOUT

Use this parameter to specify the time that the system will wait (timeout) for the originator to start communication for interprocess communication related to a JP1/AJS3 scheduler service. Because this parameter is used for internal processing, use only the standard setting.

Specify a value other than 0 when you want to use an explicit timeout period rather than depend on the timeout period of the OS.

If the originator cannot start communication when the timeout period specified for this parameter expires, an error occurs.

Format

"IPC_LOCALTIMEOUT" = dword:*local-communication-timeout*

Specifiable values

A hexadecimal value (in seconds) from 0 to 3C (0 to 60 in decimal)

When dword:00000000 is specified, control is determined by the OS timeout period.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

When a process starts

(9) IPCRETRYINTERVAL

Use this parameter to specify the retry interval when a communication error occurs.

Change this parameter to a value appropriate for the communication error status. If you change the parameter value, you also have to change the IPCRETRYCOUNT environment setting parameter value (retry count).

Each time a retry occurs, the specified value is incremented.

Format

"IPCRETRYINTERVAL" = dword:*retry-interval*

Specifiable values

A hexadecimal value (in seconds) from 0 to A (0 to 10 in decimal)

Default value

dword:00000001 (1 in decimal)

Recommended value

Default value

When the setting takes effect

When a process starts

(10) IPCRETRYCOUNT

Use this parameter to specify the number of retries attempted when a communication error occurs.

Change this parameter to a value appropriate for the communication error status. If you change this parameter value, you also have to change the `IPCRETRYINTERVAL` environment setting parameter value (retry interval).

When there is a heavy concentration of scheduler service interprocess communication, a temporary communication error might occur. Specify a value larger than the default value if you will simultaneously start multiple scheduler services or execute many JP1/AJS3 commands at one time.

Format

"IPCRETRYCOUNT" = dword:*retry-count*

Specifiable values

A hexadecimal value from 0 to 64 (0 to 100 in decimal)

Default value

dword:00000003 (3 in decimal)

Recommended value

Default value or a value larger than the default value, depending on operating requirements

When the setting takes effect

When a process starts

(11) EVENTRETRY

Use this parameter to specify whether to reconnect to an event service for which a connection error has occurred.

Change this parameter to enable reconnection each time the system outputs a JP1 event.

Use the default value (`no`) if the system does not reference JP1 events (from 4100 to 4142) output from the scheduler service.

Format

"EVENTRETRY" = "{yes|no}"

Specifiable values

yes

An attempt to reconnect to the event service is made the next time an event is output.

If reconnection to the event service is successful, the JP1 event is output. However, note that, because the event service is not reconnected, the JP1 event for the error that occurs is not output (the failed event is not registered as a JP1 event).

If you specify *yes*, this function tries to connect to the event service for each event output until reconnection to the event service is successful. Therefore, the job performance might be adversely affected compared to when *no* is specified. Specify *yes* if reconnection to the event service has greater priority than performance.

If you specify *yes*, the system outputs an error message (KAVS0863-E *Interprocess communication failed. : maintenance-information-1, maintenance-information-2, maintenance-information-3*) each time an error occurs on the connection with an event service. If the connection to the event service is not restored quickly, a large number of log messages will be output.

no

JP1 events are not output after an event service connection error occurs.

The event service will be connected again when the JP1/AJS3 service is restarted.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately

(12) REUSELOGON

Use this parameter to select the method that will be used to start the logon session process that is executed after a logon using the OS user account.

Specify *yes* when multiple simultaneous sessions are to be mapped to the same OS user and then run, and a lack of desktop heap area prevents the process from starting.

Reuse the logon resources for starting the following processes:

- Connection of JP1/AJS3 - View
- Running a command remotely
- Running a remote jobnet
- Operations from JP1/AJS3 - Web Console
- Operations from JP1/AJS3 - Definition Assistant

Format

```
"REUSELOGON" = {yes|no}
```

Specifiable values

yes

Logon information is saved and reused for the sessions to be mapped to the same OS user.

Specifying *yes* enables these sessions to share desktop heaps, and helps reduce the consumption of the desktop heap area.

If there are multiple simultaneous sessions to be mapped to the same OS user, and the processes cannot be started because desktop heap area is insufficient, specify *yes*. If you specify *yes* and change the OS user information, you must restart the *ajsinetd* process.

no

Logon information is not reused for the sessions to be mapped to the same OS user.

Default value

no

Recommended value

yes

When the setting takes effect

When the `ajsinetd` process starts.

For details about how to start and stop `ajsinetd` process individually, see `jajs_hstd` in *3. Commands Used for Normal Operations* in the manual *JPI/Automatic Job Management System 3 Command Reference* and `jajs_hstd_stop` in *3. Commands Used for Normal Operations* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

(13) LOGONSHMAX

When reusing a logon, you need to specify the number of sessions that are allowed to share the logon information.

A new desktop heap is assigned if the number of sessions for the same OS user exceeds the value specified in this parameter.

You can specify this parameter only if you specify `yes` for the `REUSELOGON` environment setting parameter.

Format

"LOGONSHMAX" = `dword:number-of-logon-sessions-sharing-logon-resources`

Specifiable values

A hexadecimal value from 1 to 80 (1 to 128 in decimal)

Default value

`dword:00000032` (50 in decimal)

Recommended value

Default value

When the setting takes effect

When the `ajsinetd` process starts.

For details about how to start and stop `ajsinetd` process individually, see `jajs_hstd` in *3. Commands Used for Normal Operations* in the manual *JPI/Automatic Job Management System 3 Command Reference* and `jajs_hstd_stop` in *3. Commands Used for Normal Operations* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

Supplementary note

How to estimate the number of logon sessions that share the logon resources:

If the desktop heap area is running low, change the number of logon sessions that can share the logon resources to a value in the range indicated below.

For the size of the desktop heap to be assigned to non-interactive processes, see the *OS documentation*.

```
Number-of-logon-sessions-sharing-the-logon-resources < size-of-the-desktop-heap-to-be-assigned-to-a-non-interactive-processes (in kilobytes)/10 (in kilobytes)
```

(14) MAXSESSION

Use this parameter to specify the maximum allowable number of simultaneous sessions for JP1/AJS3 - View. If the specified number has been reached and you attempt to connect from JP1/AJS3 - View, the attempt will fail.

If you select scheduler services in the tree area of the JP1/AJS3 - View window, a connection is established for each scheduler service you select. Accordingly, in an environment in which there are multiple scheduler services, the maximum number of connections that will be established is *number-of-scheduler-services* x *number-of-JP1/AJS3 - View-instances*.

If the maximum number of JP1/AJS3 - View connections exceeds 50, specify a value based on the maximum number. Also, when you want to restrict JP1/AJS3 - View connections because of resource limitations on the machine, change the value of each host to a smaller one appropriate for operation of the physical host or logical host. You do not need to change the value in any other case.

Specify the environment setting parameter for restricting the number of connections on each host. To restrict the maximum allowable number of simultaneous sessions for JP1/AJS3 - View for each scheduler service rather than by host, use the `SERVICEMAXSESSION` environment setting parameter. If you use both the `MAXSESSION` environment setting parameter and the `SERVICEMAXSESSION` environment setting parameter, note the following:

- Make sure that the setting value of the `SERVICEMAXSESSION` environment setting parameter does not exceed the setting value of the `MAXSESSION` environment setting parameter.
- When there are multiple scheduler services, make sure that the total of the setting values of the `SERVICEMAXSESSION` environment setting parameter for all scheduler services does not exceed the setting value of the `MAXSESSION` environment setting parameter.

For example, if scheduler services `AJSROOT1` and `AJSROOT2` have been created, the setting value of the `SERVICEMAXSESSION` environment setting parameter for `AJSROOT1` is 25, and the setting value of the `SERVICEMAXSESSION` environment setting parameter for `AJSROOT2` is 25, you must specify a value of 50 or larger for the `MAXSESSION` environment setting parameter.

Format

"MAXSESSION" = `dword:maximum-number-of-simultaneous-sessions`

Specifiable values

A hexadecimal value from 0 to 80 (0 to 128 in decimal)

Default value

`dword:00000032` (50 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When any scheduler service on an applicable host starts or stops

Cautionary note

If the maximum allowable number of simultaneous sessions has been exceeded, a message (KAVV452-E) is displayed in the JP1/AJS3 - View window (Summary Monitor window) for each monitored unit that is unable to establish a connection. This message is displayed whenever the window is updated.

(15) AJSINETDLOGSIZE

Use this parameter to specify the size of the `ajsinetd` internal log.

Format

"AJSINETDLOGSIZE" = dword:*size-of-ajsinetd-internal-log*

Specifiable values

00000000 or a value in kilobytes from 00000004 to 001E8480 in hexadecimal (in decimal 0 or a value from 4 to 2,000,000)

If you specify dword:00000000, the system does not create a log file.

If you omit this parameter, dword:00000080 is assumed. If the specified value is invalid, dword:00000000 is assumed.

Default value

dword:00000080 (128 in decimal)

Recommended value

Default value

When the setting takes effect

When the ajsinetd process starts.

For details about how to start or stop ajsinetd processes individually, see *jajs_hstd* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference* and *jajs_hstd_stop* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(16) MONLOG

Use this parameter to specify whether messages related to connections of the following program to the scheduler service and disconnections from it are to be output to the scheduler log:

- JP1/AJS3 - View
- JP1/AJS3 - Web Console

Change the parameter value if you want to output to the scheduler log the status of the connections established by this program to the scheduler service.

Format

"MONLOG" = "{none|all}"

Specifiable values

none

Messages about the connections of this program to and disconnections from the scheduler service are not output.

all

Messages related to the connections of this program to and disconnections from the scheduler service are output.

The following messages are output:

- JP1/AJS3 - View connection message (KAVS0534-I)
- JP1/AJS3 - View disconnection message (KAVS0535-I)
- JP1/AJS3 - Web Console connection message (KAVS0570-I)
- JP1/AJS3 - Web Console disconnection message (KAVS0571-I)

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

(17) MONSYSLOG

Use this parameter to specify whether to output the following messages to the log:

- Start and stop messages related to the ajsinetd process and ajscdinetd process
- Acceptance processing start and end messages related to the ajsinetd process
- Connection and stop messages related to JP1/AJS3 - View

The messages are output to the following logs.

- In Windows:
The Windows event log and integrated trace log
- In UNIX:
The syslog and integrated trace log

Change the parameter value if you do not need to check the status of connections established by JP1/AJS3 - View in the Windows event log or syslog. If you change this parameter and an error occurs, you will not be able to check the status of connections for JP1/AJS3 - View.

Format

```
"MONSYSLOG" = "{none|all}"
```

Specifiable values

none

Messages related to starting and terminating the ajsinetd process, ajscdinetd process or to connecting and disconnecting JP1/AJS3 - View are not output.

all

The following messages are output:

- ajsinetd process start message (KAVS0530-I)
- ajsinetd process stop message (KAVS0531-I)
- Acceptance processing start message for the ajsinetd process (KAVS0532-I)
- Acceptance processing end message for the ajsinetd process (KAVS0533-I)
- JP1/AJS3 - View connection message (KAVS0534-I)
- JP1/AJS3 - View disconnection message (KAVS0535-I)
- ajscdinetd process start message (KAVS0560-I)
- ajscdinetd process stop message (KAVS0561-I)

Default value

none

During a new installation and setup of JP1/AJS3, all is set.

Recommended value

all

When the setting takes effect

The time when the setting takes effect varies by message.

Immediately

- ajsinetd process start message (KAVS0530-I)
- ajsinetd process stop message (KAVS0531-I)
- Acceptance processing start message for the ajsinetd process (KAVS0532-I)
- Acceptance processing end message for the ajsinetd process (KAVS0533-I)
- ajscdinetd process start message (KAVS0560-I)
- ajscdinetd process stop message (KAVS0561-I)

When the scheduler service starts

- JP1/AJS3 - View connection message (KAVS0534-I)
- JP1/AJS3 - View disconnection message (KAVS0535-I)

(18) AUTHLOG

Use this parameter to specify whether messages related to user authentication are to be output to the scheduler log for each host.

Format

```
"AUTHLOG" = "{none|all}"
```

Specifiable values

none

Messages related to user authentication are not output.

all

Messages related to user authentication are output.

The log message (KAVS1009-W) generated when authentication of the `ajsinetd` process is rejected is output to the scheduler log for each host.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time a user authentication request is received)

(19) AUTHSYSLOG

Use this parameter to specify whether to output messages related to user authentication to the following file or logs:

- In Windows:
The Windows event log and the integrated trace log
- In UNIX:
The syslog file and the integrated trace log

Format

```
"AUTHSYSLOG" = "{none|all}"
```

Specifiable values

none

Messages related to user authentication are not output.

all

Messages related to user authentication are output.

- In Windows:

The log message (KAVS1009-W) generated when authentication of the `ajsinetd` process is rejected is output to the Windows event log and the integrated trace log.

- In UNIX:

The log message (KAVS1009-W) generated when authentication of the `ajsinetd` process is rejected is output to the syslog file and the integrated trace log.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time a user authentication request is received)

(20) HIDEOTHERLHOST

Use this parameter to specify the range of the scheduler services to be displayed when you log on to a host from JP1/AJS3 - View in an environment in which JP1/AJS3 services has been established for logical hosts.

The setting of whether to enable the communication encryption function must be the same on all the physical and logical hosts. If the setting of whether to enable the communication encryption function for a host differs from the setting for other hosts, the scheduler service on the host might be accessed by using an unexpected encryption setting. Therefore, we recommend that you use the default setting of whether to enable the communication encryption function for all the physical and logical hosts.

Format

```
"HIDEOTHERLHOST" = "{yes|no}"
```

Specifiable values

yes

Only the scheduler service corresponding to the specified host name is displayed when you log on to a host from JP1/AJS3 - View.

no

All defined scheduler services established on the host are displayed if you log on as a JP1 user mapped to the OS user with superuser permission or the Administrators permission.

If you log on as any other type of user, all defined scheduler services established on hosts that belong to the same user authentication block as the logged-on host are displayed. If any scheduler service other than the one for the logged-on logical host is failed over and does not exist on the logged-on physical host, do not access that scheduler service.

Also, if the `ajsinetd` process is not running on the connection-destination host, you cannot access the scheduler service on that host.

Specify this value if you want to access the scheduler services on all logical hosts in the JP1/AJS3 - Manager to which you log on from JP1/AJS3 - View.

The setting of whether to enable the communication encryption function must be the same on all the physical and logical hosts. If the setting of whether to enable the communication encryption function for a host differs from the setting for other hosts, the scheduler service on the host might be accessed by using an unexpected encryption setting.

Default value

yes

Recommended value

Default value

When the setting takes effect

Immediately (at the next login to JP1/AJS3 - View)

Supplementary note

If no is set for this environment setting parameter, JP1/AJS3 - View might connect to all logical and physical hosts existing in the JP1/AJS3 - Manager environment. Therefore, before the JP1/AJS3 services stop, all JP1/AJS3 - View instances that are connected to all logical and physical hosts existing in the JP1/AJS3 - Manager environment must be terminated. If any JP1/AJS3 - View instances are connected, the services might be unable to stop.

(21) CDMAXSESSION

When JP1/AJS3 - Web Console is used and communication occurs between JP1/AJS3 - Web Console and JP1/AJS3 - Manager, sessions are opened between the object for communication generated by JP1/AJS3 - Web Console and the scheduler service. This parameter is used to specify the maximum number of sessions that can be opened concurrently. If an attempt is made to open a session for connection after the specified maximum number of concurrent sessions has been reached, an error occurs and the connection fails.

Format

"CDMAXSESSION"=dword:*maximum-number-of-allowed-concurrent-sessions-for-JP1/AJS3-Web Console*

Specifiable values

A hexadecimal value from 0 to 64 (0 to 100 in decimal)

Default value

dword:00000020 (32 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the ajscdinetd process starts.

For details about how to start or stop ajscdinetd processes individually, see *jajs_hstd* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference* and *jajs_hstd_stop* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(22) AJSCDINETDLOGSIZE

Use this parameter to specify the size of the ajscdinetd internal log.

Format

"AJSCDINETDLOGSIZE" = dword:*size-of-ajscdinetd-internal-log*

Specifiable values

00000000 or a value in kilobytes from 00000004 to 001E8480 in hexadecimal (in decimal 0 or a value from 4 to 2,000,000)

If you specify `dword:00000000`, the system does not create a log file.

Default value

`dword:00000080` (128 in decimal)

Recommended value

Default value

When the setting takes effect

When the `ajscdinetd` process starts.

For details about how to start or stop `ajscdinetd` processes individually, see `jajs_hstd` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference* and `jajs_hstd_stop` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(23) CONRESTRICTLOG

Use this parameter to specify whether messages related to restricting connection sources are to be output to the scheduler log of each host.

Format

```
"CONRESTRICTLOG" = "{none|all}"
```

Specifiable values

`none`

Messages related to restricting connection sources are not output.

`all`

All messages related to restricting connection sources are output.

An entry (KAVS8040-E) reporting the rejection of a connection attempt due to the restriction on connection sources in the `ajsinetd` process and `ajscdinetd` process is output to the scheduler log of the applicable host.

Default value

`none`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the JP1/AJS3 service starts

(24) CONRESTRICTSYSLOG

Use this parameter to specify whether messages related to restricting connection sources are to be output to the following log file.

- In Windows:
Windows event log
- In Unix:
syslog

Format

"CONRESTRICTSYSLOG" = "{none|all}"

Specifiable values

none

Messages related to restricting connection sources are not output.

all

Messages related to restricting connection sources are output.

An entry (KAVS8040-E) reporting the rejection of a connection attempt due to the restriction on connection sources in the `ajsinetd` process and `ajscdinetd` process is output to the Windows event log or syslog.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the JP1/AJS3 service starts

(25) HIDEOtherservice

Use this parameter to specify whether to prevent the display of a scheduler service without access permissions in JP1/AJS3 - View (that is, whether the scheduler service reference restriction function is enabled or disabled).

Format

"HIDEOtherservice" = "{yes|no}"

Specifiable values

yes

The scheduler service reference restriction function is enabled. Scheduler services without permissions are not displayed in JP1/AJS3 - View.

no

The scheduler service reference restriction function is disabled. Scheduler services without access permissions are displayed in JP1/AJS3 - View.

Default value

no

Recommended value

no

When the setting takes effect

Immediately (at the next login to JP1/AJS3 - View)

Supplementary note

If you change the access permissions of a scheduler service, restart JP1/AJS3 - View. The change is reflected in JP1/AJS3 - View.

(26) CHANGEPASSWORD

Use this parameter to permit changing JP1 user passwords.

When this functionality is enabled, you can change JP1 user passwords by selecting **Options** and then **Change Password** in the connected JP1/AJS3 - View.

Because you must meet the conditions for using this functionality, see the cautionary notes in *6.9.3 Settings for permitting changing JP1 user passwords in JP1/AJS3 - View* (for Windows) or *15.10.3 Settings for permitting changing JP1 user passwords in JP1/AJS3 - View* (for UNIX), and then decide whether the functionality can be enabled beforehand.

Format

```
"CHANGEPASSWORD" = "{yes|no}"
```

Specifiable values

yes

Changing JP1 user passwords in JP1/AJS3 - View is permitted.

no

Changing JP1 user passwords in JP1/AJS3 - View is not permitted.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the JP1/AJS3 service starts

(27) CHANGEPWDLOG

Use this parameter to specify whether messages related to changing JP1 user passwords are to be output when the JP1 user password change function is enabled in JP1/AJS3 - View (when the CHANGEPASSWORD environment setting parameter is set to yes).

Format

```
"CHANGEPWDLOG" = "{none|all}"
```

Specifiable values

none

Messages related to changing JP1 user passwords are not output.

all

The following messages related to changing JP1 user passwords are output:

KAVS1010-I (The password was changed successfully)

KAVS1011-E (The password could not be changed)

KAVS1015-I (Changing of the password is now starting)

Default value

all

Recommended value

all

When the setting takes effect

When the JP1/AJS3 service starts

(28) AJSLOGOUTPUTDEST

Use this parameter to specify whether to output the scheduler log by scheduler service or by host. Specify this parameter for each scheduler service.

Format

```
"AJSLOGOUTPUTDEST" = "{schedule|host}"
```

Specifiable values

schedule

The scheduler log for a scheduler service is output to the files specified in the AJSLOGFILE1 and AJSLOGFILE2 environment setting parameters.

For each scheduler service, you can estimate and check the log size, and switch and back up logs.

host

The scheduler log for a host is output to the file specified in the HOSTLOGFILE1 and HOSTLOGFILE2 environment setting parameters.

Although it is necessary to estimate and check the file size, and to switch and back up logs for each host, the system can log the commands that are executed while the scheduler service is not running.

Default value

schedule

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(29) LOGSIZE (scheduler log)

Specify the size of the file to which the system outputs the scheduler log file for a scheduler service.

Because this log is used to check the execution status of a job or jobnet, specify a size that is sufficient for storing the log data for at least one day.

For details about how to estimate the size of a scheduler log file, see *3.4.1 Estimating the size of scheduler log files in the JPI/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

```
"LOGSIZE" = dword:size-of-the-scheduler-log-file (when outputting the scheduler log for a scheduler service)
```

Specifiable values

- In Windows:
0 or a hexadecimal value (in kilobytes) from 4 to 1E8480 (0 or a value from 4 to 2,000,000 in decimal)
- In UNIX:
A hexadecimal value (in kilobytes) from 0 to 1E8480 (0 to 2,000,000 in decimal)

If you specify dword:00000000, the system does not create a log file.

Default value

- In Windows:
dword:00001400 (5,120 in decimal)

- In UNIX:
dword:00000000 (0 in decimal)

During a new installation and setup of JP1/AJS3, dword:0000A000 (40,960 in decimal) is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

(30) AJSLOGFILE1

Use this parameter to specify the name of a log file. Specify a full path name.

Specify a file name different from the name of scheduler log file 2.

When the amount of information written to this file becomes equal to or greater than the specified size, the system writes subsequent information to log file 2.

When you use multiple scheduler services, specify a unique file name for each scheduler service.

In UNIX, when you use the scheduler log file, you cannot omit this parameter.

Format

"AJSLOGFILE1" = "*name-of-scheduler-log-file-1*"

Specifiable values

A character string of no more than 255 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\schedule*schedule-service-name*\ajs-log1.log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log\schedule*scheduler-service-name*\ajs-log1.log
- In UNIX:
/var/opt/jp1ajs2/log/schedule/*scheduler-service-name*/ajs-log1.log

Recommended value

The value set at the time of installation or setup.

When the setting takes effect

When the scheduler service starts or terminates

(31) AJSLOGFILE2

Use this parameter to specify the name of a log file. Specify a full path name.

When you use multiple scheduler services, specify a unique file name for each scheduler service.

In UNIX, when you use the scheduler log file, you cannot omit this parameter.

Format

```
"AJSLOGFILE2" = "name-of-scheduler-log-file-2"
```

Specifiable values

A character string of no more than 255 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\schedule*scheduler-service-name*\ajs-log2.log

The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.

A *folder protected by the system* is the path to a folder in any of the following:

- *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log\schedule*scheduler-service-name*\ajs-log2.log

- In UNIX:

/var/opt/jp1ajs2/log/schedule/scheduler-service-name/ajs-log2.log

Recommended value

The value set at the time of installation or setup.

When the setting takes effect

When the scheduler service starts or terminates

(32) LOGDLOG

Use this parameter to specify whether to output the messages related to starting and terminating the scheduler log output process (ajslogd.exe for Windows and ajslogd for UNIX) to the scheduler log.

Format

```
"LOGDLOG" = "{none|all}"
```

Specifiable values

none

The messages related to starting and terminating the scheduler log output process is not output.

all

The messages related to starting (KAVS0220-I) and terminating (KAVS0221-I) the scheduler log output process, are output.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

(33) LOGDSYSLOG

- In Windows:

Use this parameter to specify whether to output the messages related to starting and terminating the scheduler log output process (`ajslagd.exe`) to the Windows event log and integrated trace log.

- In UNIX:

Use this parameter to specify whether to output the messages related to starting and terminating the scheduler log output process (`ajslagd`) to syslog and integrated trace log.

Format

```
"LOGDSYSLOG" = "{none|all}"
```

Specifiable values

`none`

The messages related to starting and terminating the scheduler log output process is not output.

`all`

The messages related to starting (KAVS0220-I) and terminating (KAVS0221-I) the scheduler log output process, are output.

Default value

`none`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

(34) AJSLOGOUTPUTYEAR

Use this parameter to specify whether to output the year as part of the scheduler log date.

Change the parameter value if you use the year to manage scheduler log information.

Format

```
"AJSLOGOUTPUTYEAR" = "{yes|no}"
```

Specifiable values

`yes`

The year is output. The system outputs the year, month, and day in the date section.

`no`

The year is not output. The system outputs only the month and day in the date section.

Default value

`no`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

(35) AJSLOGOUTPUTEXTEND

Use this parameter to specify the output format when the system outputs the execution log or operation log of units to the scheduler log.

Change the parameter value if you want to output the operation user type, requester information, and detailed options for command operation to the scheduler log.

If you specify `yes` for this parameter, the system outputs the detailed information to the scheduler log when you execute or manipulate a unit. By using this log, you can verify the validity of an operation. For details about this function and information that can be added, see *C.1 Functions for verifying the legitimacy of JP1/AJS3 operations* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Specifying `yes` for this parameter increases the amount of information that will be output to the scheduler log. See *3.4.1 Estimating the size of scheduler log files* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide* and take into consideration all the factors in changing the value of the `LOGSIZE` environment setting parameter that specifies the size of a scheduler log. For details about the `LOGSIZE` environment setting parameter, see (29) *LOGSIZE (scheduler log)*.

The conditions governing when a log is output and the information to be added when a log is output vary according to the type of log. For details, see *C.1 Log entries output by the scheduler services* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

Format

```
"AJSLOGOUTPUTEXTEND" = "{yes|no}"
```

Specifiable values

`yes`

In addition to the information that is output when `no` is selected, detailed information, including operation user type, is also output.

The following information is added to the message:

- Operation user type
- Requester host IP address
- Requester identification information
- Options for command operations

`no`

No additional detailed information, such as operation user information, is output.

Default value

`no`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

(36) AUTOSTART

Use this parameter to specify whether to automatically start a scheduler service when JP1/AJS3 - Manager is started.

Format

```
"AUTOSTART" = "{yes|no}"
```

Specifiable values

yes

A scheduler service is automatically started when JP1/AJS3 - Manager starts.

no

Scheduler services are not automatically started when JP1/AJS3 - Manager starts.

Specify no when there are scheduler services that do not need to be started.

If no is specified, because no scheduler service starts, the `jaajs_schd` process and its subordinate processes do not start when JP1/AJS3 - Manager starts. Accordingly, the execution result of the `jaajs_spmd_status` command differs from when yes is specified.

If you want to start a specific scheduler service, use the `jaajs_spmd` command with the `-n` option specified or the `ajsstart` command.

For details about the `jaajs_spmd` command, see *jaajs_spmd* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the `ajsstart` command, see *ajsstart* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Default value

yes

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After JP1/AJS3 is restarted

(37) SESSIONTIMEOUT

Specify how many minutes it is necessary to wait after the last communication for disconnection from JP1/AJS3 - View.

If the system is unable to communicate with JP1/AJS3 - View for the specified period of time since the last communication, the system assumes that JP1/AJS3 - View has failed and disconnects from JP1/AJS3 - View.

Format

```
"SESSIONTIMEOUT" = dword:timeout-period-of-connection-to-JP1/AJS3-View
```

Specifiable values

A hexadecimal value (in minutes) from 1 to 78 (1 to 120 in decimal)

Default value

```
dword:00000078 (120 in decimal)
```

Recommended value

Default value

When the setting takes effect

On connection to JP1/AJS3 - View after a scheduler service has started or terminated

(38) AJSSERVICEID

Use this parameter to specify a scheduler service ID number.

Specify an ID number that is unique among all the physical hosts of the local host and all the logical hosts.

Because the system uses this ID number internally to identify a scheduler service when, for example, a temporary file name or key for interprocess communication is used, do not change the ID number after it has been specified. If you change the ID number, you will need to cold-start the scheduler service.

Format

```
"AJSSERVICEID" = dword:scheduler-service-id-number
```

Specifiable values

A hexadecimal value from 1 to 14 (1 to 20 in decimal)

Default value

None

During a new installation of JP1/AJS3, 1 is set.

However, this parameter is not set if the scheduler service and embedded database were not set up when a new installation was performed.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(39) ISAMWRITEMODE

Use this parameter to specify whether to permit synchronous writing when an ISAM file is updated.

Select the writing method appropriate for performance, reliability, and method of operation when an ISAM file is used.

Format

```
"ISAMWRITEMODE" = "{flush|noflush|sync}"
```

Specifiable values

flush

Data in the buffer in memory is written to a disk each time a write operation finishes.

noflush

Data is written to a disk in response to OS buffering. There is no synchronization with JP1/AJS3 processing.

sync

Synchronous writing is always performed when a file is updated. This writing mode improves reliability, but degrades performance. Note that synchronous writing is performed only for the status management files of jobs and jobnets. The system uses flush mode to write data to files that store unit definition information.

Default value

flush

Recommended value

- For a physical host:
flush (flush)

- For a cluster configuration:
sync (synchronization)

When the setting takes effect

When the scheduler service starts or terminates

(40) TABLENAMEPREFIX

Use this parameter to specify a character string that will be prefixed to the name of a table that is stored in the scheduler service schema.

This environment setting parameter is set automatically during installation and setup. You do not need to change the value of this parameter.

Format

"TABLENAMEPREFIX" = "*table-name-prefix*"

Specifiable values

An alphanumeric character string of no more than 4 bytes

Use uppercase characters to set alphabetic characters.

Default value

AJS

Recommended value

A value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

If you change this parameter, you must re-create the scheduler database.

(41) TABLENAMEPOSTFIX

Use this parameter to specify a character string that will be suffixed to the name of a table that is stored in the scheduler service schema.

Usually, you do not need to change this value.

Format

"TABLENAMEPOSTFIX" = "*table-ID*"

Specifiable values

An alphanumeric character string of no more than 4 bytes

Use uppercase characters to set alphabetic characters.

Default value

None

Recommended value

Set the value appropriate for the operating environment.

A value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

If you change this parameter, you must re-create the scheduler database.

(42) RDBAUTHID

Use this parameter to specify a permission identifier to be used for setting up and operating the database.

Usually, you do not need to change this value.

Format

"RDBAUTHID" = "*RDB-permission-identifier*"

Specifiable values

A value of no more than 8 bytes must be specified if an embedded database is used (when EmbedDB is specified for the AJSDBTYPE environment setting parameter).

If the external database is used (if SQLSVR is specified for the AJSDBTYPE environment setting parameter), you must specify dbo.

Default value

None

Recommended value

A value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

(43) RDBUSER

Use this value to define the name of the user who accesses the database.

Usually, you do not need to change this value.

Format

"RDBUSER" = "*RDB-access-user-name*"

Specifiable values

A value of no more than 8 bytes must be specified when you use an embedded database (when EmbedDB is specified for the AJSDBTYPE environment setting parameter).

Default value

None

Recommended value

A value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

(44) RDBPASSWORD

Use this parameter to define a password for enabling access to the database.

Usually, you do not need to change this value.

Format

"RDBPASSWORD" = "*RDB-user-password*"

Specifiable values

A value of no more than 30 bytes must be specified if an embedded database is used (when EmbedDB is specified for the AJSDBTYPE environment setting parameter).

The passwords for an embedded database are not case sensitive. To distinguish between upper-case and lower-case characters, enclose the password character string in exclamation marks (!).

Example:

```
"RDBPASSWORD"="!password!"
```

Default value

Not specified

Recommended value

Default value

When the setting takes effect

When the scheduler service starts or terminates

(45) RDBCHECKINTERVAL

Use this parameter when you use the function for automatically stopping the scheduler service when the scheduler service is no longer able to continue processing for a reason such as a database server stoppage. You use this function to check the connection of the scheduler service to the database server and to automatically stop the scheduler service if it has been disconnected from the database server.

Usually, you do not need to change this parameter.

Format

```
"RDBCHECKINTERVAL" = dword:whether-to-use-the-RDB-server-connection-check-function
```

Specifiable values

A hexadecimal value from 1 to 15180 (1 to 86,400 in decimal)

If you specify a value outside this range, the function is disabled. If the function is disabled, the connection to the database server is not checked, and the scheduler service does not terminate automatically.

Default value

dword:00000000 (0 in decimal)

During a new installation and setup of JP1/AJS3, dword:0000012C (300 in decimal) is set.

Recommended value

dword:0000012C (300 in decimal)

When the setting takes effect

When the scheduler service starts

(46) RDBHOST

Use this parameter to specify the name of the host on which the database is set up.

Usually, you do not need to change this value.

Format

```
"RDBHOST" = "RDB-connection-destination-host-name"
```

Specifiable values

A character string of no more than 511 bytes

Default value

None

Recommended value

The value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

(47) RDBPORT

Use this parameter to specify the port number for the RDB connection.

Usually, you do not need to change this value.

Format

"RDBPORT" = *dword:RDB-connection-port-number*

Specifiable values

A hexadecimal value from 1389 to FFFF (5,001 to 65,535 in decimal) if an embedded database is used (when EmbedDB is specified for the AJSDBTYPE environment setting parameter).

Default value

None

Recommended value

The value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

(48) RDBIPC

Use this parameter to specify the method for connecting to the RDB server.

Usually, you do not need to change this value.

Format

"RDBIPC" = "{MEMORY | DEFAULT}"

Specifiable values

MEMORY

Interprocess memory communication is used for communication with the RDB server.

DEFAULT

TCP/IP communication is used for communication with the RDB server.

Default value

DEFAULT

Recommended value

The value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

(49) RDBSENDMEMSIZE

Use this parameter to specify the amount of memory used to store send data in interprocess memory communication with the RDB server.

This parameter is valid only if interprocess memory communication is specified as the method of communication with the RDB server (when MEMORY is specified for the RDBIPC environment setting parameter).

Usually, you do not need to change this value.

Format

"RDBSENDMEMSIZE" = dword:*size-of-data-send-memory-for-RDB-interprocess-memory-communication*

Specifiable values

Any hexadecimal value (in kilobytes).

However, to use RDB interprocess memory communication with JP1/AJS3, specify a value of dword:00000008 (8 in decimal) or greater.

If you specify 0, the default RDB value is used.

Default value

Default RDB value

Recommended value

The value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

(50) RDBRECVMEMSIZE

Use this parameter to specify the amount of memory used to store receive data in interprocess memory communication with RDB.

This parameter is valid only if you specify interprocess memory communication as the method of communication with the RDB server (when MEMORY is specified for the RDBIPC environment setting parameter).

Usually, you do not need to change this value.

Format

"RDBRECVMEMSIZE" = dword:*size-of-data-receive-memory-for-RDB-interprocess-memory-communication*

Specifiable values

Any hexadecimal value (in kilobytes).

However, to use the RDB interprocess memory communication with JP1/AJS3, specify a value of dword:00000040 (64 in decimal) or greater.

If you specify 0, the default RDB value is used.

Default value

Default RDB value

Recommended value

The value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

(51) RDBCONNECTWAITTIME

Use this parameter to specify the maximum wait time to wait for connection to the RDB server.

Usually, you do not need to change this value.

Format

"RDBCONNECTWAITTIME" = dword:*maximum-wait-time-for-connection-to-RDB*

Specifiable values

A hexadecimal value (in minutes) from 0 to 3C (0 to 60 in decimal)

If you specify 0, the RDB connection wait function is disabled.

Default value

dword:00000001 (1 in decimal)

Recommended value

The value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts

(52) AJSCHARCODE

Use this parameter to specify the character set for job definition information recorded in the scheduler service database.

You must specify one of the listed specifiable values.

If the character set does not match the actual data type, the information will not be displayed correctly in JP1/AJS3 - View.

When you use Chinese, specify C.

Format

"AJSCHARCODE" = "{C|SJIS|EUC|UTF-8}"

Specifiable values

C

ASCII character set

SJIS

Shift JIS character set

EUC

EUC character set

UTF-8

UTF-8 character set

Note: UTF-8 is enabled for UNIX only.

Default value

None

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

Supplementary note

If `en_US.UTF-8` or `en_US.utf8` is set for the LANG environment variable, set C for this environment setting parameter.

(53) AJSTMPDIR

Use this parameter to specify the name of a directory in which temporary JP1/AJS3 files are created. Specify a full path name.

Determine the name based on the operating environment after estimating the amount of required disk space.

For those users who will be executing and referencing jobnets, set the update permission (`rwX` for UNIX) for this directory. For those users who will only be referencing jobnets, set the operation permission (`rx` for UNIX).

If an error occurs during operations, a work file might remain under the specified directory.

For this reason, when no JP1/AJS3 services are running (for example, when the system is started), delete files and maintain the directory regularly. Note, however, if an embedded database is used, do not delete any files with names beginning with `pd` (such as `pderr1.trc` and `pderr2.trc`).

Format

"AJSTMPDIR" = "*name-of-directory-for-temporary-files*"

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Do not use a semicolon (;) or spaces.

Default value

In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

- For a physical host:
`%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\tmp\schedule`
The default value of `%ALLUSERSPROFILE%` is `system-drive\ProgramData`.
A folder protected by the system is the path to a folder in any of the following:
 - `system-drive\Windows`
 - `system-drive\Program Files`
 - `system-drive\Program Files (x86)`
- For a logical host:
`shared-folder\jplajs2\tmp\schedule`

In Windows, if the installation folder is other than the above:

- For a physical host:

JP1/AJS3-Manager-installation-folder\tmp\schedule

- For a logical host:

shared-folder\jplajs2\tmp\schedule

In UNIX:

- For a physical host:

/var/opt/jplajs2/tmp/schedule

- For a logical host:

shared-directory/jplajs2/tmp/schedule

When you add a scheduler service, create this directory. Make sure that this directory is neither a directory used by another scheduler service set on the local hosts (the physical host and all the logical hosts) nor a subdirectory of that directory.

Recommended value

The value set at the time of installation or setup.

When the setting takes effect

When the scheduler service starts or terminates

(54) JOBINFDIR

Use this parameter to specify the name of the directory to be used to store the standard error output when a job is executed. Specify a full path name.

Determine the name based on the operating environment after estimating the amount of required disk space.

For users who will reference jobnets, set the operation permission (*rx* for UNIX) for this directory. For the following users, set the update permission (*rwX* for UNIX) for this directory:

- Users who will execute and reference jobnets
- Users who will display and re-execute temporary change operations for jobs and jobnets

For details about temporary change operations for jobs and jobnets, see *4.5.16 Displaying and re-executing temporary change operations for a job or jobnet* in the manual *JP1/Automatic Job Management System 3 Overview*.

Format

"JOBINFDIR" = "*job-error-information-directory-name*"

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Do not use a semicolon (;) or spaces.

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\jobinf
The default value of *%ALLUSERSPROFILE%* is *system-drive\ProgramData*.
A *folder protected by the system* is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

- In Windows, if the installation folder is other than the above:

JP1/AJS3-Manager-installation-folder\jobinf

- In UNIX:

/var/opt/jp1ajs2/jobinf

When you add a scheduler service, create this directory. Make sure that this directory is neither a directory used by another scheduler service set on the local hosts (the physical host and all the logical hosts) nor a subdirectory of that directory.

Recommended value

The value set at the time of installation or setup.

When the setting takes effect

When the scheduler service starts or terminates

Cautionary note

To change this parameter in the scheduler service where a job has been executed at least once, start the scheduler service by cold start before changing the parameter.

(55) AJSBKUROOT

Use this parameter to specify the name of the directory to be used to back up units. Specify a full path name.

Determine the name based on the operating environment after estimating the amount of required disk space.

For those users who will be backing up jobnets, set the update permission (*rw*x for UNIX) for this directory. For those users who will only be restoring jobnets, set the operation permission (*r*x for UNIX).

Format

"AJSBKUROOT" = "*backup-information-directory-name*"

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Do not use a semicolon (;) or spaces.

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\backup\schedule

The default value of *%ALLUSERSPROFILE%* is *system-drive*\ProgramData.

A *folder protected by the system* is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

- In Windows, if the installation folder is other than the above:

JP1/AJS3-Manager-installation-folder\backup\schedule

- In UNIX:

/var/opt/jplajs2/backup/schedule

When you add a scheduler service, create this directory.

Recommended value

The value set at the time of installation or setup.

When the setting takes effect

When the scheduler service starts or terminates

(56) HNTRLOGLEVEL

Use this parameter to specify the level of messages that the scheduler service outputs to the integrated trace log.

Format

```
"HNTRLOGLEVEL" = "{none|error|warn|info}"
```

Specifiable values

none

No messages are output.

error

Error messages are output.

warn

Error and warning messages are output.

info

Error, warning, and information messages are output.

Default value

none

During a new installation and setup of JP1/AJS3, *error* is set.

Recommended value

error or *warn*

When the setting takes effect

When the scheduler service starts

Supplementary note

When *info* is specified for this parameter, information such as the starting or ending of jobnets or jobs is output to the integrated trace log. This increases the number of integrated trace log messages to be output depending on the operation status, and might shorten the retention period of required messages such as messages of other products. Therefore, we do not recommend making operations on the monitoring information of jobnets or jobs by using the integrated trace log with *info* specified.

(57) SYSLOGCODE

Use this parameter to specify the language type of the messages that are output by the scheduler service to the syslog file.

Format

```
"SYSLOGCODE" = "{C|en_US.UTF-8|en_US.utf8|LANG-environment-variable-value}"
```

Specifiable values (when the language type of JP1/AJS3 is Japanese or English)

C, en_US.UTF-8, or en_US.utf8

The messages are output encoded with the English ASCII character set.

LANG-environment-variable-value (character string other than above)

Operation depends on the settings of the LANG environment variable at the time the scheduler service starts. However, in some systems, a message in the language type corresponding to the LANG environment variable at the time the scheduler service starts might not be output to syslog. In such a system, always set C, en_US.UTF-8, or en_US.utf8 for this parameter. Check whether Japanese can be output in the system you are using by executing the logger command to output a message in Japanese and then confirming that the message is correctly output to syslog.

The LANG environment variable value differs depending on the OS.

The following table describes the values that can be specified for the LANG environment variable.

Table 20–3: Specifiable values of the LANG environment variable

OS	Environment variable value for setting Shift JIS	Environment variable value for setting EUC	Environment variable value for setting UTF-8
HP-UX	ja_JP.SJIS japanese	ja_JP.eucJP japanese.euc	ja_JP.utf8
Solaris	ja_JP.PCK	ja ja_JP.eucJP	ja_JP.UTF-8
AIX	Ja_JP Ja_JP.IBM-932	ja_JP ja_JP.IBM-eucJP	JA_JP JA_JP.UTF-8
Linux	Not available	Not available	ja_JP.UTF-8 ja_JP.utf8

Specifiable values (when the language type of JP1/AJS3 is Chinese)

C

The messages are output encoded with the English ASCII character set.

Default value

C

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(58) AJSSYSLOG

Use this parameter to specify whether to output messages related to starting and terminating the scheduler service to the Windows event log or syslog file.

Format

"AJSSYSLOG" = "{none|all}"

Specifiable values

none

The messages related to starting and terminating the scheduler service is not output.

all

The messages related to starting (KAVS0200-I) and terminating (KAVS0201-I) the scheduler service, are output.

Default value

none

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(59) NETSYSLOG

Use this parameter to specify whether to output messages related to starting and ending jobnets to the Windows event log or syslog file.

Format

```
"NETSYSLOG" = "{none|  
{abend:warning:hold:startdelay:enddelay:condition:execdeffer:connector:prewait}|all}"
```

Specifiable values

none

The messages related to starting and ending jobnet are not output.

abend

The abnormal end message for jobnets (KAVS0262-E) is output.

warning

The end with warning message for jobnets (KAVS0268-W) is output.

hold

The on-hold notification message for jobnets (KAVS0270-I) is output.

startdelay

The delayed-start notification message for jobnets (KAVS0275-I) is output.

enddelay

The delayed-end notification message for jobnets (KAVS0276-I) is output.

condition

The notification messages for jobnets reporting the start of start-condition monitoring (KAVS0240-I) and the end of start-condition monitoring (KAVS0241-I) are output.

execdeffer

The deferred-execution message for jobnets (KAVS0279-E) is output.

connector

Error messages related to the connection between the jobnet connector and the connection destination jobnet (KAVS0243-E, KAVS0244-E, KAVS4700-E to KAVS4707-E, KAVS4711-E to KAVS4716-E, and KAVS4730-E to KAVS4733-E) are output.

prewait

Messages related to the start and end of waiting in accordance with a jobnet wait condition and the messages related to endless waiting (KAVS4950-I, KAVS4955-I, and KAVS4957-E) are output.

all

The following messages related to starting and ending jobnets are output:

- Start (KAVS0260-I)
- Normal end (KAVS0261-I)
- Abnormal end (KAVS0262-E)
- End with warning (KAVS0268-W)
- On-hold notification (KAVS0270-I)
- Delayed start (KAVS0275-I)
- Delayed end (KAVS0276-I)
- Start/end of start-condition monitoring (KAVS0240-I and KAVS0241-I)
- Deferred execution (KAVS0279-E)
- Jobnet connector connection error (KAVS0243-E, KAVS0244-E, KAVS4700-E to KAVS4707-E, KAVS4711-E to KAVS4716-E, and KAVS4730-E to KAVS4733-E)
- Start or end of waiting in accordance with a wait condition, and endless waiting (KAVS4950-I, KAVS4955-I, and KAVS4957-E)

The KAVS0260-I message (jobnet start) and the KAVS0261-I message (normal end) are output only when `all` is specified.

Default value

none

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(60) JOBSYSLOG

Use this parameter to specify whether to output messages related to starting and ending the jobs in a jobnet to the Windows event log or syslog file.

Format

```
"JOBSYSLOG" = "{none | {abend:warning:hold:enddelay:prewait:retry} | all}"
```

Specifiable values

none

The messages related to starting and ending jobs are not output.

abend

The abnormal end message for jobs (KAVS0265-E) is output.

warning

The end with warning message for jobs (KAVS0269-W) is output.

hold

The on-hold notification message for jobs (KAVS0271-I) is output.

enddelay

The delayed-end message for jobs (KAVS0248-I) is output.

prewait

Messages related to the start and end of waiting in accordance with a job wait condition and the messages related to endless waiting (KAVS4951-I, KAVS4956-I, and KAVS4971-E) are output.

retry

The automatic retry notification messages generated when a job ends abnormally (KAVS4675-I, KAVS4676-I, and KAVS4677-E) are output.

all

The following messages related to starting and ending jobs are output:

- Start (KAVS0263-I)
- Normal end (KAVS0264-I)
- Abnormal end (KAVS0265-E)
- Queuing cancellation (KAVS0266-I)
- End with warning (KAVS0269-W)
- On-hold notification (KAVS0271-I)
- Delayed end (KAVS0248-I)
- Start or end of waiting in accordance with a wait condition, and endless waiting (KAVS4951-I, KAVS4956-I, and KAVS4971-E)
- Automatic retry of a job that ends abnormally (KAVS4675-I, KAVS4676-I, and KAVS4677-E)

If you specify a value other than `all`, the start (KAVS0263-I), normal-end (KAVS0264-I), and queuing cancellation (KAVS0266-I) messages will not be output for jobs.

Default value

`none`

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(61) AJSLOG

Use this parameter to specify whether to output messages related to starting and terminating the scheduler services to the scheduler log file.

Format

"AJSLOG" = "{none|all}"

Specifiable values

`none`

The messages related to starting and terminating the scheduler service, are not output.

`all`

Messages related to starting (KAVS0200-I) and terminating (KAVS0201-I) the scheduler service and to the abnormal end message for processes (KAVS0204-E) are output.

Default value

`all`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(62) NETLOG

Use this parameter to specify whether to output messages related to starting and ending jobnets to the scheduler log file.

Format

```
"NETLOG" = "{none|  
{abend:warning:hold:startdelay:enddelay:condition:execdeffer:prewait}|all}"
```

Specifiable values

none

The messages related to starting and ending jobnets are not output.

abend

The abnormal end message for jobnets (KAVS0262-E) and the block notification messages (KAVS0272-E and KAVS0273-E) are output.

warning

The end with warning message for jobnets (KAVS0268-W) is output.

hold

The on-hold notification message for jobnets (KAVS0270-I) is output.

startdelay

The delayed-start notification message for jobnets (KAVS0275-I) is output.

enddelay

The delayed-end notification message for jobnets (KAVS0276-I) is output.

condition

The notification messages for jobnets reporting the start of start-condition monitoring (KAVS0240-I) and the end of start-condition monitoring (KAVS0241-I) are output.

execdeffer

The deferred execution message for jobnets (KAVS0279-E) is output.

prewait

Messages related to the start and end of waiting in accordance with a jobnet wait condition and those related to endless waiting (KAVS4950-I, KAVS4955-I, and KAVS4957-E) are output.

all

The following messages related to starting and ending jobnets are output:

- Start (KAVS0260-I)
- Normal end (KAVS0261-I)
- Abnormal end (KAVS0262-E)
- End with warning (KAVS0268-W)
- On-hold notification (KAVS0270-I)
- Block notification (KAVS0272-E and KAVS0273-E)
- Delayed start (KAVS0275-I)

- Delayed end (KAVS0276-I)
- Notification of the next queued execution schedule (KAVS0277-I)
- Start of start-condition monitoring notification (KAVS0240-I)
- End of start-condition monitoring notification (KAVS0241-I)
- Deferred execution (KAVS0279-E)
- All registrations canceled (KAVS0267-I)
- Notification of the wait for the end of start-condition monitoring (KAVS1420-I)
- Start or end of waiting in accordance with a wait condition, and endless waiting (KAVS4950-I, KAVS4955-I, and KAVS4957-E)

If you specify a value other than `all`, the following messages are not output:

- Start (KAVS0260-I)
- Normal end (KAVS0261-I)
- Notification of the next queued execution schedule (KAVS0277-I)
- All registrations canceled (KAVS0267-I)
- Notification of the wait for the end of start-condition monitoring (KAVS1420-I)

Default value

`all`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary note

Note that the default behavior of JP1/AJS3 and JP1/AJS2 version 06-71 and later is to output the start/end of start-condition monitoring notification, deferred execution, and all registration canceled messages for jobnets.

(63) JOBLOG

Use this parameter to specify whether to output messages related to starting and ending jobs in a jobnet to the scheduler log file.

Format

```
"JOBLOG" = "{none|{abend:warning:hold:enddelay:prewait:retry}|all}"
```

Specifiable values

`none`

The messages related to starting and ending jobs are not output.

`abend`

The abnormal end message for jobs (KAVS0265-E) is output.

`warning`

The end with warning message for jobs (KAVS0269-W) is output.

`hold`

The on-hold notification message for jobs (KAVS0271-I) is output.

enddelay

The delayed-end notification message for jobs (KAVS0248-I) is output.

prewait

Messages related to the start and end of waiting in accordance with a job wait condition and messages related to endless waiting (KAVS4951-I, KAVS4956-I, and KAVS4971-E) are output.

retry

The automatic retry notification messages generated when a job ends abnormally (KAVS4675-I, KAVS4676-I, KAVS4677-E, and KAVS4678-I) are output.

all

The following messages related to starting and ending jobs are output:

- Request for event job and custom event job execution started (KAVS0242-I)
- Start (KAVS0263-I)
- Normal end (KAVS0264-I)
- Abnormal end (KAVS0265-E)
- Queuing cancellation (KAVS0266-I)
- End with warning (KAVS0269-W)
- On-hold notification (KAVS0271-I)
- Submit started (KAVS0278-I)
- Delayed end (KAVS0248-I)
- Start or end of waiting in accordance with a wait condition, and endless waiting (KAVS4951-I, KAVS4956-I, and KAVS4971-E)
- Automatic retry of a job that ends abnormally (KAVS4675-I, KAVS4676-I, KAVS4677-E, and KAVS4678-I)

If you specify a value other than `all`, the start (KAVS0242-I, KAVS0263-I, KAVS0278-I), normal-end (KAVS0264-I), and queuing cancellation (KAVS0266-I) messages will not be output for jobs.

Default value

`all`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(64) OPELOG

Use this parameter to specify whether to output operation logs to the scheduler log file.

Format

```
"OPELOG" = "{none|  
{alter:stop:entry:leave:plan:intrpt:rerun:kill:change:calendar:delete:restor  
e:define:copy:chgst:suspend:import:start:rgimport:release}|all}"
```

Specifiable values

`none`

Operation logs are not output.

alter

The execution log for the `ajsalter` command (log type: C001) is output.

stop

The execution log for the `ajsstop` command (log type: C002) is output.

entry

The operation log recording the registration of jobnets (log type: C101) is output.

leave

The operation log recording the cancellation of jobnet registration (log type: C102) is output.

plan

The operation log recording changes to jobnet plans (log type: C103) is output.

intrpt

The operation log recording the interruption of jobnets (log type: C104) is output.

rerun

The operation log recording the rerunning of jobnets (log type: C105) is output.

kill

The operation log recording killed jobs (log type: C201) is output.

change

The operation log recording changes to units (log type: C301) is output.

calendar

The operation log recording changes to the calendar information (log type: C401) is output.

delete

The operation log recording the deletion of units (log type: C302) is output.

restore

The operation log recording the restoration of units (log type: C303) is output.

define

The operation log recording the definition of units (log type: C304) is output.

copy

The operation log recording the copying and moving of units (log type: C305) is output.

chgst

The operation log recording changes to the job status (log type: C202) is output.

suspend

The operation log recording suspension or the cancellation of the suspended status (log type: C106) is output.

import

The operation log recording the import of units (log type: C306) is output.

start

The execution log for the `ajsstart` command (log type: C003) is output.

rgimport

The operation log recording the import of the registered execution-schedule information (log type: C107, C108) is output.

release

The execution log for the `ajsrelease` command (log type: C307) is output.

all

All operation logs are output.

Default value

all

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

(65) LOGINFOALL

Use this parameter to specify the format of messages output to the scheduler log file, Windows event log, or syslog file.

Change the parameter value if you do not want to output messages that contain additional information such as the execution ID or the job number.

For details about the logs that can be output to the scheduler log file, see *C.1 Log entries output by the scheduler services* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

Format

```
"LOGINFOALL" = "{yes|no}"
```

Specifiable values

yes

In addition to the message output when `no` is specified, messages are output in a format that includes detailed information such as the execution ID or the job number.

The following information is added to messages:

- *Execution ID* is added to the log data related to starting and ending jobnets and jobs.
- *Job number* is added to the log data related to starting and ending jobs.
- *Host name* is added to log data related to the starting of jobs in the Windows event log or syslog. *Host name* is output to log data related to the ending of jobs, regardless of the setting.
- *Return value* is added to the normal-end log data for jobs.

no

No additional detailed information, such as the execution ID or job number, is output.

Default value

no

During a new installation and setup of JP1/AJS3, `yes` is set.

Recommended value

yes

When the setting takes effect

When the scheduler service starts or terminates

(66) REFLOG

Use this parameter to specify whether to output reference logs to the scheduler log file.

Specify this parameter when you want to keep logs that will be used by the reference commands, such as `ajsprint`.

Format

```
"REFLOG" = "{none|  
{backup:export:name:print:schedule:show:rgexport:release:calutil}|all}"
```

Specifiable values

none

No reference logs are output.

backup

The reference log for backed-up units (log type: C504 and C511) is output.

export

The reference log for exported units (log type: C508) is output.

name

The reference log for output of unit names (log type: C507 and C512) is output.

print

The reference log for unit definitions (log type: C503 and C510) is output.

schedule

The reference log for output of jobnet schedule information (log type: C506) is output.

show

The reference log for output of the unit status (log type: C502 and C509) is output.

rgexport

The reference log for exporting the registered execution-schedule information (log type: C513 and C514) is output.

release

The execution log for the `ajsrelease` command (log type: C515) is output.

calutil

The execution log for the `ajscalutil` command (log type: C516) is output.

all

All reference logs are output:

- Backed-up units (log type: C504 and C511)
- Exported units (log type: C508)
- Output of unit names (log type: C507 and C512)
- Output of unit definitions (log type: C503 and C510)
- Output of jobnet schedule information (log type: C506)
- Output of the unit status (log type: C502 and C509)
- Exported registered execution-schedule information (log type: C513 and C514)
- `ajsrelease` command (log type: C515)
- `ajscalutil` command (log type: C516)

Default value

all

Recommended value

Default value

When the setting takes effect

When the scheduler service starts or terminates

Cautionary note

The default log file size (LOGSIZE) in version 07-00 and later differs from that in version 06-71 and earlier because some commands for which logs were not output in version 06-71 or earlier have been changed so that operation logs can now be output in version 07-00 and later.

Supplementary note

Reference logs related to abnormal end will be output if you specify one or more of `all`, `backup`, `export`, `name`, `print`, `schedule`, `show`, `rgexport`, and `release`, and specify `yes` for the `AJSLOGOUTPUTTEXTEND` environment setting parameter.

(67) LOGHEADER

Use this parameter to specify whether to output the log information with the process ID added.

Change the parameter value if you do not want to output log information with the process ID added.

Format

```
"LOGHEADER" = "{none | PID}"
```

Specifiable values

`none`

The process ID is not output as part of the log information (the specification in version 06-71 and earlier).

`PID`

The process ID is output as part of the log information.

Default value

`none`

During a new installation and setup of JP1/AJS3, `PID` is set.

Recommended value

`PID`

When the setting takes effect

When the scheduler service starts or terminates

(68) INFOLOG

Use this parameter to specify whether to output information logs.

Change the parameter value if you do not want to perform any performance evaluations, such as evaluations of the command processing time and the maximum number of concurrently executable commands.

Format

```
"INFOLOG" = "{none | {START:REQUEST} | all}"
```

Specifiable values

`none`

The command execution start log (log type: I001) and the scheduler service request log (log type: I002) are not output.

START

The log recording the applicable command processing started (log type: I001) is output.

REQUEST

The log recording when processing requests from a command to the scheduler service started (log type: I002) is output.

all

The command execution start log (log type: I001) and scheduler service request log (log type: I002) are output.

Default value

none

During a new installation and setup of JP1/AJS3, all is set.

Recommended value

all

When the setting takes effect

When the scheduler service starts or terminates

(69) ROOTJOBNETSCHEDULERANGE

Use this parameter to specify the valid range for the schedule of a root jobnet.

Change the parameter value if you want to set the valid range for the schedule of a root jobnet to 48 hours.

If you change the specified value, the execution schedules of the root jobnet before and after the change will be different, in which case you must review the cold-start and jobnet schedules.

Format

```
"ROOTJOBNETSCHEDULERANGE" = dword:{00000018|00000030}
```

Specifiable values

00000018

The valid range for the schedule of the root jobnet is set to 24 hours.

00000030

The valid range for the schedule of the root jobnet is set to 48 hours.

You can specify `dword:00000030` only if you specify `all` for the `VIEWSTATUSRANGE` environment setting parameter as the range of generation information used as the basis for acquiring the status via JP1/AJS3 - View or JP1/AJS3 - Web Console.

Default value

`dword:00000018` (24 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(70) VIEWSTATUSRANGE

Use this parameter to specify the range of generation information to be used as the basis for acquiring the status via JP1/AJS3 - View or JP1/AJS3 - Web Console.

Change the parameter value if you want to determine the status to be displayed from the generation information for the current date between the base times.

Format

```
"VIEWSTATUSRANGE" = "{today|all}"
```

Specifiable values

today

The status to be displayed is determined from the generation information for the current date between the base times.

You can specify `today` only if you specify 24 hours as the valid range for the schedule of the root jobnet (`dword:00000018` is specified for the `ROOTJOBNETSCHEDULERANGE` environment setting parameter).

If you specify 48 hours (`dword:00000030` is specified for the `ROOTJOBNETSCHEDULERANGE` environment setting parameter), you cannot specify `today`.

all

The status to be displayed is determined from the information for the generation or scheduled generation within the range of all days, including today.

Default value

all

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(71) STARTMODE

Use this parameter to specify the start mode of the scheduler service that starts when the JP1/AJS3 service is started.

When a scheduler service starts, the start mode determines whether the registration status existing when the scheduler service terminated previously, is preserved or canceled.

For details about the statuses of the jobnets and jobs in each start mode, see *6.2.1(3) Jobnet and job statuses for each start mode* in the *JP1/Automatic Job Management System 3 Administration Guide*.

Format

```
"STARTMODE" = "{cold|warm|hot}"
```

Specifiable values

cold

The registration status existing when the scheduler service was terminated previously, is canceled, and the scheduler service starts.

warm

The registration status existing when the scheduler service terminated previously, is preserved, and the scheduler service starts. However, the jobnet that was being executed the previous time the service terminates is treated as having terminated and is executed according to the schedule for the day on which the scheduler service is currently started.

hot

The registration status existing when the scheduler service terminated previously, is preserved, and the scheduler service starts. When you restart a service in which an error has occurred, specify this value if you want the restarted service to inherit the status existing when the scheduler service terminated abnormally.

Default value

warm

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(72) OVERSCHEDULE

When a scheduler service starts, if the scheduled execution start time of a jobnet, which is scheduled for execution that day has already passed, use this parameter to specify how to handle execution of the jobnet. If `hot` is specified for the `STARTMODE` environment setting parameter as the scheduler service start mode, all the jobnets are executed regardless of this parameter and the jobnet execution registration options.

If you start the scheduler service by executing the `ajsstart` command, the value of the `OVERSCHEDULE` environment setting parameter is not valid, and operation is determined by the `ajsstart` command. For details about the `ajsstart` command, see *ajsstart* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Format

```
"OVERSCHEDULE" = "{exec|skip|plan}"
```

Specifiable values

`exec`

The jobnets scheduled for execution that day are executed, except in the following cases:

- The scheduled execution time of a jobnet for which you select the **Execute from next time** option in the **Planned time passed when daemon starts** column in the Register for Execution dialog box of JP1/AJS3 - View have already passed when you register the job for execution.
- The scheduled execution time of a jobnet for which you specify the `-o` option in the `ajsentry` command has already passed when you register the job for execution.
- The scheduled execution time of a jobnet has already passed when you register the job for execution. For the jobnet, you selected the **Execute from next time** option for the operation to be performed when the planned time would be exceeded at daemon startup and execution registration on the API of JP1/AJS3 - Web Console.

`skip`

All jobnets scheduled for execution that day are executed except those jobs that are scheduled for execution before the scheduler service starts. These jobs are not executed because their status is *skipped so not executed*. In addition, jobnets are not executed in the following cases:

- The scheduled execution time of a jobnet for which you select the **Execute immediately** option in the **Planned time passed when daemon starts** column in the Register for Execution dialog box of JP1/AJS3 - View has already passed when you register the job for execution.
- The scheduled execution time of a jobnet for which you did not specify the `-o` option in the `ajsentry` command has already passed when you register the jobnet for execution.

- The scheduled execution time of a jobnet has already passed when you register the job for execution. For the jobnet, you selected the **Execute immediately** option for the operation to be performed when the planned time would be exceeded at daemon startup and execution registration on the API of JP1/AJS3 - Web Console.

plan

The jobnets scheduled for execution that day are not executed because their status will be *skipped so not executed*. Regardless of the option set when execution was registered, the jobnets scheduled for execution on the day that the scheduler service starts are not executed.

Default value

exec

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(73) SUPPRESS

Use this parameter to specify whether to suppress the execution of jobnets and the jobs in jobnets.

Format

"SUPPRESS" = "{none | exec}"

Specifiable values

none

The execution of jobs and jobnets is not suppressed.

exec

The execution of jobs and jobnets is suppressed.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(74) EXECDEFER

Use this parameter to specify how long to wait before the status of a root jobnet registered for execution changes to *skipped so not executed* when the jobnet has not been executed and the scheduled start date and time have passed.

This parameter remains in effect regardless of the mode set at execution registration.

If you register a jobnet for immediate execution, the date and time that the jobnet is registered are regarded as the scheduled start date and time.

Format

"EXECDEFER" = "{oneday | twoday | unlimit}"

Specifiable values

oneday

The jobnet status changes to *skipped so not executed* one day after the scheduled date.

twoday

The jobnet status changes to *skipped so not executed* two days after the scheduled date.

unlimit

Although the scheduled date has passed, the jobnet status remains *waiting for start time* or *on hold*.

Default value

oneday

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(75) JOBSTATUSPORT

Use this parameter to specify the port number of the communication port to be used to acquire job status information.

To execute multiple scheduler services, you must specify a different service name for each scheduler service and set a unique port number in the `services` file.

Format

"JOBSTATUSPORT" = "*service-name-of-the-port-for-acquiring-job-status*"

Specifiable values

A service name defined in the `services` file

Default value

jplajs2report

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(76) QUEUELESSMULTIREQ

The number of concurrently requested queueless jobs equals the number of processes communicating with the queueless agent when a queueless job is executed. Use this parameter to specify the number of queueless job request processes (`ajsreqd.exe` for Windows and `ajsreqd` for UNIX) started for each scheduler service.

If distributing queueless jobs will affect job execution performance, specify this parameter only if you increase the number of processes that communicate with the queueless agent services.

Format

"QUEUELESSMULTIREQ" = `dword:maximum-number-of-queueless-job-requests`

Specifiable values

A hexadecimal value from 00000001 to 00000008 (1 to 8 in decimal)

Default value

dword:00000001 (1 in decimal)

In a queueless job system, distributing queueless jobs does not result in lower-execution performance, so you can use the default value.

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(77) UNITDEFINERELOAD

If you change the definition of a job or jobnet after registering execution, use this parameter to specify whether to reload the changed definition just before execution so that the changes take effect immediately.

Change the value of the parameter if you do not want to immediately apply changes made to the already defined unit information.

Format

```
"UNITDEFINERELOAD" = "{yes|no}"
```

Specifiable values

yes

The definition is reloaded immediately before a job or jobnet is executed.

If this value is set, the most recent changes to the definition will take effect for the generation that was being processed when the definition was changed.

no

The definition is not reloaded immediately before a job or jobnet is executed (This is the behavior in JP1/AJS2 06-51 and earlier versions).

If this value is set, the most recent changes to the definition will not take effect for the generation that was being processed when the definition was changed.

Default value

no

During a new installation and setup of JP1/AJS3, yes is set.

Recommended value

yes

When the setting takes effect

When the scheduler service starts

Cautionary note

JP1/AJS3 allows you to change the unit definition information that affects the execution of the unit, such as the file name, target host, and hold attribute, during registration for execution. However, some items in the changed unit information will not take effect for the generation that is being processed when you change the definition. For details, see *7.4 Changing the unit definition information during registration for execution* in the *JP1/Automatic Job Management System 3 Administration Guide*.

(78) MAXSAVEGEN

Use this parameter to specify the maximum number of saved generations.

The value specified here is the maximum value that you can define for the number of logs to keep.

Change this value when you want to increase the number of logs to keep to 100 or more.

When you specify `LEGACY` for the `SAVEGENTYPE` environment setting parameter, the same number of execution results as the number of logs to keep is stored for each of the monitoring generations and execution generations.

When you specify `TOTAL` for the `SAVEGENTYPE` environment setting parameter, the same number of execution results as the number of logs to keep is stored, but in this case, the number of logs to keep is the sum of the number of monitoring generations and execution generations.

Format

"MAXSAVEGEN" = `dword:maximum-number-of-saved-generations`

Specifiable values

A hexadecimal value from 63 to 3E7 (99 to 999 in decimal)

Default value

`dword:63` (99 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary notes

- When you specify `LEGACY` for the `SAVEGENTYPE` environment setting parameter and increase the maximum number of specifiable generations, the number of records obtained by multiplying the number of logs to keep by the number of registered units also increases. This greatly affects operations that access the database. Before you increase the maximum number of saved generations, you must divide the jobnets by, for example, reducing the number of records obtained as described above to reduce the size of each root jobnet. For details about the relationship between the number of logs to keep and performance, see *7.2 Relationship between number of logs to keep and performance* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.
- If you increase the number of logs to keep to 100 or more, the versions of all instances of JP1/AJS3 - View must be version 07-00 or later. If you do this in JP1/AJS3 - View version 07-00 or later, and then update the detailed definitions in version of JP1/AJS3 - View earlier than 07-00, only the first two digits of the number of logs to keep appear. As a result, the number of logs to keep could be changed to an undesirable two-digit-number.
- A system for which a smaller value is specified for the maximum number of saved generations might not be able to restore the jobnet definition information defined in a system in which the maximum number of saved generations is increased. For example, suppose you specify 200 as the number of logs to keep for a jobnet in a system in which the maximum number of saved generations is set to 200. If you output this definition information by using the `ajsprint` command and then try to define this output information by executing the `ajsdefine` command in a system in which the maximum number of saved generations is set to 150, an error occurs. The reason for the error is that the definition parameters contain a value larger than 150 (200 in this case).
- An error dialog box asking you to change the maximum number of saved generations to a smaller value is displayed if the following sequence of operations is performed. First, you increase the maximum number of saved generations and define a jobnet with many saved generations, and then you reduce the maximum number of saved generations. Next, you open the Define Details dialog box of the jobnet in JP1/AJS3 - View, in which the large value you originally specified for the number of logs to keep is displayed. Finally, you click the **OK** button to close the dialog box.

- If you register a jobnet defined with many saved generations, after increasing the maximum number of saved generations, and then you reduce the maximum number of saved generations, the system saves generations according to the registered maximum number of saved generations.
- If you specify a decimal number exceeding 320 as the maximum number of saved generations, and then set the number of logs to keep to the maximum, the specified number of generations might not be saved, depending on how many future generations there will be. To increase the number of logs to keep, you must accurately estimate the number of future generations to be registered, and then use this estimate to determine the number of logs to keep. For details about the relationship between the numbers of logs to keep and the number of future generations, see *B. List of Limits* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(79) AJSPRINTNETSCHPRF

Specify whether to enable the scheduler rule, thereby freeing operation from the schedule of the upper-level jobnet, or to delete the scheduler rule, thereby making operation dependent on the schedule of the upper-level jobnet.

This option takes effect when you execute the `ajsprint`, `ajsbackup`, or `ajsexport` command, or choose **Backup** from JP1/AJS3 - View to back up a jobnet created by copying a root jobnet with a schedule rule to a nested jobnet.

Format

```
"AJSPRINTNETSCHPRF" = "{yes|no}"
```

Specifiable values

yes

The scheduler rule is enabled. Operation does not depend on the schedule of the upper-level jobnet.

no

The schedule rule is deleted. Operation depends on the schedule of the upper-level jobnet.

Default value

yes

During a new installation and setup of JP1/AJS3, no is set.

Recommended value

no

When the setting takes effect

When the scheduler service starts

(80) SUBMITRETRYINTERVAL

If many jobs are executed simultaneously, although they may seem to have been submitted, they will be submitted in some cases they will not actually be queued (that is, their submission will be put on hold).

For such cases, you can use this parameter to specify a value in milliseconds for the period of time that needs to elapse before the submission will be retried.

However, be careful not to specify too small a value as the retry interval, because the system will attempt the job submission many times when there are jobs on hold, increasing the system load.

Format

```
"SUBMITRETRYINTERVAL" = dword:retry-interval
```

Specifiable values

A hexadecimal value (in milliseconds) from 00000000 to 00002710 (0 to 10,000 in decimal)

If you omit this parameter, the system assumes the default value.

Default value

`dword:00000BB8` (3,000 in decimal)

Recommended value

Set a value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(81) JOBEXECPCBUFSIZE

Use this parameter to specify the buffer size to be used for communicating the job execution information of a scheduler service.

Format

"JOBEXECPCBUFSIZE" = `dword:buffer-size-for-job-execution-information-communication`

Specifiable values

00000000 or a value in bytes from 00001000 to 00100000 in hexadecimal (in decimal 0 or a value from 4,096 to 1,048,576)

If you omit this parameter, the system assumes the default value.

If you specify `dword:00000000`, the OS socket buffer is used as the default value.

Default value

`dword:00000000` (0 in decimal)

If you do not specify a buffer size for communicating job execution information, the default value is assumed. In this case, the OS socket buffer is used as the default value.

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(82) BACKGROUNDLEAVE

Use this parameter to determine the method to be used to delete generations when canceling registration or managing saved generations.

Change the parameter value if you want to create the generation management subprocess (`ajsschbd`) in the processing that deletes jobnet registration information so that generations will be deleted in the background.

If you change the value, you must restart the JP1/AJS3 service. You also need to perform migration by using a migration tool or by a cold-start.

For details about how to set the environment setting parameters, see [6.1.7 Changing the mode in which unregistration or generation management deletes the generations of a jobnet](#) (for Windows) or [15.1.7 Changing the mode in which unregistration or generation management deletes the generations of a jobnet](#) (for UNIX).

Format

"BACKGROUNDLEAVE" = "{yes|no}"

Specifiable values

yes

The generation management subprocess (`ajsschbd`) is used to delete the registration information of a jobnet. If you specify `yes`, the generation management subprocess deletes registration information in the background, reducing the turnaround time for registration cancellation. Be careful when you specify `yes`, because doing so causes the system to use more resources for the generation management subprocess.

no

The schedule control process (`ajsschd`) is used to delete the registration information of a jobnet. If you specify `no`, the schedule control process (`ajsschd`) deletes all the information of the generations to be deleted, increasing the turnaround time for registration cancellation in proportion to the number of generations or units to be deleted.

Default value

no

During a new installation and setup of JP1/AJS3, `yes` is set.

Recommended value

yes

When the setting takes effect

When the scheduler service starts

(83) REQDAGTRECONNECTTIMEOUT

Use this parameter to specify how long to wait (the timeout period) for the requesting queueless-job request process to establish communication when connection processing is performed for a processing request (job execution, forced termination, or status confirmation) to a queueless agent service.

For a high-speed network between the manager host and an agent host, specify a smaller value when you want to quickly detect non-starting of an agent host. For a low-speed network and system, or for an environment in which the agent host is likely to be busy, specify a larger value. However, please note when specifying a larger value because a processing request will not be sent to another agent host until connection has been completed or the timeout period expires. If there are no special circumstances, we recommend that you use the default value of 15 seconds.

If communication is not established within the period specified by this parameter, the queueless job request process outputs the KAVS1930-W message and starts the reconnection processing. After the reconnection processing has started, processing requests to other agents that can communicate normally are executed as usual. However, processing requests to other relevant agents accumulate on the manager host as requests to a failed agent, and the reconnection processing is attempted one request at a time in the order they were executed. The timeout period for the reconnection processing differs according to the OS, and the reconnection processing will stop when the maximum communication-recovery-processing timeout period specified in the `REQDAGTRECONNECTTIMEOUT` environment settings parameter expires. Two reconnection attempts are performed at 60 second intervals, but if recovery is not possible, one of the following error messages is output:

- For a job execution request: KAVS1931-E
- For a request to force the termination of a job: KAVS1932-E
- For a request to confirm the status of a job: KAVS1933-E

If the reconnection is successful, the KAVS1929-I message is output, the accumulated requests are resent in order, and the system recovers from a failure status.

Format

"REQDAGTREQCONNECTTIMEOUT" = dword:*timeout-period-for-communication*

Specifiable values

A hexadecimal value (in seconds) from 00000000 to 00000258 (0 to 600 in decimal)

If you specify dword:00000000, the operation is controlled by the OS timeout period.

Default value

dword:0000000F (15 in decimal)

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(84) REQDAGTRECONNECTTIMEOUT

Specify how long to wait (the timeout period) for the requesting queueless-job request process to establish communication when reconnection processing is performed in either of the following cases:

- When a communication failure occurs for a processing request (job execution, forced termination, of status confirmation) to a queueless agent (the KAVS1930-W message is output)
- When disconnection of the communication line between the manager host and agent host was detected during execution of a job on a queueless agent (the KAVS1922-W message is output) and the system attempts to re-establish communication

Unless there are special circumstances, we recommend that you use the default value of 90 seconds.

This reconnection processing is performed in parallel with a processing request to another agent host. Therefore, requests to other agent hosts able to perform communication normally do not have until connection is completed or until the timeout period expires.

Format

"REQDAGTRECONNECTTIMEOUT" = dword:*timeout-period-for-communication*

Specifiable values

A hexadecimal value (in seconds) from 00000000 to 00000258 (0 to 600 in decimal)

If you specify dword:00000000, operation is controlled by the OS timeout period. For details about reconnection processing, see the explanation for the REQDAGTREQCONNECTTIMEOUT environment setting parameter that specifies the timeout period for connection processing.

Default value

dword:0000005A (90 in decimal)

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(85) COMMANDEVENT

Specify whether to issue a JP1 event when a command is executed or when an operation is performed from JP1/AJS3 - View or JP1/AJS3 - Web Console.

If you set in the OPELOG, REFLOG, and INFOLOG environment setting parameters that the command operation logs are to be output to the scheduler log, the same information is issued as a JP1 event. However, for the log reporting processing start requests to a scheduler service (log type: I002), no JP1 event is issued.

Format

```
"COMMANDEVENT" = "{yes|no}"
```

Specifiable values

yes

A JP1 event is issued when a command is executed or when an operation is performed from JP1/AJS3 - View or JP1/AJS3 - Web Console.

no

A JP1 event is not issued when a command is executed or when an operation is performed from JP1/AJS3 - View or JP1/AJS3 - Web Console.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts or terminates

(86) NONRELOADHOLDING

Use this parameter if a unit definition on hold is not to be reloaded when the function for immediately applying jobnet definition changes (UNITDEFINERELOAD) is used. If you reload the unit definition on hold and change the specification for holding the unit definition from yes to no, a unit on hold is executed immediately.

Format

```
"NONRELOADHOLDING" = "{yes|no}"
```

Specifiable values

yes

A unit definition on hold is not reloaded when the function for immediately applying jobnet definition changes (UNITDEFINERELOAD) is used.

no

A unit definition on hold is reloaded when the function for immediately applying jobnet definition changes (UNITDEFINERELOAD) is used.

Default value

no

During a new installation and setup of JP1/AJS3, yes is set.

Recommended value

yes

When the setting takes effect

When the scheduler service starts

Cautionary note

If you specify no for this parameter, and change the hold specification for the unit definition from yes to no, the unit on hold is executed when:

- Execution of a unit in the same scheduler service starts or ends.
- One of the following operations is executed for a unit in the same scheduler service: rerun, hold, release hold, suspend, release suspension, or change schedule.
- The scheduler service is restarted.
- The `ajsstop` command is executed with the `-r` option specified.

Also note that if many units are on hold (200 units is the recommended maximum, although this limit might vary depending on the environment), more unit definitions must be reloaded than when `yes` is specified, resulting in increased I/O processing.

Specify `no` only if an operation procedure that releases a unit on hold by specifying `no` for the hold specification of the unit definition has been set up and modifying the operation procedure would be difficult.

(87) RJCUSE

Use this parameter to specify whether to control the execution order of root jobnets that have been distributed among different scheduler services by using a jobnet connector.

Format

```
"RJCUSE" = "{yes|no}"
```

Specifiable values

`yes`

Specify this value to control the execution order of root jobnets distributed among different scheduler services.

`no`

Specify this value if you do not want to control the execution order of root jobnets distributed among different scheduler services.

Default value

`no`

During a new installation and setup of JP1/AJS3, `yes` is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After JP1/AJS3 service is restarted

(88) JOBDELAYWARNMSG

Use this parameter to specify whether to output a warning message to the integrated trace log when the scheduler service starts. The message that is output is generated if a job for which termination delay is monitored according to the required time for execution is executed on the job execution control agent when a scheduler service has been stopped.

Format

```
"JOBDELAYWARNMSG" = "{yes|no}"
```

Specifiable values

`yes`

The KAVS0249-W message is output.

Note, however, that the scheduler service is started in disaster recovery mode, the termination status will be unknown regardless of the job status on the job execution control agent. In this case, the message will not be output.

no

The message is not output.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(89) FGRECONLMT

Use this parameter to specify the number of reconnection attempts if the flow control process cannot communicate with the scheduler service inter-communication control process.

Format

"FGRECONLMT" = `dword: number-of-reconnection-attempts`

Specifiable values

A hexadecimal value from 0 to 64 (0 to 100 in decimal)

Default value

`dword:00000003` (3 in decimal)

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(90) SAVEGENTYPE

Use this parameter to specify the method used to manage the number of logs to keep of the execution results for a jobnet for which start conditions are defined.

For details about how to manage the number of logs to keep, see *4.2.3 Jobnet generation management* in the manual *JP1/Automatic Job Management System 3 Overview*.

Format

"SAVEGENTYPE" = "{TOTAL|LEGACY}"

Specifiable values

TOTAL

A new method used from version 9 (the total management method). The number of logs to keep can be specified as the sum of the number of monitoring generations and execution generations.

LEGACY

The legacy management method used through version 8 (the individual management method). The number of execution results specified as the number of logs to keep is saved separately for the monitoring generation and the execution generation. Therefore, the number of execution results to be saved is the square of the number specified as the maximum number of saved generations.

Default value

LEGACY

During a new installation and setup of JP1/AJS3, TOTAL is set.

Recommended value

TOTAL

When the setting takes effect

When the scheduler service starts

(91) AJSDBTYPE

Use this parameter to specify the type of database to be used.

Usually, you do not need to change this value.

Format

```
"AJSDBTYPE" = "{ISAM|EmbedDB|SQLSVR}"
```

Specifiable values

ISAM

The ISAM database is provided as a standard component of JP1/AJS3 - Manager.

EmbedDB

The embedded database can be used as the standard JP1/AJS3 - Manager database.

SQLSVR

The scheduler service is set up by using Microsoft SQL Server. This value is set in Windows or Linux only.

Default value

ISAM

During a new installation and setup of JP1/AJS3, EmbedDB is set.

Recommended value

The value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts or terminates

If you change this parameter, you must re-create the scheduler database.

(92) AJSDBDIRECTORY

Specify the name of the directory used to store the necessary information for performing JP1/AJS3 database operations. Specify the full path.

If you use multiple scheduler services, specify a directory that does not conflict with the directories of other scheduler services.

Note that, when you have changed the setting of this parameter, you must set up some functions again.

The following functions must be set up again:

- Suspend function

If you have enabled the suspend function, you must set up the suspend function again. Execute the `ajssetup` command, and enable the suspend function again.

For details about `ajssetup` command, see *ajssetup in 2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- Queueless jobs

If you are using queueless jobs, you must set up the queueless job execution environment again. Execute the `ajsqlsetup` command, and then set up the queueless job executable environment again.

For details about `ajsqlsetup` command, see *ajsqlsetup* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For a logical host in a cluster environment, perform the operations on the executing host or standby host when you can access the shared disk.

Format

```
"AJSDBDIRECTORY" = "database-directory-name"
```

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Do not use a semicolon (;) or spaces.

Default value

During a new installation and setup of JP1/AJS3, the following path is set:

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

```
%ALLUSERSPROFILE%  
\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\database\schedule\AJSROOT1
```

The default value of `%ALLUSERSPROFILE%` is `system-drive\ProgramData`.

A *folder protected by the system* is the path to a folder in any of the following:

- `system-drive\Windows`
- `system-drive\Program Files`
- `system-drive\Program Files (x86)`

- In Windows, if the installation folder is other than the above:

```
JP1/AJS3-Manager-installation-folder\database\schedule\AJSROOT1
```

- In UNIX:

```
/var/opt/jplajs2/database/schedule/AJSROOT1
```

Recommended value

The value set at the time of installation or setup.

When the setting takes effect

When the scheduler service starts or terminates

Cautionary notes

- For those users who define, execute, and reference jobnets, define the following permissions for the directory specified here and the files under the directory:
 - In Windows:
Read and write permissions
 - In UNIX:
Update permission (rwx)

- The directory specified here will contain the files needed to perform exclusive editing of the unit. Do not delete these files.
 - This directory must be created when you add a scheduler service.
 - In UNIX, do not create a symbolic link for a file created in the directory specified in this parameter. Use the directory specified in this parameter if you want to create a symbolic link.
- For this parameter, you cannot specify a directory mounted on an NFS file system or a similar file system connected to a network or a network drive.

(93) AJSSYSDIR (for scheduler service)

Use this parameter to specify the name of the directory in which you create the JP1/AJS3 system files. Specify a full path name.

Determine a name appropriate for the operating environment after estimating the amount of the required disk space.

If you use multiple scheduler services, specify a directory that does not conflict with the directories of other scheduler services.

For users with administrator permissions or superuser permissions, set the update permission (rwx for UNIX) for this directory. For all users, set the operation permission (rx for UNIX).

Format

```
"AJSSYSDIR" = "name-of-system-directory"
```

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Do not use a semicolon (;) or spaces.

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\sys\schedule*scheduler-service-name*
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\sys\schedule*scheduler-service-name*
- In UNIX:
/var/opt/jplajs2/sys/schedule/scheduler-service-name

If you have added a scheduler service, create this directory newly.

Recommended value

The value set at the time of installation or setup.

When the setting takes effect

When the scheduler service starts or terminates

(94) AJSLOGDIR (for scheduler service)

Use this parameter to specify the name of the directory in which JP1/AJS3 log files are created. Specify a full path name.

Determine a name appropriate for the operating environment after estimating the amount of the required disk space.

If you use multiple scheduler services, specify a directory that does not conflict with the directories of other scheduler services

For all users, set the update permission (rwx for UNIX) for this directory.

Format

"AJSLOGDIR" = "*name-of-directory-for-log-files*"

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Do not use a semicolon (;) or spaces.

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\schedule*scheduler-service-name*
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log\schedule*scheduler-service-name*
- In UNIX:
/var/opt/jp1ajs2/log/schedule/scheduler-service-name

If you have added a scheduler service, create this directory newly.

Recommended value

The value set at the time of installation or setup.

When the setting takes effect

When the scheduler service starts or terminates

(95) PREWAITUSE

Use this parameter to specify whether to use wait conditions.

Format

```
"PREWAITUSE" = "{yes|no}"
```

Specifiable values

yes

Wait conditions are used.

no

Wait conditions are not used.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Supplementary notes

- If you want to change the setting from `yes` to `no`, cancel the registration of all units with wait conditions before you change the setting to `no`. Alternatively, cold-start the scheduler service after changing the setting to `no`.
- Even if the setting is `no`, you can still define wait conditions. Note, however, that if you execute a unit with a wait condition, it will terminate abnormally.
- If the database configuration of JP1/AJS3 is a standard configuration or a standard configuration without ISAM, changing the setting to `yes` starts the flow control subprocess (`ajsf1bd`).

(96) PREWAITEXTEND

Use this parameter to extend the wait condition function. When the `PREWAITUSE` environment setting parameter is set to `yes`, specify for this parameter a value appropriate for the operating environment.

The setting of this parameter is ignored if `no` is specified for the `PREWAITUSE` environment setting parameter.

Format

```
"PREWAITEXTEND" = "{none|condition}"
```

Specifiable values

none

You can apply wait conditions to the following units:

Units capable of accepting wait conditions:

- A root jobnet without start conditions and its lower-level units
- Nested jobnet
- A root jobnet directly under a planning group and its lower-level units
- Standard job
- Jobnet connector
- Event job and custom event job in a jobnet
- Action job
- Custom job

- Passing information setting job
- HTTP connection job

Units specifiable as a unit whose end is being waited for:

- A root jobnet without start conditions and its lower-level units
- Nested jobnet
- Planning group
- Lower-level units in root jobnet directly under planning group
- Standard job
- Jobnet connector
- Event job and custom event job in a jobnet
- Action job
- Custom job
- Passing information setting job
- HTTP connection job

For details, see *Table 2-9 Units capable of accepting wait conditions and units specifiable as a unit whose end is being waited for in 2.2.5(1)(a) Units with wait conditions and units whose ends are being waited for in the JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide.*

condition

In addition to the case in which `none` is set, you can apply wait conditions to the following units.

Units capable of accepting wait conditions:

- Root jobnet with a start condition

Units specifiable as a unit whose end is being waited for:

- Root jobnet with a start condition

For details, see *Table 2-9 Units capable of accepting wait conditions and units specifiable as a unit whose end is being waited for in 2.2.5(1)(a) Units with wait conditions and units whose ends are being waited for in the JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide.*

Default value

`none`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(97) FLBDLOGSIZE

Use this parameter to specify the size of an internal log file for a flow control subprocess.

You do not need to specify this parameter if wait conditions will not be used (the `PREWAITUSE` environment setting parameter is set to `no`).

Because this log file is used to check the execution status of units with wait conditions, specify a size large enough for storing the log data of at least one day. For details about how to estimate the file size, see *3.4.6 Estimating the*

size of log files output by a flow control subprocess in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The two files whose size you specify here will be used as log files.

Format

"FLBDLOGSIZE" = dword:*size-of-flow-control-subprocess-internal-log-file*

Specifiable values

A hexadecimal value (in kilobytes) from 0 to 1E8480 (0 to 2,000,000 in decimal)

If you specify a value from 0 to 3, a log file is not created.

Default value

dword:00002800 (10,240 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(98) AGENTPROFMEMSIZE

Use this parameter to specify the size of memory that can be used by an execution agent profile.

If many units are specified in an execution agent profile, allocate only the amount of memory required for the execution agent profile. For details about how to estimate the size of memory used by an execution agent profile, see [21.1.2\(2\)\(a\) @SYS_RESTRICT_START](#).

The specified value needs to be added to the estimate for required memory.

If an attempt to allocate memory fails, an error message is output and the execution agent profile is not enabled.

Format

"AGENTPROFMEMSIZE" = dword:*memory-size-used-by-execution-agent-profile*

Specifiable values

A hexadecimal value (in kilobytes) from 200 to 1400 (512 to 5,120 in decimal)

Default value

dword:00000200 (512 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the JP1/AJS3 service starts

(99) UNITPROFMEMSIZE

Use this parameter to specify the size of memory that can be used by a unit-attribute profile.

If many units are specified in a unit-attribute profile, allocate only the amount of memory required for the unit-attribute profile. For details about how to estimate the size of memory used by a unit-attribute profile, see [21.1.4\(2\)\(a\) @SYS_PROFILE_START](#).

The specified value needs to be added to the estimate for required memory.

If an attempt to allocate memory fails, an error message is output and the unit-attribute profile is not enabled.

Format

"UNITPROFMEMSIZE" = dword:*memory-size-used-by-unit-attribute-profile*

Specifiable values

A hexadecimal value (in kilobytes) from 80 to 500 (128 to 1,280 in decimal)

Default value

dword:00000080 (128 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the JP1/AJS3 service starts

(100) UNITDEFDIVIDEUPDATE

Use this parameter to specify whether writing to a database during the following unit operations is to be divided into parts.

- `ajsdefine` command
- `ajscopy` command or copying of a unit in JP1/AJS3 - View
- `ajsrestore` command or restoration in JP1/AJS3 - View
- `ajsimport` command
- `ajssuspend` command or a suspension release in JP1/AJS3 - View
- `ajsdetele` command or deletion in JP1/AJS3 - View
- `ajsrelease` command or either a release entry or a release cancel in JP1/AJS3 - View

Format

"UNITDEFDIVIDEUPDATE" = "{yes|no}"

Specifiable values

yes

Writing to a database during unit operations is divided.

Division limits the consumption of an embedded database's exclusive resources to prevent a resource insufficiency.

no

Writing to a database during unit operations is not divided.

If a large number of units are operating at the same time, an embedded database's exclusive resources might become insufficient.

Default value

no

During a new installation of JP1/AJS3, `yes` is set.

During setup of a new scheduler service that uses an external database, `no` is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary notes

- If you have specified `yes` for this parameter, and an error occurs after unit information has been divided and written to the database, a unit whose unit information has been written up to the point of the error might be created or deleted. If an error occurs, restore the unit as described in the output message.
- If the total number of units subject to operations by commands or from JP1/AJS3 - View or JP1/AJS2 - View satisfies the following expression, specify `yes` for the `UNITDEFDIVIDEUPDATE` environment setting parameter.

$(a + b + c + d) / 4 \times 1.2 > 4,000$

a: *(total-number-of-job-groups x 2) + total-number-of-the-calendar-definition-year-items-defined-in-job-groups*

b: *(total-number-of-jobnets x 2) + total-number-of-the-schedule-rules-defined-in-all-jobnets*

c: *total-number-of-jobs x 2*

d: *total-number-of-relation-line-connections-defined-in-jobs-and-jobnets*

- It is generally unnecessary to change any of these values in an environment that uses an external database.

(101) EXECREGISTRATIONNUMBER

Use this parameter to specify whether the execution registration number is treated as a calendar date or an execution date.

Format

"EXECREGISTRATIONNUMBER" = "{calendar|execution}"

Specifiable values

`calendar`

The execution registration number is treated as a calendar date (this is the behavior in 09-10 and earlier versions).

`execution`

The execution registration number is treated as an execution date.

If a base time has been set or if the system operates on a 48-hour cycle, specify `execution` to ensure that a temporary-change operation is re-executed correctly.

Default value

`calendar`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary note

Do not change this parameter during operation. If you do so, the execution registration numbers in the temporary change information displayed in the JP1/AJS3 - View window or by using a command will no longer be consistent with the execution registration numbers held by JP1/AJS3. As a result, a temporary-change operation will not be re-executed correctly. If you change this parameter during operation, cold-start the scheduler service.

(102) SAVEPLANINFO

Use this parameter to specify whether to use the temporary-change operation and management functionality. This functionality allows you to display temporary change information and re-execute temporary-change operations. For details about this functionality, see *4.5.16 Displaying and re-executing temporary change operations for a job or jobnet* in the manual *JP1/Automatic Job Management System 3 Overview*.

Format

```
"SAVEPLANINFO" = "{yes|no}"
```

Specifiable values

yes

The temporary-change operation and management functionality is used.

no

The temporary-change operation and management functionality is not used.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary notes

- If `yes` is specified for this parameter and the base time is not set to `0:00`, or if `dword:00000030` is set for the `ROOTJOBNETSCHEDULERANGE` environment setting parameter, change the value of the `EXECREGISTRATIONNUMBER` environment setting parameter to `execution` to ensure that temporary-change operations are re-executed correctly.
- If you changed the parameter setting from `yes` to `no` during operation, cold-start the scheduler service. If you do not cold-start the scheduler service, the temporary change information file will not be deleted.
- For users who will display and re-execute temporary change operations for jobs and jobnets, set the update permission (`rxw` for UNIX) for the directory specified for the `JOBINFDIR` environment setting parameter. For details about the `JOBINFDIR` environment setting parameter, see *(54) JOBINFDIR*.

(103) DEFLENTYPE

Use this parameter to specify whether the number of characters that can be specified for the following items in a UTF-8 environment should conform to the number of characters that can be specified in a Shift JIS environment.

- Unit name of a unit detailed definition
- Comment for a unit detailed definition
- Exclusive jobnet name in the schedule settings

This environment setting parameter is automatically set by executing the `ajsembddbsetup` command and cannot be changed by the `jajs_config` command.

For details, see *15.1.10 Setting for changing the number of characters specifiable for a unit name in a UTF-8 environment*.

Format

```
"DEFLENTYPE" = "{byte|sjis}"
```

Specifiable values

byte

The number of usable characters is the number of characters after conversion to the number of bytes in a UTF-8 environment.

sjis

The number of usable characters is the same as that in a Shift JIS environment.

Default value

byte

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Supplementary note

If you specify the `-e byte` option for the `ajsembdbsetup` command, `byte` is set. If you specify the `-e sjis` option, `sjis` is set. If you specify the `-del` option, `byte` is set.

(104) CDSESSIONTIMEOUT

If JP1/AJS3 - Web Console cannot be communicated with even when the time specified in this parameter since the time of the last communication with JP1/AJS3 - Web Console has passed, JP1/AJS3 - Web Console is disconnected.

Format

```
"CDSESSIONTIMEOUT"=dword:timeout-period-for-connection-to-JP1/AJS3 - Web-Console
```

Specifiable values

A hexadecimal value (in minutes) from 1 to 78 (1 to 120 in decimal)

Default value

```
dword:00000003 (3 in decimal)
```

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary note

If the connection timeout period is long, the sessions in which communication is not performed remain for a long time, and the number of sessions might exceed the maximum number of allowed concurrent sessions for JP1/AJS3 - Web Console. Set an appropriate length for the connection timeout period in consideration of the maximum number of allowed concurrent sessions.

(105) CDMONSVRLOGSIZE

Use this parameter to specify the log size of the `ajsmnsvr` internal log to which JP1/AJS3 - Web Console is connected.

Format

```
"CDMONSVRLOGSIZE" = dword:size-of-ajsmnsvr-internal-log
```

Specifiable values

00000000 or a value in kilobytes from 00000400 to 00004000 in hexadecimal (in decimal 0 or a value from 1,024 to 16,384)

If you specify `dword:00000000`, the system does not create a log file.

Default value

`dword:00001000` (4,096 in decimal)

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

Supplementary note

When you change the log size, you must delete a specific file. The following describes how to change the log size:

1. Stop the scheduler service subject to the change of the log size of `ajsmonsvr` internal log.

2. Back up the `ajsmonsvr` internal log.

`ajsmonsvr` internal log storage folder: `Mgr_Path#\log`

#: For details about `Mgr_Path`, see *1.2.5 List of log files and directories* in the manual *JP1/Automatic Job Management System 3 Troubleshooting*.

3. Delete all the `ajsmonsvr` internal logs of which you want to change the log size.

Name of `ajsmonsvr` internal log file:

`ajscdmonsvr_scheduler-service-name_{1|2}.log`

4. Delete the management file for the `ajsmonsvr` internal log whose log size is to be changed.

Management file storage folder: `Mgr_Path\log\mmap`

Name of management file: `ajscdmonsvr_scheduler-service-name_.mm`

5. Change the value of the environment setting parameter.

6. Start the scheduler service stopped in step 1.

7. Check that a new `ajsmonsvr` internal log has been created.

(106) RERUNSUBORDINATE

Use this parameter to specify whether to re-execute dependent units. Specify `yes` to allow dependent units to be re-executed.

For details about this functionality, see *4.5.11 Rerunning a job or jobnet* in the manual *JP1/Automatic Job Management System 3 Overview*.

Format

`"RERUNSUBORDINATE" = "{yes|no}"`

Specifiable values

`yes`

A dependent unit can be re-executed.

`no`

A dependent unit cannot be re-executed.

Default value

no

The value `yes` is set if JP1/AJS3 is installed as a new installation or if a scheduler service is added.

Recommended value

yes

When the setting takes effect

When the scheduler service starts

(107) SERVICEMAXSESSION

Use this parameter to specify the maximum allowable number of simultaneous sessions for JP1/AJS3 - View for each scheduler service. If you attempt to connect from JP1/AJS3 - View when the specified number has been reached, the attempt will fail.

Specify this environment setting parameter to restrict the number of connections for each scheduler service. To restrict the maximum allowable number of simultaneous sessions for JP1/AJS3 - View according to the host rather than according to the scheduler service, use the `MAXSESSION` environment setting parameter. When you use the `SERVICEMAXSESSION` environment setting parameter, note the following:

- Make sure that the setting value of the `SERVICEMAXSESSION` environment setting parameter does not exceed the setting value of the `MAXSESSION` environment setting parameter.
- When there are multiple scheduler services, make sure that the total of the setting values of the `SERVICEMAXSESSION` environment setting parameter for all scheduler services does not exceed the setting value of the `MAXSESSION` environment setting parameter.

For example, if scheduler services `AJSROOT1` and `AJSROOT2` have been created and the setting value of the `MAXSESSION` environment setting parameter is 50 (default value), and the setting value of the `SERVICEMAXSESSION` environment setting parameter for `AJSROOT1` is 25, you must specify 25 or a smaller value for the `SERVICEMAXSESSION` environment setting parameter for `AJSROOT2`.

Format

"SERVICEMAXSESSION" = `dword:maximum-allowable-number-of-simultaneous-sessions-for-each-scheduler-service`

Specifiable values

A hexadecimal value from 00000000 to 00000080 (0 to 128 in decimal)

If you specify `dword:00000000`, JP1/AJS3 - View cannot be connected.

Default value

None.

If you do not set a value, no restrictions on the maximum allowable number of simultaneous sessions for a scheduler service are applied. Therefore, the maximum allowable number of simultaneous sessions for JP1/AJS3 - View will depend on the `MAXSESSION` environment setting parameter.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary notes

- Specify the `SERVICEMAXSESSION` environment setting parameter for all scheduler services. If this environment setting parameter is set for only some scheduler services on the same logical host or same physical hosts, but not for others, a message (KAVS1014-W) is output at scheduler service startup.
- If the maximum allowable number of simultaneous sessions has been exceeded, a message (KAVV452-E) is displayed in the JP1/AJS3 - View window (Summary Monitor window) for each monitored unit that is unable to establish a connection. This message is displayed whenever the window is updated.
- To disable the `SERVICEMAXSESSION` environment setting parameter, delete the definition key by using the `jobsunsetcnf` command, and then reset the other environment setting parameters of the deleted definition key. Before performing this operation, back up the definition beforehand by using the `jobsgetcnf` command.

(108) DEFAULTPRIORITY

Specify the default execution priority to be used if the execution priority of a job and of all upper-level jobnets is set to **None**.

For details about the job execution priority, see 2.1.4(2) *Execution priority* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For details about the value specified for the execution priority of jobs, see 7.11.2 *Notes on the execution priority of jobs* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

Format

"DEFAULTPRIORITY" = `dword:default-execution-priority-of-a-job`

Specifiable values

A hexadecimal value from 1 to 3 (1 to 3 in decimal)

Default value

`dword:00000001` (1 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

This setting does not apply to jobs for which the execution start processing has begun and for which the job status is *Waiting to execute*, *Now queuing*, or *Now running*.

Supplementary note

If you specify an execution priority that is higher than that of other processes, a job process started from JP1/AJS3 might use a large portion of the CPU, thus affecting other processes. For this reason, you cannot specify 4 or 5 for the `DEFAULTPRIORITY` environment setting parameter. If it is necessary to specify an execution priority of 4 or 5 for a certain job, carefully consider the system environment and the manner in which operations are performed, and then specify the execution priority of the job in the job definition.

(109) AJSPRINTSORTUNITINF

Use this parameter to determine whether to fix the order of relation line information entries that are output when the `ajsp rint` command is executed with the `-f` or `-a` option specified. If the `-f` option is specified, each entry of relation line information is output as the value represented by the `%ar` format indicator. If the `-a` option is specified, each entry of relation line information is output as the `ar` parameter.

If the `ajsprint` command is executed without specifying the `-s` option, the command uses the `AJSPRINTSORTUNITINF` environment setting parameter instead of the `-s` option.

If the values of the `-s` option and the `AJSPRINTSORTUNITINF` environment setting parameter are different, the `-s` option takes precedence over the parameter.

For details about the `ajsprint` command, see *ajsprint* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Format

```
"AJSPRINTSORTUNITINF" = "{yes|no}"
```

Specifiable values

`yes`

Fixes the output order of relation line information entries for units. If `yes` is specified, the following rules apply when relation line information entries are output:

1. Entries are output in ascending order of the character codes of the preceding unit names.
2. Entries whose preceding units are the same are output in ascending order of character codes of the succeeding unit names.

`no`

Does not fix the output order of relation line information entries for units. If `no` is specified, the output order of relation line entries depends on the unit creation order.

Default value

`no`

During a new installation of JP1/AJS3, `yes` is set.

Recommended value

`yes`

When the setting takes effect

When the scheduler service starts

(110) PREWAITRERUNSTATUS

Use this parameter to specify whether to complete waiting when the unit succeeding the unit whose end is being waited for is re-executed. For details, see *2.2.5(4)(d) Treatment of a wait condition when the succeeding unit of a unit, whose end is being waited for, is rerun* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

The setting of this parameter is ignored if `no` is specified for the `PREWAITUSE` environment setting parameter.

Format

```
"PREWAITRERUNSTATUS"="{yes|no}"
```

Specifiable values

`yes`

Waiting is not complete even if the status of the unit whose end is being waited for changes to *Ended normally*, *Ended with warning*, or *Bypassed* because its succeeding unit is re-executed.

Waiting is complete when the unit whose end is being waited for is re-executed.

no

Waiting is complete when the status of the unit whose end is being waited for changes to *Ended normally*, *Ended with warning*, or *Bypassed* because its succeeding unit is re-executed.

Default value

no

During a new installation and setup of JP1/AJS3, yes is set.

Recommended value

yes

When the setting takes effect

When the scheduler service starts

Cautionary note

Assume that you change the value of this parameter from no to yes during operation. Even in such a case, waiting is complete if the status of the unit whose end is being waited for has changed to *Ended normally*, *Ended with warning*, or *Bypassed* before the parameter value is changed.

(111) NETCOMMENTEVENT

Use this parameter to specify whether comments about units are to be output to an extended attribute (specific information) for JP1 events whose OBJECT_TYPE extended attribute (common information) is JOBNET.

You can specify whether to output a comment according to the value of the SEVERITY extended attribute (common information).

For details about SEVERITY, an extended JP1 event attribute (common information), see the following part in *A.2 JP1 event attributes* in the *JP1/Automatic Job Management System 3 Administration Guide*.

- Attribute type: Extended, Common information
- Type: Severity
- Attribute name: SEVERITY

Format

```
"NETCOMMENTEVENT"="{none|{error:warn:notice:info}|all}"
```

Specifiable values

none

Comments about units are not output.

error

Comments about units are output for JP1 events whose SEVERITY extended attribute (common information) is Error.

warn

Comments about units are output for JP1 events whose SEVERITY extended attribute (common information) is Warning.

notice

Comments about units are output for JP1 events whose SEVERITY extended attribute (common information) is Notice.

info

Comments about units are output for JP1 events whose SEVERITY extended attribute (common information) is Information.

all

Comments about units are output for all JP1 events regardless of the value of the SEVERITY extended attribute (common information).

Default value

none

The value all is set when JP1/AJS3 is installed as a new installation or when a scheduler service is added.

Recommended value

all

When the setting takes effect

When the scheduler service starts

Cautionary note

This note applies if the version of JP1/IM - Manager is 11-00 to 11-10 and you check the comment on an extended attribute (specific information) in the Event Details window of JP1/IM - View. In this case, in JP1/IM - Manager's definition file for the extended event attributes (extended file), A6 must be specified as the name of the extended attribute (specific information) that indicates a comment on a unit. If the version of JP1/IM - Manager is 10-50 or earlier, you will be unable to check the comment. If the version of JP1/IM - Manager is 11-50 or later, it is unnecessary to specify settings in the definition file for the extended event attributes (extended file).

For details about the definition file for extended event attributes (extended file), see the manual *JP1/Integrated Management 3 - Manager Command, Definition File and API Reference*.

(112) JOBCOMMENTEVENT

Use this parameter to specify whether comments about units are to be output to an extended attribute (specific information) for JP1 events whose OBJECT_TYPE extended attribute (common information) is JOB.

Note, however, that this parameter does not apply to JP1 events whose event ID is in the range from 000041B0 to 000041B9.

You can specify whether to output a comment according to the value of the SEVERITY extended attribute (common information).

For details about SEVERITY, an extended JP1 event attribute (common information), see the following part in *A.2 JP1 event attributes* in the *JP1/Automatic Job Management System 3 Administration Guide*.

- Attribute type: Extended, Common information
- Type: Severity
- Attribute name: SEVERITY

Format

```
"JOBCOMMENTEVENT"="{none|{error:warn:notice:info}|all}"
```

Specifiable values

none

Comments about units are not output.

error

Comments about units are output for JP1 events whose SEVERITY extended attribute (common information) is Error.

warn

Comments about units are output for JP1 events whose SEVERITY extended attribute (common information) is Warning.

notice

Comments about units are output for JP1 events whose SEVERITY extended attribute (common information) is Notice.

info

Comments about units are output for JP1 events whose SEVERITY extended attribute (common information) is Information.

all

Comments about units are output for all JP1 events regardless of the value of the SEVERITY extended attribute (common information).

Default value

none

The value all is set when JP1/AJS3 is installed as a new installation or when a scheduler service is added.

Recommended value

all

When the setting takes effect

When the scheduler service starts

Cautionary note

This note applies if the version of JP1/IM - Manager is 11-00 to 11-10 and you check the comment on an extended attribute (specific information) in the Event Details window of JP1/IM - View. In this case, in JP1/IM - Manager's definition file for the extended event attributes (extended file), A6 must be specified as the name of the extended attribute (specific information) that indicates a comment on a unit. If the version of JP1/IM - Manager is 10-50 or earlier, you will be unable to check the comment. If the version of JP1/IM - Manager is 11-50 or later, it is unnecessary to specify settings in the definition file for the extended event attributes (extended file).

For details about the definition file for extended event attributes (extended file), see the manual *JP1/Integrated Management 3 - Manager Command, Definition File and API Reference*.

(113) TRACELOGDIVDIR

Use this parameter to specify the full path name of the directory to which trace log files are to be output for individual scheduler services. The scheduler trace information of the scheduler service specified in the definition key is recorded in units of scheduler service under the directory specified in this parameter.

You can set this parameter only if yes is specified for the TRACELOGDIV environment setting parameter.

When trace information is output, each trace log file is newly generated with the file name `tracelog_scheduler-service-name`. Make sure that no other file with the same name as a trace log file exists under the specified directory.

Format

"TRACELOGDIVDIR"="*name-of-the-directory-to-store-the-trace-log-file-for-individual-scheduler-services*"

Specifiable values

A character string of no more than 215 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log
- In UNIX:
/var/opt/jp1ajs2/log

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary notes

- Grant update permissions (rwx in UNIX) for the directory specified for this parameter to users who have administrator or superuser permissions.
- Be sure to specify a directory on the local disk to ensure that trace information is recorded correctly.
- If this parameter is omitted or no value is set for this parameter, the default is assumed.
- If the directory is specified for this parameter does not exist, trace log files for individual scheduler services will not be output.

(114) AJSREPORTUSE

Use this parameter to specify whether to use the performance report output function.

Format

```
"AJSREPORTUSE"="{yes|no}"
```

Specifiable values

yes

The performance report output function is enabled.

no

The performance report output function is disabled.

Default value

no

During a new installation and setup of JP1/AJS3, yes is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(115) AJSREPORTDIR

Specify the directory to which performance log files are to be output. Try specifying this parameter in the following cases:

- If you want to save performance log files to a storage location other than the default location in situations where information needs to be managed in one location
- If you want to save performance log files to another disk so that they will not be lost in the event of a disk failure or other error

Format

"AJSREPORTDIR"="*path-to-directory-for-performance-log-files*"

Specifiable values

- In Windows:
A character string of no more than 180 bytes
- In UNIX:
A character string of no more than 191 bytes

Default value

During a new installation and setup of JP1/AJS3, the following path is set.

In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

- For a physical host:
`%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\schedule\scheduler-service-name\ajsreport`

The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.

A folder protected by the system is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

- For a logical host:
`shared-folder\JP1AJS2\log\schedule\scheduler-service-name\ajsreport`

In Windows, if the installation folder is other than the above:

- For a physical host:
`JP1/AJS3-Manager-installation-folder\log\schedule\scheduler-service-name\ajsreport`
- For a logical host:
`shared-folder\JP1AJS2\log\schedule\scheduler-service-name\ajsreport`

In UNIX:

- For a physical host:
`/var/opt/jp1ajs2/log/schedule/scheduler-service-name/ajsreport`
- For a logical host:
`shared-directory/jp1ajs2/log/schedule/scheduler-service-name/ajsreport`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary note

- This parameter takes effect only if `yes` is specified for the `AJSREPORTUSE` parameter.
- You cannot specify a drive, or a root directory.

(116) AJSREPORTSTOREDAYPERIOD

Specify the minimum retention period for performance log files in units of days. If the number of jobs that are run is fewer than expected, performance log files might be retained for longer than the specified period.

The number of days to be specified for this parameter determines the maximum size of performance log files. For details about the size of the performance log files, see the *3.4.8 Estimating the size of performance log files* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

```
"AJSREPORTSTOREDAYPERIOD"=dword:minimum-retention-period-for-performance-log-files
```

Specifiable values

1 to 15 in hexadecimal (1 to 21 in decimal) (unit: days)

Default value

```
dword:7 (7 in decimal)
```

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary note

This parameter takes effect only if `yes` is specified for the `AJSREPORTUSE` parameter.

(117) ENHANCEDBACKUP

Specify whether to use the function that creates a backup during operation (backup enhancement function).

You can specify this environment setting parameter only when an embedded database is used as the JP1/AJS3 - Manager database. Because this parameter is set during the setup of the embedded database, do not change the setting of this parameter by using any method other than the embedded database setup command.

Format

```
"ENHANCEDBACKUP" = "{yes|no}"
```

Specifiable values

`yes`

The backup enhancement function is used.

`no`

The backup enhancement function is not used.

Default value

no

Recommended value

Because this parameter is specified when the embedded database setup command is executed, do not change the setting.

When the setting takes effect

When the embedded database is set up

(118) CONDGENWARNINT

Specify the interval (in minutes) for checking the number of retained execution generations of the jobnets with start conditions when, for example, specific events occur in succession during the monitoring of multiple conditions by using an AND condition.

If the number of retained execution generations reaches the value specified for the CONDGENWARNNUM environment setting parameter, the KAVS1157-W message is output.

Format

"CONDGENWARNINT" = dword:*interval-for-checking-the-number-of-retained-generations*

Specifiable values

A hexadecimal value (in minutes) from 00000000 to 000005A0 (0 to 1,440 in decimal)

If you specify dword:00000000, the message will not be output.

Default value

dword:00000000 (0 in decimal)

During a new installation and setup of JP1/AJS3, dword:0000003C (60 in decimal) is set.

Recommended value

Set 1 or a greater value according to the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary note

The check starts after the specified time (minutes) has elapsed after the scheduler service restarts or after the last time that the check was performed.

Therefore, the check interval might be longer than the specified time.

(119) CONDGENWARNNUM

Specify the number of retained execution generations after which a message is output for the jobnets with start conditions when, for example, specific events occur in succession during the monitoring of multiple conditions by using an AND condition.

If the number of retained execution generations reaches the specified value, the KAVS1157-W message is output.

Format

"CONDGENWARNNUM" = dword:*threshold-for-the-number-of-retained-generations*

Specifiable values

A hexadecimal value from 00000001 to 7FFFFFFF (1 to 2,147,483,647 in decimal)

Default value

dword:000007D0 (2,000 in decimal)

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

Cautionary notes

- If you change this parameter, verify that performance is not affected if a jobnet with start conditions has multiple execution generations.
- There are two types of execution generations in *Wait for start cond.* status for which the conditions have not yet been met: execution generations in which only a specific event has occurred in succession among the multiple conditions monitored by the AND condition, and execution generations in which no event has yet occurred, which is generated when the monitoring generations are in *Now monitoring* status. The number of execution generations in which only a specific event has occurred in succession among multiple conditions monitored by the AND condition is calculated by subtracting the number of monitoring generations in *Now monitoring* status from the number of execution generations in *Wait for start cond.* status for which the conditions have not yet been met.

(120) MULTIMONWARNNUM

Specify the number of monitoring generations whose status is *Now monitoring* after which a message is output after monitoring of a jobnet with start conditions starts and the KAVS0240-I message is output.

If the number of monitoring generations whose status is *Now monitoring* reaches the specified value, the KAVS1156-W message is output.

Format

"MULTIMONWARNNUM" = dword:*threshold-for-the-number-of-monitoring-generations*

Specifiable values

00000000 or a value from 00000002 to 00001F40 in hexadecimal (in decimal 0 or a value from 2 to 8,000)

If you specify dword:00000000, the message will not be output.

Default value

dword:00000000 (0 in decimal)

During a new installation and setup of JP1/AJS3, dword:00000003 (3 in decimal) is set.

Recommended value

dword:00000003 (3 in decimal)

When the setting takes effect

When the scheduler service starts

(121) FLSTARTPERFIMP

Specify whether to improve the startup processing of the scheduler service in the following cases:

- Improve the processing to ensure that startup finishes even if the startup processing of the scheduler service takes a long time.
- Improve the startup processing of the scheduler service if a generation ended abnormally or if a jobnet with start conditions has many generations.

Format

```
"FLSTARTPERFIMP"="{ yes | no } "
```

Specifiable values

yes

The startup processing of the scheduler service is improved.

no

The startup processing of the scheduler service is not improved.

Default value

no

During a new installation and setup of JP1/AJS3, *yes* is set.

Recommended value

yes

When the setting takes effect

When the scheduler service starts

Cautionary note

If you change the setting of this parameter to *yes*, you also need to set the `CONDGENWARNINT` and `MULTIMONWARNNUM` environment setting parameters or use the `ajsshow` command to confirm the number of generations for the jobnet with start conditions. For details about the `ajsshow` command, see *ajsshow* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(122) PREWAITNOSCHUNITS

If wait conditions are set for a unit that is not scheduled for execution, the setting of this item determines whether a wait occurs when the unit satisfies its execution conditions (for example, execution of the preceding job or jobnet ends). Before you set this parameter, make sure that *yes* is set for the `PREWAITUSE` environment setting parameter.

Format

```
"PREWAITNOSCHUNITS"="{ yes | no } "
```

Specifiable values

yes

If wait conditions are set for a unit that is not scheduled for execution, a wait occurs when the unit satisfies its execution conditions.

no

If wait conditions are set for a unit that is not scheduled for execution, a wait does not occur when the unit satisfies its execution conditions.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

Cautionary notes

- The setting of this parameter is ignored if *no* is specified for the `PREWAITUSE` environment setting parameter.

- Because this parameter affects wait operation, we recommend that you change the setting of this parameter after all units with wait conditions have ended.

(123) SCHEDULELIMIT

Specify the last year of the range in which jobs can be scheduled.

For details, see [6.1.13 Settings to change the last schedulable year for jobs](#) (for Windows) or [15.1.14 Settings to change the last schedulable year for jobs](#) (for UNIX).

Format

```
"SCHEDULELIMIT"=dword:upper-limit-of-usable-years
```

Specifiable values

A hexadecimal value from 7F4 to 833 (2036 to 2099 in decimal)

Default value

```
dword:000007F4 (2036 in decimal)
```

During a new installation and setup of JP1/AJS3, dword:000007FB (2043 in decimal) is set.

Recommended value

```
dword:000007FB (2043 in decimal)
```

When the setting takes effect

When the scheduler service starts

Cautionary notes

- We recommend that you do not reduce the schedulable range because this requires a complex procedure. For details about the procedure in Windows for reducing the range in which jobs can be scheduled, see [6.1.13\(2\) Procedure for reducing the schedulable range](#). For details about the procedure in UNIX, see [15.1.14\(2\) Procedure for reducing the schedulable range](#).
- In a cluster environment, set the same value for the SCHEDULELIMIT environment setting parameter on the active and standby servers.

(124) AJSODBC_DSNAME

If you want to use an external database, specify the name of the ODBC file data source.

Usually, you do not need to change this value.

Format

```
"AJSODBC_DSNAME"="ODBC-file-data-source-name"
```

Specifiable values

In Windows:

A character string of no more than 255 bytes

In Linux:

A character string of no more than 128 bytes

Default value

None

Recommended value

A value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts

(125) AJSODBC_DBNAME

If you want to use an external database, specify the name of the database.

Usually, you do not need to change this value.

Format

```
"AJSODBC_DBNAME"="database-name"
```

Specifiable values

A character string of no more than 128 bytes

Default value

None

Recommended value

A value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts

(126) STDFILEOUTDIR

If you use the external database, specify the full path name of the directory for storing standard output files and standard error output files for the job specified in the `ajssh` command.

Format

```
"STDFILEOUTDIR"="name-of-the-directory-in-which-standard-output-files-and-standard-error-output-files-are-stored"
```

Specifiable values

A character string of no more than 180 bytes

Default value

None

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately

Cautionary notes

- Before a user runs the `ajssh` command, grant update permission (`rwX` in UNIX) on the directory specified for this parameter to that user.
- In Windows, if you specify a system-protected folder for this parameter, and a user who does not have permission to write to that folder runs the `ajssh` command, the command will be unable to create files.

A folder protected by the system is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

- Always specify an existing directory. If the specified directory does not exist, the `aj s show` command terminates abnormally during execution.
- To set up multiple schedulers, specify a different directory for each scheduler service.
- The standard output files and standard error output files that are output to the specified directory are not deleted automatically. Manually delete those files on a regular basis.

(127) GWMAXCONNECTION

Use this parameter to specify the maximum number of concurrent connections used for communication by the scheduler service inter-communication control process (`ajsgwd.exe` for Windows and `ajsgwd` for UNIX).

In the following cases, you do not need to estimate or change the value of this environment setting parameter:

- No jobnet connectors and connection-destination jobnets are used in the system.
- Jobnet connectors and connection-destination jobnets are used in the system, but execution sequence control for different scheduler services is not used.

If execution sequence control for different scheduler services is used, you must determine the value to be specified for `GWMAXCONNECTION` environment setting parameter by using the method for estimating the maximum number of concurrent connections for physical and logical hosts. If the maximum number of concurrent connections exceeds the specified value, the process that controls communication between scheduler services might fail to communicate.

Format

"GWMAXCONNECTION" = `dword:maximum-concurrent-connections`

Specifiable values

A hexadecimal value from A to 400 (10 to 1,024 in decimal)

Default value

`dword:A` (10 in decimal)

Recommended value

The value determined by using the method for estimating the maximum number of concurrent connections

When the setting takes effect

When the JP1/AJS3 service starts

Supplementary note

To estimate the maximum number of concurrent connections for physical and logical hosts, follow the procedure described below.

If the estimated value is less than 10, you do not need to change the default value.

1. For all scheduler services configured on the host, list the jobnet connectors and connection-destination jobnets for which **Other service** is specified for **Connection range**.

These jobnets are those for which the letter `y` is output when the `aj s print` command with the format indicator `%Ce` specified for the `-f` option is executed. For the command syntax, see *aj s print* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Count the number of connection destination hosts. Count jobnet connectors and connection-destination jobnets listed in 1. that have the same value for Host to connect as a single host.

To output the value of **Host to connect**, execute the `aj s print` command with the format indicator `%Ch` specified for the `-f` option.

3. Calculate the maximum number of concurrent connections by using the following formula:

2 x number-of-connection-destination-hosts-counted-in-2.

(128) GWPROCESSHA

Specify whether to terminate the process (`ajsgwmasterd.exe` for Windows and `ajsgwmasterd` for UNIX) that manages the scheduler service inter-communication control process if the scheduler service inter-communication control process (`ajsgwd.exe` for Windows and `ajsgwd` in UNIX) terminates abnormally.

Format

```
"GWPROCESSHA" = "{yes|no}"
```

Specifiable values

yes

The process that manages the scheduler service inter-communication control process (`ajsgwmasterd.exe` for Windows and `ajsgwmasterd` for UNIX) is terminated.

In UNIX, you start the JP1/AJS3 service by executing the `jaajs_spmd` command with the `-HA` option specified, when using a logical host in a cluster configuration, all instances of the JP1/AJS3 service terminate.

no

The process (`ajsgwmasterd.exe` for Windows and `ajsgwmasterd` for UNIX) that manages the scheduler service inter-communication control process is not terminated.

In UNIX, if you start the JP1/AJS3 service by executing the `jaajs_spmd` command with the `-HA` option specified when using a logical host in a cluster configuration, operation can continue. This is because you can use functions other than the execution order control function for root jobnets between scheduler services.

Default value

no

Recommended value

Default value

When the setting takes effect

When the JP1/AJS3 service starts

(129) GWRESTARTCOUNT

Use this parameter to specify the number of times automatic restart is to be attempted if the scheduler service inter-communication control process terminates abnormally.

Format

```
"GWRESTARTCOUNT" = dword:number-of-restarting-scheduler-service-inter-communication-control-process
```

Specifiable values

A hexadecimal value from 0 to 3 (0 to 3 in decimal)

Default value

```
dword:00000003 (3 in decimal)
```

Recommended value

Default value

When the setting takes effect

When the JP1/AJS3 service starts

20.5 Setting up the job execution environment

This section describes the environment setting parameters for the job execution environment.

20.5.1 List of the environment setting parameters for the job execution environment

The job execution environment requires different settings in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

The table below lists the environment setting parameters to be used to set the job execution environment in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

The job execution control manager that is started is determined by the job type.

- The job execution control manager for scheduler services, which executes PC jobs, Unix jobs, flexible jobs, HTTP connection jobs, action jobs, and custom jobs and starts them for each scheduler service
- The job execution control manager for submit jobs, which executes queue jobs and submit jobs

For which job execution manager type you need to specify an environment setting parameter, see the *Applicable manager* column.

Some environment setting parameters for scheduler services have two definition keys. One definition key is used to set a value common to all scheduler services (*SCHEDULER* is part of a key name). The other definition key is used to set a different value for each scheduler service (*scheduler-service-name* is part of a key name). If you specify both definition keys, the definition key for setting a different value for each scheduler service is valid.

For definition keys used to set a common value for the scheduler services, you will see the following text: *For scheduler service (common)*. For definition keys used to set different values for the scheduler services, you will see the following text: *For scheduler service (individual)*.

For definition keys for the job execution control manager for submit jobs, you will see the following text: For submit jobs.

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column. To determine whether an environment setting parameter is to be set in the manager environment (JP1/AJS3 - Manager) or the agent environment (JP1/AJS3 - Agent), see the *Applicable product* column.

Cautionary note on limiting resources in the job execution environment for UNIX

If you limit the resources for jobs executed from job execution control, the system might not be able to execute the jobs correctly, depending on the values specified in the environment setting parameters. For example, if you set 0 for the upper limit of the stack segment size, the system might not be able to execute jobs.

Therefore, make sure that you specify either limit values that have sufficient margin or do not specify limits. If you want to set a limit, first execute the `ps` command to check the segment size and CPU time, and then determine the values to be specified based on the data. Note, however, that even if you do not set limits, it does not mean there are no limits on resources. It only means that JP1/AJS3 does not explicitly set limits, and the default limits of the system (the one in which JP1/AJS3 was started) are in effect.

There are some environment setting parameters that are not subject to the OS limits.

If a value larger than the default limit is specified, the job execution user must have the appropriate permission (superuser). If the job execution user does not have the appropriate permission, the resource limit is not set when a job is executed and a warning message (KAVU3587-W) is output to the integrated trace log. That message reports that the job is executed with the default limit.

Limits placed on resources also apply to any child processes created by the job process (unless specific limits are set on a child process).

For AIX and Linux, although you use `/etc/security/limits` (In Linux, `/etc/security/limits.conf`) to define resource limits for the user who executes the job, those values do not take effect when a job is executed. In this case, you need to define resource limits for the user when JP1/AJS3 (root) is started.

For details, see the section corresponding to the type of job in the following manual:

- For Unix jobs
See *7.4 Notes on using Unix jobs* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.
- For flexible jobs
See *7.8 Notes on using flexible jobs* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.
- For HTTP connection jobs
See *7.9 Notes on using HTTP connection jobs* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

Table 20–4: Environment setting parameters (job execution environment setting)

No.	Definition key	Environment setting parameter	Definition	Applicable manager	Applicable OS	Applicable product
1	[{{JP1_DEFAULT logical-host-name}} \JP1NBQMANAGER\Process]#	"WorkPath"=	Work directory name when a manager process is executed	C	Windows UNIX	M
2		"IsHA"=	Definition for cluster environment setup for manager processes	C, S	Windows UNIX	M
3	[{{JP1_DEFAULT logical-host-name}} \JP1NBQMANAGER\Database]#	"DatabasePath"=	Name of the directory used to store the database	C	Windows UNIX	M
4		"PreserveTerm"=	Number of days that job execution results are retained	C	Windows UNIX	M
5		"StandardTime"=	Standard time for deleting job information	C	Windows UNIX	M
6		"FlashOption"=	Data file update mode	C	Windows UNIX	M
7		"DeleteFlashOption"=	Asynchronous option for job information deletion	C	Windows UNIX	M
8		"PreserveMinute"=	Retention period for information when 0 is specified as the number of days for retaining job information	C	Windows UNIX	M
9		"StartupDelete"=	Option for suppressing job information deletion when the JP1/AJS3 service starts	C	Windows UNIX	M

No.	Definition key	Environment setting parameter	Definition	Applicable manager	Applicable OS	Applicable product
10	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Database]#	"ColdStartMode"=	Database initialization when the JP1/AJS3 service is cold-started	C	Windows UNIX	M
11	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Queue]#	"MaximumQueue"=	Maximum number of definable queues	C	Windows UNIX	M
12	<ul style="list-style-type: none"> For scheduler service (common): [{JP1_DEFAULT <i>logical-host-name</i>} \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# For scheduler service (individual): [{JP1_DEFAULT <i>logical-host-name</i>} \JP1AJSMANAGER\scheduler-service-name\QUEUE\MANAGER\Job]# For submit jobs: [{JP1_DEFAULT <i>logical-host-name</i>} \JP1NBQMANAGER\Job]# 	"MaximumContentJob"=	Maximum number of jobs in the system	C, S	Windows UNIX	M
13		"AlertContentJob"=	Number of warning jobs in the system	C, S	Windows UNIX	M
14		"AlarmContentJobEventInterval"=	Interval for issuing a JP1 event when the number of warning jobs in the system reaches the threshold	S	Windows UNIX	M
15		"ReceiveFileSizeStatus"=	Behavior when the size of the job result file or transfer file has reached the upper limit	C, S	Windows UNIX	M
16		"LimitReceiveFileSize"=	Upper limit on the size of the job result file or transfer file	C, S	Windows UNIX	M
17		"ReceiveFileOption"=	Definition for preventing duplicated reception of the job result file	C, S	Windows UNIX	M
18		"QueuingJobRecoveryTime"=	Length of time an agent waits for recovery from a failure occurring in a queuing job	C, S	Windows UNIX	M
19		"ExecutingJobRecoveryTime"=	Length of time an agent waits for recovery from a failure occurring in a running job	C, S	Windows UNIX	M
20		"MaximumExecJobLogOption"=	Setting for whether to output a message confirming that the maximum number of concurrently executable jobs has been reached	C, S	Windows UNIX	M
21		"MaximumExecJobLogInterval"=	Interval for outputting a message confirming that the maximum number of concurrently executable jobs has been reached	C, S	Windows UNIX	M
22	"PreventChangeJobOrder"=	Setting for preventing changes to the execution order of submit jobs	C	Windows UNIX	M	

No.	Definition key	Environment setting parameter	Definition	Applicable manager	Applicable OS	Applicable product
23	<ul style="list-style-type: none"> For scheduler service (common): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# 	"EnumJobSaveMemory"=	Setting for reducing the memory consumed by the job execution control manager when job information is enumerated	C	Windows UNIX	M
24	<ul style="list-style-type: none"> For scheduler service (individual): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name\QUEUE\MANAGER\Job]# For submit jobs: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Job]# 	"ExecutingJobChangeStatus"=	Setting for placing all jobs that are being executed in an end status when a communication error occurs	C, S	Windows UNIX	M
25	<ul style="list-style-type: none"> For scheduler service (common): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Network]# For scheduler service (individual): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name\QUEUE\MANAGER\Network]# 	"ConnectTimeout"=	Timeout period for TCP/IP connections from the manager process for job execution control, to the status reporting process for job execution control	C, S	Windows UNIX	M
26	<ul style="list-style-type: none"> For submit jobs: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Network]# 	"CommunicateRetryCount"=	Number of retries for TCP/IP connections from the manager process for job execution control, to the status reporting process for job execution control	C, S	Windows UNIX	M
27	<ul style="list-style-type: none"> For submit jobs: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Network]# 	"CommunicateRetryInterval"=	Retry interval for TCP/IP connections from the manager process for job execution control, to the status reporting process for job execution control	C, S	Windows UNIX	M
28	<ul style="list-style-type: none"> For scheduler service (common): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Agent]# 	"MaximumAgent"=	Maximum number of definable agents	C	Windows UNIX	M
29	<ul style="list-style-type: none"> For scheduler service (individual): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name\QUEUE\MANAGER\Agent]# 	"ObserveInterval"=	Agent monitoring interval	C, S	Windows UNIX	M
30	<ul style="list-style-type: none"> For submit jobs: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Network]# 	"AutoCreate"=	Control flag for automatic agent definition	C, S	Windows UNIX	M
31	<ul style="list-style-type: none"> For submit jobs: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Network]# 	"AutoCreateExecJobs"=	Maximum number of concurrently executable jobs when an agent is defined automatically	C, S	Windows UNIX	M
32	<ul style="list-style-type: none"> For submit jobs: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Network]# 	"AutoCreateMaxJobs"=	Maximum number of jobs when an agent is defined automatically	C	Windows UNIX	M

No.	Definition key	Environment setting parameter	Definition	Applicable manager	Applicable OS	Applicable product
33	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Agent] #	"AutoCreateWarnJobs"=	Warning value for the number of jobs when an agent is defined automatically	C	Windows UNIX	M
34		"AutoCreatePriority"=	Agent priority when an agent is defined automatically	C	Windows UNIX	M
35		"LeastRecentlyUsed"=	Definition of the method for determining the agent host to which jobs are distributed	C, S	Windows UNIX	M
36	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQMANAGER\Resource] #	"MaximumResource"=	Maximum number of definable execution-locked resources	C	Windows UNIX	M
37	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQAGENT\Process] #	"WorkPath"=	Name of the work directory when an agent process is executed	--	Windows UNIX	M, A, ME
38		"IsHA"=	Definition for cluster environment step for agent processes	--	Windows UNIX	M, A, ME
39	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQAGENT\Job] #	"IsExecFindExecutable"=	Definition for executing a job with a long file name	--	Windows	M, A, ME
40		"LoadUserProfile"=	Definition for whether a user profile is loaded	--	Windows	M, A, ME
41		"IsAccessTokensCache"=	Setting for reusing an access token when a job is executed	--	Windows	M, A, ME
42		"ENABLE_LONG_EXT"=	Setting for whether to execute a job specified for an executable file whose extension is 4 bytes or more in an application associated with the executable-file extension	--	Windows	M, A, ME
43		"IsLimitCoreSize"=	Limit flag for the maximum core file size for each process	--	UNIX	M, A, ME
44		"LimitCoreSize"=	Maximum core file size for each process	--	UNIX	M, A, ME
45		"IsLimitDataSize"=	Limit flag for the maximum data segment size for each process	--	UNIX	M, A, ME
46		"LimitDataSize"=	Maximum data segment size for each process	--	UNIX	M, A, ME

No.	Definition key	Environment setting parameter	Definition	Applicable manager	Applicable OS	Applicable product
47	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQAGENT \Job] #	"IsLimitFileSize"=	Limit flag for the maximum permanent file size for each process	--	UNIX	M, A, ME
48		"LimitFileSize"=	Maximum permanent file size for each process	--	UNIX	M, A, ME
49		"IsLimitMemorySize"=	Limit flag for the maximum memory size for each process	--	UNIX	M, A, ME
50		"LimitMemorySize"=	Maximum memory size for each process	--	UNIX	M, A, ME
51		"IsLimitStackSize"=	Limit flag for the maximum stack segment size for each process	--	UNIX	M, A, ME
52		"LimitStackSize"=	Maximum stack segment size for each process	--	UNIX	M, A, ME
53		"IsLimitCpuTime"=	Limit flag for the maximum CPU time for each process	--	UNIX	M, A, ME
54		"LimitCpuTime"=	Maximum CPU time for each process	--	UNIX	M, A, ME
55		"IsLimitWorkingSetSize"=	Limit flag for the maximum working set size for each process	--	UNIX	M, A, ME
56		"LimitWorkingSetSize"=	Maximum working set size for each process	--	UNIX	M, A, ME
57		"IsLimitNoFile"=	Limit flag for the maximum number of file descriptors for each process	--	UNIX	M, A, ME
58		"LimitNoFile"=	Maximum number of file descriptors for each process	--	UNIX	M, A, ME
59		"PipeCommunicationTimeout"=	Definition of the pipe communication timeout value for agents	--	UNIX	M, A, ME
60		"AfterForkPipeTimeout"=	Definition of the timeout value for the job process execution ready notification	--	UNIX	M, A, ME
61	"IsCacheCommandSearchPath"=	Flag for specifying whether to cache the value in the command search path	--	UNIX	M, A, ME	
62	"IsUseWorkPath"=	Flag for specifying whether to change the work (current) path when the job is executed	--	UNIX	M, A, ME	

No.	Definition key	Environment setting parameter	Definition	Applicable manager	Applicable OS	Applicable product
63	[{{JP1_DEFAULT <i>logical-host-name</i> }}\JP1NBQAGENT\Job] #	"IsSigchldDefault"=	Definition for changing the setting of child processes started by JP1/AJS3 to the SIG_DFL setting whereby the SIGCHLD signal is received	--	UNIX	M, A, ME
64		"FileAccessPermissionMode"=	Setting of the method to check file access permissions when a job is executed on a UNIX host	--	UNIX	M, A, ME
65	[{{JP1_DEFAULT <i>logical-host-name</i> }}\JP1NBQAGENT\Network] #	"NotifyJobStateInterval"=	Interval for resending the job result file	--	Windows UNIX	M, A, ME
66		"NotifyJobStateCount"=	Number of times that the job result file is resent	--	Windows UNIX	M, A, ME
67		"ConnectTimeout"=	Definition of the TCP/IP connection timeout value on the job execution control agent	--	Windows UNIX	M, A, ME
68		"CommunicateRetryCount"=	Definition of the number of TCP/IP connection error retries on the job execution control agent	--	Windows UNIX	M, A, ME
69		"CommunicateRetryInterval"=	Definition of the TCP/IP connection error retry interval on the job execution control agent	--	Windows UNIX	M, A, ME
70		"LogonUserRetryCount"=	Number of retries for obtaining access tokens when Standard is specified for Exec. service	--	Windows	M, A, ME
71	"LogonUserRetryInterval"=	Retry interval for obtaining access tokens when Standard is specified for Exec. service	--	Windows	M, A, ME	
72	[{{JP1_DEFAULT <i>logical-host-name</i> }}\JP1NBQAGENT\Variable] #	" <i>variable-name</i> "=	Installation directory of an execution program indicated by the variable name on each applicable host	--	Windows UNIX	M, A, ME
73	[{{JP1_DEFAULT <i>logical-host-name</i> }}\JP1NBQCLIENT\PathEnv] #	"All Users"=	Search path for a transfer file	--	Windows UNIX	M, A, ME
74		" <i>JP1-user-name</i> "=	Search path for a transfer file	--	Windows UNIX	M, A, ME

No.	Definition key	Environment setting parameter	Definition	Applicable manager	Applicable OS	Applicable product
75	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQCLIENT\Network] #	"ConnectTimeout"=	Definition of the TCP/IP connection timeout value for the commands and schedulers used to execute jobs	--	Windows UNIX	M, A, ME
76		"CommunicateRetryCount"=	Definition of the number TCP/IP connection error retries for the commands and schedulers used to execute jobs	--	Windows UNIX	M, A, ME
77		"CommunicateRetryInterval"=	Definition of the TCP/IP connection error retry interval for the commands and schedulers used to execute jobs	--	Windows UNIX	M, A, ME
78		"CommunicateTimeout"=	Connection timeout period for the manager process of job execution control	--	Windows UNIX	M, A, ME
79	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1NBQCLIENT\Process] #	"MacroOptionReplaceMode"=	Setting for whether to replace the passing information in a macro variable with the NULL character string	--	Windows UNIX	M
80		"IsHA"=	Definition for cluster environment setup for the commands and schedulers used to execute jobs	--	Windows UNIX	M, A, ME
81		"PassingInfoUsePreRc"=	Settings for using the return value of the preceding job in the passing information setting jobs	--	Windows UNIX	M
82	• For scheduler service (common) [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\QUEUE\notify\Network] #	"ConnectTimeout"=	Definition of the TCP/IP connection timeout value in the status reporting process for job execution control	--	Windows UNIX	M
83	• For scheduler service (individual) [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name\QUEUE\notify\Network] #	"CommunicateRetryCount"=	Definition of the number TCP/IP connection error retries in the status reporting process for job execution control	--	Windows UNIX	M
84		"CommunicateRetryInterval"=	Definition of the TCP/IP connection error retry interval in the status reporting process for job execution control	--	Windows UNIX	M

No.	Definition key	Environment setting parameter	Definition	Applicable manager	Applicable OS	Applicable product
85	[{JP1_DEFAULT <i>logical-host-name</i> }\JP1NBQNOTIFY\Process] #	"IsHA"=	Definition for cluster environment setup for the status reporting process for job execution control	--	Windows UNIX	M, A, ME
86	[{JP1_DEFAULT <i>logical-host-name</i> }\JP1NBQAGENT\Job] #	"MergeEnvMode"=	Definition for whether an environment variable in a job definition is enabled when the name is the same as a system environment variable name	--	Windows	M, A, ME
87		"UACAdministratorsExec"=	Setting for executing jobs as a user with administrator permissions when UAC is enabled	--	Windows	M, A, ME
88		"GetPasswd_RetryCount"=	Number of retry attempts when an attempt to acquire user information from the OS password file has failed	--	UNIX	M, A, ME
89		"GetPasswd_RetryInterval"=	Retry interval when an attempt to acquire user information from the OS password file has failed	--	UNIX	M, A, ME
90		"IgnoreResultFileError"=	Operation if an error occurs during transfer processing of a job result file and Standard is specified for Exec. Service	--	Windows UNIX	M, A, ME
91		"PreventResultFileLack"=	Setting for ensuring that data generated by jobs is output to result files	--	Windows	M, A, ME
92		"SendFileSizeStatus"=	Behavior when the total size of job result files reaches the upper limit	--	Windows UNIX	M, A, ME
93		"LimitSendFileSize"=	Upper limit for the size of job result files	--	Windows UNIX	M, A, ME
94	[JP1_DEFAULT\JP1NBQAGENT\Log]	"JobHistoryLogFileSize"=	Size of the job execution history log file	--	Windows UNIX	ME
95		"JobHistoryLogFileCount"=	Number of the job execution history log files	--	Windows UNIX	ME

Legend:

C: Job execution control manager for submit jobs

This applies when submit jobs are used.

S: Job execution control manager for scheduler services

This applies when the scheduler service (common) or the scheduler service (individual) is used.

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

ME: JP1/AJS3 - Agent Minimal Edition

--: Not applicable

#

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

Parameters that are not described here are used for maintenance purposes. Do not change their values.

20.5.2 Details of the environment setting parameters for the job execution environment

This subsection describes details of the environment setting parameters for the job execution environment.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) WorkPath (for manager process)

The name of the work directory used when the manager process is running. Use this parameter to specify the name of the work directory used to manage job execution. Specify a full path name.

If there is not enough space on the disk that contains the default directory, specify a directory on a disk that has enough space.

Format

```
"WorkPath" = "name-of-work-directory-used-when-manager-process-is-running"
```

Specifiable values

A character string of no more than 180 bytes

Default value

In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

- For a physical host:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\tmp
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- For a logical host:
shared-folder\jplajs2\tmp

In Windows, if the installation folder is other than the above:

- For a physical host:

JP1/AJS3-Manager-installation-folder\tmp

- For a logical host:
shared-folder\jp1ajs2\tmp

In UNIX:

- For a physical host:
/var/opt/jp1ajs2/tmp
- For a logical host:
shared-directory/jp1ajs2/tmp

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(2) IsHA (for manager process)

Use this parameter to specify the definition for setting up a cluster environment for the job execution control manager process. Specify this parameter only to stop cluster use.

Format

"IsHA" = *dword:definition-for-cluster-environment-setup-for-the-manager-process*

Specifiable values

0

Specifies to stop cluster use.

1

If you execute setup when operating a cluster system, this value is automatically set to the parameter for the physical and logical hosts.

Default value

dword:00000000 (0 in decimal)

Recommended value

None

When the setting takes effect

After JP1/AJS3 is restarted

(3) DatabasePath

Use this parameter to specify the name of the directory used to store the ISAM file, which is the file to which job execution environment information or job information is written. Specify a full path name.

If there is not enough space on the disk that contains the default directory, specify a directory on a disk that has enough space.

Format

"DatabasePath" = *"name-of-the-directory-used-to-store-the-database"*

Specifiable values

A character string of no more than 180 bytes

Default value

In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

- For a physical host:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\database\queue
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- For a logical host:
shared-folder\jp1ajs2\database\queue

In Windows, if the installation folder is other than the above:

- For a physical host:
JP1/AJS3-Manager-installation-folder\database\queue
- For a logical host:
shared-folder\jp1ajs2\database\queue

In UNIX:

- For a physical host:
/var/opt/jp1ajs2/database/queue
- For a logical host:
shared-directory/jp1ajs2/database/queue

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

In UNIX:

Do not create a symbolic link for a file created in the directory specified in this parameter. Reorganization will break the link because the file is re-created. If you want to create a symbolic link, use the directory specified in this parameter instead.

Do not use NFS or a network drive as the directory to be specified here.

For this parameter, you cannot specify a directory mounted on an NFS file system or a similar file system connected to a network or a network drive.

(4) PreserveTerm

Use this parameter to specify the number of days that job execution results are retained.

Change this value as necessary if the number of executed jobs will exceed 20,000 before the specified number of retention days (recommended value) expires.

The settings for this parameter are not applied to event jobs and custom event jobs.

Format

"PreserveTerm" = dword:*number-of-days-job-information-retained*

Specifiable values

A hexadecimal value (in days) from 0 to 3E7 (0 to 999 in decimal)

If you specify dword:00000000 (zero days), the execution result information is deleted when execution of the job is complete.

For details about the setting of the retention period for job information when the specified value is 0, see *7.1.9 Setting the retention period for job information* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Default value

dword:00000007 (7 days)

During a new installation and setup of JP1/AJS3, dword:00000001 is set.

Recommended value

dword:00000001 (one day)

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The number of days that job information is retained is the number of days that job information saved in the job execution environment database is retained. If you decrease the number of retention days, there is no effect on the number of saved generations of a jobnet that are managed by the scheduler database.

After you reduce the number of retention days, if a large amount of job information is to be deleted at the next standard time for deleting job information or at JP1/AJS3 service restart, this process might conflict with the job information deletion processing. In such a case, the job execution performance might degrade, or the system load might increase.

Be careful when changing this parameter, such as changing the value if fewer jobs are being executed or gradually reducing the number of retention days for job information.

In a standard configuration, the number of jobs that can be registered in the database for QUEUE jobs and submit jobs is less than 200,000.

The job execution result information that is registered in the database is the result information for the number of jobs executed for the number of retention days plus one more day. For example, if the number of jobs executed in one day is 10,000, and the number of retention days is 10 days, the information for 110,000 jobs is registered.

Specify the number of retention days for job information so that the number of job execution results that are to be registered in the database is less than 200,000.

(5) StandardTime

Use this parameter to specify the time at which job execution result information is to be deleted. Note, however, that the job execution result information is also deleted when the JP1/AJS3 service starts. In this case, the system uses the JP1/AJS3 service start time as the base time to delete all job execution result information that is older than the number of days specified for retaining the information. Thereafter, the system deletes the job execution result information at the time specified in this parameter.

If job execution performance degrades because many jobs are executed while job information is being deleted, change the base time to at time when fewer jobs are being executed.

You can also specify settings so that job information is not deleted when the JP1/AJS3 service is started. For details, see *7.1.10 Setting for disabling deletion of job information when JP1/AJS3 starts* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The setting for this parameter is not applied to event jobs and custom event jobs.

Format

"StandardTime" = dword:*standard-time-at-which-job-information-deleted*

Specifiable values

Using 0:00 as the base time, specify a relative time in hexadecimal from 0:00 to 23:59 (in minutes).

For example, to set 1:00, specify dword:0000003c (1:00 = 60 minutes).

Default value

dword:00000000 (0:00)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(6) FlashOption

Use this parameter to specify whether to permit synchronous writing when an ISAM file is updated.

Format

"FlashOption" = dword:*data-file-update-mode*

Specifiable values

0

Data is written to a disk in response to OS buffering. There is no synchronization with JP1/AJS3 processing.

Specify 0 when job execution performance is more important than the reliability of database access in the job execution environment provided by writing data to a disk with OS buffering. However, in a cluster configuration, specifying this value is not recommended because reliability degrades.

1

Synchronous writing is always performed when a file is updated. This writing mode improves reliability, but reduces performance.

Default value

dword:00000001 (synchronization mode)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(7) DeleteFlashOption

Use this parameter to specify whether to delete job information in asynchronous mode.

For details about job information deletion processing, see *7.1.8 Option for deleting job information asynchronously in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

"DeleteFlashOption" = dword:*asynchronous-option-for-job-information-deletion*

Specifiable values

0

Job information is deleted in asynchronous mode.

1

Job information is deleted in synchronous mode.

Default value

dword:00000001 (1 in decimal) (synchronous mode)

During a new installation and setup of JP1/AJS3, 0 is set.

Recommended value

dword:00000000 (0 in decimal) (asynchronous mode)

When the setting takes effect

After JP1/AJS3 is restarted

(8) PreserveMinute

Use this parameter to specify how long you want to retain job information after a job has been executed when 0 is specified as the number of days for retaining job information.

For details about job information deletion processing, see *7.1.9 Setting the retention period for job information in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide* or *7.1.8 Option for deleting job information asynchronously in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

"PreserveMinute" = dword:*retention-period-for-job-information-when-the-number-of-days-for-retaining-job-information-is-0*

Specifiable values

A hexadecimal value (in minutes) from 0000000A to 000005A0 (10 to 1,440 in decimal)

Default value

dword:0000000A (10 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(9) StartUpDelete

Use this parameter to specify whether to suppress job information deletion at JP1/AJS3 service startup when 1 or more is specified as the number of days for retaining job information.

For details about job information deletion processing, see *7.1.10 Setting for disabling deletion of job information when JP1/AJS3 starts in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide* or *7.1.8 Option for deleting job information asynchronously in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

"StartUpDelete" = dword:*option-for-suppressing-job-information-deletion-at-JP1/AJS3-service-startup*

Specifiable values

0

When the JP1/AJS3 service starts, the processing that deletes job information deletes job information whose retention period (number of days) has expired when the standard time for deleting job information arrives.

When the JP1/AJS3 service starts, job information whose retention period has expired in the period from the standard time for deleting job information to the time that the JP1/AJS3 service started is not deleted.

If job information was not deleted when the previous standard time for deleting job information arrived because the JP1/AJS3 service was not running, job information whose retention period had expired when the base time arrived might remain. If so, only the remaining job information is deleted when the JP1/AJS3 service starts.

1

When the JP1/AJS3 service starts, job information deletion processing deletes all job information whose retention period has expired at the time that the JP1/AJS3 service starts.

When the JP1/AJS3 service starts, job information is also deleted if the retention period of the job information has expired in the period from the standard time for deleting job information to the time that the JP1/AJS3 service started.

If job information was not deleted when the previous standard time for deleting job information arrived because the JP1/AJS3 service was not running, job information whose retention period had expired when the base time arrived might remain. If so, any remaining job information is also deleted when the JP1/AJS3 service starts.

2

Job information deletion processing that occurs when the JP1/AJS3 service starts is suppressed. However, if the JP1/AJS3 service is set to stop at the same time as the standard time for deleting job information, do not specify this value.

Note that if the JP1/AJS3 service is not running when the standard time for deleting job information arrived, job information whose retention period had expired when the base time arrived will never be deleted. As a result, the disk space required by the job execution environment database increases, and this increase might prevent the JP1/AJS3 service from starting, or prevent a job from being executed.

Default value

dword:00000001 (1 in decimal)

During a new installation and setup of JP1/AJS3, 0 is set.

Recommended value

dword:00000000 (0 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

(10) ColdStartMode

Use this parameter to specify whether to initialize the job information of the job execution environment database when the JP1/AJS3 service is cold-started.

Format

"ColdStartMode" = "{clear|noclear}"

Specifiable values

clear

The job information of the job execution environment database is initialized when the JP1/AJS3 service is cold-started, unless there has been a scheduler service that has been set to not start automatically.

noclear

The job information of the job execution environment database is not initialized when the JP1/AJS3 service is cold-started. Specify this value when you want current operation to be consistent with that of 06-71 or earlier, which does not initialize the database.

Default value

clear

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(11) MaximumQueue

Use this parameter to specify the maximum number of queues that can be defined.

Change this parameter as necessary if the number of queues defined for the manager might exceed the recommended value.

Format

"MaximumQueue" = dword:*maximum-number-of-definedable-queues*

Specifiable values

A hexadecimal value from 1 to 2000 (1 to 8,192 in decimal)

Default value

dword:00000096 (150 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The maximum number of queues that can be used on one manager includes the number of default queues used on the agent. The maximum number of agents specified in the `MaximumAgent` environment setting parameter equals the maximum number of default queues. Specify a larger value in the `MaximumQueue` environment setting parameter than the value specified in the `MaximumAgent` environment setting parameter.

The following shows the relationship between the maximum number of queue definitions you specify here and the maximum number of queues that can be used on one manager:

```
value-specified-for-the-MaximumQueue-environment-setting-parameter (a value greater than the value in the MaximumAgent environment setting parameter) = maximum-number-of-queues-that-can-be-used-on-one-manager
```

(12) MaximumContentJob

Use this parameter to specify the maximum number of jobs that the system can hold in its work area.

Change this value as necessary if the system has to register and execute a large number of jobs in a short period.

When you start the JP1/AJS3 service, the system allocates a job information area in memory that can accommodate information for the number of jobs specified here. Specify a value that is sufficient to cover the peak number of queuing jobs during operation.

If all job information areas are being used (when the same number of jobs as the value specified for this parameter are queued), the submit processing fails. In addition, the value of this parameter is applied only to queuing jobs and running jobs. The value is not applied to jobs that have ended, event jobs, custom event jobs, and judgment jobs.

Format

"MaximumContentJob" = dword:*maximum-number-of-jobs-in-the-system*

Specifiable values

- For the job execution control manager of the scheduler service
A hexadecimal value from 1 to 9C3F (1 to 39,999 in decimal)
- For the job execution control manager of the submit job
A hexadecimal value from 1 to 14000 (1 to 81,920 in decimal)

Default value

- For the job execution control manager of the scheduler service
dword:00001770 (6,000 in decimal)
- For the job execution control manager of the submit job
dword:000007D0 (2,000 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- If you change this parameter, also change the value of the `AlertContentJob` environment setting parameter (the number of warning jobs in the system) as needed.
- The output messages and the job status differ depending on the value set for the maximum number of jobs set for the following system. Specify the value according to your operational requirements.
For the job execution control manager of the scheduler service
 - If you specify that the maximum value is from hexadecimal 1 to 9C3F (decimal 1 to 39,999), and the number of registered jobs reaches the specified maximum number, the following KAVU4520-W message will be output: The job cannot be registered because the system already reached the maximum number of jobs (*maximum-number*), as stipulated in environment setting (*logical-host-name*).
However, if you specify the maximum value to be hexadecimal 9C40 or more, (decimal 40,000 or more), the KAVU4520-W message will not be output.
 - If a very large number of jobs are concentrated in a short period, and the total number of queuing jobs and running jobs exceeds 40,000, JP1/AJS3 will not be able to assign job numbers, and the jobs will fail to start. Therefore, for the maximum number of jobs, specify a number from hexadecimal 1 to 9C3F (decimal 1 to 39,999).
- The maximum number of job numbers per scheduler service is 40,000 regardless of the number of scheduler services in the system. Note that this is the maximum number of jobs to which job numbers can be assigned, and is not the maximum value of a number that can be assigned as a job number.

(13) AlartContentJob

Use this parameter to specify the threshold at which a warning message will be output according to the use status of the job information area in the work area of the system.

If you change the value of the `MaximumContentJob` environment setting parameter (maximum number of jobs in the system), for this parameter specify a value smaller than the value of the `MaximumContentJob` parameter.

If you specify for this parameter a value greater than the value of the `MaximumContentJob` parameter, the JP1/AJS3 service will not be able to start.

The value of this parameter is applied only to queuing jobs and running jobs. The value is not applied to jobs that have ended, event jobs, custom event jobs, and judgment jobs.

Format

"AlartContentJob" = dword:*number-of-warning-jobs-in-the-system*

Specifiable values

- For the job execution control manager of a scheduler service
A hexadecimal value from 1 to 9C3F (1 to 39,999 in decimal)
- For the job execution control manager of a submit job
A hexadecimal value from 1 to 14000 (1 to 81,920 in decimal)

Default value

- For the job execution control manager of a scheduler service
dword:000012C0 (4,800 in decimal)
- For the job execution control manager of a submit job
dword:00000640 (1,600 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(14) AlarmContentJobEventInterval

Interval for issuing a JP1 event when the number of jobs in the *Now queuing* or *Now running* status being monitored exceeds the number of warning jobs specified for the `AlartContentJob` environment setting parameter.

After the first JP1 event is issued, during the interval set by this setting value, even if the monitored value is equal to or greater than the number of warning jobs specified for the `AlartContentJob` environment setting parameter, a JP1 event will not be issued. Even after the time specified for this setting value passes, if the monitored value continues to be equal to or greater than the number of warning jobs, a JP1 event will again be output at intervals set by this setting value.

Format

"AlarmContentJobEventInterval" = dword:*interval-for-issuing-a-JP1-event*

Specifiable values

A hexadecimal value from 0 to 5A0 (0 to 1,440 in decimal)

If you do not want to issue a JP1 event, specify 0.

Default value

dword:00000000 (0 in decimal)

During a new installation and setup of JP1/AJS3, 5 is set.

Recommended value

Set 1 or a greater value according to the operating environment.

When the setting takes effect

When the scheduler service starts

(15) ReceiveFileSizeStatus

Use this parameter to specify the behavior when the size of a file being received reaches the upper limit.

For details, see [6.2.7 Placing restrictions on file reception](#) (for Windows) or [15.2.7 Placing restrictions on file reception](#) (for UNIX).

Format

"ReceiveFileSizeStatus" = dword:*behavior-when-the-received-file-size-reaches-the-upper-limit*

Specifiable values

0

The upper limit for received files size is checked. If the upper limit is reached, the following message is output, but all file data is received. Even if the file size exceeds the upper limit, the job status does not change, and the job end status on the agent host is inherited.

- For a result file:
Message KAVU2260-I
Message KAVU4294-I
- For a transfer file:
Message KAVU2243-I

1

The upper limit for received files size is checked. If the upper limit is reached, receive processing is canceled and the job status changes.

A result file is received until the upper limit for file size (`LimitReceiveFileSize` environment setting parameter) is reached. Thereafter, data that exceeds the upper limit is discarded, and the end status changes to *Ended abnormally*. For a transfer file, no file data is received, and the end status changes to *Failed to start*. For details about the return code and end status, see [6.2.7\(3\) Operation performed if the size of received files exceeds the maximum](#) (for Windows) or [15.2.7\(3\) Operation performed if the size of received files exceeds the maximum](#) (for UNIX).

If the upper limit has been reached, the following message is output:

- For a result file:
Message KAVU4296-E
- For a transfer file:
Message KAVU2244-E

2

The upper limit for received file size is checked. If the upper limit is reached, receive processing is canceled, and the job status changes.

Result files are received until the upper limit for file size (`LimitReceiveFileSize` environment setting parameter) is reached. Thereafter, data that exceeds the upper limit is discarded, and the end status changes to

Ended with warning. However, if the job status on the agent host is *Ended abnormally*, that status is inherited. For a transfer file, the end status changes to *Failed to start*, and no file data is received. For the return code and end status, see [6.2.7\(3\) Operation performed if the size of received files exceeds the maximum](#) (for Windows) or [15.2.7\(3\) Operation performed if the size of received files exceeds the maximum](#) (for UNIX).

If the upper limit has been reached, the following message is output:

- For a result file:
Message KAVU4295-W
- For a transfer file:
Message KAVU2244-E

3

The upper limit for received files size is checked. If the upper limit is reached, receive processing is canceled. Result files are received until the upper limit for file size (`LimitReceiveFileSize` environment setting parameter) is reached. Thereafter, all file data that exceeds the upper limit is discarded. For a transfer file, all file data is discarded. The end status on the agent host is inherited as the end status for the job. For the return code and end status, see [6.2.7\(3\) Operation performed if the size of received files exceeds the maximum](#) (for Windows) or [15.2.7\(3\) Operation performed if the size of received files exceeds the maximum](#) (for UNIX).

If the upper limit is reached, the following message is output:

- For a result file:
Message KAVU4294-I
- For a transfer file:
Message KAVU2243-I

This specification allows a job to end normally even if the limit is exceeded. However, because the files that are created are not complete, you must make sure beforehand that the incomplete files will not cause any problems if they are referenced and used in a succeeding job.

Default value

dword:00000000 (0 in decimal)

During a new installation of JP1/AJS3, dword:00000003 (3 in decimal) is set.

Recommended value

dword:00000003 (3 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

(16) LimitReceiveFileSize

Use this parameter to specify the upper limit for the size of received files.

If the size of a transfer file or a result file used when a job is executed exceeds the value estimated for operation, limit the size of files received by the manager host. We recommend that you set a limit of approximately five megabytes, depending on operational requirements.

If multiple transfer files are to be sent at one time, this setting enables the total size of the files to be checked against the limit. The value used to check a result file is the total of the sizes of the standard output file and the standard error output file.

Note that the limit might be subject to an error in a range of plus or minus several hundred bytes.

The following shows how to estimate file size (in bytes):

File count

$$\Sigma (\text{file-name-length} + \text{file-size} + (12 \times \text{file-line-count}) + 100)$$

For details, see [6.2.7 Placing restrictions on file reception](#) (for Windows) or [15.2.7 Placing restrictions on file reception](#) (for UNIX).

Format

"LimitReceiveFileSize" = dword:*limit-on-file-size*

Specifiable values

A hexadecimal value (in bytes) from 80000 to 40000000 (524,288 to 1,073,741,824 in decimal)

Default value

dword:00500000 (5,242,880 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- This setting is rounded in increments of 8000 (32,768 in decimal). For example, if you specify 80001 (524,289 in decimal), the valid value is 88000 (557,056 in decimal).
- For action jobs, if the size of the information to be output by JP1/AJS3 is less than the lowest value in the range that can be specified (524,288 bytes), no information is output. Note, however, that the size could be less if you run a job in UNIX and standard error output is output for a login script of a job execution OS user or the system.

(17) ReceiveFileOption

Use this parameter to specify whether to prevent duplicated reception of the job result file.

For details, see [6.2.6 Preventing duplicated reception of job result files](#) (for Windows) or [15.2.6 Preventing duplicated reception of job result files](#) (for UNIX).

Format

"ReceiveFileOption" = dword:*definition-for-preventing-duplicated-reception-of-the-job-result-file*

Specifiable values

0

Duplicated reception of the job result file is not prevented.

1

Duplicated reception of the job result file is prevented.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(18) QueuingJobRecoveryTime

Use this parameter to specify the recovery time for queuing jobs when an agent has failed.

For details, see [6.2.12 Changing the wait time for recovery when an agent has failed](#) (for Windows) or [15.2.12 Changing the wait time for recovery when an agent has failed](#) (for UNIX).

Format

"QueuingJobRecoveryTime" = dword:*recovery-time-for-queuing-jobs-when-agent-has-failed*

Specifiable values

A hexadecimal value (in seconds) from 0000001E to 00000E10 (30 to 3,600 in decimal).

A period of no jobs being executed might occur. This is possible if the system detects a job error several tens of seconds after the error occurred because the system monitors job errors at intervals of several tens of seconds.

Default value

dword:00000258 (600 in decimal, which is 10 minutes)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you are using the job distribution delay reduction function, for this environment setting parameter, specify a value less than the value specified the AGMERRAGTSTATRESEETIME environment setting parameter for agent monitoring.

If you are using the default values for the following environment setting parameters for communication control, specify a value that is at least 300 seconds less than the value specified for the AGMERRAGTSTATRESEETIME environment setting parameter. If a value has been changed from its default value, specify a value that is less than the value calculated by using the estimation formula.

Environment setting parameters for communication control[#]

- "ClientConnectTimeout" = dword:*connection-timeout-period*
- "ClientRetryInterval" = dword:*connection-retry-interval*
- "ClientRetryCount" = dword:*number-of-connection-retries*

Estimation formula for the QueuingJobRecoveryTime environment setting parameter:

$$a - b \times (c + d) - 300$$

a: The AGMERRAGTSTATRESEETIME environment setting parameter

b: The ClientRetryCount environment setting parameter (number of connection retries)

c: The ClientConnectTimeout environment setting parameter (connection timeout period)

d: The ClientRetryInterval environment setting parameter (connection retry interval)

#

If the environment setting parameters for the following definition keys have been changed, you will need to estimate a value. Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

- [{JP1_DEFAULT | *logical-host-name* } \JP1AJS2\HOST\NETWORK]
- [{JP1_DEFAULT | *logical-host-name* } \JP1AJS2\HOST\NETWORK\QUEUEMANAGER]

- [{JP1_DEFAULT | *logical-host-name* } \JP1AJSMANAGER\scheduler-service-name\NETWORK\QUEUEMANAGER]

(19) ExecutingJobRecoveryTime

Use this parameter to specify the recovery time for running jobs when an agent has failed.

For details, see [6.2.12 Changing the wait time for recovery when an agent has failed](#) (for Windows) or [15.2.12 Changing the wait time for recovery when an agent has failed](#) (for UNIX).

Format

"ExecutingJobRecoveryTime" = dword:*recovery-time-for-running-jobs-when-agent-has-failed*

Specifiable values

A hexadecimal value (in seconds) from 0000001E to 00000E10 (30 to 3,600 in decimal)

Default value

dword:00000258 (600 in decimal, which is 10 minutes)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

By default, the system checks the status of running jobs a maximum of three times before it detects a job abnormality. If you specify a value that is smaller than the agent monitoring interval for this parameter, the wait time for recovery elapses before the system checks the status of running jobs. In that case, the system checks the status of running jobs a maximum of two times. The detailed calculation of the total time required to detect a failure is as follows:

Total-time-elapsing-before-a-failure-is-detected ≐

(*agent-monitoring-interval* x 1)

+ (*communication-time* x 2)

+ *length-of-time-between-the-failure-occurrence-and-the-first-check-of-the-job-status*

If you reduce the agent monitoring interval, the retry interval for TCP/IP connection errors, and the number of retries, the total time elapsing before a failure is detected decreases further.

For details about setting the agent monitoring interval, see [\(29\) ObserveInterval](#).

For details about setting the retry interval and number of retries for TCP/IP connection errors, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Polling using the agent monitoring interval is executed for each agent host. If you shorten the agent monitoring interval and increase the number of pollings, the number of times communication occurs increases in proportion to the number of agent hosts. Keep this in mind when you change the agent monitoring interval. Similar care is also required when you change the retry interval and the number of retries for TCP/IP connection errors.

(20) MaximumExecJobLogOption

Use this parameter to specify whether to output a message confirming that the maximum number of concurrently executable jobs has been reached.

For details, see [6.2.13 Outputting a message that reports that the maximum number of concurrently executable jobs has been reached](#) (for Windows) or [15.2.13 Outputting a message that reports that the maximum number of concurrently executable jobs has been reached](#) (for UNIX).

Format

"MaximumExecJobLogOption" = dword:*setting-for-whether-to-output-a-message-confirming-that-the-maximum-number-of-concurrently-executable-jobs-has-been-reached*

Specifiable values

- 0
A message confirming that the maximum number of concurrently executable jobs has been reached, is not output.
- 1
A message confirming that the maximum number of concurrently executable jobs has been reached, is output.

Default value

dword:00000000 (0 in decimal)

During a new installation of JP1/AJS3, dword:00000001 (1 in decimal) is set.

Recommended value

dword:00000001 (1 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

(21) MaximumExecJobLogInterval

Use this parameter to specify the interval for outputting a message to confirming that the maximum number of concurrently executable jobs has been reached.

After the first KAVU4310-I message is output, the next KAVU4310-I message is not output for the period specified here (10 minutes by default) even though jobs remain queued. If jobs still remain queued when the specified interval has elapsed, another KAVU4310-I message is output as specified.

For details, see [6.2.13 Outputting a message that reports that the maximum number of concurrently executable jobs has been reached](#) (for Windows) or [15.2.13 Outputting a message that reports that the maximum number of concurrently executable jobs has been reached](#) (for UNIX).

Format

"MaximumExecJobLogInterval" = dword:*interval-for-outputting-a-message-confirming-that-the-maximum-number-of-concurrently-executable-jobs-has-been-reached*

Specifiable values

A hexadecimal value (in seconds) from 0000003C to 00015180 (60 to 86,400 in decimal)

Default value

dword:00000258 (600 in decimal, which 10 minutes)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(22) PreventChangeJobOrder

Use this parameter to specify whether to prevent changes to the execution order of submit jobs.

For details, see [7.1.11 Setting for preventing changes in the submit job execution order](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

"PreventChangeJobOrder" = dword:*setting-for-preventing-changes-to-the-execution-order-of-submit-jobs*

Specifiable values

0

Changes to the execution order of submit jobs are not prevented.

1

Changes to the execution order of submit jobs are prevented.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

Specifying 1 for the `PreventChangeJobOrder` environment setting parameter only changes the job distribution processing. In addition to this setting, you must perform the following steps to prevent changes from being made to the execution order of submit jobs:

- Make sure that only one agent is connected to the queue to which jobs are submitted.
- Specify 1 for the maximum number of concurrently executable jobs for the agent.

Note that, because this setting controls the job execution order, job performance might be reduced by several percent.

(23) EnumJobSaveMemory

Use this parameter to specify whether to reduce the memory consumed by the job execution control manager when job information is enumerated.

For details, see *7.1.12 Setting to reduce memory usage by the job execution control manager (jqman) when enumerating job information* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

"EnumJobSaveMemory" = dword:*setting-for-reducing-memory-consumed-by-the-job-execution-control-manager-when-job-information-is-enumerated*

Specifiable values

0

The job execution control manager consumes memory as needed for the number of enumerated job information items when job information is enumerated.

1

The memory consumed by the job control manager is reduced when job information is enumerated.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The following are estimates of memory consumption when job information is enumerated:

- When 0 is set
The maximum amount of memory consumed is about 100 KB per job.
- When 1 is set
The maximum amount of memory consumed is about 60 MB, regardless of the number of jobs for which information is enumerated.

(24) ExecutingJobChangeStatus

Use this parameter to specify whether to place all running jobs in the end status when a communication error occurs. Specify a hexadecimal value.

For details about definitions, see [6.2.20 Placing all running jobs in an end status when a communication error occurs](#) (for Windows) or [15.2.19 Placing all running jobs in an end status when a communication error occurs](#) (for UNIX).

Format

"ExecutingJobChangeStatus" = dword:*setting-for-placing-all-running-jobs-in-the-end-status-when-a-communication-error-occurs*

Specifiable values

- 0
- Specify this value to place the jobs in the end status one by one if a communication error occurs during system monitoring of running jobs by polling.
- 1
- Specify this value to place only those jobs on the execution agent among the jobs that are being executed in the same queue in the end status if a communication error occurs during the system monitoring of running jobs by polling.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(25) ConnectTimeout (for job execution control manager)

Use this parameter to specify the timeout period for communication over TCP/IP connections from the manager process for job execution control to the status reporting process for job execution control.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"ConnectTimeout" = dword:*definition-of-the-TCP/IP-connection-timeout-value-on-the-job-execution-control-manager*

Specifiable values

A hexadecimal value (in milliseconds) from 00002710 to 000927C0 (10,000 to 600,000 in decimal)

Default value

dword:00015F90 (90,000 in decimal, which is 90 seconds)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- If you decrease the connection timeout value, a timeout might occur before the connection is completed, resulting in a TCP/IP communication connection error.
- Depending on the connection timeout specifications and the settings for the OS, a connection timeout might occur before the value specified for this parameter is reached.
- This environment setting parameter is not used for communication over TCP/IP from the manager host to the agent host. For details about the environment setting parameters for communication from the manager host to the agent host (to deliver or forcibly terminate jobs, or to check the status of jobs or agents), see [20.8 Setting up the communication control environment](#).

(26) CommunicateRetryCount (for job execution control manager)

Use this parameter to specify the number of retries for communication over TCP/IP connections from the manager process for job execution control to the status reporting process for job execution control.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"CommunicateRetryCount" = dword:*definition-of-the-number-of-retries-for-a-TCP/IP-connection-error-for-the-job-execution-control-manager*

Specifiable values

A hexadecimal value from 00000000 to 00000064 (0 to 100 in decimal)

Default value

dword:00000002 (2 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- If you increase the value for number of retries too much, unavoidable communication errors might cause the number of TCP/IP connection errors to increase.

- This environment setting parameter is not used for communication over TCP/IP from the manager host to the agent host. For details about the environment setting parameters for communication from the manager host to the agent host (to deliver or forcibly terminate jobs, or to check the status of jobs or agents), see [20.8 Setting up the communication control environment](#).

(27) CommunicateRetryInterval (for job execution control manager)

Use this parameter to specify the interval of retries for communication over TCP/IP connections from the manager process for job execution control to the status reporting process for job execution control.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"CommunicateRetryInterval" = dword:*definition-of-the-TCP/IP-connection-error-retry-interval-on-the-job-execution-control-manager*

Specifiable values

A hexadecimal value (in seconds) from 00000001 to 0000012C (1 to 300 in decimal)

Default value

dword:00000014 (20 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- If you decrease the retry interval to so that it is too small, the communication retry interval will be too short. As a result, unavoidable communication errors might cause the number of TCP/IP connection errors to increase.
- This environment setting parameter is not used for communication over TCP/IP from the manager host to the agent host. For details about the environment setting parameters for communication from the manager host to the agent host (to deliver or forcibly terminate jobs, or to check the status of jobs or agents), see [20.8 Setting up the communication control environment](#).

(28) MaximumAgent

Use this parameter to specify the maximum number of agents that execute jobs requested by the JP1/AJS3 - Manager used to define jobs.

Change this value as necessary if the number of agents defined for the manager could exceed the recommended value.

An attempt to connect to more job-execution agents than the number of agents specified here will be rejected by the system.

Format

"MaximumAgent" = dword:*maximum-number-of-definable-agents*

Specifiable values

A hexadecimal value from 1 to 400 (1 to 1,024 in decimal)

Default value

dword:00000032 (50 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(29) ObserveInterval

Use this parameter to specify the interval for monitoring the agent on which you want to execute a job.

Change this parameter as necessary if you have adjusted the period of time for monitoring agent errors.

Format

"ObserveInterval" = dword:*agent-monitoring-interval*

Specifiable values

A hexadecimal value (in seconds) from 3C to 15180 (60 to 86,400 in decimal)

Default value

dword:0000012C (300 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(30) AutoCreate

Use this parameter to specify whether to enable the function that automatically defines an agent.

You can use this function only if you execute PC jobs, Unix jobs, flexible jobs[#], HTTP connection jobs, and action jobs, other than queueless jobs, that have been defined in a jobnet, or execute submit jobs that have been defined by using the `jpqjobs sub` command. This function cannot be used for queue jobs, event jobs, and custom event jobs.

#

For flexible jobs, replace *execution agent* with *relay agent*.

Even if the execution of a job fails, the created execution agent or agent is not lost. Also, execution agents or agents are still available even after a JP1/AJS3 restart.

- About a execution agents that is to be created

The following are attributes of an execution agent to be created:

- Name of the execution host: Same as the execution agent name
- Maximum number of concurrently executable jobs: 5 for a full 24 hours
- Job transfer restriction status: Enabled
- Description: None

You can change the attributes of an execution agent by using the `ajsagtalt` command. For details about the `ajsagtalt` command, see *ajsagtalt* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- About an agent that is to be created

The following is the attribute of an agent to be created:

- Maximum number of concurrently executable jobs: 5 for a full 24 hours

The following are the attributes of the default queue of an agent to be created:

- Maximum number of jobs: 100
- Maximum number of warnings: 80
- Queue entrance status: open
- Queue exit status: open
- Connection agent: local agent host
- Priority of the agent: 1

You can change the attributes of the agent and default queue by using the `jpgagtalt`, `jpgquealt`, `jpgqueopen`, `jpgqueclose`, `jpgagtlink`, and `jpgagtunlink` commands. For details about these commands, see *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

You can customize beforehand the attributes of an execution agent or agent that will be created by using the function that automatically defines an agent from the common definition information. For details, see *6.2.3 Customizing the execution agent or agent attribute values created by the automatic agent definition function* (for Windows) or *15.2.3 Customizing the execution agent or agent attribute values created by the automatic agent definition function* (for UNIX).

If you specify this parameter, the settings apply to all the execution agent or agent attributes that are created by using the automatic agent definition function.

Format

"AutoCreate" = dword:*control-flag-for-automatic-definition-of-an-agent*

Specifiable values

- 0
No execution agents or agents are automatically defined.
- 1
Execution agents or agents are automatically defined.
If you specify 1, the automatic agent definition function is enabled for all the jobs that the job execution control manager for which this parameter is specified handles.

Default value

dword:00000000 (0 in decimal)

Recommended value

None

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- Use this function only if absolutely necessary, such as when an error occurs on an existing execution agent or agent (job execution environment) and you need to quickly create a substitute execution agent or agent so that a job can be executed. Under normal circumstances, you should create a execution agent or agent before executing a job. If you need to add execution agents during operation, use the `ajsagtadd` command. If you need to add agents, use the `jpgimport` or `jpgagtadd` command.

- When the function that automatically defines an agent is enabled, you need to execute a job as a JP1 user with both JP1_JPQ_User and JP1_JPQ_Admin permissions.

(31) AutoCreateExecJobs

Use this parameter to specify the maximum number of concurrently executable jobs that a execution agent or agent created when the agent host is defined automatically can execute.

The concurrency level specified in this parameter is valid for a full 24 hours. To specify the concurrency level for 30-minute intervals, use the `ajsagtalt` command to change the value. For details about the `ajsagtalt` command, see *ajsagtalt* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*. If you want to specify the concurrency level for 30-minute intervals for agent, use the `jpgagtalt` command to change the value. For details about the `jpgagtalt` command, see *jpgagtalt* in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Format

"AutoCreateExecJobs" = dword:*maximum-number-of-concurrently-executable-jobs-when-an-agent-host-is-defined-automatically*

Specifiable values

A hexadecimal value from 1 to 00000400 (1 to 1,024 in decimal)

Default value

dword:00000005 (5 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(32) AutoCreateMaxJobs

Use this parameter to specify the maximum number of jobs in the default queue that is created when the agent host is defined automatically.

Format

"AutoCreateMaxJobs" = dword:*maximum-number-of-jobs-when-the-agent-host-is-defined-automatically*

Specifiable values

A hexadecimal value from 1 to FFFFFFFF (1 to 4,294,967,295 in decimal)

Default value

dword:00000064 (100 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(33) AutoCreateWarnJobs

Use this parameter to specify a warning value for the number of jobs in the default queue that is created when the agent host is defined automatically.

Format

"AutoCreateWarnJobs" = dword:*warning-value-for-the-number-of-jobs-when-the-agent-host-is-defined-automatically*

Specifiable values

A hexadecimal value from 1 to FFFFFFFF (1 to 4,294,967,295 in decimal)

Default value

dword:00000050 (80 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(34) AutoCreatePriority

Use this parameter to specify the agent priority for the default queue that is created when the agent host is defined automatically.

Format

"AutoCreatePriority" = dword:*agent-priority-when-the-agent-host-is-defined-automatically*

Specifiable values

A hexadecimal value from 1 to 00000010 (1 to 16 in decimal)

Default value

dword:00000001 (1 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(35) LeastRecentlyUsed

Use this parameter to specify the method for determining the agent host to which jobs are to be distributed.

For details, see [6.2.9 Setting the method for determining the agent host to which a job will be delivered](#) (for Windows) or [15.2.9 Setting the method for determining the agent host to which a job will be delivered](#) (for UNIX). If you specify a value for queuing jobs and for submit jobs, see [7.1.7 Method of determining the agent host to which a job is distributed](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Format

"LeastRecentlyUsed" = dword:*definition-of-method-for-determining-the-agent-host-to-which-jobs-are-distributed*

Specifiable values

0

If there are multiple agents that have the same priority and agent usage rate, the system determines the job distribution destination agent host regardless of the idle time since the job was last distributed.

1

If there are multiple agents that have the same priority and agent usage rate, the system distributes a job to the agent host that has been idle for the longest time since a job was last distributed.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(36) MaximumResource

Use this parameter to specify the maximum number of execution-locked resources used to suppress the concurrent execution of jobs.

When the JP1/AJS3 service is started, an area for execution-locked resource information that is equivalent to the value specified in this parameter is reserved in memory.

The value of this parameter is not applied to event jobs and custom event jobs.

You cannot use the execution-locked resources for the jobs defined in a jobnet. You can, however, use them for submit jobs that have been defined by using the `jpqj obsub` command.

For details about the command, see *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Change this value as necessary if the maximum number of defined execution-locked resources that can be added by executing the `jpqresadd` command is insufficient.

Format

"MaximumResource" = dword:*maximum-number-of-definable-execution-locked-resources*

Specifiable values

A hexadecimal value from 1 to 2000 (1 to 8,192 in decimal)

Default value

dword:00000032 (50 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(37) WorkPath (for agent process)

The name of the work directory used when an agent process is running. Use this parameter to specify the name of the work directory to be used to execute jobs on the host. Specify a full path name.

If there is not enough space on the disk that contains the default directory, specify a directory on a disk that has enough space.

Format

"WorkPath" = "*name-of-the-work-directory-used-when-an-agent-process-is-running*"

Specifiable values

A character string of no more than 180 bytes

Default value

In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

- For a physical host:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\tmp
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- For a logical host:
shared-folder\jplajs2\tmp

In Windows, if the installation folder is other than the above:

- For a physical host:
JP1/AJS3 - Manager: *JP1/AJS3-Manager-installation-folder*\tmp
JP1/AJS3 - Agent: *JP1/AJS3-Agent-installation-folder*\tmp
- For a logical host:
shared-folder\jplajs2\tmp

In UNIX:

- For a physical host:
/var/opt/jplajs2/tmp
- For a logical host:
shared-directory/jplajs2/tmp

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(38) IsHA (for agent process)

Use this parameter to specify the definition for setting up a cluster environment for a job execution control agent process. Specify this parameter only to stop cluster use.

Format

"IsHA" = dword:*definition-for-cluster-environment-setup-for-agent-processes*

Specifiable values

- 0
Specifies to stop cluster use.
- 1
If you execute setup when operating a cluster system, this value is automatically set to the parameter for the physical and logical hosts.

Default value

dword:00000000 (0 in decimal)

Recommended value

None

When the setting takes effect

After JP1/AJS3 is restarted

(39) IsExecFindExecutable

Use this parameter to specify whether to execute the execution file of a job using a long file name without conversion to a short file name.

For details, see *6.2.15 Executing a job by using a long file name*.

Format

"IsExecFindExecutable" = dword:*definition-for-executing-a-job-with-a-long-file-name*

Specifiable values

- 0
An execution file name is converted to a short file name.
- 1
An execution file name is not converted to a short file name. The job is executed with a long file name.

Default value

dword:00000000 (0 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

(40) LoadUserProfile

Use this parameter to specify whether to load the user profile information of the OS user who executes a job when a job is executed.

For details, see *6.2.16 Executing a job that requires a user profile*.

Format

"LoadUserProfile" = dword:*definition-for-whether-to-load-the-user-profile*

Specifiable values

- 0
The user profile information is not loaded.
- 1
The user profile information is loaded.
If you set 1 for this parameter, set 1 or 2 for the `IsAccessTokenCache` environment setting parameter.

Default value

`dword:00000000` (0 in decimal)
During a new installation of JP1/AJS3, `dword:00000001` (1 in decimal) is set.

Recommended value

`dword:00000001` (1 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

(41) IsAccessTokenCache

Use this parameter to specify whether to reuse an access token when a job is executed.

Set 1 or 2 for this parameter when you set 1 for the `LoadUserProfile` environment setting parameter to load user profile information.

For details, see [6.2.17 Reusing access tokens for job execution](#).

Format

"`IsAccessTokenCache`" = `dword:setting-for-reusing-an-access-token-when-a-job-is-executed`

Specifiable values

- 0
Specify this value to acquire an access token each time a job is executed and then to release the token after the job is executed.
With this setting, a desktop heap area is allocated each time a job is executed, and is then released after the job is executed.
- 1
Specify this value to reuse an access token to execute a job if an access token with the same user name, domain name, and password was saved when the previous job was executed.
With this setting, all OS users who execute jobs share the desktop heap area, and the desktop heap area is released when the JP1/AJS3 service stops.
- 2
Specify this value to reuse an access token to execute a job if an access token with the same user name, domain name, and password was saved when the previous job was executed.
With this setting, a desktop heap area is allocated for each OS user who executes the job, and is then released when the JP1/AJS3 service stops.

With any of these settings, if a job is executed by the OS user who started the JP1/AJS3 service, the desktop heap area that was allocated when the JP1/AJS3 service started is shared.

Default value

`dword:00000000` (0 in decimal)

During a new installation of JP1/AJS3, `dword:00000002` (2 in decimal) is set.

Recommended value

`dword:00000002` (2 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

(42) ENABLE_LONG_EXT (for job)

Use this parameter to specify whether to execute a job specified for an executable file whose extension is 4 bytes or more in the application associated with the executable-file extension when **Standard** has been specified for **Exec. service**.

For details, see [6.2.18 Executing a job whose executable file name has an extension longer than three bytes](#).

Format

`"ENABLE_LONG_EXT" = dword:setting-value`

Specifiable values

0

Although the executable-file extension is 4 bytes or more, the job specified for the file is executed in the application that is associated with the first three digits of the executable-file extension.

If the system cannot find the application that is associated with the first three digits of the extension, the job does not start.

1

If the executable-file extension is 4 bytes or more, the job is executed in the application that is associated with the extension.

However, if **Standard** is specified for **Exec. service**, the job is executed with a long file name when the executable file is executed with an extension of 4 bytes or more.

Default value

`dword:00000000` (0 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

(43) IsLimitCoreSize

Use this parameter to specify whether to limit the core-file size for each process of a job that is executed from JP1/AJS3.

Format

`"IsLimitCoreSize" = dword:limit-flag-for-the-maximum-core-file-size-for-each-process`

Specifiable values

0

The core file size for each process of a job is not limited.

1

The core file size for each process of a job is limited.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(44) LimitCoreSize

Use this parameter to specify the maximum core-file size for each process of a job that is executed from JP1/AJS3.

The specified parameter value takes effect when 1 is specified for the `IsLimitCoreSize` environment setting parameter to limit the maximum core file size.

Format

"LimitCoreSize" = dword:*maximum-core-file-size-for-each-process*

Specifiable values

A hexadecimal value from 0 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

Default value

dword:7FFFFFFF (2,147,483,647 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The valid range of 0 to 7FFFFFFF is the range of values that are logically available. The actual valid range depends on the range set in the `setrlimit()` OS system call.

If you specify `dword:7FFFFFFF`, the upper limit set of the system is used.

If you specify a number smaller than `dword:7FFFFFFF`, but larger than the upper limit of the system, the upper limit of the system is used.

If the setting fails, the system outputs a message and does not change the limit.

(45) IsLimitDataSize

Use this parameter to specify whether to limit the data-segment size for each process of a job that is executed from JP1/AJS3.

Format

"IsLimitDataSize" = dword:*limit-flag-for-maximum-data-segment-size-for-each-process*

Specifiable values

0

The data-segment size for each process of a job is not limited.

1

The data-segment size for each process of a job is limited.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(46) LimitDataSize

Use this parameter to specify the maximum data-segment size for each process of a job that is executed from JP1/AJS3.

The specified parameter value takes effect when 1 is specified for the `IsLimitDataSize` environment setting parameter to limit the maximum data-segment size.

Format

"LimitDataSize" = dword:*maximum-data-segment-size-for-each-process*

Specifiable values

A hexadecimal value from 0 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

Default value

dword:7FFFFFFF (2,147,483,647 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The valid range of 0 to 7FFFFFFF is the range of values that are logically available. The actual valid range depends on the range set in the `setrlimit()` OS system call.

If you specify `dword:7FFFFFFF`, the upper limit set for the system is used.

If you specify a number smaller than `dword:7FFFFFFF`, but larger than the upper limit of the system, the upper limit of the system is used.

If the setting fails, the system outputs a message and does not change the limit.

(47) IsLimitFileSize

Use this parameter to specify whether to limit the permanent-file size for each process of a job that is executed from JP1/AJS3.

Format

"IsLimitFileSize" = dword:*limit-flag-for-the-maximum-permanent-file-size-for-each-process*

Specifiable values

0

The permanent-file size for each process of a job is not limited.

1

The permanent-file size for each process of a job is limited.

Default value

`dword:00000000` (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(48) LimitFileSize

Use this parameter to specify the maximum permanent-file size for each process of a job that is executed from JP1/AJS3.

The specified parameter value takes effect when 1 is specified for the `IsLimitFileSize` environment setting parameter to limit the maximum permanent-file size.

Format

`"LimitFileSize" = dword:maximum-permanent-file-size-for-each-process`

Specifiable values

A hexadecimal value from 0 to `7FFFFFFF` (0 to 2,147,483,647 in decimal)

Default value

`dword:7FFFFFFF` (2,147,483,647 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The valid range of 0 to `7FFFFFFF` is the range of values that are logically available. The actual valid range depends on the range set in the `setrlimit()` OS system call.

If you specify `dword:7FFFFFFF`, the upper limit set for the system is used.

If you specify a number smaller than `dword:7FFFFFFF`, but larger than the upper limit of the system, the upper limit of the system is used.

If the setting fails, the system outputs a message and does not change the limit.

(49) IsLimitMemorySize

Use this parameter to specify whether to limit the memory size (total amount of physical memory and swap area) for each process of a job that is executed from JP1/AJS3.

Format

`"IsLimitMemorySize" = dword:limit-flag-for-the-maximum-memory-size-for-each-process`

Specifiable values

0

The memory size for each process of a job is not limited.

1

The memory size for each process of a job is limited.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(50) LimitMemorySize

Use this parameter to specify the maximum memory size (total amount of physical memory and swap area) for each process of a job that is executed from JP1/AJS3.

The specified parameter value takes effect when 1 is specified for the `IsLimitMemorySize` environment setting parameter to limit the maximum memory size.

Format

"LimitMemorySize" = dword:*maximum-memory-size-for-each-process*

Specifiable values

A hexadecimal value from 0 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

Default value

dword:7FFFFFFF (2,147,483,647 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The valid range of 0 to 7FFFFFFF is the range of values that are logically available. The actual valid range depends on the range set in the `setrlimit()` OS system call.

If you specify `dword:7FFFFFFF`, the upper limit set for the system is used.

If you specify a number smaller than `dword:7FFFFFFF`, but larger than the upper limit of the system, the upper limit of the system is used.

If the setting fails, the system outputs a message and does not change the limit.

(51) IsLimitStackSize

Use this parameter to specify whether to limit the stack segment size for each process of a job that is executed from JP1/AJS3.

Format

"IsLimitStackSize" = dword:*maximum-stack-segment-size-for-each-process*

Specifiable values

0

The stack segment size for each process of a job is not limited.

1

The stack segment size for each process of a job is limited.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(52) LimitStackSize

Use this parameter to specify the maximum stack segment size for each process of a job that is executed from JP1/AJS3.

The specified parameter value takes effect when 1 is specified for the `IsLimitStackSize` environment setting parameter to limit the maximum stack segment size.

Format

"LimitStackSize" = dword:*maximum-stack-segment-size-for-each-process*

Specifiable values

A hexadecimal value from 0 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

Default value

dword:7FFFFFFF (2,147,483,647 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The valid range of 0 to 7FFFFFFF is the range of values that are logically available. The actual valid range depends on the range set in the `setrlimit()` OS system call.

If you specify `dword:7FFFFFFF`, the upper limit set for the system is used.

If you specify a number smaller than `dword:7FFFFFFF`, but larger than the upper limit of the system, the upper limit of the system is used.

If the setting fails, the system outputs a message and does not change the limit.

(53) IsLimitCpuTime

Use this parameter to specify whether to limit the CPU time for each process of a job that is executed from JP1/AJS3.

Format

"IsLimitCpuTime" = dword:*limit-flag-for-the-maximum-CPU-time-for-each-process*

Specifiable values

0

The CPU time for each process of a job is not limited.

1

The CPU time for each process of a job is limited.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(54) LimitCpuTime

Use this parameter to specify the maximum CPU time for each process of a job that is executed from JP1/AJS3.

The specified parameter value takes effect when 1 is specified for the `IsLimitCpuTime` environment setting parameter to limit the maximum CPU time.

Format

"LimitCpuTime" = *dword:maximum-CPU-time-for-each-process*

Specifiable values

A hexadecimal value from 0 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

Default value

dword:7FFFFFFF (2,147,483,647 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The valid range of 0 to 7FFFFFFF is the range of values that are logically available. The actual valid range depends on the range set in the `setrlimit()` OS system call.

If you specify *dword:7FFFFFFF*, the upper limit set for the system is used.

If you specify a number smaller than *dword:7FFFFFFF*, but larger than the upper limit of the system, the upper limit of the system is used.

If the setting fails, the system outputs a message and does not change the limit.

(55) IsLimitWorkSize

Use this parameter to specify whether to limit the working-set size (amount of physical memory used by a process) for each process of a job that is executed from JP1/AJS3.

Format

"IsLimitWorkSize" = *dword:limit-flag-for-the-maximum-working-set-size-for-each-process*

Specifiable values

0

The working-set size for each process of a job is not limited.

1

The working-set size for each process of a job is limited.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you use Solaris, do not specify this flag. If you specify this flag, JP1/AJS3 might not be able to start.

(56) LimitWorkSize

Use this parameter to specify the maximum working-set size (amount of physical memory used by process) for each process of a job that is executed from JP1/AJS3.

The specified parameter value takes effect when 1 is specified for the `IsLimitWorkSize` environment setting parameter to limit the maximum working-set size.

Format

"LimitWorkSize" = `dword:maximum-working-set-size-for-each-process`

Specifiable values

A hexadecimal value from 0 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

Default value

`dword:7FFFFFFF` (2,147,483,647 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The valid range of 0 to 7FFFFFFF is the range of values that are logically available. The actual valid range depends on the range set in the `setrlimit()` OS system call.

If you specify `dword:7FFFFFFF`, the upper limit set for the system is used.

If you specify a number smaller than `dword:7FFFFFFF`, but larger than the upper limit of the system, the upper limit of the system is used.

If the setting fails, the system outputs a message and does not change the limit.

(57) IsLimitNoFile

Use this parameter to specify whether to limit the number of file descriptors for each process of a job that is executed from JP1/AJS3.

Format

"IsLimitNoFile" = `dword:limit-flag-for-the-maximum-number-of-file-descriptors-for-each-process`

Specifiable values

0

The number of file descriptors for each file of a job is not limited.

1

The number of file descriptors for each file of a job is limited.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(58) LimitNoFile

Use this parameter to specify the maximum number of file descriptors for each process of a job that is executed from JP1/AJS3.

The specified parameter value takes effect when 1 is specified for the `IsLimitNoFile` environment setting parameter to limit the maximum number of file descriptors.

Format

"LimitNoFile" = dword:*maximum-number-of-file-descriptors-for-each-process*

Specifiable values

A hexadecimal value from 0 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

Default value

dword:7FFFFFFF (2,147,483,647 in decimal)

Recommended value

Depends on the user environment.

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

The valid range of 0 to 7FFFFFFF is the range of values that are logically available. The actual valid range depends on the range set in the `setrlimit()` OS system call.

If you specify dword:7FFFFFFF, the upper limit set for the system is used.

If you specify a number smaller than dword:7FFFFFFF, but larger than the upper limit of the system, the upper limit of the system is used.

If the setting fails, the system outputs a message and does not change the limit.

(59) PipeComTimeout

Use this parameter to specify the pipe communication timeout value.

For details, see [15.2.15 Changing the timeout value for pipe communication of the agent](#).

Format

"PipeComTimeout" = dword:*pipe-communication-timeout-value-for-agents*

Specifiable values

A hexadecimal value (in seconds) from 0000012C to 7FFFFFFF (300 to 2,147,483,647 in decimal)

Default value

dword:0000012C (300 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you specify a large value for the pipe communication timeout period, a job failure might not be detected quickly enough.

You can specify one second as the minimum value for the pipe communication timeout period. If you specify a value less than 300 seconds, however, the possibility that pipe communication times out increases, and a job might fail to start. For this reason, the minimum specifiable value is defined as 300 seconds or more. Note, however that if you specify a value that is less than 300 seconds, no error occurs and operation will continue.

(60) AfterForkPipeTimeout

Use this parameter to specify the timeout value for job process execution ready notification.

For details, see [15.2.16 Setting the timeout value for receiving notification from the job process that execution is ready](#).

Format

"AfterForkPipeTimeout" = dword:*timeout-value-for-job-process-execution-ready-notification*

Specifiable values

A hexadecimal value (in seconds) from 00000384 to 00015180 (900 to 86,400 in decimal)

The maximum value, which is 00015180 (86,400 seconds in decimal), is the number of seconds in one day.

Default value

dword:00000384 (900 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you specify a large value as the timeout value for reporting that preparations for job process execution have been completed, a job failure might not be detected quickly enough.

You can specify zero seconds as the minimum timeout value for reporting that preparations for job process execution have been completed. If you specify a value less than 900 seconds, however, the possibility a timeout error occurs increases, and a job might fail to start. For this reason, the minimum specifiable value is defined as 900 seconds or more. Note, however, that if you specify a value that is less than 900 seconds, no error occurs, and operation will continue.

(61) IsCacheCmdSearchPath

Use this parameter to specify whether to cache the value of the command-search path that is to be used when a job starts.

Caching the value improves performance when a job starts because the search path is obtained quickly. Note, however, that if you change the path when the value is cached, the change does not immediately take effect. Therefore, if you change the command-search path with caching enabled, wait at least 5 minutes before starting the job.

Format

"IsCacheCmdSearchPath" = dword:*flag-for-specifying-whether-to-cache-the-command-search-path-value*

Specifiable values

0

The value for the command-search path is not cached.

1

The value for the command-search path is cached.

If you specify any value other than 0 or 1, the specified value is changed to 1.

If you often change the value for the PATH environment variable of the execution OS user, and want the change applied immediately when a job is executed, change this parameter value to 0. Note, however, that specifying 0 degrades job execution performance.

If you want operation to be consistent with that of version 06-71 or earlier, specify dword:00000000.

Default value

dword:00000001 (1 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Supplementary note

The command-search path is a PATH environment variable set in the login script of the execution OS user.

(62) IsUseWorkPath

Use this parameter to specify whether to change the work path when a job is executed to the work directory of the JP1/AJS3 agent process.

Format

"IsUseWorkPath" = dword:*flag-for-specifying-whether-to-change-the-work-path-for-job-execution*

Specifiable values

0

The work path when a job is executed is not changed to the work directory used when the process is executed (the setting is disabled).

1

The work path when a job is executed is changed to the work directory used when the agent process is executed.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Supplementary notes

- When a job is executed, the system creates a temporary file whose name begins with JPQ_EXEC in the work path.

You can specify 0 and omit work path name specification (work path name specification in the `-w` option of the `jpqjobsub` command). In that case, however, a temporary file whose name begins with `JPQ_EXEC` is created in the home directory of the job executing user. If the home directory is not defined, root (`/`) is assumed.

To prevent a temporary file from being created in the home directory of the job executing user, specify 1 to change the work path for job execution to the work directory for the execution of JP1/AJS3 agent process.

- You can specify 1 and omit work path name specification (work path name specification in the `-w` option of the `jpqjobsub` command). In that case, however, a temporary file whose name begins with `JPQ_EXEC` is created in the work directory for the execution of JP1/AJS3 agent process.
- If a directory is explicitly specified for *Working path* in the job definition, a temporary file whose name begins with `JPQ_EXEC` is created in the directory specified for *Working path* regardless of the setting of this parameter.
- If a JP1/AJS3 process ends abnormally (because of OS shutdown, for example), a temporary file whose name begins with `JPQ_EXEC` might not be deleted but remain in the specified work path.

You can delete the remaining temporary file without problems if the JP1/AJS3 service has been stopped.

(63) IsSigchldDefault

Use this parameter to specify whether to execute jobs with the default setting (`SIG_DFL`), whereby the `SIGCHLD` signal is received.

For details, see [15.2.17 Applying SIG_DFL \(setting for receiving the SIGCHLD signal\) to a child process started from JP1/AJS3](#).

Format

"IsSigchldDefault" = dword:*definition-for-changing-setting-of-child-processes-started-by-JP1/AJS3-to-the-SIG_DFL-setting-whereby-the-SIGCHLD-signal-is-received*

Specifiable values

0
Specify this value to execute the job with the setting (`SIG_IGN`) whereby the `SIGCHLD` signal is ignored.

1
Specify this value to execute the job with the setting (`SIG_DFL`) whereby the `SIGCHLD` signal is received.

Default value

dword:00000000 (0 in decimal)

During a new installation and setup of JP1/AJS3, 1 is set.

Recommended value

dword:00000001 (1 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

(64) FileAccessPermissionMode

Use this parameter to specify the method to check access permissions for the files listed below when executing Unix jobs or executing HTTP connection jobs on a Linux host.

- Script file[#]
- Environment variable file[#]
- Standard input file[#]

- Standard output file
- Standard error output file
- Destination file[#]

#

This file cannot be specified for HTTP connection jobs.

For details, see *15.2.18 Enabling the file access permission check for the ACL and secondary group settings during job execution*.

Format

"FileAccessPermissionMode" = dword:*setting-of-the-method-to-check-file-access-permissions-when-executing-jobs-on-a-UNIX-host*

Specifiable values

0

The access permission of each file is checked according to the file permission setting. Then, depending on the file, the behavior is as follows.

- For script files
The access permission is checked according to the access control list and secondary group settings.
- For files other than script files
Checks according to the access control list and secondary group settings are not performed.

1

The access permission of the script file is checked according to the file permission, access control list, and secondary group settings.

For the access permissions of files other than the script file, only the check according to the file permission is performed.

2

The access permission of each file is checked according to the file permission, access control list, and secondary group settings.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you change the parameter value to 2, a job that can start by default even if the access control list or secondary group for this job is set might fail to start. Before you specify a setting, consider the difference between the setting that uses only the file permission and the settings that also use the access control list or secondary group settings to prevent any effect on the starting of a job.

(65) NotfyJobStateInterval

Use this parameter to specify the interval for resending the job result file.

For details, see [6.2.5 Changing the interval and number of resend attempts for job result files](#) (for Windows) or [15.2.5 Changing the interval and number of resend attempts for job result files](#) (for UNIX).

Format

"NotifyJobStateInterval" = dword:*interval-for-resending-the-job-result-file*

Specifiable values

A hexadecimal value (in seconds) from 0 to 00015180 (0 to 86,400 in decimal).

The maximum value is 00015180 (86,400 seconds in decimal), which is the number of seconds in one day.

If you do not want to resend the result file, specify 0.

Default value

dword:0000012C (300 in decimal, which means 5 minutes)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you specify 0 for this parameter, the result file is not resent. Therefore, job completion will not be reported if transfer of the result file fails, and the state of job completion will be detected by job status monitoring on the manager host. Because monitoring of the job status is usually performed by polling at five-minute intervals, detection of job end could be delayed.

In either of the following cases, the end information for a job on the agent host is deleted. As a result, the job will be killed, and the message KAVU4597-W (A missed job at the agent (*agent-host-name*) was forcibly terminated.) will be output to the integrated trace log on the manager host.

- When the resend operation is repeated until the upper limit of NotifyJobStateCount is reached, at which time transfer of the result file fails
- When the agent host's JP1/AJS3 service stops before the manager host starts checking the job status

(66) NotifyJobStateCount

Use this parameter to specify the number of times that the job result file is to be resent.

For details, see [6.2.5 Changing the interval and number of resend attempts for job result files](#) (for Windows) or [15.2.5 Changing the interval and number of resend attempts for job result files](#) (for UNIX).

Format

"NotifyJobStateCount" = dword:*number-of-times-job-result-file-to-be-resent*

Specifiable values

A hexadecimal value from 1 to 00000800 (1 to 2,048 in decimal)

Default value

dword:00000120 (288 in decimal)

During a new installation of JP1/AJS3, dword:00000002 (2 in decimal) is set.

Recommended value

dword:00000002 (2 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

Supplementary note

If you use the default values of this parameter and the `NotifyJobStateInterval` environment setting parameter, a resend operation is performed at five-minute intervals for 24 hours.

(67) ConnectTimeout (for job execution control agent)

Use this parameter to specify the TCP/IP connection timeout value.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"ConnectTimeout" = dword:*definition-of-the-TCP/IP-connection-timeout-value-of-the-job-execution-control-agent*

Specifiable values

A hexadecimal value (in milliseconds) from 00002710 to 000927C0 (10,000 to 600,000 in decimal)

Default value

dword:00015F90 (90,000 in decimal, which is 90 seconds)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- If you decrease the connection timeout value, a timeout might occur before the connection is completed, resulting in a TCP/IP communication connection error.
- Depending on the connection timeout specifications and the settings for the OS, a connection timeout might occur before the value specified for this parameter is reached.

(68) CommunicateRetryCount (for job execution control agent)

Use this parameter to specify the number of retries for a TCP/IP connection error.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"CommunicateRetryCount" = dword:*definition-of-the-number-of-retries-for-a-TCP/IP-connection-error-on-the-job-execution-control-agent*

Specifiable values

A hexadecimal value from 00000000 to 00000064 (0 to 100 in decimal)

Default value

dword:00000002 (2 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you increase the value for number of retries too much, unavoidable communication errors might cause the number of TCP/IP connection errors to increase.

(69) CommunicateRetryInterval (for job execution control agent)

Use this parameter to specify the TCP/IP connection error retry interval.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"CommunicateRetryInterval" = dword:*definition-of-the-TCP/IP-connection-error-retry-interval-on-the-job-execution-control-agent*

Specifiable values

A hexadecimal value (in seconds) from 00000001 to 0000012C (1 to 300 in decimal)

Default value

dword:00000014 (20 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you decrease the value for the retry interval so that it is too small, the communication retry interval will be too short. As a result, unavoidable communication errors might cause the number of TCP/IP connection errors to increase.

(70) LogonUserRetryCount

Use this parameter to specify the number of retries for obtaining an access token when **Standard** is specified for **Exec. service**.

For details, see [6.2.19 Changing the settings for logon retries when a job is executed](#).

Format

"LogonUserRetryCount" = dword:*number-of-retries-for-obtaining-an-access-token-when-"Standard"-is-specified-for-"Exc.service"*

Specifiable values

A hexadecimal value from 00000000 to 00000064 (0 to 100 in decimal)

Default value

dword:00000003 (3 in decimal)

Recommended value

Default value

When the setting takes effect
After JP1/AJS3 is restarted

Cautionary note

If you specify 0, no retry attempts are made.

(71) LogonUserRetryInterval

Use this parameter to specify the retry interval for obtaining the access token when **Standard** is specified for **Exec. service**.

For details, see [6.2.19 Changing the settings for logon retries when a job is executed](#).

Format

"LogonUserRetryInterval" = dword:*retry-interval-for-obtaining-an-access-token-when-"Standard"-is-specified-for-"Exec.service"*

Specifiable values

A hexadecimal value (in seconds) from 00000001 to 0000012C (0 to 300 in decimal)

Default value

dword:00000001 (1 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(72) variable-name

This parameter is used to define a work path for job execution as a variable.

Format

"*variable-name*" = "*value*"

variable-name

Specify the character string for the variable name in the format $\$variable-name\$$. The specified variable name here can be used in the file path names and parameters.

value

Specify the installation path for the execution program indicated by *variable-name* on each applicable host.

Cautionary note

If you define environment setting parameters incorrectly, you can perform the recovery procedure described in [B. Recovery Procedure Used When an Incorrect Environment Settings Parameter is Set](#).

For details, see [6.2.1 Defining variables for work paths used during job execution](#) (for Windows) or [15.2.1 Defining variables for work paths used during job execution](#) (for UNIX).

(73) All Users

Specify the search path name for all JP1 users.

Format

"All Users" = *search-path-for-a-transfer-file*

Supplementary note

You can specify a search path name for each JP1 user separately, and a search path name for all JP1 users in any sequence.

When you write multiple search path names in Windows, use two colons (: :) to delimit them. Also enclose the entire path name after the equal sign (=) in double quotation marks (").

If the specifications are duplicated, the priority is as follows:

- The specification for a JP1 user has priority over the specification for all JP1 users. If a transfer file with a search path that was specified for a JP1 user is found, a search using the search path specified for all JP1 users is not performed.
- If a JP1 user name is duplicated, the most recent specification has priority.

For details, see [6.2.2 Defining search paths for a file to be transferred](#) (for Windows) or [15.2.2 Defining search paths for a file to be transferred](#) (for UNIX).

(74) JP1-user-name

Specify the search path name for each JP1 user who executes a job.

Format

"JP1-user-name" = *search-path-for-a-transfer-file*

Supplementary note

You can specify a search path name for each JP1 user separately, and a search path name for all JP1 users in any sequence.

When you write multiple search path names in Windows, use two colons (: :) to delimit them. Also enclose the entire path name after the equal sign (=) in double quotation marks (").

If specifications are duplicated, the priority is as follows:

- The specification for a JP1 user has priority over the specification for all JP1 users. If a transfer file with a search path that was specified for a JP1 user is found, a search using the search path specified for all JP1 users is not performed.
- If a JP1 user name is duplicated, the most recent specification has priority.

For details, see [6.2.2 Defining search paths for a file to be transferred](#) (for Windows) or [15.2.2 Defining search paths for a file to be transferred](#) (for UNIX).

(75) ConnectTimeout (for the command and scheduler to be used for job execution)

Use this parameter to specify the TCP/IP connection timeout value.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"ConnectTimeout" = *dword:definition-of-the-TCP/IP-connection-timeout-value-for-job-execution-and-schedulers-commands*

Specifiable values

A hexadecimal value (in milliseconds) from 00002710 to 000927C0 (10,000 to 600,000 in decimal)

Default value

dword:00015F90 (90,000 in decimal, which is 90 seconds)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- If you decrease the connection timeout value, a timeout might occur before the connection is completed, resulting in a TCP/IP communication connection error.
- Depending on the connection timeout specifications and the settings for the OS, a connection timeout might occur before the value specified for this parameter is reached.

(76) CommunicateRetryCount (for the command and scheduler to be used for job execution)

Use this parameter to specify the number of retries for a TCP/IP connection error.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"CommunicateRetryCount" = dword:*definition-of-number-of-retries-for-an-TCP/IP-connection-error-for-job-execution-and-scheduler-commands*

Specifiable values

A hexadecimal value from 00000000 to 00000064 (0 to 100 in decimal)

Default value

dword:00000002 (2 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you increase the value for number of retries too much, unavoidable communication errors might cause the number of TCP/IP connection errors to increase.

(77) CommunicateRetryInterval (for the command and scheduler to be used for job execution)

Use this parameter to specify the TCP/IP connection error retry interval.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"CommunicateRetryInterval" = dword:*definition-of-the-TCP/IP-connection-error-retry-interval-for-job-execution-and-scheduler-commands*

Specifiable values

A hexadecimal value (in seconds) from 00000001 to 0000012C (1 to 300 in decimal)

Default value

dword:00000014 (20 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you decrease the value for the retry interval to so that it is too small, the communication retry interval will be too short. As a result, unavoidable communication errors might cause the number of TCP/IP connection errors to increase.

(78) CommunicateTimeout

Use this parameter to specify the communication timeout period.

For details, see [6.2.14 Changing the timeout value for the job execution control manager process](#) (for Windows) or [15.2.14 Changing the timeout value for the job execution control manager process](#) (for UNIX).

Format

"CommunicateTimeout" = dword:*setting-value*

Specifiable values

A hexadecimal value (in milliseconds) from 000927c0 to 0036EE80 (600,000 to 3,600,000 in decimal)

Default value

dword:000927c0 (600,000 in decimal, which is 10 minutes)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(79) MacroOptionReplaceMode

When the passing information in a macro variable that has no characters before and after it is a NULL character string, use this parameter to specify whether to replace the macro variable name with a NULL character string.

For details, see [6.2.11 Setting the handling of a macro variable when the value is a NULL string](#) (for Windows) or [15.2.11 Setting the handling of a macro variable when the value is a NULL string](#) (for UNIX).

Format

"MacroOptionReplaceMode" = dword:*whether-to-replace-the-passing-information-in-a-macro-variable-with-a-NULL-character-string*

Specifiable values

- 0
The specified macro variable name is used as is as a character string. There is no replacement with a NULL string.
- 1
The macro variable name is replaced with a NULL string.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(80) IsHA (for the command and scheduler to be used for job execution)

Use this parameter to specify the definition for setting up a cluster environment for the commands and schedulers used for job execution. Specify this parameter only to stop cluster use.

Format

"IsHA" = dword:*definition-for-the-cluster-environment-setup-for-the-commands-and-schedulers-used-for-job-execution*

Specifiable values

- 0
Specifies to stop cluster use.
- 1
If you execute setup when operating a cluster system, this value is automatically set to the parameter for the physical and logical hosts.

Default value

dword:00000000 (0 in decimal)

Recommended value

None

When the setting takes effect

After JP1/AJS3 is restarted

(81) PassingInfoUsePreRc

Specify whether to enable or disable the return value of the preceding job in a passing information setting job.

For details, see [6.2.25 Settings for using the return value of the preceding job in the passing information setting jobs](#) (for Windows) or [15.2.23 Settings for using the return value of the preceding job in the passing information setting jobs](#) (for UNIX).

Format

"PassingInfoUsePreRc"=dword:*settings-for-using-the-return-value-of-the-preceding-job-in-the-passing-information-setting-jobs*

Specifiable values

0
Regardless of the return value of the preceding job, the return value of the passing information setting job itself is set.

1
If the return value of the preceding job is 0, the return value of the passing information setting job itself is set.
If the return value of the preceding job is a return value other than 0, the return value of the preceding job in set as the return value of the passing information setting job.

Default value

dword:00000001 (1 in decimal)

During a new installation of JP1/AJS3, dword:00000000 (0 in decimal) is set.

Recommended value

dword:00000000 (0 in decimal)

When the setting takes effect

Immediately (the next time a passing information setting job is executed)

(82) ConnectTimeout (for the status reporting process for job execution control)

Use this parameter to specify the TCP/IP connection timeout value.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"ConnectTimeout" = dword:*definition-of-the-TCP/IP-connection-timeout-value-in-the-status-reporting-process-for-the-job-execution-control*

Specifiable values

A hexadecimal value (in milliseconds) from 00002710 to 000927C0 (10,000 to 600,000 in decimal)

Default value

dword:00015F90 (90,000 in decimal, which is 90 seconds)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary notes

- If you decrease the connection timeout value, a timeout might occur before the connection is completed, resulting in a TCP/IP communication connection error.
- Depending on the connection timeout specifications and the settings for the OS, a connection timeout might occur before the value specified for this parameter is reached.

(83) CommunicateRetryCount (for the status reporting process for job execution control)

Use this parameter to specify the number of retries for a TCP/IP connection error.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"CommunicateRetryCount" = dword:*definition-of-the-number-of-retries-for-a-TCP/IP-connection-error-in-the-status-reporting-process-for-job-execution-control*

Specifiable values

A hexadecimal value from 00000000 to 00000064 (0 to 100 in decimal)

Default value

dword:00000002 (2 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you increase the value for number of retries too much, unavoidable communication errors might cause the number of TCP/IP connection errors to increase.

(84) CommunicateRetryInterval (for the status reporting process for job execution control)

Use this parameter to specify the TCP/IP connection error retry interval.

For details about the definition, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for Windows) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections](#) (for UNIX).

Format

"CommunicateRetryInterval" = dword:*definition-of-the-TCP/IP-connection-error-retry-interval-in-the-status-reporting-process-for-job-execution-control*

Specifiable values

A hexadecimal value (in seconds) from 00000001 to 0000012C (1 to 300 in decimal)

Default value

dword:00000014 (20 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you decrease the value for the retry interval so that it is too small, the communication retry interval will be too short. As a result, unavoidable communication errors might cause the number of TCP/IP connection errors to increase.

(85) IsHA (for the status reporting process for job execution control)

Use this parameter to specify the definition for setting up a cluster environment for the status reporting process for job execution control. Specify this parameter only to stop cluster use.

Format

"IsHA" = dword:*definition-for-cluster-environment-setup-for-the-status-reporting-process-for-job-execution-control*

Specifiable values

- 0
Specifies to stop cluster use.
- 1
If you execute setup when operating a cluster system, this value is automatically set to the parameter for the physical and logical hosts.

Default value

dword:00000000 (0 in decimal)

Recommended value

None

When the setting takes effect

After JP1/AJS3 is restarted

(86) MergeEnvMode

Use this parameter to specify whether an environment variable in a job definition is enabled when the name is the same as a system environment variable name.

For details, see [6.2.21 Settings for enabling an environment variable in a job definition when the name is the same as a system environment variable name](#).

Format

"MergeEnvMode" = dword:*definition-for-whether-an-environment-variable-in-a-job-definition-is-enabled-when-the-name-is-the-same-as-a-system-environment-variable-name*

Specifiable values

- 0
Specify this value to ensure that the system environment variable takes the highest priority if an environment variable specified in a job definition has the same name as a system environment variable.
- 1
Specify this value to enable an environment variable in a job definition when the name is the same as a system environment variable name.

Default value

dword:00000000 (0 in decimal)

During a new installation of JP1/AJS3, dword:00000001 (1 in decimal) is set.

Recommended value

dword:00000001 (1 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

(87) UACAdministratorsExec (for job)

Use this parameter to specify whether a user can execute jobs as a user with administrator permissions when **Standard** is specified for **Exec. Service** of the job and the UAC function is enabled.

For details, see [6.2.22 Settings for executing jobs as a user with administrator permissions when the UAC is enabled](#).

Format

"UACAdministratorsExec" = dword:*setting-for-executing-jobs-as-a-user-with-administrator-permissions-when-UAC-is-enabled*

Specifiable values

0

When the UAC function is enabled, all OS users who belong to the Administrators group execute jobs with the administrator permissions disabled. However, the built-in Administrator and an OS user whose account is the same as the JP1/AJS3 service account are excluded.

1

When the UAC function is enabled, an OS user who belongs to the Administrators group executes jobs as a user with administrator permissions.

When you specify 1, the *Log on as a batch job* permission must be set for all OS users (including standard users) who execute jobs.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(88) GetPasswd_RetryCount

Use this parameter to specify the number of retry attempts when an attempt to acquire user information from the OS password file has failed.

Usually, you do not need to change this value.

For details, see [15.2.20 Changing the settings for retries when user information is acquired](#).

Format

"GetPasswd_RetryCount" = dword:*number-of-retry-attempts-when-an-attempt-to-acquire-user-information-from-the-OS-password-file-has-failed*

Specifiable values

A hexadecimal value from 00000000 to 0000000A (0 to 10 in decimal)

If you specify dword:00000000, a retry is not performed.

Default value

dword:00000002 (2 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(89) GetPasswd_RetryInterval

Use this parameter to specify the retry interval when an attempt to acquire user information from the OS password file has failed.

Usually, you do not need to change this value.

For details, see *15.2.20 Changing the settings for retries when user information is acquired*.

Format

"GetPasswd_RetryInterval" = dword:*retry-interval-when-an-attempt-to-acquire-user-information-from-the-OS-password-file-has-failed*

Specifiable values

A hexadecimal value (in milliseconds) from 00000000 to 00002710 (0 to 10,000 in decimal)

If you specify dword:00000000, a retry is performed immediately.

Default value

dword:000003E8 (1,000 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(90) IgnoreResultFileError (for job)

Use this parameter to specify the operation to be executed if an error occurs during the transfer processing of a job result file (standard output file or standard error output file) and if **Standard** is specified for **Exec. Service**.

For details, see *6.2.24 Operation settings when job result file transfer fails* (Windows), or *15.2.22 Operation settings when job result file transfer fails* (UNIX).

Format

"IgnoreResultFileError" = dword:*operation-if-a-transfer-error-occurs-in-a-job-result-file*

Specifiable values

0

If an error occurs during the transfer processing of a job result file, -1 is set as the job return code and the job status is set to *Ended abnormally*.

1

If an error occurs during the transfer processing of a job result file, the return code of the job process is set as the job return code and the job status is set to *Ended normally*, *Ended with warning*, or *Ended abnormally* according to how the end of processing is judged.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(91) PreventResultFileLack

Use this parameter to specify whether all data generated by jobs is output to result files.

For details, see [6.2.26 Setting for ensuring that data generated by jobs is output to result files](#).

Format

"PreventResultFileLack" = dword:*setting-for-ensuring-that-data-generated-by-jobs-is-output-to-result-files*

Specifiable values

0
If 0 is specified, data generated by jobs might not be output to result files if disk access or restart of processing takes time. (For example, restart of processing takes time when the memory used by JP1/AJS3 is swapped out.)

1
If 1 is specified, data generated by jobs is output to result files even if disk access or restart of processing takes time. (For example, restart of processing takes time when the memory used by JP1/AJS3 is swapped out.)

Default value

dword:00000000 (0 in decimal)

Recommended value

Depends on the user environment.

Note that 1 is recommended if you use the passing information setting job.

When the setting takes effect

After JP1/AJS3 is restarted

(92) SendFileSizeStatus

Use this parameter to specify the behavior when the size of transmitted files exceeds the upper limit.

For details, see [6.2.27 Placing restrictions on file transmission](#) (for Windows) or [15.2.24 Placing restrictions on file transmission](#) (for UNIX).

Format

"SendFileSizeStatus"=dword:*behavior-when-file-size-reaches-the-upper-limit*

Specifiable values

0
The size of transmitted files is checked, and the KAVU3507-I message is output when the size of transmitted files reaches the upper limit.

All data of result files is transmitted, and the status of job termination is inherited.

1

The size of transmitted files is checked, and the KAVU3508-I message is output when the size of transmitted files reaches the upper limit.

Result files are transmitted up to the total size as large as the upper-limit size (value specified in the `LimitSendFileSize` environment setting parameter), and the file data exceeding the upper-limit size is discarded. Then, the termination status of the job is set to *Ended abnormally*, and the KAVU3510-E message is output.

For details about the termination code and status, see [6.2.27\(3\) Behavior when the size of transmitted files exceeds the upper limit](#) (for Windows) or [15.2.24\(3\) Behavior when the size of transmitted files exceeds the upper limit](#) (for UNIX).

2

The size of transmitted files is checked, and the KAVU3508-I message is output when the size of transmitted files reaches the upper limit.

Result files are transmitted up to the total size as large as the upper-limit size (value specified in the `LimitSendFileSize` environment setting parameter), and the file data exceeding the upper-limit size is discarded. Then, the termination status of the job is set to *Ended with warning*, and the KAVU3509-W message is output. If the job status on the agent host was *Ended abnormally*, the status is inherited.

For details about the termination code and status, see [6.2.27\(3\) Behavior when the size of transmitted files exceeds the upper limit](#) (for Windows) or [15.2.24\(3\) Behavior when the size of transmitted files exceeds the upper limit](#) (for UNIX).

3

The size of transmitted files is checked, and the KAVU3508-I message is output when the size of transmitted files reaches the upper limit.

Result files are transmitted up to the total size as large as the upper-limit size (value specified in the `LimitSendFileSize` environment setting parameter), and the file data exceeding the upper-limit size is discarded. As the job termination status, the termination status on the agent host is inherited.

For details about the termination code and status, see [6.2.27\(3\) Behavior when the size of transmitted files exceeds the upper limit](#) (for Windows) or [15.2.24\(3\) Behavior when the size of transmitted files exceeds the upper limit](#) (for UNIX).

When this value is specified, the job status will be *Ended normally* even if the size of transmitted files exceeds the upper limit. However, because the result files are not complete yet, make sure that the incomplete result files will not cause any problems in cases such as when a succeeding job will reference the result files.

Default value

dword:00000000 (0 in decimal)

During a new installation of JP1/AJS3, dword:00000003 (3 in decimal) is set.

Recommended value

dword:00000003 (3 in decimal)

When the setting takes effect

After JP1/AJS3 is restarted

(93) LimitSendFileSize

Use this parameter to specify the upper limit of the size of transmitted files.

If the size of the result files used during job execution exceeds a value estimated based on operation, the agent host limits the size of the files to be transmitted. We recommend that you set the upper limit of file size to a value (around 3 megabytes) that is appropriate to your operations.

The set upper limit is used to check the total size of result files (standard output and standard error output files).

Note that checking with the upper limit might have a margin of error of plus or minus several hundred bytes from the data transmitted to the manager.

The following shows how to estimate the file size (in units of bytes):

$$\overset{\text{number-of-files}}{\Sigma} (\text{length-of-file-name} + \text{file-size} + (12 * \text{number-of-lines-in-file}) + 116)$$

For details, see [6.2.27 Placing restrictions on file transmission](#) (for Windows) or [15.2.24 Placing restrictions on file transmission](#) (for UNIX).

Format

"LimitSendFileSize"=dword:*upper-limit-of-the-size-of-transmitted-files*

Specifiable values

A hexadecimal value (in bytes) from 00080000 to 08000000 (524,288 to 134,217,728 in decimal)

Default value

dword:00300000 (3,145,728 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(94) JobHistoryLogFileSize

Use this parameter to specify the size of the job execution history log file that is output by JP1/AJS3 - Agent Minimal Edition.

This parameter applies to JP1/AJS3 - Agent Minimal Edition only. Even if a value is set for this parameter, the value will not apply to JP1/AJS3 - Agent or JP1/AJS3 - Manager.

Format

"JobHistoryLogFileSize"=dword:*size-of-the-job-execution-history-log-file*

Specifiable values

A hexadecimal value (in kilobytes) from 00000200 to 00001000 (512 to 4,096 in decimal)

Default value

dword:00000200 (512 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

Before changing the value of this parameter, you must delete existing job execution history log files and the management file for these files.

For details about how to change the parameter, see [G.2\(3\) Estimating the job execution history log file](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(95) JobHistoryLogFileCount

Use this parameter to specify the number of job execution history log files that are output by JP1/AJS3 - Agent Minimal Edition.

This parameter applies to JP1/AJS3 - Agent Minimal Edition only. Even if a value is set for this parameter, the value will not apply to JP1/AJS3 - Agent or JP1/AJS3 - Manager.

Format

"JobHistoryLogFileCount"=dword:*number-of-the-job-execution-history-log-files*

Specifiable values

A hexadecimal value from 00000002 to 00000010 (2 to 16 in decimal)

Default value

dword:00000002 (2 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

Before changing the value of this parameter, you must delete existing job execution history log files and the management file for these files.

For details about how to change the parameter, see *G.2(3) Estimating the job execution history log file* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

20.6 Setting up the event/action control environment

This section describes the environment setting parameters for event/action control.

20.6.1 List of environment setting parameters for event/action control

The environment for starting event jobs and custom event jobs requires different settings in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

The table below lists the environment setting parameters to be used to set event/action control in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column. To determine whether an environment setting parameter is to be set in the manager environment (JP1/AJS3 - Manager) or the agent environment (JP1/AJS3 - Agent), see the *Applicable product* column.

Table 20–5: Environment setting parameters (event action control)

No	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[{JP1_DEFAULT logical-host-name}\JP1AOMMANAGER]#1	"WaitInfFileOutDir"=	Name of the directory to which the wait information file (settings for the manager process) is output	Windows UNIX	M
2	<ul style="list-style-type: none"> For scheduler service (common): [{JP1_DEFAULT logical-host-name}\JP1AJS2\SCHEDULER\EV\MANAGER]#1 	"FileWriteMode"=	File update mode	Windows UNIX	M
3		"MacVarDQuotation"=	Option for enabling double quotation marks (") in passing information	Windows UNIX	M
4		"DNSEstablish"=	Definition for running JP1/AJS3 in FQDN format for DNS operation that uses event jobs and custom event jobs	Windows UNIX	M
5		"FixedHostnameForAgent"=	Option for ensuring that a fixed manager host name is used	Windows UNIX	M
6		<ul style="list-style-type: none"> For scheduler service (common): [{JP1_DEFAULT logical-host-name}\JP1AJS2\SCHEDULER\EV\MANAGER]#1 For scheduler service (individual): [{JP1_DEFAULT logical-host-name}\JP1AJSMANAGER\scheduler-service-name\EV\MANAGER]#1 	"EvJobExecContinue"=	Option to continue execution of active event jobs	Windows UNIX
7	"BlockadeTimeoutInterval"=		Period of time for monitoring an event job and a custom event job in the blocked status	Windows UNIX	M
8	"NotificationConstantRetry"=		Option for ensuring that the sending of unreported information is retried at regular intervals	Windows UNIX	M
9	"NotificationRetryInterval"=		Interval for sending unreported information	Windows UNIX	M

No	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
10	<ul style="list-style-type: none"> For scheduler service (common): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\EV\MANAGER] #1 For scheduler service (individual): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name\EV\MANAGER] #1 	"NotificationRetryCount"=	Maximum number of retries for sending unreported information	Windows UNIX	M
11		"AlarmUnreportedInfoEvent"=	Threshold for monitoring the number of unreported information items for the scheduler service, and outputting a message and issuing a JP1 event	Windows UNIX	M
12		"AlarmUnreportedInfoEventInterval"=	Interval for outputting a message and issuing a JP1 event during the monitoring of the number of unreported information items for the scheduler service	Windows UNIX	M
13		"SuppressConditionLog"=	Whether the KAVT0108-I message is to be output when start conditions are met	Windows UNIX	M
14	<ul style="list-style-type: none"> For scheduler service (common): [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\EV\MANAGER] #1 For the event/action control agent: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AOMAGENT] #1 	"ClientBindFlag"=	Behavior of the send binding method	Windows UNIX	M, A, ME
15	<ul style="list-style-type: none"> For manager host: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AOMMANAGER] #1 [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\EV\MANAGER] #1 For agent host: [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AOMAGENT] #1 	"ResolveAgentInfo"=	Option for changing the agent host information to be used for name resolutions	Windows UNIX	M, A, ME
16	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AOMAGENT] #1	"WaitInfFileOutDir"=	Name of the directory to which the wait information file (settings for the agent process) is output	Windows UNIX	M, A, ME
17		"EvjobInfFile"=	Name of directory in which inherited event job information or custom event job information is saved	Windows UNIX	M, A, ME
18		"HowUseInfWhenHA"=	Information inheritance when a failover occurs	Windows UNIX	M, A, ME
19		"InformationWhenShutdown"=	How information is inherited at system shutdown	Windows UNIX	M, A, ME

No	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
20	[{JP1_DEFAULT logical-host-name} \JP1AOMAGENT] #1	"FilewatchinfoContinue"=	How information of the file monitoring job is inherited	Windows UNIX	M, A, ME
21		"FileWriteMode"=	File update mode	Windows UNIX	M, A, ME
22		"EVProcessHA"=	Option used when a detail process terminates	Windows UNIX	M, A, ME
23		"EventSequential"=	Event order option	Windows UNIX	M, A, ME
24		"RetryAgtStartNotification"=	Definition for resending the startup notification if sending of a startup notification has failed	Windows UNIX	M, A, ME
25		"ClientConnectTimeout"=	Time out value for the connection between the event/action control manager and the event/action control agent for communication	Windows UNIX	M, A, ME
26		"NotificationConstantRetry"=	Option for ensuring that the sending of unreported information is retried at regular intervals	Windows UNIX	M, A, ME
27		"NotificationAlarmCount"=	The threshold for outputting a message if resending to the manager occurs frequently	Windows UNIX	M, A, ME
28		"NotificationRetryInterval"=	Interval for sending unreported information	Windows UNIX	M, A, ME
29		"NotificationRetryCount"=	Maximum number of retries for sending unreported information	Windows UNIX	M, A, ME
30		"EventServerName"=	FQDN event server name	Windows UNIX	M, A, ME
31		"GetFQDNForShortNameOnly"=	Whether to use an FQDN local host name for interprocess communication for event/action control	Windows UNIX	M, A, ME
32		"NetworkFilewatch"=	Whether to monitor a network file by using a file monitoring job	Windows UNIX	M, A, ME
33		"NetworkFilewatchTimeout"=	Timeout period before a monitoring files job cancels the processing for acquiring information on a monitoring target file when monitoring network files	Windows UNIX	M, A, ME
34	"CloseCheckTimeout"=	Timeout period for the close check	Linux	M, A, ME	

No	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
35	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AOMAGENT] #1	"CloseCheckWarningInterval"=	Interval at which to output a message if the close check fails	UNIX	M, A, ME
36		"SSLInitTimeout"=	Configuring a timeout when waiting for a response during communication for event/action control when the communication encryption function is enabled	UNIX	M, A, ME
37	[JP1_DEFAULT\JP1AOMAGENT] #2	"RecvTimeout"=	Whether to set a timeout for receiving data in event job and custom event job socket communication	Windows UNIX	M, A, ME

Legend:

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

ME: JP1/AJS3 - Agent Minimal Edition

#1

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

#2

The setting of this parameter is valid for the physical and all logical hosts.

Parameters that are not described here are used for maintenance purposes. Do not change their values.

20.6.2 Details of the environment setting parameters for event/action control

This subsection describes details of the environment setting parameters for event/action control.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) WaitInfFileOutDir (for manager process)

Use this parameter to specify the name of the directory to which detailed information about event jobs and custom event jobs and information about the receive status of events monitored by the start condition (wait information) is output. Specify a full path name. Note that you need to specify this directory only if you want to change the default directory.

Specify this parameter if you want to output the wait information to a folder that is not specified by default or to support a cluster configuration.

The wait information is output to the directory you specify in this parameter or to the following folder in the assumed directory.

- In Windows:
sys\infodir

- In UNIX:
sys/infodir

This parameter is valid only for a manager process started from host-service management in a standard configuration.

Format

"WaitInfFileOutDir" = "*name-of-directory-to-which-the-wait-information-file-is-output (setting for the manager process)*"

Specifiable values

A character string of no more than 180 bytes

Default value

In Windows:

JP1/AJS3-Manager-installation-folder

During a new installation and setup of JP1/AJS3, one of the following values is set.

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2
The default for %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder

In UNIX:

/var/opt/jp1ajs2

During a new installation and setup of JP1/AJS3, the value is blank.

Recommended value

For a physical host:

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2
The default for %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder
- In UNIX:
Blank

For a logical host:

directory-name-of-a-common-disk

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

For the name of the directory to which the wait information file is output, do not specify characters that the OS does not permit to be used for a directory name. For example, in Windows, double quotation marks (") and asterisks (*) cannot be used.

Also, do not specify a backslash (\) at the end of the directory name.

(2) FileWriteMode (for manager process)

Use this parameter to specify whether to permit synchronous writing when the event job information or the custom event job information, and wait information file are updated.

Select the writing method appropriate for performance, reliability, and method of operation.

Format

```
"FileWriteMode" = "{sync|nosync}"
```

Specifiable values

`sync`

Synchronous writing is always performed when a file is updated. This writing mode improves reliability, but reduces performance.

Select this method when reliability is more important, as in a cluster environment.

`nosync`

Data is written to a disk in response to OS buffering. There is no synchronization with JP1/AJS3 processing. This mode provides better performance than `sync`, but a system failure will lead to inconsistent information, sometimes causing an event to disappear.

Default value

`nosync`

Note that in the following cases, `sync` is set:

- During a new installation of JP1/AJS3
- During setup of a cluster system

Recommended value

`sync`

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

We recommend that you set `sync` for both the manager process and the agent process (definition keys: [{JP1_DEFAULT|*logical-host-name*} \JP1AJS2\SCHEDULER\EV\MANAGER] and [{JP1_DEFAULT|*logical-host-name*} \JP1AOMAGENT]). In a manager-agent configuration, we also recommend that you set `sync` for both the manager process and the agent process. If you set `nosync` for the manager process and `sync` for the agent process, event jobs or custom event jobs might slow down in the following cases: when a jobnet using event jobs or custom event jobs or a jobnet with start conditions is registered for execution or terminated forcibly, or when an OR job whose preceding job uses many event jobs or custom event jobs is executed. Therefore, avoid using a combination of a `nosync` configuration for the manager process and a `sync` configuration for the agent process.

In particular, keep this in mind when you add logical hosts, or when you add manager and agent hosts, to an existing system. In such cases, check the settings on the manager and agent hosts, and make sure that a combination of a `nosync` configuration for the manager process and a `sync` configuration for the agent process is not used.

(3) MacVarDQuotation

Use this parameter to specify whether to use the option for enabling double quotation marks (") in passing information.

Format

```
"MacVarDQuotation" = "{Y|N}"
```

Specifiable values

Y

The option is used.

N

The option is not used.

Default value

N

During a new installation and setup of JP1/AJS3, Y is set.

Recommended value

Y

When the setting takes effect

The next time the JP1/AJS3 service is started

(4) DNSEstablish

Use this parameter to specify whether to use an FQDN host name when DNS is used.

For details, see [6.3.5 Using fully qualified domain names \(FQDN\) when using event jobs and custom event jobs during DNS operation](#) (for Windows) or [15.3.5 Using fully qualified domain names \(FQDN\) when using event jobs and custom event jobs during DNS operation](#) (for UNIX).

Format

```
"DNSEstablish" = "{Y|N}"
```

Specifiable values

Y

An FQDN host name is used when DNS is used.

N

An FQDN host name is not used when DNS is used. The manager sends a host name to agents instead of an FQDN host name.

Default value

N

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

(5) FixedHostnameForAgent

Use this parameter to specify whether lower case is always used for alphabetic characters in the manager host name for communication between event/action control processes.

For details, in Windows, see *6.3.15 Settings for ensuring that a fixed manager host name is used when event jobs and custom event jobs are executed*. In UNIX, see *15.3.15 Settings for ensuring that a fixed manager host name is used when event jobs and custom event jobs are executed*.

Format

```
"FixedHostnameForAgent" = "{Y|N}"
```

Specifiable values

Y
The host name obtained on the manager host is used for communication for event/action control after case conversion is performed so that all letters are lower case.

N
The host name obtained on the manager host is used for communication for event/action control without case conversion.

Default value

N

Recommended value

Y

When the setting takes effect

The next time the JP1/AJS3 service starts

(6) EvJobExecContinue

Use this parameter to specify whether to continue execution of an event job and a custom event job when you restart the JP1/AJS3 service on an execution.

For details, see *6.3.6 Resuming event jobs and custom event jobs that stopped when the JP1/AJS3 service stopped* (for Windows) or *15.3.6 Resuming event jobs and custom event jobs that stopped when the JP1/AJS3 service stopped* (for UNIX).

Format

```
"EvJobExecContinue" = "{Y|N}"
```

Specifiable values

Y
Execution of the event job and the custom event job are continued.

N
Execution of the event job and the custom event job end.

Default value

N

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

Set the option to continue execution of active event jobs for each manager of a physical host and a logical host.

(7) BlockadeTimeoutInterval

Use this parameter to specify the period of time until an event job, a custom event job in blocked status or a jobnet with start conditions is killed.

For details, see *6.3.9 Setting the period of time for monitoring event jobs and custom event jobs in the blocked status* (for Windows) or *15.3.9 Setting the period of time for monitoring event jobs and custom event jobs in the blocked status* (for UNIX).

Format

"BlockadeTimeoutInterval" = dword:*time-for-monitoring-event-jobs-and-custom-event-jobs-in-blocked-status*

Specifiable values

A hexadecimal value (in hours) from 00000018 to 000002D0 (24 to 720 in decimal)

Default value

dword:000002D0 (720 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

(8) NotificationConstantRetry (for communication from a manager host to an agent host)

Use this parameter to specify whether to use the regular or gradually increasing retry interval if the connection for communication from the manager host to the agent host fails because of a network error caused by a timeout.

For details, see *6.3.11 Settings for ensuring that the sending of unreported information is retried at regular intervals* (for Windows) or *15.3.11 Settings for ensuring that the sending of unreported information is retried at regular intervals* (for UNIX).

Format

"NotificationConstantRetry" = "{Y|N}"

Specifiable values

Y

If a network error caused by a timeout occurs, sending is retried at regular intervals.

N

If a network error caused by a timeout occurs, sending is retried at gradually increasing intervals.

Default value

N

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service starts

(9) NotificationRetryInterval (when sending information from the manager host to the agent host)

Use this parameter to specify the retry interval for sending unreported information from the manager host to the agent host.

For details, see [6.3.12 Changing the send retry interval and the number of retries for sending unreported information \(for Windows\)](#) or [15.3.12 Changing the send retry interval and the number of retries for sending unreported information \(for UNIX\)](#).

Format

"NotificationRetryInterval" = dword:*retry-interval-for-sending-unreported-information-from-the-manager-host-to-the-agent-host*

Specifiable values

A hexadecimal value (in seconds) from 00000001 to 00015180 (1 to 86,400 in decimal)

Default value

dword:0000001E (30 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service starts

(10) NotificationRetryCount (when sending information from the manager host to the agent host)

Use this parameter to specify the maximum number of retries for sending unreported information from the manager host to the agent host.

For details, see [6.3.12 Changing the send retry interval and the number of retries for sending unreported information \(for Windows\)](#) or [15.3.12 Changing the send retry interval and the number of retries for sending unreported information \(for UNIX\)](#).

Format

"NotificationRetryCount" = dword:*maximum-number-of-retries-for-sending-unreported-information-from-the-manager-host-to-the-agent-host*

Specifiable values

A hexadecimal value (number of times) from 00000001 to 00015180 (1 to 86,400 in decimal)

Default value

dword:00000B40 (2,880 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service starts

(11) AlarmUnreportedInfoEvent

Use this parameter to specify the threshold for monitoring the number of unreported information items for the scheduler service, and outputting a message and issuing a JP1 event managed by the event/action control manager.

Format

"AlarmUnreportedInfoEvent" = dword:*threshold-of-the-number-of-information-items-not-reported-to-the-scheduler-service-managed-by-the-event/action-control-manager*

Specifiable values

A hexadecimal value from 00000001 to 000061A7 (1 to 24,999 in decimal)

Default value

dword:00000BB8 (3,000 in decimal)

Recommended value

Default value

When the setting takes effect

When the scheduler service starts

(12) AlarmUnreportedInfoEventInterval

Use this parameter to specify the interval at which to output a message and issue a JP1 event if the number of unreported information items exceeds the value specified for the AlarmUnreportedInfoEvent environment setting parameter. This setting applies during the monitoring of unreported information items for the scheduler service managed by the event/action control manager.

After the first JP1 event is issued, during the interval set by this setting value, even if the monitored value is equal to or greater than the value specified for the AlarmUnreportedInfoEvent environment setting parameter, a JP1 event will not be issued. Even after the time specified for this setting value passes, if the monitored value continues to be equal to or greater than the value specified for the AlarmUnreportedInfoEvent environment setting parameter, a JP1 event will again be output at intervals set by this setting value.

Format

"AlarmUnreportedInfoEventInterval" = dword:*interval-for-outputting-a-message-and-issuing-a-JP1-event*

Specifiable values

A hexadecimal value from 0 to 5A0 (0 to 1,440 in decimal)

If you do not want to output a message or issue a JP1 event, specify 0.

Default value

dword:00000000 (0 in decimal)

During a new installation and setup of JP1/AJS3, 5 is set.

Recommended value

Set 1 or a greater value according to the operating environment.

When the setting takes effect

When the scheduler service starts

(13) SuppressConditionLog

Use this parameter to set whether the KAVT0108-I message is to be output to the integrated trace log when start conditions are met.

For a jobnet whose start conditions are frequently met, many messages are output to the integrated trace log. Set this parameter if you want the data in the integrated trace log to be retained for as long as possible.

Format

```
"SuppressConditionLog"="{Y|N}"
```

Specifiable values

Y

The KAVT0108-I message is not output when start conditions are met.

N

The KAVT0108-I message is output when start conditions are met.

Default value

N

During a new installation and setup of JP1/AJS3, Y is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the scheduler service starts

(14) ClientBindFlag

Use this parameter to specify whether to match the send binding method used for communication when an event job and a custom event job are executed to the receive binding method.

For details, see [6.3.10 Setting the binding method applied to the outgoing communication used in the execution of event jobs and custom event jobs](#) (for Windows) or [15.3.10 Setting the binding method applied to the outgoing communication used in the execution of event jobs and custom event jobs](#) (for UNIX).

Format

```
"ClientBindFlag" = dword:behavior-of-the-send-binding-method
```

Specifiable values

0

The setting for the send binding method used for communication when an event job and a custom event job is executed is canceled.

1

The send binding method used for communication when an event job and a custom event job is executed is matched to the receive binding method.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

(15) ResolveAgentInfo

Use this parameter to set the option for changing the agent host information that is to be used for name resolutions. For details, see [6.3.18 How to set the option for changing the agent information to be used for name resolution](#) (for Windows) or [15.3.17 How to set the option for changing the agent information to be used for name resolution](#) (for UNIX).

Format

```
"ResolveAgentInfo" = "{exec|host}"
```

Specifiable values

`exec`

When the IP address of an agent host is changed, the tasks on the manager host can be omitted.

`host`

When the IP address of an agent host is changed, tasks on the manager host are required.

Default value

`host`

During a new installation of JP1/AJS3, `exec` is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Supplementary notes

- If you set this parameter, make sure that you set the same parameter value on both the manager and agent hosts. If different values are specified, the system assumes that `host` is specified on both hosts.
- If you set this parameter on the manager host, you must set this parameter in two locations: the host definition key [{JP1_DEFAULT|*logical-host-name*} \JP1AOMMANAGER] and the scheduler service definition key [{JP1_DEFAULT|*logical-host-name*} \JP1AJS2\SCHEDULER\EV\MANAGER]. If you specify different parameter values for these two locations, scheduler service processes output the KAVT0199-E message. This message is output for each scheduler service.

(16) WaitInfFileOutDir (for agent processes)

Use this parameter to specify the name of the directory to which information such as the event-generation status of the event job and the custom event job, and receive status of events monitored by the start condition (wait information) is output. Specify a full path name. Note that you need to specify this directory only if you want to change the default directory.

Specify this parameter if you want to output the wait information to a folder that is not specified by default or to support a cluster configuration.

The wait information is output to the directory you specify here or to the following directory in the assumed directory.

- In Windows:
`sys\infoagt`
- In UNIX:

sys/infoagt

Format

"WaitInfFileOutDir" = "*name-of-directory-to-which-the-wait-information-file-is-output (setting for the agent process)*"

Specifiable values

A character string of no more than 180 bytes

Default value

In Windows:

JP1/AJS3 - Manager: *JP1/AJS3-Manager-installation-folder*

JP1/AJS3 - Agent: *JP1/AJS3-Agent-installation-folder*

During a new installation and setup of JP1/AJS3, one of the following values is set.

- If the installation folder is the default installation folder or is in a folder protected by the system:

%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2

The default for %ALLUSERSPROFILE% is *system-drive*\ProgramData.

A *folder protected by the system* is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

- If the installation folder is other than the above:

JP1/AJS3 - Manager: *JP1/AJS3-Manager-installation-folder*

JP1/AJS3 - Agent: *JP1/AJS3-Agent-installation-folder*

In UNIX:

/var/opt/jplajs2

During a new installation and setup of JP1/AJS3, it is set as blank.

Recommended value

For a physical host:

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2

The default for %ALLUSERSPROFILE% is *system-drive*\ProgramData.

A *folder protected by the system* is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

- In Windows, if the installation folder is other than the above:

JP1/AJS3 - Manager: *JP1/AJS3-Manager-installation-folder*

JP1/AJS3 - Agent: *JP1/AJS3-Agent-installation-folder*

- In UNIX:

Blank

For a logical host:

directory-name-of-a-shared-disk

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

For the name of the directory to which the wait information file is output, do not specify characters that the OS does not permit to be used for a directory name. For example, in Windows, double quotation marks (") and asterisks (*) cannot be used.

Also, do not specify a backslash (\) at the end of the directory name.

(17) EvjobInfFile

Use this parameter to specify the name of the directory in which the file inheriting the information received in the email reception monitoring jobs is saved. Specify a full path name. Note that you need to specify this directory only if you want to change the default directory.

Specify this parameter if you want to output the information to a folder that is not specified by default or to support a cluster configuration.

For details about the behavior of email reception monitoring jobs, see *2.1.2 Behavior when receiving email in the JP1/Automatic Job Management System 3 Linkage Guide*.

Format

```
"EvjobInfFile" = "name-of-directory-for-inheriting-event-job-information-or-custom-event-job-information"
```

Specifiable values

A character string of no more than 180 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\tmp\infodir
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3 - Manager: *JP1/AJS3-Manager-installation-folder*\tmp\infodir
JP1/AJS3 - Agent: *JP1/AJS3-Agent-installation-folder*\tmp\infodir
- In UNIX:
/var/opt/jplajs2/sys/infoagt/tmp/infodir

If it has been set as blank, the default value is assumed. It is set as blank during a new installation and setup of JP1/AJS3.

Recommended value

- Physical hosts
Blank
- Logical hosts
directory-name-of-a-shared-disk

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

The files stored in this directory are not deleted automatically. Therefore, delete them when they are unnecessary.

(18) HowUseInfWhenHA

Use this parameter to specify whether information is to be passed if the JP1/AJS3 service in JP1/AJS3 - Manager or JP1/AJS3 - Agent stops unaccompanied by normal stop processing during failover or power-off processing. Specify whether information about the stoppage is to be passed to the failover destination or the restarted JP1/AJS3 - Manager or JP1/AJS3 - Agent.

Change this parameter if you want to discard an event occurring before the failover or JP1/AJS3 service stoppage when the JP1/AJS3 service stoppage unaccompanied by normal stop processing prevents the event from being reported to JP1/AJS3 - Manager.

Format

```
"HowUseInfWhenHA" = "{Y|N}"
```

Specifiable values

Y

The status when a stoppage without normal stop processing has occurred is passed to the failover destination or the restarted JP1/AJS3 - Manager or JP1/AJS3 - Agent. For example, after the switchover, an event that could not be reported to JP1/AJS3 - Manager before the failover occurred will be resent.

N

The status when a stoppage without normal stop processing has occurred is not passed to the failover destination or the restarted JP1/AJS3 - Manager or JP1/AJS3 - Agent. For example, an event that could not be reported to JP1/AJS3 - Manager before the failover occurred will be discarded.

Specify Y for normal operation.

Default value

Y

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

(19) InformationWhenShutDown

Use this parameter to specify whether to report events that could not be reported to JP1/AJS3 - Manager when either the JP1/AJS3 - Manager host or JP1/AJS3 - Agent host was shut down (end with stop processing).

Change the parameter value to discard any such unreported events at the next restart.

Format

```
"InformationWhenShutDown" = "{K|B}"
```

Specifiable values

K

When JP1/AJS3 - Manager or JP1/AJS3 - Agent is started after the previous shutdown, the system reports the events that could not be reported to JP1/AJS3 - Manager before the shutdown. For example, when you start the terminated host, events generated before shutdown are reported to JP1/AJS3 - Manager. Note, however, that this applies only when JP1/AJS3 - Manager is started within 24 hours.

B

When JP1/AJS3 - Manager or JP1/AJS3 - Agent is started after the previous shutdown, the system does not report the events that could not be reported to JP1/AJS3 - Manager before the shutdown. That is any such events are discarded. Specify this value if you want information to be inherited only when a power failure occurs.

Specify K for normal operation.

Default value

K

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

(20) FilewatchinfContinue

Use this parameter to specify whether the information for a file-monitoring job existing at the last shutdown is inherited when JP1/AJS3 - Manager or JP1/AJS3 - Agent is shut down (end with stop processing) during execution of the file-monitoring job.

Change the parameter value in the following case: if the shut-down file-monitoring job is defined in the start conditions and is to be restarted, you do not want the monitoring status to be inherited.

Format

```
"FilewatchinfContinue" = "{Y|N}"
```

Specifiable values

Y

The JP1/AJS3 - Manager or JP1/AJS3 - Agent started after the shutdown inherits the pre-shutdown monitoring status of a file-monitoring job.

N

The JP1/AJS3 - Manager or JP1/AJS3 - Agent started after shutdown do not inherit the pre-shutdown monitoring status of a file-monitoring job.

Default value

N

During a new installation and setup of JP1/AJS3, Y is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

(21) FileWriteMode (for agent process)

Use this parameter to specify whether to permit synchronous writing when the event job information or the custom event job information, and wait information file are updated.

Select the writing method appropriate for performance, reliability, and method of operation.

Format

```
"FileWriteMode" = "{sync|nosync}"
```

Specifiable values

`sync`

Synchronous writing is always performed when a file is updated. This writing mode improves reliability, but reduces the performance.

Select this method when reliability is more important, as in a cluster environment.

`nosync`

Data is written to a disk in response to OS buffering. There is no synchronization with the JP1/AJS3 processing. This mode provides better performance than `sync`, but a system failure will lead to inconsistent information, sometimes causing an event to disappear.

Default value

`nosync`

Note that in the following cases, `sync` is set:

- During a new installation of JP1/AJS3
- During setup of a cluster system

Recommended value

`sync`

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

We recommend that you set `sync` for both the manager process and the agent process (definition keys: [{JP1_DEFAULT|*logical-host-name*} \JP1AJS2\SCHEDULER\EV\MANAGER] and [{JP1_DEFAULT|*logical-host-name*} \JP1AOMAGENT]). In a manager-agent configuration, we also recommend that you set `sync` for both the manager process and the agent process. If you set `nosync` for the manager process and `sync` for the agent process, event jobs or custom event jobs might slow down in the following cases: when a jobnet using event jobs or custom event jobs or a jobnet with start conditions is registered for execution or terminated forcibly, or when an OR job whose preceding job uses many event jobs or custom event jobs is executed. Therefore, avoid using a combination of a `nosync` configuration for the manager process and a `sync` configuration for the agent process.

In particular, keep this in mind when you add logical hosts, or when you add manager and agent hosts, to an existing system. In such cases, check the settings on the manager and agent hosts, and make sure that a combination of a `nosync` configuration for the manager process and a `sync` configuration for the agent process is not used.

(22) EVProcessHA

When event/action control detail processes are terminated with a signal, specify whether to operate at a reduced level without terminating the event/action control agent process, or whether to terminate the processing after stopping all detail processes.

Format

"EVProcessHA" = "{Y|N}"

Specifiable values

Y

All the detail processes are stopped, after which the event/action control agent process terminates.

N

Operation continues at a reduced level. The event/action control agent process is not terminated. If some of the detail processes are terminated for a reason such as a signal, you will be able to use only the remaining event jobs and custom event jobs that are not affected by those detail processes that have been terminated.

Default value

N

During a new installation and setup of JP1/AJS3, Y is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary notes

- If you specify Y for the parameter value and then set restarting of the abnormally terminated JP1/AJS3 processes, the agent and detail processes are restarted when the JP1/AJS3 process is restarted. For details about how to restart the abnormally terminated JP1/AJS3 processes, see *6.3.1 Restarting an abnormally terminated JP1/AJS3 process in the JP1/Automatic Job Management System 3 Administration Guide*.
- In UNIX, if you specify N for the parameter value and disable the detail process termination option, registering for execution a job related to an abnormally terminated detail process[#] causes the job to terminate abnormally.
#: For example, run the file-monitoring job when the `jpocwtf1Main` process has terminated abnormally.

(23) EventSequential

Use this parameter to specify whether to use the event order option.

Format

"EventSequential" = "{Y|N}"

Specifiable values

Y

Specify this value to use the event order option.

N

Specify this value if you do not use the event order option.

Default value

N

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

(24) RetryAgtStartNotification

Use this parameter to specify whether to resend the startup notification if sending the startup notification has failed.

Format

```
"RetryAgtStartNotification" = "{Y|N}"
```

Specifiable values

Y

The startup notification is resent.

N

The startup notification is not resent.

Default value

N

During a new installation of JP1/AJS3, Y is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

For details about the operating environment in which Y must be specified, see [6.3.7 Retrying startup notification of the event/action control agent](#) (for Windows), or [15.3.7 Retrying startup notification of the event/action control agent](#) (for UNIX).

(25) ClientConnectTimeout (event/action control)

Use this parameter to specify how long to wait for a connection if a connection request for a TCP/IP socket does not immediately result in either success or failure.

If the connection request is not completed within the specified time, the request is canceled as a timeout.

For details about setting this environment setting parameter in the manager environment, see [20.8.2\(1\) ClientConnectTimeout \(communication control\)](#).

Format

```
"ClientConnectTimeout" = dword:connection-timeout-for-communication-between-the-event/action-control-manager-and-the-event/action-control-agent
```

Specifiable values

A hexadecimal value (in milliseconds) from 000003E8 to 000927C0 (1,000 to 600,000 in decimal)

Default value

- In Windows:

dword:00007530 (30,000 in decimal)

- In UNIX:

dword:000003E8 (1,000 in decimal)

During a new installation and setup of JP1/AJS3, dword:00002710 is set.

Recommended value

- In Windows:
Set the value appropriate for the operating environment.
- In UNIX:
dword:00002710 (10,000 in decimal)

When the setting takes effect

The next time the JP1/AJS3 service starts

Cautionary notes

- If the TCP/IP connection timeout value set in the OS is less than the value set in this environment setting parameter, the timeout value set in the OS overrides the value of the environment setting parameter.
- If this environment setting parameter is omitted, the default value is used.
- If a value that cannot be specified for event/action control is specified in this parameter, the default value is used.

(26) NotificationConstantRetry (for communication from an agent host to a manager host)

Use this parameter to specify whether to use the regular or gradually increasing retry interval if the connection for communication from the agent host to the manager host fails due to a network error caused by a failure in initialization of the connection processing.

For details, see [6.3.14 Environment setting parameters related to communication for event/action control](#) (for Windows) or [15.3.14 Environment setting parameters related to communication for event/action control](#) (for UNIX).

Format

```
"NotificationConstantRetry"="{Y|N}"
```

Specifiable values

- Y
If a network error caused by a failure in initialization of the connection processing occurs, sending is retried at regular intervals.
- N
If a network error caused by a failure in initialization of the connection processing occurs, sending is retried at gradually increasing intervals.

Default value

Y

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(27) NotificationAlarmCount

If a notification is not sent to the manager even after repeated resending of the notification, you can set a threshold for outputting the message KAVT0669-E, so you will be able to notice that the notification has not reached the manager for an extended period.

For details, see [6.3.14 Environment setting parameters related to communication for event/action control](#) (for Windows) or [15.3.14 Environment setting parameters related to communication for event/action control](#) (for UNIX).

Format

"NotificationAlarmCount"=dword:*number-of-times-a-retry-is-made-to-send-a-notification-to-the-manager-host-before-outputting-a-message-if-many-notification-retries-occur*

Specifiable values

A hexadecimal value (number of times) from 00000000 to 00015180 (0 to 86,400 in decimal)

If you do not want a message to be output, specify 0.

Default value

dword:00000000 (0 in decimal)

The following value is set when JP1/AJS3 is newly installed or set up:

- In Windows:
dword:00000018 (24 in decimal) (units: seconds)
- In UNIX:
dword:0000001D (29 in decimal) (units: seconds)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service starts

(28) NotificationRetryInterval (when sending information from the agent host to the manager host)

Use this parameter to specify the retry interval for sending unreported information from the agent host to the manager host.

For details, see [6.3.12 Changing the send retry interval and the number of retries for sending unreported information](#) (for Windows) or [15.3.12 Changing the send retry interval and the number of retries for sending unreported information](#) (for UNIX).

Format

"NotificationRetryInterval" = dword:*retry-interval-for-sending-unreported-information-from-the-agent-host-to-the-manager-host*

Specifiable values

A hexadecimal value (in seconds) from 00000001 to 00015180 (1 to 86,400 in decimal)

Default value

dword:0000000A (10 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service starts

(29) NotificationRetryCount (when sending information from the agent host to the manager host)

Use this parameter to specify the maximum number of retries for sending unreported information from the agent host to the manager host.

For details, see [6.3.12 Changing the send retry interval and the number of retries for sending unreported information](#) (for Windows) or [15.3.12 Changing the send retry interval and the number of retries for sending unreported information](#) (for UNIX).

Format

```
"NotificationRetryCount" = dword:maximum-number-of-retries-for-sending-unreported-information-from-the-agent-host-to-the-manager-host
```

Specifiable values

A hexadecimal value (number of times) from 00000001 to 00015180 (1 to 86,400 in decimal)

Default value

```
dword:000021C0 (8,640 in decimal)
```

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service starts

(30) EventServerName

When you execute a log file monitoring job on a host on which an event server that has an FQDN event server name runs, use this parameter to specify the FQDN event server name specified in the JP1/Base event server index file (`index`).

Format

```
"EventServerName" = "event-server-name"
```

Specifiable values

A character string of no more than 255 bytes

Default value

Specify the short name of the host on which JP1/AJS3 is running.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary notes

- The event server name specified in this option must be the name of an event server that is running on a host on which JP1/AJS3 is running.
- Because the event server name specified in this option is case sensitive, use the uppercase and lowercase characters exactly the same way as the FQDN event server name specified in the JP1/Base event server index file (`index`).

(31) GetFQDNForShortNameOnly

Use this parameter to specify whether to acquire the local host name used for interprocess communication for event/action control from DNS. To specify Y for this environment setting parameter, you need to specify Y for the DNSEstablish environment setting parameter.

Format

```
"GetFQDNForShortNameOnly" = "{Y|N}"
```

Specifiable values

Y

An FQDN local host name acquired from DNS is used for interprocess communication for event/action control even if a short local host name is specified for `jp1hosts` or `jp1hosts2`.

N

The short local host name specified for `jp1hosts` or `jp1hosts2` is used for interprocess communication for event/action control.

If a short local host name is not specified for `jp1hosts` or `jp1hosts2`, an FQDN local host name acquired from DNS is used.

Default value

N

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Supplementary note

To use the FQDN local host name acquired from DNS for all interprocess communication for event/action control, specify Y for this environment setting parameter for all the following hosts:

- Manager host on which the DNSEstablish environment setting parameter is set to Y
- Agent host that executes event jobs and custom event jobs

(32) NetworkFilewatch

Use this parameter to specify whether to monitor a file by using a file monitoring job via a network.

Format

```
"NetworkFilewatch"="{Y|N}"
```

Specifiable values

Y

Allows a file monitoring job to monitor a file via a network.

N

Does not allow a file monitoring job to monitor a file via a network.

Default value

N

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary notes

- If you monitor only a local file by using a file monitoring job, use the default of N. If you set Y for this environment setting parameter, you must re-estimate the required amount of memory and adjust the kernel parameters.
- This note applies if Y is set for this environment setting parameter and a network failure occurs during execution of a file monitoring job in which a network file is specified for **Monitoring file**. In this case, the network failure might also cause delays in event detection by other file monitoring jobs in which a local file is specified for **Monitoring file**.
- Specify the access permission settings for monitoring-target files as follows:

In Windows:

Make sure that the user account that starts the JP1/AJS3 service has permission to change the monitoring-target files. For details, see *4.2.3 Changing the JP1/AJS3 service settings (Windows only)* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

In UNIX:

Specify the access permission settings so that clients can access the monitoring-target network files with view permission.

(33) NetworkFilewatchTimeout

Use this parameter to specify the timeout period before a monitoring files job cancels the processing for acquiring information on a monitoring target file when monitoring network files.

If the information on a monitoring target file is not acquired within the specified time, the processing to acquire information will be discontinued.

Format

"NetworkFilewatchTimeout" = dword:*timeout-period-before-a-monitoring-files-job-cancels-the-processing-for-acquiring-information-on-a-monitoring-target-file-when-monitoring-network-files*

Specifiable values

A hexadecimal value (in seconds) from 0000000A to 00000E10 (10 to 3,600 in decimal)

Default value

dword:0000003C (60 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

(34) CloseCheckTimeout

Use this parameter to specify the timeout period for the close check of the file monitoring process.

This parameter takes effect if N is set for the NetworkFilewatch environment setting parameter.

Format

"CloseCheckTimeout" = dword:*timeout-period-for-the-close-check*

Specifiable values

00000000, or a value (in seconds) from 0000000A to 00000E10 in hexadecimal (0, or a value from 10 to 3,600 in decimal)

Default value

dword:00000000 (0 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

Usually, you do not need to change this value. Read the following description, and then change this value as necessary.

- If 0 is specified, no timeout period is set for the close check (the same behavior as in version 12-50 or earlier). In this case, the KAVT2040-W and KAVT2041-W messages are not output.
- If a value other than 0 is specified, the KAVT2040-W message is output at the interval specified for the `CloseCheckWarnLogInterval` environment setting parameter when the command used for the close check fails to start. The KAVT2040-W message can notify you that a delay occurred in a file monitoring job.
- If a value other than 0 is specified and the close check does not end before the specified timeout period expires, the KAVT2041-W message is output at the interval specified for the `CloseCheckWarnLogInterval` environment setting parameter. The KAVT2041-W message can notify you that a delay occurred in a file monitoring job.
- If a value other than 0 is specified and the close check fails, the close check is reperformed the next time the monitoring interval of the file monitoring job expires.

(35) CloseCheckWarnLogInterval

Use this parameter to specify the interval at which the KAVT2040-W or KAVT2041-W message is output when the close check of a file monitoring job fails.

Specification of this environment setting parameter has no effect in the case where N is specified for the `NetworkFilewatch` environment setting parameter and 0 is specified for the `CloseCheckTimeout` environment setting parameter.

After a KAVT2040-W or KAVT2041-W message has been output, another KAVT2040-W or KAVT2041-W message is not output until the interval time specified for this parameter elapses even if a close check fails. After a KAVT2040-W or KAVT2041-W message has been output, if a close check fails after the time specified for this parameter elapses, another KAVT2040-W or KAVT2041-W message is output.

Format

"CloseCheckWarnLogInterval" = dword:*interval-at-which-to-output-a-message-when-a-close-check-fails*

Specifiable values

A hexadecimal value (in minutes) from 00000000 to 000005A0 (0 to 1,440 in decimal)

Default value

dword:0000003C (60 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

(36) SSLInitTimeout

Specify whether to stop waiting for data response and enable other processing if the sender cannot receive any response to the sent communication data from the recipient during communication between event/action control processes when the communication encryption function is enabled.

For details, see *15.3.20 Configuring a timeout when waiting for a response during communication for event/action control when the communication encryption function is enabled.*

Format

```
"SSLInitTimeout"="{Y|N}"
```

Specifiable values

Y

Set a timeout to stop waiting for data response if no response has been made by the recipient for a certain period of time.

N

Wait until the data arrives.

Default value

N

During a new installation of JP1/AJS3, Y is set.

Recommended value

Y

When the setting takes effect

The next time the JP1/AJS3 service is started

(37) RecvTimeout

In interprocess communication for event/action control, if data is not delivered to the receiver for some reason, use this parameter to specify whether to terminate the attempt to receive the data so that the system can proceed to other processing.

Format

```
"RecvTimeout" = "{Y|N}"
```

Specifiable values

Y

If data is not received within the specified period of time, the data receive processing times out.

N

The system waits for data to arrive.

Default value

Y

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

20.7 Setting for the JP1/AJS3 definition pre-check function

This section describes the environment setting parameters for the JP1/AJS3 definition pre-check function.

20.7.1 List of environment setting parameters for the JP1/AJS3 definition pre-check function

The JP1/AJS3 definition pre-check function requires different settings in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

For details about the JP1/AJS3 definition pre-check function, see [6.5.1 Setting up the JP1/AJS3 definition pre-check function](#) (for Windows) or [15.5.1 Setting up the JP1/AJS3 definition pre-check function](#) (for UNIX).

The table below lists the environment setting parameters to be used to set the definition pre-check function in the manager environment (JP1/AJS3 - Manager) and agent environment (JP1/AJS3 - Agent).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column. To determine whether an environment setting parameter is to be set in the manager environment (JP1/AJS3 - Manager) or the agent environment (JP1/AJS3 - Agent), see the *Applicable product* column.

Table 20–6: Environment setting parameters (settings for the JP1/AJS3 definition pre-check function)

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[JP1_DEFAULT\JP1_AJS2\CHECK]	"AJSCHK_CHECKFILE"=	Name of the file that contains the definition pre-check result	Windows UNIX	M
2		"AJSCHK_LOGDIR"=	Name of the directory for the definition check log	Windows UNIX	M, A, ME
3		"AJSCHK_LOGSIZE"=	Size of the definition check log file	Windows UNIX	M, A, ME
4		"AJSCHK_TRACELOGFILE" =	Name of the trace log file for the definition pre-check function	Windows UNIX	M, A, ME
5		"AJSCHK_CHARCODE"=	Specifies the character set to be used for an agent in a definition pre-check and the character set to be output in the pre-check result.	Windows UNIX	M, A, ME

Legend:

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

ME: JP1/AJS3 - Agent Minimal Edition

Parameters that are not described here are used for maintenance purposes. Do not change their values.

20.7.2 Details of the environment setting parameters for the JP1/AJS3 definition pre-check function

This subsection describes details of the environment setting parameters for the JP1/AJS3 definition pre-check function.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) AJSCHK_CHECKFILE

Use this parameter to specify the name of the file used to the definition pre-check result. Specify a full path name.

If the directory specified for *name-of-file-used-to-store-definition-pre-check-result* does not exist, the file used to store the definition pre-check result will not be output.

Format

```
"AJSCHK_CHECKFILE" = "name-of-the-file-used-to-store-the-definition-pre-check-result"
```

Specifiable values

A character string of no more than 255 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\ajscheckfile.txt
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log\ajscheckfile.txt
- In UNIX:
/var/opt/jp1ajs2/log/ajscheckfile.txt

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Check Manager service is restarted

(2) AJSCHK_LOGDIR

Use this parameter to specify the name of the directory to which the log for the definition pre-check process is output. Specify a full path name.

If the directory specified for *name-of-directory-for-definition-check-log* does not exist, the definition check log will not be output.

Log data is written to the `ajscheck1.log` file under the directory specified in this parameter. If the log data written to the `ajscheck1.log` reaches the size limit specified in the `AJSCHK_LOGSIZE` environment setting parameter, the writing of log data continues to the `ajscheck2.log` file.

Format

"AJSCHK_LOGDIR" = "*name-of-the-directory-for-the-definition-check-log*"

Specifiable values

A character string of no more than 180 bytes

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- In Windows, if the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log or *JP1/AJS3-Agent-installation-folder*\log
- In UNIX:
/var/opt/jplajs2/log

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service is restarted

(3) AJSCHK_LOGSIZE

Use this parameter to specify the size of the log file to which log data is output by the definition pre-check process.

The specified size is to the size definition check log file 1 (ajsccheck1.log) and of definition check log file 2 (ajsccheck2.log).

Format

"AJSCHK_LOGSIZE" = dword:*log-file-size*

Specifiable values

0, or a value (in kilobytes) from 4 to 1E8480 in hexadecimal (0, or a value from 4 to 2,000,000 in decimal)

Default value

dword:00001000 (4,096 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service is restarted

Cautionary note

When the information written to file 1 reaches the limit specified in this parameter, the writing of information switches to file 2. When the information written to file 2 reaches the limit, the writing of information switches back to file 1 and existing information is overwritten. Because the repeated switching between files 1 and 2 continually overwrites older information, you must be especially careful when specifying the file size.

(4) AJSCHK_TRACELOGFILE

Use this parameter to specify the name of the trace log file for the definition pre-check function. Specify a full path name.

If the directory specified for *name-of-trace-log-file* does not exist, the trace log will not be output.

Format

```
"AJSCHK_TRACELOGFILE" = "name-of-the-trace-log-file"
```

Specifiable values

A character string of no more than 255 bytes

Default value

The setup processing assumes the following file name:

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

```
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog.ch
```

The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.

A *folder protected by the system* is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

- In Windows, if the installation folder is other than the above:

```
JP1/AJS3-Manager-installation-folder\log\tracelog.ch or JP1/AJS3-Agent-installation-folder\log\tracelog.ch
```

- In UNIX:

```
/var/opt/jplajs2/log/tracelog.ch
```

If you do not specify a file name, a trace log is not output.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service is restarted

(5) AJSCHK_CHARCODE

Use this parameter to specify the character set to be used for an agent in the definition pre-check and the character set to be output in the pre-check result.

Format

```
"AJSCHK_CHARCODE" = "{none|C|SJIS|EUC|UTF-8}"
```

Specifiable values

none

The 7-bit ASCII character set is used.

none cannot be specified by using the `jajs_config` command. The none setting and C setting have the same effect. If you want to specify none, specify C by using the `jajs_config` command.

C

The 7-bit ASCII character set is used.

SJIS

The Shift JIS character set is used.

EUC

The EUC character set is used.

UTF-8

The UTF-8 character set is specified.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Check Manager service or the JP1/AJS3 Check Agent service is restarted

Cautionary notes

- For agents, the character set specified in this parameter must match the character set specified in the LANG environment variable used when the JP1/AJS3 Check Agent service starts.
- In the following cases, the definition pre-check results are displayed by using the character set specified in the AJSCHARCODE environment setting parameter.
 - SJIS, EUC, or UTF-8 is specified for the AJSCHARCODE environment setting parameter, and none or C is specified for AJSCHK_CHARCODE.
 - C is specified for the AJSCHARCODE environment setting parameter.
- If en_US.UTF-8 or en_US.utf8 is set for the LANG environment variable, set C for this environment setting parameter.

20.8 Setting up the communication control environment

This section describes the environment setting parameters for communication control.

20.8.1 List of environment setting parameters for communication control

Communication control uses communication over TCP/IP when delivering jobs, reporting the job status, checking the job status, or checking the agent host status.

For details, see 5.4.8 *Monitoring the status of registered jobs* in the manual *JP1/Automatic Job Management System 3 Overview*.

To set up the communication control environment, perform the necessary setup operations in the manager environment (JP1/AJS3 - Manager). Nothing is required in the agent environment (JP1/AJS3 - Agent).

The table below lists the environment setting parameters to be used to set the communication control environment in the manager environment (JP1/AJS3 - Manager).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column.

Table 20–7: Environment setting parameters (communication control)

No.	Definition key ^{#1}	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[{JP1_DEFAULT <i>logical-host-name</i> }\JP1AJS2\HOST\NETWORK], [{JP1_DEFAULT <i>logical-host-name</i> }\JP1AJS2\HOST\NETWORK\subkey] ^{#2} , and [{JP1_DEFAULT <i>logical-host-name</i> }\JP1AJS2\HOST\NETWORK\subkey] ^{#2}	"ClientConnectTimeout"=	Connection timeout	Windows UNIX	M
2	[{JP1_DEFAULT <i>logical-host-name</i> }\JP1AJS2\HOST\NETWORK],	"ClientRetryInterval"=	Connection retry interval	Windows UNIX	M
3	[{JP1_DEFAULT <i>logical-host-name</i> }\JP1AJS2\HOST\NETWORK\QUEUEMANAGER], and [{JP1_DEFAULT <i>logical-host-name</i> }\JP1AJS2\HOST\NETWORK\QUEUEMANAGER]	"ClientRetryCount"=	Number of connection retries	Windows UNIX	M
4	[{JP1_DEFAULT <i>logical-host-name</i> }\JP1AJS2\HOST\NETWORK]	"ReduceStateTransitionDelay"=	Whether to use the function for reducing job status transition delays	Windows UNIX	M
5		"SYSLOGRECEIVEERROR"=	Whether to output the KNAC0612-E to KNAC0617-E messages to the Windows event log or to syslog	Windows UNIX	M
6		"AlarmReceiveWaitTime"=	Length of time in which data reception	Windows UNIX	M

No.	Definition key ^{#1}	Environment setting parameter	Definition	Applicable OS	Applicable product
6	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\HOST\NETWORK]	"AlarmReceiveWaitTime"=	from the agent host is not normally performed before issuing a warning	Windows UNIX	M
7		"AlarmReceiveWaitCount"=	Number of requests for connection to an event job port from an agent host that are accepted but unprocessed yet before issuing a warning	Windows UNIX	M
8		"AlarmReceiveWaitCountJob"=	Number of requests for connection to a standard job port from an agent host that are accepted but unprocessed yet before issuing a warning	Windows UNIX	M
9	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\HOST]	"REDUCEUSEPORT"=	Whether to reduce the number of ports that are used for internal communications by the scheduler service during job execution	Windows UNIX	M
10	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\HOST\NETWORK], [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\HOST\NETWORK\subkey] ^{#2} , ^{#3} , and [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name\NETWORK\subkey] ^{#2, #3}	"ResponseTimeout" =	Time that can elapse before a communication failure is detected when the manager host responds to a notification from an execution agent	Windows UNIX	M

Legend:

M: JP1/AJS3 - Manager

#1

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

#2

For *subkey*, specify QUEUEMANAGER for the job execution control manager, and EVMANAGER for the event/action control manager.

#3

For *subkey*, specify QUEUENOTIFY for the process that reports the job execution control status.

Parameters that are not described here are used for maintenance purposes. Do not change their values.

20.8.2 Details of the environment setting parameters for communication control

This subsection describes details of the environment setting parameters for communication control.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) ClientConnectTimeout (communication control)

Use this parameter to specify the connection timeout value to be used when connecting to JP1/AJS3 - Agent.

For details, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections \(For Windows\)](#) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections \(For UNIX\)](#).

Format

```
"ClientConnectTimeout" = dword:connection-timeout-period
```

Specifiable values

A hexadecimal value (in milliseconds) from 000003E8 to 05265C00 (1,000 to 86,400,000 in decimal)

Default value

```
dword:00015F90 (90,000 in decimal)
```

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary notes

- If you decrease the connection timeout value, a timeout might occur before connection is completed, resulting in a connection error in TCP/IP communication.
- Depending on the connection timeout specifications and the settings for the OS, a connection timeout might occur before the value specified for this environment setting parameter is reached.
- If you specify a decimal value larger than 86,400,000, the KAVS1518-E message is output to the integrated trace log, and the JP1/AJS3 service do not start.
- If you are using the job distribution delay reduction function, see the descriptions of the `AGMERRAGTSTATRESETTIME` environment setting parameter for agent monitoring and the `QueuingJobRecoveryTime` environment setting parameter for the job execution environment. For details about the `AGMERRAGTSTATRESETTIME` environment setting parameter, see [20.12.2\(2\) AGMERRAGTSTATRESETTIME](#). For details about the `QueuingJobRecoveryTime` environment setting parameter, see [20.5.2\(18\) QueuingJobRecoveryTime](#).

If you want to set this parameter on the event/action control manager, see [\(a\) To set the parameter for event/action control](#).

(a) To set the parameter for event/action control

The following describes the settings of the communication connection timeout value used if you want to set the parameter for the event/action control manager.

If you set this parameter on the event/action control manager, specify this parameter for the [{JP1_DEFAULT|logical-host-name} \JP1AJS2\HOST\NETWORK\EVMANAGER] or [{JP1_DEFAULT|logical-host-name} \JP1AJSMANAGER\scheduler-service-name\NETWORK\EVMANAGER] definition key. If you specify this parameter for the [{JP1_DEFAULT|logical-host-name} \JP1AJS2\HOST\NETWORK] definition key, the parameter setting has no effect on event/action control.

Specifiable values

A hexadecimal value (in milliseconds) from 000003E8 to 000927C0 (1,000 to 600,000 in decimal)

Default value

- In Windows:
dword:00007530 (30,000 in decimal)
- In UNIX:
dword:000003E8 (1,000 in decimal)
During a new installation and setup of JP1/AJS3, dword:00002710 is set.

Recommended value

- In Windows:
Set the value appropriate for the operating environment.
- In UNIX:
dword:00002710 (10,000 in decimal)

When the setting takes effect

The next time the JP1/AJS3 service starts

Cautionary notes

- If the environment setting parameter for event/action control is not specified, the default value is assumed.
- If a value that is not within the allowable range of the connection timeout values is specified for event/action control, the default value (30,000 in decimal in Windows or 1,000 in decimal in UNIX) is assumed, and the JP1/AJS3 service start.
If you specify a value larger than 86,400,000 in decimal, the KAVS1518-E message is output to the integrated trace log, and the JP1/AJS3 service do not start.
- If you want to set an environment setting parameter for event/action control described here in an agent environment, see [20.6.2\(25\) ClientConnectTimeout \(event/action control\)](#).

(2) ClientRetryInterval

Use this parameter to specify the retry interval for the remote connection timeout (includes connection to JP1/AJS3 - Agent). This environment setting parameter has no effect on event/action control.

For details, see [6.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections \(For Windows\)](#) or [15.2.8 Changing the timeout period, interval of retries, and number of retries for TCP/IP connections \(For UNIX\)](#).

Format

"ClientRetryInterval" = dword:connection-retry-interval

Specifiable values

A hexadecimal value (in seconds) from 00000000 to 00015180 (0 to 86,400 in decimal)

Default value

dword:00000014 (20 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary notes

- If you specify a decimal value larger than 86,400, the KAVS1518-E message is output to the integrated trace log, and the JP1/AJS3 service do not start.
- If you are using the job distribution delay reduction function, see the descriptions of the `AGMERRAGTSTATRESETTIME` environment setting parameter for agent monitoring and the `QueuingJobRecoveryTime` environment setting parameter for the job execution environment. For details about the `AGMERRAGTSTATRESETTIME` environment setting parameter, see [20.12.2\(2\) *AGMERRAGTSTATRESETTIME*](#). For details about the `QueuingJobRecoveryTime` environment setting parameter, see [20.5.2\(18\) *QueuingJobRecoveryTime*](#).

(3) ClientRetryCount

Use this parameter to specify the number of retries for a remote-communication connection timeout occurring when trying to connect to JP1/AJS3 - Agent. This environment setting parameter has no effect on event/action control.

For details, see [6.2.8 *Changing the timeout period, interval of retries, and number of retries for TCP/IP connections \(For Windows\)*](#) or [15.2.8 *Changing the timeout period, interval of retries, and number of retries for TCP/IP connections \(For UNIX\)*](#).

Format

```
"ClientRetryCount" = dword:number-of-connection-retries
```

Specifiable values

A hexadecimal value (number of times) from 00000000 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

Default value

```
dword:00000002 (2 in decimal)
```

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary notes

- If you specify a decimal value larger than 2,147,483,647, the KAVS1518-E message is output to the integrated trace log, and the JP1/AJS3 service do not start.
- If you are using the job distribution delay reduction function, see the descriptions of the `AGMERRAGTSTATRESETTIME` environment setting parameter for agent monitoring and the `QueuingJobRecoveryTime` environment setting parameter for the job execution environment. For details about the `AGMERRAGTSTATRESETTIME` environment setting parameter, see [20.12.2\(2\) *AGMERRAGTSTATRESETTIME*](#). For details about the `QueuingJobRecoveryTime` environment setting parameter, see [20.5.2\(18\) *QueuingJobRecoveryTime*](#).

(4) ReduceStateTransitionDelay

Use this parameter to specify whether to use the function for reducing job status transition delays.

Format

```
"ReduceStateTransitionDelay" = "{yes|no}"
```

Specifiable values

yes

The function for reducing job status transition delays is used.

no

The function for reducing job status transition delays is not used.

Default value

no

During a new installation of JP1/AJS3, no is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the JP1/AJS3 service starts

(5) SYSLOGRECEIVEERROR

Use this parameter to specify whether messages (KNAC0612-E to KNAC0617-E) are to be output to the Windows event log or to syslog when a connection request from an agent host was accepted but data could not be received correctly.

Format

```
"SYSLOGRECEIVEERROR"="{ Y | N } "
```

Specifiable values

Y

Outputs the KNAC0612-E to KNAC0617-E messages to the Windows event log or to syslog.

N

Does not output the KNAC0612-E to KNAC0617-E messages to the Windows event log or to syslog.

Default value

N

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

When the JP1/AJS3 service starts

(6) AlarmReceiveWaitTime

Use this parameter to specify in seconds the threshold time for outputting a message if repeated connection requests from an agent host are accepted but correct data reception fails. If the length of time in which correct data reception fails exceeds the specified time, the KNAC0612-E message is output.

Format

```
"AlarmReceiveWaitTime"=dword:time-before-detecting-a-state-in-which-data-could-not-be-received-correctly
```

Specifiable values

A hexadecimal value (in seconds) from 00000000 to 00015180 (0 to 86,400 in decimal)

If you do not want to perform this monitoring, specify 0.

Default value

dword:00000258 (600 in decimal)

Recommended value

Default value

When the setting takes effect

When the JP1/AJS3 service starts

(7) AlarmReceiveWaitCount

Use this parameter to specify the threshold for outputting a message if requests for connection to the event job port from agent hosts are accepted but no data reception starts for some reason, such as a busy state. Specify the number of event jobs as the threshold. If the number of suspended event jobs exceeds the specified value, the KNAC0614-E message is output.

Format

"AlarmReceiveWaitCount"=dword:*number-of-event-jobs-suspended-before-outputting-a-message*

Specifiable values

A hexadecimal value (in jobs) from 00000000 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

If you do not want to perform this monitoring, specify 0.

Default value

dword:0000003C (60 in decimal)

Recommended value

Specify a value larger than the maximum number of event jobs that can start concurrently during the peak time period.

When the setting takes effect

The next time the JP1/AJS3 service starts

(8) AlarmReceiveWaitCountJob

Use this parameter to specify the threshold for outputting a message if requests for connection to the standard job port from agent hosts are accepted but no data reception starts for some reason, such as a busy state. Specify the number of standard jobs as the threshold. If the number of suspended standard jobs exceeds the specified value, the KNAC0614-E message is output.

Format

"AlarmReceiveWaitCountJob"=dword:*number-of-standard-jobs-suspended-before-outputting-a-message*

Specifiable values

A hexadecimal value (in jobs) from 00000000 to 7FFFFFFF (0 to 2,147,483,647 in decimal)

If you do not want to perform this monitoring, specify 0.

Default value

dword:0000012C (300 in decimal)

Recommended value

Specify a value larger than the number of standard jobs that can start concurrently during the peak time period.

When the setting takes effect

The next time the JP1/AJS3 service starts

(9) REDUCEUSEPORT

Use this parameter to specify whether to reduce the number of ports that are used for internal communications by the scheduler service during job execution.

Format

```
"REDUCEUSEPORT"="{ yes | no } "
```

Specifiable values

yes

The number of ports that are used for internal communications by the scheduler service is reduced.

no

Existing internal processing methods are used for operation. The number of ports that are used for internal communications by the scheduler service is not reduced.

Default value

no

During a new installation of JP1/AJS3, yes is set.

Recommended value

yes

When the setting takes effect

After JP1/AJS3 is restarted

(10) ResponseTimeout

Use this parameter to specify the time that can elapse before a communication failure is detected when the manager host responds to a notification from an execution agent.

Usually, you do not need to change this value.

Format

```
"ResponseTimeout" = dword:time-limit-for-communication-failure-detection-when-the-manager-host-responds-to-a-notification-from-an-execution-agent
```

Specifiable values

A hexadecimal value (in milliseconds) from 00002710 to 000927C0 (10,000 to 600,000 in decimal)

Default value

```
dword:00002710 (10,000 in decimal)
```

Recommended value

Default value

When the setting takes effect

When the JP1/AJS3 service starts

Cautionary notes

- If you increase the value of the ResponseTimeout environment setting parameter, the reduction effect on job status transition delays decreases. However, this provides a longer time for detecting a communication failure, and temporary recovery from a communication failure might be detectable. For details, see 2.5.6 *Considering reduction of delays in job status transitions* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

- The `ResponseTimeout` environment setting parameter is valid when `yes` is specified for the `ReduceStateTransitionDelay` environment setting parameter.

20.9 Setting up the flexible-job execution environment

This section describes the environment setting parameters for the flexible-job execution environment.

20.9.1 List of environment setting parameters for the flexible-job execution environment

The setup of the flexible-job execution environment is common to the manager environment (JP1/AJS3 - Manager) and agent environment (JP1/AJS3 - Agent).

The table below lists the environment setting parameters for the flexible-job execution environment, which is set up in the manager environment (JP1/AJS3 - Manager) and agent environment (JP1/AJS3 - Agent).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column.

Table 20–8: Environment setting parameters (flexible-job execution environment)

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[{JP1_DEFAULT logical-host-name } \JP1AJS2\AUTONOMOUS]#	"FXJOB_MONITOR_TIMEOUT"=	Timeout period to stop monitoring of a flexible-job execution status	Windows Linux	M, A
2		"FXJOB_START_TIMEOUT"=	Timeout period to stop monitoring of the start of a flexible-job	Windows Linux	M, A
3	[JP1_DEFAULT\JP1AJS2\AUTONOMOUS]	"FXREQ_LOGSIZE"=	Size of the log file output from the source of a flexible-job execution request	Windows Linux	M, A
4		"FXEXEC_LOGSIZE"=	Size of the log file output from the target of a flexible-job execution	Windows Linux	M, A
5		"FXDSTR_LOGSIZE"=	Size of the log file output by the broadcast agent	Windows Linux	M, A
6		"FXBCCTL_LOGSIZE"=	Size of the log file output by the broadcast agent and destination agents	Windows Linux	M, A
7		"FXBC_MANAGEDAGENT_REMOVEDTIME"=	Time before a destination agent is removed from management if the broadcast agent does not receive a heartbeat from the destination agent	Windows Linux	M, A
8		"FXBC_JP1EVSEND_AGENT_TRIGGER"=	Whether to generate a JP1 event if an individual broadcast-execution destination agent finishes execution of a flexible job, and the generation timing	Windows Linux	M, A
9		"FXBC_JP1EVSEND_JOB_TRIGGER"=	Whether to generate a JP1 event if all broadcast-execution destination agents finish execution of a flexible job, and the generation timing	Windows Linux	M, A
10		"FXBC_DBDIR"=	Path to the directory for storing information about broadcast-execution destination agents	Windows Linux	M, A

Legend:

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

#

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

Parameters that are not described here are used for maintenance purposes. Do not change their values.

20.9.2 Details of the environment setting parameters for the flexible-job execution environment

This subsection describes details of the environment setting parameters for the flexible-job execution environment.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) FXJOB_MONITOR_TIMEOUT

Use this parameter to specify the timeout period to stop monitoring of the execution status of a flexible job. When the monitoring stops, the status of the flexible job changes to *Ended abnormally*.

If execution of a flexible job takes a long time, change the setting of this parameter as needed.

Format

"FXJOB_MONITOR_TIMEOUT"=dword:*timeout-period-to-stop-monitoring-of-flexible-job-execution-status*

Specifiable values

A hexadecimal value (in minutes) from 00000001 to 000005A0 (1 to 1,440 in decimal)

Default value

dword:0000003C (60 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time a Flexible job is executed)

Supplementary note

When a relay agent is used to execute the flexible job, read the parameter setting in the relay agent. When no relay agent is used, read the parameter setting in the manager. In addition, when broadcast execution is used, read the parameter setting on the broadcast agent.

(2) FXJOB_START_TIMEOUT

Use this parameter to specify the timeout period to stop monitoring of the start of a flexible job. On the destination agent or the broadcast agent of the flexible job, if the start of the flexible job cannot be confirmed within the time specified here, the status monitoring stops, and the status of the flexible job changes to *Ended abnormally*.

Format

"FXJOB_START_TIMEOUT" = dword:*timeout-period-to-stop-monitoring-of-start-of-flexible-jobs*

Specifiable values

A hexadecimal value (in minutes) from 00000000 to 000005A0 (0 to 1,440 in decimal)

If 0 is specified, the start of the flexible job is not monitored.

Default value

dword:00000002 (2 in decimal)

Recommended value

Default value.

When the setting takes effect

Immediately (the next time a Flexible job is executed)

Supplementary note

When a relay agent is used to execute the flexible job, read the parameter setting in the relay agent. When no relay agent is used, read the parameter setting in the manager. In addition, when broadcast execution is used, read the parameter setting on the broadcast agent.

When the value of the environment setting parameter `FXJOB_MONITOR_TIMEOUT` is smaller than the value of this parameter, even if the time specified for this parameter has not been exceeded, the status of the flexible job becomes *Ended abnormally* when the time specified for `FXJOB_MONITOR_TIMEOUT` is exceeded.

The timing at which the status of flexible jobs becomes *Ended abnormally* depends on whether sync mode or async mode is used as the broadcast execution method.

- If sync mode is used:
If the broadcast agent is unable to obtain confirmation that the execution of jobs has started from one or more destination agents within the amount of time specified for `FXJOB_START_TIMEOUT`, the statuses of flexible jobs change to *Ended abnormally*.
- If async mode is used:
If the broadcast agent is unable to obtain confirmation that the execution of jobs has started from all destination agents within the amount of time specified for `FXJOB_START_TIMEOUT`, the statuses of flexible jobs change to *Ended abnormally*.

(3) FXREQ_LOGSIZE

Use this parameter to specify the size of the log file (`ajsfxreq{1|2}.log`) that is output from the source (relay agent or manager) of a flexible-job execution request.

Format

"FXREQ_LOGSIZE"=dword:*size-of-the-log-file-output-from-the-source-of-flexible-job-execution-request*

Specifiable values

A hexadecimal value (in kilobytes) from 00000000 to 001E8480 (0 to 2,000,000 in decimal)

Note that, if a value from 0 to 3 is specified, a log is not output.

Default value

dword:00002800 (10,240 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time a flexible job is executed)

Supplementary note

When a relay agent is used to execute the flexible job, read the parameter setting in the physical host of the relay agent. When no relay agent is used, read the parameter setting in the physical host of the manager.

(4) FXEXEC_LOGSIZE

Use this parameter to specify the size of the log file that is output from the target (destination agent) of a flexible-job execution.

Format

"FXEXEC_LOGSIZE"=dword:*size-of-the-log-file-output-from-the-target-of-flexible-job-execution*

Specifiable values

A hexadecimal value (in kilobytes) from 00000000 to 001E8480 (0 to 2,000,000 in decimal)

Note that, if a value from 0 to 3 is specified, a log is not output.

Default value

dword:00002800 (10,240 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time a flexible job is executed)

Supplementary note

Read the parameter setting in the destination agent.

(5) FXDSTR_LOGSIZE

Use this parameter to specify the size of the log file (ajsfxdstr{1|2}.log) output by the broadcast agent.

Format

"FXDSTR_LOGSIZE" = dword:*size-of-log-file-output-by-broadcast-agent*

Specifiable values

A hexadecimal value (in kilobytes) from 00000000 to 001E8480 (0 to 2,000,000 in decimal)

Note that, if a value from 0 to 3 is specified, a log is not output.

Default value

dword:00005000 (20,480 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time a flexible job is executed by broadcast execution)

Supplementary note

This parameter only takes effect on hosts that are set up as broadcast agents.

(6) FXBCCTL_LOGSIZE

Use this parameter to specify the size of the log file (ajsfxbcctl{1|2}.log) output by the broadcast agent and destination agents.

Format

"FXBCCTL_LOGSIZE" = dword:*size-of-log-file-output-by-broadcast-agent-and-destination-agents*

Specifiable values

A hexadecimal value (in kilobytes) from 00000000 to 001E8480 (0 to 2,000,000 in decimal)

Note that, if a value from 0 to 3 is specified, a log is not output.

Default value

dword:00002800 (10,240 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately

Supplementary note

This parameter takes effect only on hosts that are set up as broadcast agents or broadcast-execution destination agents.

(7) FXBC_MANAGEDAGT_REMOVEDTIME

Use this parameter to specify the time before the broadcast agent decides to remove a destination agent from management if the broadcast agent does not receive a heartbeat from the destination agent. If the broadcast agent decides to remove a destination agent, the destination agent is removed from management the next time a flexible job is executed by broadcast execution.

Format

"FXBC_MANAGEDAGT_REMOVEDTIME" = dword:*time-before-broadcast-agent-decides-to-remove-destination-agent-from-management*

Specifiable values

A hexadecimal value (in minutes) from 00000005 to 000005A0 (5 to 1,440 in decimal)

Default value

dword:0000003C (60 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the broadcast agent checks for a heartbeat

(8) FXBC_JP1EVSEND_AGENT_TRIGGER

Use this parameter to specify whether to issue a JP1 event each time a flexible job finishes on a broadcast-execution destination agent. If you want JP1 events to be issued, specify when a JP1 event is to be issued.

Note that this JP1 event is issued by the broadcast agent.

Format

"FXBC_JP1EVSEND_AGENT_TRIGGER" = "*JP1-event-generation-mode*"

Specifiable values

none

A JP1 event is not issued.

finished

A JP1 event is issued when a flexible job finishes on a broadcast-execution destination agent.

on_warn_error

A JP1 event is issued when a flexible job ends with warning or ends abnormally on a broadcast-execution destination agent.

on_error

A JP1 event is issued when a flexible job ends abnormally on a broadcast-execution destination agent.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time a flexible job is executed by broadcast execution

(9) FXBC_JP1EVSEND_JOB_TRIGGER

Use this parameter to specify whether to issue a JP1 event when execution of a flexible job finishes on all broadcast-execution destination agents. If you want JP1 events to be issued, specify when a JP1 event is to be issued.

Note that this JP1 event is issued by the broadcast agent.

Format

"FXBC_JP1EVSEND_JOB_TRIGGER" = "*JP1-event-generation-mode*"

Specifiable values

none

A JP1 event is not issued.

finished

A JP1 event is issued when a flexible job finishes on all destination agents.

on_warn_error

A JP1 event is issued when a flexible job that finishes on all destination agents ends with a warning, or ends abnormally on some or all of the destination agents.

on_error

A JP1 event is issued when a flexible job that finishes on all destination agents ends abnormally on some or all of the destination agents.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time a flexible job is executed by broadcast execution

(10) FXBC_DBDIR

Use this parameter to specify the directory that stores information about the broadcast-execution destination agents managed by the broadcast agent.

Format

"FXBC_DBDIR" = "*path-to-directory-to-store-information-about-broadcast-execution-destination-agents*"

Specifiable values

A character string of 200 or fewer bytes that is encoded in ASCII

Default value

- In Windows:

data-directory#\sys\fxbc

- In UNIX:

/var/opt/jplajs2/sys/fxbc

#:

The path to the data directory differs depending on the JP1/AJS3 installation folder.

If the installation folder is the default installation folder or is in a folder protected by the system	%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2
If the installation folder is other than the above	<i>JP1/AJS3-Manager-installation-folder</i>

- By default, JP1/AJS3 is installed in the following folder: *system-drive*\Program Files (x86)\HITACHI\jplajs2

A folder protected by the system is the path to a folder in any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

- The default value for %ALLUSERSPROFILE% is *system-drive*\ProgramData.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the broadcast agent checks for a heartbeat or executes a flexible job by broadcast execution

20.10 Setting up the queueless job execution environment

This section describes the environment setting parameters for the queueless job execution environment.

20.10.1 List of environment setting parameters for the queueless job execution environment

As the initial step in setting up a new queueless job execution environment, you must first execute the `ajsqlsetup` command. For a manager-agent configuration, you must execute the `ajsqlsetup` command for both the manager and agent.

For details about the `ajsqlsetup` command, see *ajsqlsetup* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

To set up the queueless job execution environment, use the queueless agent environment (queueless agent service).

The table below lists the environment setting parameters to be used to set up the queueless job execution environment in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column. To determine whether an environment setting parameter is to be set in the manager environment (JP1/AJS3 - Manager) or the agent environment (JP1/AJS3 - Agent), see the *Applicable product* column.

Table 20–9: Environment setting parameters (queueless job execution environment setup)

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[JP1_DEFAULT\JP1AJSMANAGER]#1	"QLMANCHARCODE" =	Settings for correctly executing a job on an agent that does not support UTF-8 when a manager in a UTF-8 environment is managing queueless jobs.	UNIX	M
2	[JP1_DEFAULT\JP1QLAGENT]	"AJSQL_JOBMAX" =	Maximum number of simultaneous jobs within a queueless agent service	Windows UNIX	M, A
3		"AJSQL_CHARCODE" =	Language encoding used to display job information and job output results	Windows UNIX	M, A
4		"AJSQL_JOBWAITMAX" =	Maximum number of waiting jobs within a queueless agent service	Windows UNIX	M, A
5		"AJSQL_NOATTACHREQ" =	Processing when the execution on an unattached logical host is requested	Windows UNIX	M, A
6		"AJSQL_EXECCURRENTSCRIPT" =	Whether to execute a script file in the current path	UNIX	M, A
7		"AJSQL_TRACELOGFILE" =	Trace-log file name	Windows UNIX	M, A
8		"AJSQL_VARDQUOTEADD" =	Processing for converting a \$JP1AJS2_JPQTEMPxx\$ variable	Windows UNIX	M, A

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product	
9	[JP1_DEFAULT\JP1QLAGENT]	"AJSQL_CONNECTTIMEOUT"=	Length of time before an attempt to connect to the queueless file transfer service for communication times out	Windows UNIX	M, A	
10		"AJSQL_CONNECTCOUNT"=	Number of retries when attempting to connect to the queueless file transfer service	Windows UNIX	M, A	
11		"AJSQL_CONNECTINTERVAL"=	Retry interval when attempting to connect to the queueless file transfer service for communication	Windows UNIX	M, A	
12		"ENABLE_LONG_EXECUTE"=	Setting for whether to execute a job specified for an executable file whose extension is 4 bytes or more in an application associated with the executable-file extension	Windows	M, A	
13		"AJSQL_CREATEWINDOWSTATION"=	Setting for preventing a problem whereby a queueless job ends abnormally with return value 128	Windows	M, A	
14		"AJSQL_EXECLOG"=	Whether to enable the internal log output function for queueless job execution	Windows UNIX	M, A	
15		"AJSQL_EXECLOG_FTPPATH"=	Name of the folder used to store the queueless job execution internal log output by the queueless file transfer service	Windows UNIX	M	
16		"UACAdministratorsExec"=	Settings for executing jobs as a user with administrator permissions when UAC is enabled	Windows	M, A	
17		"AJSQL_GETPASSWORD_FTPRETRYCOUNT"=	Number of retry attempts when the queueless file transfer service has failed to acquire user information from the OS password file	UNIX	M	
18		"AJSQL_GETPASSWORD_FTPRETRYINTERVAL"=	Retry interval when the queueless file transfer service has failed to acquire user information from the OS password file	UNIX	M	
19		"IgnoreResultFileError"=	Operation if an error occurs during the transfer processing of a queueless job result file	Windows UNIX	M, A	
20		[{{JP1_DEFAULT logical-host-name}\JP1QLAGENT]#2	"AJSQL_LOGFILE"=	Log folder name	Windows UNIX	M, A
21			"AJSQL_LOGSIZE"=	Log file size	Windows UNIX	M, A
22	"AJSQL_STATFILE"=		Status file name	Windows UNIX	M, A	
23	"AJSQL_STATSIZE"=		Status file size	Windows UNIX	M, A	
24	"AJSQL_ATTACH"=		Whether to attach the logical host set when the queueless agent service starts	Windows UNIX	M, A	
25	"AJSQL_EXECLOG_AGTPATH"=		Name of the folder used to store the internal log of the queueless job execution output by the queueless agent service	Windows UNIX	M, A	

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
26	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1QLAGENT] #2	"AJSQL_AGTWORKPATH"=	Name of the directory for the temporary file to be used by a queueless job	Windows UNIX	M, A
27		"AJSQL_LOADUSERPROFILE"=	Definition of whether to load the user profile	Windows	M, A
28		"AJSQL_GETPASSWORD_AGTRETRYCOUNT"=	Number of retry attempts when the queueless agent service has failed to acquire user information from the OS password file	UNIX	M, A
29		"AJSQL_GETPASSWORD_AGTRETRYINTERVAL"=	Retry interval when the queueless agent service has failed to acquire user information from the OS password file	UNIX	M, A
30	[<i>logical-host-name</i> \JP1QLAGENT]	"AJSQL_CLUSTERREQ"=	Processing to be performed if a queueless cluster process is unable to attach a logical host	Windows	M, A
31	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1QLAGENT \AJSQL_CLASS \class-name] #2	"AJSQL_CJOBMAX"=	Maximum number of jobs that can be executed simultaneously within a class	Windows UNIX	M, A
32		"AJSQL_CJOBWAITMAX"=	Maximum number of waiting jobs within a class	Windows UNIX	M, A

Legend:

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

#1

This definition key can be specified in UNIX only.

#2

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

Parameters that are not described here are used for maintenance purposes. Do not change their values.

20.10.2 Details of the environment setting parameters for the queueless job execution environment

This subsection describes details of the environment setting parameters for the queueless job execution environment.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) QLMANCHARCODE

Use this parameter to specify settings for correctly executing a job on an agent that does not support UTF-8 when a manager in a UTF-8 environment is managing queueless jobs.

Because an agent that does not support UTF-8 does not support UTF-8 character code conversion, you need to specify UTF-8 as the environment setting parameter to allow the manager to perform the character code conversion.

Format

"QLMANCHARCODE" = "{none|UTF-8}"

Specifiable values

none

The manager does not perform character code conversion. Specify this value only when all the applicable queueless agents operate in a UTF-8 environment.

UTF-8

The manager converts UTF-8 into character codes that the queueless agent supports and communicates with the queueless agent. Specify this value if one or more queueless agents do not operate in a UTF-8 environment.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restart of the JP1/AJS3 Queueless File Transfer service and restart of the scheduler service

Cautionary notes

- In a Linux environment in which a queueless job has never been set up, UTF-8 is set when you execute the `ajsqlsetup` command.
- Set this environment setting parameter only when the character set of the manager (the value of the `AJSCHARCODE` environment setting parameter) is UTF-8. If the character set of the manager is not UTF-8, do not set this environment setting parameter.
- The character code conversion in this environment setting parameter applies only to data that is related to queueless jobs.
- If you specify UTF-8 for this environment setting parameter, you must specify the agent character set for the `AJSQL_CHARCODE` environment setting parameter on all the agent hosts, including the local host.
- Whereas the `AJSCHARCODE` environment setting parameter is set individually for scheduler services, the `QLMANCHARCODE` environment setting parameter is set for a single host. If you specify UTF-8 for the `QLMANCHARCODE` environment setting parameter, also specify UTF-8 for the `AJSCHARCODE` environment setting parameter for each of the scheduler services.

(2) AJSQL_JOBMAX

Use this parameter to specify the maximum number of concurrently executable jobs within a queueless agent service.

Specify this parameter if you want to limit the number of concurrently executable queueless jobs according to available machine resources.

If the number of jobs exceeds the specified value, the jobs exceeding the value enter the wait status (pooled in memory of the queueless agent). For details about how to specify the number of jobs that can wait, see the explanation of the `AJSQL_JOBWAITMAX` environment setting parameter.

Format

"AJSQL_JOBMAX" = *dword:maximum-number-of-concurrently-executable-jobs-within-a-queueless-agent-service*

Specifiable values

A hexadecimal value from 0 to 400 (0 to 1,024 in decimal)

Default value

- In Windows:
dword:00000005 (5 in decimal)
- In UNIX:
dword:00000400 (1,024 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(3) AJSQL_CHARCODE

Character code conversion is required when you use a queueless job in either of the following environments. In these cases, specify the character set to be used when a queueless job is executed on the agent host.

- Environment in which the character sets of the manager host and the agent host are different
- Environment in UTF-8 is specified for the QLMANCHARCODE environment setting parameter on the manager host.

Format

```
"AJSQL_CHARCODE" = "{none|C|SJIS|EUC|UTF-8}"
```

Specifiable values

none

The 7-bit ASCII character set is used. There is no character code conversion between the manager and the agent. You cannot specify `none` by using the `jajs_config` command. The `none` setting and `C` setting have the same effect. If you want to specify `none`, specify `C` by using the `jajs_config` command.

C

The 7-bit ASCII character set is used. There is no character code conversion between the manager and the agent.

SJIS

The Shift JIS character set is used.

EUC

The EUC character set is used.

UTF-8

The UTF-8 character set is specified.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

Cautionary notes

- The character string used when a queueless job is executed is not encoded with the character set of the JP1/AJS3 service. Instead, the `LANG` environment variable value specified when the queueless agent service is started is used.

- Specify this environment setting parameter on the host used as an agent.
- If `en_US.UTF-8` or `en_US.utf8` is set for the `LANG` environment variable, set `C` for this environment setting parameter.

(4) AJSQL_JOBWAITMAX

Use this parameter to specify the maximum number of jobs that are allowed to wait within a queueless agent service.

Specify this parameter if the peak number of queueless jobs that are being executed exceeds the maximum number of simultaneous jobs.

If the number of jobs exceeds the specified value, the queueless job fails to start.

Format

`"AJSQL_JOBWAITMAX" = dword:maximum-number-of-waiting-jobs-within-the-queueless-agent-service`

Specifiable values

A hexadecimal value from 0 to 19000 (0 to 102,400 in decimal)

Default value

- In Windows:
`dword:00000800` (2,048 in decimal)
- In UNIX:
`dword:00000000`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(5) AJSQL_NOATTACHREQ

Use this parameter to specify the processing for a request for execution on an unattached logical host.

Format

`"AJSQL_NOATTACHREQ" = "{exec|error}"`

Specifiable values

`exec`

The request is processed on the physical host.

`error`

The request results in an error.

Default value

`exec`

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(6) AJSQL_EXECCURRENTSCRIPT

If you use a relative path to specify the script file, you need to specify whether a script file already in the current path is to be executed when a job is executed.

The current path is the path specified for **Working path**. If a path is not specified for **Working path**, the home directory of the OS user who executes the job is used as the current path.

Format

```
"AJSQL_EXECCURRENTSCRIPT" = "{yes|no}"
```

Specifiable values

yes

The script file in the current path has priority.

no

When a job is executed, the path in the PATH environment variable is followed to find and execute the target script file.

Default value

no

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

Cautionary note

If you specify *yes* for this parameter, the current path is searched to locate the script file. Therefore, the job will fail to start if a hard disk failure or another problem causes the search for the script file to fail.

(7) AJSQL_TRACELOGFILE

Use this parameter to specify the full path name of the queueless trace log file.

If you do not specify this parameter, a trace log is not output.

Format

```
"AJSQL_TRACELOGFILE" = "trace-log-file-name"
```

Specifiable values

A character string of no more than 255 bytes

Default value

The following file name is assumed at setup.

In Windows:

- If the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog.q1
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files

- *system-drive*\Program Files (x86)

- If the installation folder is other than the above:
JP1/AJS3-installation-folder\log\tracelog.ql

In UNIX:

/var/opt/jplajs2/log/tracelog.ql

Recommended value

Default value

When the setting takes effect

- For the JP1/AJS3 Queueless Agent service:
After the JP1/AJS3 Queueless Agent service is restarted
- For the JP1/AJS3 Queueless File Transfer service:
After the JP1/AJS3 Queueless File Transfer service is restarted
- For the JP1/AJS3 service:
After the JP1/AJS3 service is restarted

(8) AJSQL_VARDQUOTEADD

When a `$JP1AJS2_JPQTEMPxx$` variable is converted, use this parameter to select whether to enclose the variable value after conversion in double quotation marks (").

The setting of this parameter is valid for the physical host and all logical hosts.

Format

"AJSQL_VARDQUOTEADD" = "{yes|no}"

Specifiable values

yes

The variable value after conversion is enclosed in double quotation marks (").

no

The variable value after conversion is not enclosed in double quotation marks (").

Default value

yes

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(9) AJSQL_CONNECTTIMEOUT

Use this parameter to specify the length of time before an attempt to the connect to the queueless file transfer service times out.

Format

"AJSQL_CONNECTTIMEOUT" = dword:*connection-timeout-value*

Specifiable values

A hexadecimal value (in seconds) from 00000000 to 00000258 (0 to 600 in decimal).

If you specify `dword:00000000`, the timeout value depends on the connection timeout value of the OS.

Default value

`dword:0000000A` (10 in decimal)

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(10) AJSQL_CONNECTCOUNT

Use this parameter to specify the number of retries to be attempted if a communication error occurs during processing to connect to the queueless file transfer service.

Format

"AJSQL_CONNECTCOUNT" = `dword: number-of-connection-retries`

Specifiable values

A hexadecimal value (in seconds) from 00000000 to 00000064 (0 to 100 in decimal)

Default value

`dword:00000003` (3 in decimal)

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(11) AJSQL_CONNECTINT

Use this parameter to specify the retry interval if a communication error occurs during processing to connect to the queueless file transfer service.

Format

"AJSQL_CONNECTINT" = `dword: retry-interval-for-communication-connection`

Specifiable values

A hexadecimal value (in seconds) from 00000000 to 0000003C (0 to 60 in decimal)

Default value

`dword:00000001` (1 in decimal)

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(12) ENABLE_LONG_EXT (for queueless job)

Use this parameter to specify whether to execute a job specified for an executable file whose extension is 4 bytes or more in an application associated with the executable-file extension when **Queueless Agent** has been specified for **Exec. service**.

For details, see *6.2.18 Executing a job whose executable file name has an extension longer than three bytes*.

Format

```
"ENABLE_LONG_EXT" = dword:setting-value
```

Specifiable values

0

Although the executable-file extension is 4 bytes or more, the job specified for the file is executed in the application that is associated with the first three digits of the executable-file extension.

If the system cannot find the application that is associated with the first three digits of the extension, the job does not start.

1

If the executable-file extension is 4 bytes or more, the job is executed in the application that is associated with the extension.

If **Standard** is specified for **Exec. service**, the job is executed with a long file name when the executable file is executed with an extension of 4 bytes or more.

Default value

```
dword:00000000 (0 in decimal)
```

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(13) AJSQL_CREATEWINDOWSTATION

Use this parameter to specify whether to prevent a problem whereby a job ends abnormally with return value 128.

For details, see *6.4.3 Preventing a queueless job from ending abnormally with return value 128*.

Format

```
"AJSQL_CREATEWINDOWSTATION" = "{yes|no}"
```

Specifiable values

yes

A problem whereby a job ends abnormally with return value 128 is prevented.

no

A problem whereby a job ends abnormally with return value 128 is not prevented.

Default value

no

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(14) AJSQL_EXECLOG

Use this parameter to specify whether to enable the internal log output function for queueless job execution.

Format

```
"AJSQL_EXECLOG" = "{yes|no}"
```

Specifiable values

yes

The internal log output function for the queueless job execution is enabled.

no

The internal log output function for the queueless job execution is disabled.

Default value

yes

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service or the JP1/AJS3 Queueless File Transfer service is restarted

(15) AJSQL_EXECLOG_FTPATH

Use this parameter to specify the name of the directory used to store the internal log data output by the queueless file transfer service. Specify a full path name.

Format

```
"AJSQL_EXECLOG_FTPATH" = "name-of-the-directory-used-to-store-the-internal-log-output-by-the-queueless-file-transfer-service"
```

Specifiable values

A character string of no more than 200 bytes

Default value

In Windows:

- If the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- If the installation folder is other than the above:
JP1/AJS3-Manager-installation-folder\log

In UNIX:

/var/opt/jplajs2/log

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless File Transfer service is restarted

Cautionary note

Specify the name of a directory on the local disk.

(16) UACAdministratorsExec (for queueless job)

Use this parameter to specify whether a user can execute queueless jobs as a user with administrator permissions when the UAC function is enabled.

For details, see [6.2.22 Settings for executing jobs as a user with administrator permissions when the UAC is enabled](#).

Format

"UACAdministratorsExec" = dword:*setting*

Specifiable values

0

When the UAC is enabled, all OS users who belong to the Administrators group execute jobs with the administrator permissions disabled. Excluded, however, is the built-in Administrator.

1

When the UAC is enabled, an OS user who belongs to the Administrators group executes jobs as a user with administrator permissions.

When you specify 1, the *Log on as a batch job* permission must be set for all OS users (including standard users) who execute jobs.

Default value

dword:00000000 (0 in decimal)

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(17) AJSQL_GETPASSWD_FTPRETRYCOUNT

Use this parameter to specify the number of retry attempts when the queueless file transfer service has failed to acquire user information from the OS password file.

Usually, you do not need to change this value.

For details, see [15.2.20 Changing the settings for retries when user information is acquired](#).

Format

"AJSQL_GETPASSWD_FTPRETRYCOUNT" = dword:*number-of-retry-attempts-when-an-attempt-to-acquire-user-information-from-the-OS-password-file-has-failed*

Specifiable values

A hexadecimal value from 00000000 to 0000000A (0 to 10 in decimal)

If you specify dword:00000000, a retry is not performed.

Default value

dword:00000002 (2 in decimal)

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless File Transfer service is restarted

(18) AJSQL_GETPASSWORD_FTPRETRYINTERVAL

Use this parameter to specify the retry interval when the queueless file transfer service has failed to acquire user information from the OS password file.

Usually, you do not need to change this value.

For details, see [15.2.20 Changing the settings for retries when user information is acquired](#).

Format

"AJSQL_GETPASSWORD_FTPRETRYINTERVAL" = dword:*retry-interval-when-an-attempt-to-acquire-user-information-from-the-OS-password-file-has-failed*

Specifiable values

A hexadecimal value (in milliseconds) from 00000000 to 00002710 (0 to 10,000 in decimal)

If you specify dword:00000000, a retry is performed immediately.

Default value

dword:000003E8 (1,000 in decimal)

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless File Transfer service is restarted

(19) IgnoreResultFileError (for queueless job)

Use this parameter to specify the operation to be executed if, after a job process has finished, an error occurs during the transfer processing of a job result file (standard output file or standard error output file).

For details, see [6.2.24 Operation settings when job result file transfer fails](#) (Windows), or [15.2.22 Operation settings when job result file transfer fails](#) (UNIX).

Format

"IgnoreResultFileError" = dword:*operation-if-a-transfer-error-occurs-in-a-job-result-file*

Specifiable values

0

If an error occurs during the transfer processing of a job result file, -1 is set as the job return code and the job status is set to *Ended abnormally*.

1

If an error occurs during the transfer processing of a job result file, the return code of the job process is set as the job return code and the job status is set to *Ended normally*, *Ended with warning*, or *Ended abnormally* according to how the end of processing is judged.

Default value

dword:00000000(0 in decimal)

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(20) AJSQL_LOGFILE

Use this parameter to specify the name of the log folder to which the messages related to starting and ending executed jobs are output. Specify a full path name.

Format

"AJSQL_LOGFILE" = "*log-folder-name*"

Specifiable values

A character string of no more than 180 bytes

Default value

In Windows:

For a physical host:

- If the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- If the installation folder is other than the above:
JP1/AJS3-installation-folder\log

For a logical host:

shared-folder-name\jplajs2\log

In UNIX:

For a physical host:

/var/opt/jplajs2/log

For a logical host:

shared-directory-name/jplajs2/log

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

(21) AJSQL_LOGSIZE

Use this parameter to specify the size of the log file.

Because this log file used to check the job execution status, specify a size that is sufficient for storing the log data for at least one day.

As the log file, the system uses two files (file 1 and file 2), each of which has the size specified for this parameter.

Format

"AJSQL_LOGSIZE" = dword:*log-file-size*

Specifiable values

0 or a value (in kilobytes) from 4 to 1E8480 in hexadecimal (0 or a value from 4 to 2,000,000 in decimal)

Default value

dword:00002000 (8,192 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

Cautionary note

When the information written to file 1 reaches the limit specified in this parameter, the writing of information switches to file 2. When the information written to file 2 reaches the limit, the writing of information switches back to file 1 and existing information is overwritten. Because the repeated switching between files 1 and 2 continually overwrites older information, you must be especially careful in specifying the file size.

(22) AJSQL_STATFILE

Use this parameter to specify the name of the status file used to store information about running jobs. Specify a full path name.

Format

"AJSQL_STATFILE" = "*status-file-name*"

Specifiable values

A character string of no more than 255 bytes

Default value

In Windows:

For a physical host:

- If the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\ajsqlstat.dat
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A folder protected by the system is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- If the installation folder is other than the above:
JP1/AJS3-installation-folder\log\ajsqlstat.dat

For a logical host:

shared-folder-name\jp1ajs2\log\ajsqlstat.dat

In UNIX:

For a physical host:

```
/var/opt/jplajs2/log/ajsqlstat.dat
```

For a logical host:

```
shared-directory-name/jplajs2/log/ajsqlstat.dat
```

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

(23) AJSQL_STATSIZE

Use this parameter to specify the size of the status file used to store information about running jobs.

When the a status file is used, although nodes are switched for the requesting scheduler service and executing queueless agent before job-end results are reported to the requesting manager, the job-end results can be reported after a restart.

The job status can be managed on the manager side even if the scheduler service requesting execution of a queueless job fails during job execution. If you want to improve the reliability, specify this parameter.

One kilobyte corresponds to the information for about 9 jobs.

Format

```
"AJSQL_STATSIZE" = dword:status-file-size
```

Specifiable values

0 or a value (in kilobytes) from 4 to 1E8480 in hexadecimal (0 or 4 to 2,000,000 in decimal)

Default value

```
dword:00000800 (2,048 in decimal)
```

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

Cautionary note

If you specify 0 for this parameter, the information about running jobs is not stored. If nodes are switched for the scheduler service requesting execution during job execution, the end status of a running job will be unknown.

If you specify a non-zero value, the job status might be displayed as *Ended abnormally* even if the job itself has terminated normally. This is because an attempt to transfer output (the information sent by the job to the standard error output) from the agent host to the manager host has failed. You can prevent this problem from occurring by only sending output to the standard error output when an error occurs.

(24) AJSQL_ATTACH

Use this parameter to specify whether to attach the logical host that was set when the queueless agent service started.

This item is effective only if you specify the logical host key.

Format

"AJSQL_ATTACH" = "{yes|no}"

Specifiable values

yes

The logical host is attached.

no

The logical host is not attached.

To enable the logical host to be used, use the `ajsqlattach` command to attach it after starting the queueless agent service.

Default value

no

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(25) AJSQL_EXECLOG_AGTPATH

Use this parameter to specify the name of the directory used to store the internal log data output by the queueless agent service. Specify a full path name.

Format

"AJSQL_EXECLOG_AGTPATH" = "*name-of-the-directory-used-to-store-the-internal-log-output-by-the-queueless-agent-service*"

Specifiable values

A character string of no more than 200 bytes

Default value

In Windows:

- If the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- If the installation folder is other than the above:
JP1/AJS3-installation-folder\log

In UNIX:

/var/opt/jplajs2/log

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

Cautionary note

Specify the name of a directory on the local disk.

The directory name for cluster use is as follows:

```
name-of-the-directory-used-to-store-the-internal-log-output-by-the-queueless-agent-service/ajsqlexeclog-[logical-host-name]
```

If the full path name is 256 bytes or more, the first 30 bytes are used as the logical host name specified for *logical-host-name*.

If there are multiple logical hosts satisfying the above conditions and the first 30 bytes of their names are the same, the internal logs of these logical hosts are output to the same file. However, if the internal logs of multiple logical hosts are output to the same file, starting the queueless job might slow down and the output of internal logs might fail.

If the internal logs of multiple logical hosts will be output to the same file, specify a different directory path for the `AJSQL_EXECLOG_AGTPATH` environment setting parameter for each logical host, so that the internal logs will be output to different files. If you change the value of the `AJSQL_EXECLOG_AGTPATH` environment setting parameter to a non-default value, you also have to edit the contents of the data collection sample script. For details, see [7.1 Collecting log data](#).

(26) AJSQL_AGTWORKPATH

Use this parameter to specify the full path name of the directory for the temporary file that is used by a queueless job.

Format

```
"AJSQL_AGTWORKPATH" = "name-of-the-directory-for-the-temporary-file-to-be-used-by-queueless-job"
```

Specifiable values

A character string of no more than 100 bytes

Default value

In Windows:

For a physical host:

- If the installation folder is the default installation folder or is in a folder protected by the system:
`%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\tmp\QLAgent`
The default value of `%ALLUSERSPROFILE%` is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files
 - *system-drive*\Program Files (x86)
- If the installation folder is other than the above:
`JP1/AJS3-installation-folder\tmp\QLAgent`

For a logical host:

```
shared-folder-name\jp1ajs2\tmp\QLAgent
```

In UNIX:

For a physical host:

```
/var/opt/jp1ajs2/tmp/QLAgent
```

For a logical host:

```
shared-directory-name/jp1ajs2/tmp/QLAgent
```


Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

(27) AJSQL_LOADUSERPROFILE

Use this parameter to specify whether to load the profile information about the OS user who executes a job when a job is executed.

Specify this parameter value if the user information must be set in the logon session of the OS user when PC jobs are executed.

For details, see *6.4.2 Executing a job that requires a user profile in a queueless job execution environment*.

Format

```
"AJSQL_LOADUSERPROFILE" = "{yes|no}"
```

Specifiable values

yes

Specify this value to load the user profile.

no

Specify this value if you do not want to load the user profile.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted

(28) AJSQL_GETPASSWD_AGTRETRYCOUNT

Use this parameter to specify the number of retry attempts when the queueless agent service has failed to acquire user information from the OS password file.

Usually, you do not need to change this value.

For details, see *15.2.20 Changing the settings for retries when user information is acquired*.

Format

```
"AJSQL_GETPASSWD_AGTRETRYCOUNT" = dword:number-of-retry-attempts-when-an-attempt-to-acquire-user-information-from-the-OS-password-file-has-failed
```

Specifiable values

A hexadecimal value from 00000000 to 0000000A (0 to 10 in decimal)

If you specify dword:00000000, a retry is not performed.

Default value

dword:00000002 (2 in decimal)

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

(29) AJSQL_GETPASSWD_AGTRETRYINTERVAL

Use this parameter to specify the retry interval when the queueless agent service has failed to acquire user information from the OS password file.

Usually, you do not need to change this value.

For details, see *15.2.20 Changing the settings for retries when user information is acquired*.

Format

"AJSQL_GETPASSWD_AGTRETRYINTERVAL" = dword:*retry-interval-when-an-attempt-to-acquire-user-information-from-the-OS-password-file-has-failed*

Specifiable values

A hexadecimal value (in milliseconds) from 00000000 to 00002710 (0 to 10,000 in decimal)

If you specify dword:00000000, a retry is performed immediately.

Default value

dword:000003E8 (1,000 in decimal)

Recommended value

Default value

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

(30) AJSQL_CLUSTERREQ

Use this parameter to specify whether to abnormally terminate a queueless cluster process if it fails to attach a logical host.

Format

"AJSQL_CLUSTERREQ" = "{exec|error}"

Specifiable values

`exec`

The startup of the process continues, and the queueless cluster process does not terminate abnormally. Startup of the JP1/AJS3 service also continues.

If you specify `exec`, startup of the process continues even if an attempt to attach a logical host fails. Accordingly, you need to execute the `ajsqlstatus` command after nodes are switched, to check whether the logical host has been attached successfully. If the attachment has failed, use the integrated trace log to determine the cause of the error and then correct the error. You can then use the `ajsqlattach` command to attach the logical host.

`error`

The queueless cluster process terminates abnormally. Startup of the JP1/AJS3 service also terminates abnormally.

Default value

`exec`

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 service is restarted

(31) AJSQL_CJOBMAX

Use this parameter to specify the maximum number of jobs that can be executed simultaneously within a class.

For details, see [6.4.1 Executing jobs with a class specified in a queueless job environment](#) (for Windows) or [15.4.1 Executing jobs with a class specified in a queueless job environment](#) (for UNIX).

Format

"AJSQL_CJOBMAX" = dword:*maximum-number-of-simultaneous-jobs-within-a-class*

Specifiable values

A hexadecimal value from 0 to 400 (0 to 1,024 in decimal)

Default value

- In Windows:
dword:00000005 (5 in decimal)
- In UNIX:
dword:00000400 (1,024 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

(32) AJSQL_CJOBWAITMAX

Use this parameter to specify the maximum number of queueless jobs that can be stored in queueless agent service memory if the number of jobs exceeds the maximum number of simultaneous jobs in the class.

For details, see [6.4.1 Executing jobs with a class specified in a queueless job environment](#) (for Windows) or [15.4.1 Executing jobs with a class specified in a queueless job environment](#) (for UNIX).

Format

"AJSQL_CJOBWAITMAX" = dword:*maximum-number-of-jobs-that-can-wait-in-a-class*

Specifiable values

A hexadecimal value from 0 to 19000 (0 to 102,400 in decimal)

Default value

- In Windows:
dword:00000800 (2,048 in decimal)
- In UNIX:
dword:00000000 (0 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After the JP1/AJS3 Queueless Agent service is restarted or the logical host is attached

20.11 Setting up JP1/AJS3 shared information

This section describes the environment setting parameters for JP1/AJS3 shared information.

20.11.1 List of the environment setting parameters for JP1/AJS3 shared information

The same settings for JP1/AJS3 shared information can be used for the manager environment (JP1/AJS3 - Manager) and for the agent environment (JP1/AJS3 - Agent).

The table below lists the environment setting parameters to be used to set JP1/AJS3 shared information in the manager environment (JP1/AJS3 - Manager) and in the agent environment (JP1/AJS3 - Agent).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column.

Table 20–10: Environment setting parameters (JP1/AJS3 shared information)

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[{JP1_DEFAULT logical-host- name} \JP1AJS2COMMON]#	"LARGEFILEUSE" =	Operation for large files	Windows	M, A, ME
2		"SYSLOGJOBMSG" =	Setting for whether the error messages for jobs are also to be output to syslog	UNIX	M, A, ME
3		"MACROCHANGEFAIL" =	Operation to be taken if the value of a macro variable specified in an event job, custom event job or specified during registration for execution cannot be passed	Windows UNIX	M
4		"ADMACLIMIT" =	Setting of the operation permission for units for JP1 users mapped to the OS users with administrator permissions or superuser permissions	Windows UNIX	M
5		"CONNECTIONRESTRICTION" =	Setting for whether the connection source restriction function is to be enabled or disabled.	Windows UNIX	M, A, ME
6		"AJS3SSL" =	Setting of the range of communication encryption	Windows UNIX	M
7		"DESTPORTMAPPING" =	Setting for whether to use the destination port mapping function	Windows Linux	M, A
8	[JP1_DEFAULT\JP1AJS2COMMON]	"AJSI18N" =	Setting for whether Chinese is to be used by JP1/AJS3	UNIX	M, A, ME
9	[JP1_DEFAULT\JP1AJS2]	"LOGIPV6INFOALL" =	Setting for whether IPv6 addresses are to be added to messages output to logs.	Windows UNIX	M, A, ME

Legend:

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

ME: JP1/AJS3 - Agent Minimal Edition

#

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

Parameters that are not described here are used for maintenance purposes. Do not change their values.

20.11.2 Details of the environment setting parameters for JP1/AJS3 shared information

This subsection describes the environment setting parameters for JP1/AJS3 shared information.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) LARGEFILEUSE

Use this parameter to specify whether the file monitoring job monitors large files.

For details, see [6.3.16 Enabling monitoring of a large file](#).

Format

```
"LARGEFILEUSE" = "{yes|no}"
```

Specifiable values

yes

The file monitoring job monitors files larger than 2 GB.

no

The file monitoring job cannot monitor files that are larger than 2 GB. If you specify no, but specify a file larger than 2 GB as a monitoring target, an error message is output to the integrated trace log when execution of the file monitoring job terminates abnormally. For this reason, do not specify a file larger than 2 GB as a monitoring target.

Default value

no

If the OS is Windows, yes is set when a new installation of JP1/AJS3 is performed.

Recommended value

yes

When the setting takes effect

After JP1/AJS3 is restarted

Cautionary note

If you are using version 11-10 or later of JP1/AJS3 for UNIX, you do not need to set this environment setting parameter. The system operates by assuming yes regardless of the actual value of this environment setting parameter setting.

(2) SYSLOGJOBMSG

Use this parameter to specify whether to also output error messages appearing during the execution of jobs to syslog.

For details, see [15.6.1 Settings for outputting error messages for jobs to syslog](#).

Format

"SYSLOGJOBMSG" = "{none|error}"

Specifiable values

none

Error messages appearing during the execution of jobs are not output to syslog. The status of JP1/AJS3 is monitored by the integrated trace log.

error

Error messages appearing during the execution of jobs are output to the syslog file, which is used to monitor the error status of JP1/AJS3. However, even if you specify this value, you must not stop the integrated trace log process.

If you specify `error` for this parameter, a message reporting abnormal job termination (KAVS0265-E) is output to syslog, regardless of whether the scheduler service setting contains `JOBSYSLOG` (outputs, to syslog, messages related to starting and ending a job).

The following table lists the messages that are output based on the values specified for the `SYSLOGJOBMSG` and `JOBSYSLOG` environment setting parameters.

Table 20–11: Messages to be output based on the values specified for `SYSLOGJOBMSG` and `JOBSYSLOG`

Value specified for SYSLOGJOBMSG	Value specified for JOBSYSLOG							
	none	abend	warning	hold	enddelay	prewait	retry	all
none	--	KAVS0265 -E	KAVS0269 -W	KAVS0271 -I	KAVS0248 -I	KAVS4951 -I KAVS4956 -I KAVS4971 -E	KAVS4675 -I KAVS4676 -I KAVS4677 -E	KAVS0263 -I KAVS0264 -I KAVS0265 -E KAVS0266 -I KAVS0269 -W KAVS0271 -I KAVS0248 -I KAVS4951 -I KAVS4956 -I KAVS4971 -E KAVS4675 -I KAVS4676 -I KAVS4677 -E
error	KAVS0265 -E	KAVS0265 -E	KAVS0265 -E KAVS0269 -W	KAVS0265 -E KAVS0271 -I	KAVS0265 -E KAVS0248 -I	KAVS0265 -E KAVS4951 -I	KAVS0265 -E KAVS4675 -I	KAVS0263 -I KAVS0264 -I

Value specified for SYSLOGJOBMSG	Value specified for JOBSYSLOG							
	none	abend	warning	hold	enddelay	prewait	retry	all
error	KAVS0265 -E	KAVS0265 -E	KAVS0265 -E KAVS0269 -W	KAVS0265 -E KAVS0271 -I	KAVS0265 -E KAVS0248 -I	KAVS4956 -I KAVS4971 -E	KAVS4676 -I KAVS4677 -E	KAVS0265 -E KAVS0266 -I KAVS0269 -W KAVS0271 -I KAVS0248 -I KAVS4951 -I KAVS4956 -I KAVS4971 -E KAVS4675 -I KAVS4676 -I KAVS4677 -E

Legend:

--: Not applicable

Default value

none

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(3) MACROCHANGEFAIL

Use this parameter to specify whether to set *Failed to start* as the status if expansion of the passing information in a macro variable fails when a job is executed.

For details, see [6.2.10 Setting the action to be taken if the value of a macro variable cannot be passed](#) (for Windows) or [15.2.10 Setting the action to be taken if the value of a macro variable cannot be passed](#) (for UNIX).

Format

"MACROCHANGEFAIL" = "{yes|no}"

Specifiable values

yes

If the expansion of the passing information in a macro variable fails when a job is executed, the status set is *Failed to start*, and an error message is output to the integrated trace log and as execution result details so that you can check the macro variable that could not be expanded.

no

Even if the expansion of the passing information in a macro variable fails when a job is executed, the system treats the information defined in the macro variable as a character string and continues processing.

Default value

no

Recommended value

Default value

When the setting takes effect

After JP1/AJS3 is restarted

(4) ADMACLIMIT

Use this parameter to set the operation permission for units for JP1 users mapped to OS users with administrator permissions or superuser permissions.

Format

```
"ADMACLIMIT" = "{yes|no}"
```

Specifiable values

yes

Access is controlled according to the permission level set for a JP1 user irrespective of the OS user to whom the JP1 user is mapped.

no

A JP1 user mapped to an OS user with administrator permissions or superuser permissions can perform all operations irrespective of the permission level.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After JP1/AJS3 is restarted

Supplementary note

The system assumes the JP1 user during command execution as follows:

- If the JP1_USERNAME environment variable is set: The JP1 user specified for the environment variable
- If the JP1_USERNAME environment variable is not set: The JP1 user with the same name as the OS user

If yes is set for this environment setting parameter, access is controlled according to the access permission level set for the JP1 user.

If the OS user who executes the command has administrator or superuser permissions, user mapping is unnecessary. However, if the command is executed remotely, user mapping is necessary regardless of the OS user's permissions. For details, see 6.5.1(1) JP1 user names when a job network element is operated with JP1/AJS3 - View and commands in the JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide.

(5) CONNECTIONRESTRICTION

Use this parameter to specify whether the connection source restriction function for restricting connection to JP1/AJS3 is to be enabled or disabled.

Format

```
"CONNECTIONRESTRICTION" = "{none|manager|agent|all}"
```

Specifiable values

none

The setting in the manager connection permission configuration file and the setting in the agent connection permission configuration file are disabled.

manager

The setting in the manager connection permission configuration file is enabled, and the setting in the agent connection permission configuration file is disabled.

This value cannot be specified in JP1/AJS3 - Agent.

agent

In JP1/AJS3 - Manager, the setting in the agent connection permission configuration file is enabled, and the setting in the manager connection permission configuration file is disabled.

In JP1/AJS3 - Agent, the setting in the agent connection permission configuration file is enabled.

all

In JP1/AJS3 - Manager, the setting in the manager connection permission configuration file and the setting in the agent connection permission configuration file are enabled.

In JP1/AJS3 - Agent, the setting in the agent connection permission configuration file is enabled.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The setting takes effect when any of the following services are restarted while they are all stopped: the JP1/AJS3 service, JP1/AJS3 Queueless Agent service, JP1/AJS3 System Control Manager service, and JP1/AJS3 System Control Agent service

Cautionary notes

- Before you change the setting of this environment setting parameter, stop the JP1/AJS3 service, JP1/AJS3 Queueless Agent service, JP1/AJS3 System Control Manager service, and JP1/AJS3 System Control Agent service. After changing the setting, restart these services.
If you happen to change the setting of this environment setting parameter while any of these services are running, stop all of them and then start each of them.
- If you specify a value other than `none` for this environment setting parameter, and the environment settings file storage folder does not contain the connection permission configuration file corresponding to the specified value, or the connection permission configuration file cannot be read, the JP1/AJS3 service, the JP1/AJS3 Queueless Agent service, the JP1/AJS3 System Control Manager service, or the JP1/AJS3 System Control Agent service terminates abnormally.

(6) AJS3SSL

Use this parameter to specify the range of the encryption of communications by JP1/AJS3.

Format

```
"AJS3SSL"="{ALL|INETD}"
```

Specifiable values

ALL

All communications performed by JP1/AJS3 are encrypted.

INETD

Only the following communications performed by JP1/AJS3 are encrypted:

- Communication between JP1/AJS3 - View and JP1/AJS3 - Manager
- Communication between JP1/AJS3 - Web Console and JP1/AJS3 - Manager
- Communication between JP1/AJS3 - Definition Assistant and JP1/AJS3 - Manager
- Communications for remote execution of commands

Default value

ALL

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After JP1/AJS3 is restarted

(7) DESTPORTMAPPING

Use this parameter to specify whether to use the destination port mapping function.

If you use the destination port mapping function to specify the port numbers used for communications from JP1/AJS3 - Manager to JP1/AJS3 - Agent, specify this parameter on the JP1/AJS3 - Manager side.

When configuring the communication port by using the destination port mapping function for communication from JP1/AJS3 - Agent (relay agent) to JP1/AJS3 - Agent (destination agent) or from JP1/AJS3 - Agent (relay agent) to JP1/AJS3 - Agent (broadcast agent), set this parameter on the JP1/AJS3 - Agent (relay agent).

Format

```
"DESTPORTMAPPING"="{ yes | no } "
```

Specifiable values

yes

The destination port mapping function is used.

no

The destination port mapping function is not used.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The timing for when the setting takes effect varies for each service that defines the port number by using the destination port mapping function.

- For `jp1ajs2qagt`, `jp1ajs2eaagt`, or `jp1ajs2qlagt`
After JP1/AJS3 is restarted
- For `jp1ajs2chkagt`

After the JP1/AJS3 Check Manager service is restarted

- For jp1ajs2atmsg, or jp1ajs3sysctla
Immediately

(8) AJSI18N

Use this parameter to specify whether to use Chinese in JP1/AJS3.

Format

```
"AJSI18N"="{yes|no}"
```

Specifiable values

yes

Chinese is to be used.

no

Chinese is not to be used.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After JP1/AJS3 is restarted

(9) LOGIPV6INFOALL

Use this parameter to specify whether to add IPv6 addresses to the messages output to logs such as the integrated trace log, event log, and syslog and to messages detailing execution results.

The IPv6 addresses are added to the messages shown below. For details about messages, see the manual *JP1/Automatic Job Management System 3 Messages*.

KAVT0009-E, KAVT0145-E, KAVT0268-W, KAVT0293-W, KAVT0559-E, KAVT0606-W, KAVT0612-W,
KAVT0613-W, KAVT8343-W

Format

```
"LOGIPV6INFOALL" = "{yes|no}"
```

Specifiable values

yes

IPv6 addresses are added to the messages.

no

IPv6 addresses are not added to the messages.

Default value

no

Recommended value

Default value

When the setting takes effect
After JP1/AJS3 is restarted

20.12 Environment settings for monitoring agents

This section describes the environment setting parameters for monitoring agents.

20.12.1 List of the environment setting parameters for monitoring agents

To set up the monitoring agents, perform the necessary setup operations in the manager environment (JP1/AJS3 - Manager). Nothing is required in the agent environment (JP1/AJS3 - Agent).

The table below lists the environment setting parameters to be used to set the monitoring agents in the manager environment (JP1/AJS3 - Manager).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column.

Table 20–12: Environment setting parameters (monitoring agents)

No	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\HOST\AGENTMONITOR]	"AGMMONITORING" =	Sets whether to use the job distribution delay reduction function.	Windows UNIX	M
2		"AGMERRAGTSTATRESETTIME" =	Sets the time before the status of an execution agent changes from <i>Unconnectable</i> to <i>Not checked</i> .	Windows UNIX	M
3		"AGMINTERVALFORRECOVER" =	Sets the interval at which to conduct a communication recovery check.	Windows UNIX	M
4		"AGMCONNECTTIMEOUT" =	Sets the time that can be used to conduct a communication status check and communication recovery check.	Windows UNIX	M
5		"AGMPUTSYSLOG" =	Sets whether the log data that the job distribution delay reduction function outputs to the integrated trace log is to be output also to the syslog or event log.	Windows UNIX	M

20.12.2 Details of the environment setting parameters for monitoring agents

This subsection describes the environment setting parameters for monitoring agents.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) AGMMONITORING

Use this parameter to specify whether to use the job distribution delay reduction function.

Format

"AGMMONITORING" = "{no|yes}"

Specifiable values

no

Does not use the job distribution delay reduction function.

yes

Uses the job distribution delay reduction function.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

The next time the JP1/AJS3 service is started

(2) AGMERRAGTSTATRESETTIME

Use this parameter to specify the time before the status of an execution agent changes from *Unconnectable* to *Not checked*.

This parameter takes effect if *yes* is set for the AGMMONITORING environment setting parameter.

Format

"AGMERRAGTSTATRESETTIME" = dword: *time-before-status-of-execution-agent-changes-from-Unconnectable-to-Not-checked*

Specifiable values

00000000, or a value (in seconds) from 00000258 to 00015180 in hexadecimal (0, or a value from 600 to 86,400 in decimal)

Default value

dword:00015180 (86,400 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

Usually, you do not need to change this value. Read the following description, and then change this value as necessary.

- When the amount of time specified for this parameter elapses, the status of the execution agent changes from *Unconnectable* to *Not checked*. When this occurs, the execution agent is no longer checked to see whether its communication status has recovered. As a result, an execution agent that is not expected to recover is no longer checked, and fewer ports are used. Note that, when the status of an execution agent changes to *Not checked*, the distribution of jobs to that execution agent resumes. However, if communication fails when the next job is distributed, the status of the execution agent changes back to *Unconnectable*.
- If you specify 0, the status of an execution agent does not change from *Unconnectable* to *Not checked* until a communication recovery check succeeds. In this case, because a communication recovery check is repeated until the status of all *Unconnectable* execution agents changes to *Connectable*, the number of ports to be used increases.
- For this environment setting parameter, specify a value greater than the value specified for the `QueuingJobRecoveryTime` environment setting parameter for the job execution environment.

If you are using the default values for the following environment setting parameters for communication control, specify a value that is at least 300 seconds greater than the value specified for `QueuingJobRecoveryTime` environment setting parameter. If the value has been changed from its default value, set a value greater than the value calculated by using the estimation formula.

Environment setting parameters for communication control[#]

- "ClientConnectTimeout" = dword:*connection-timeout-period*
- "ClientRetryInterval" = dword:*connection-retry-interval*
- "ClientRetryCount" = dword:*number-of-connection-retries*

Estimation formula for the `AGMERRAGTSTATRESETTIME` environment setting parameter:

$$a + b \times (c + d) + 300$$

a: The `QueuingJobRecoveryTime` environment setting parameter

b: The `ClientRetryCount` environment setting parameter (number of connection retries)

c: The `ClientConnectTimeout` environment setting parameter (connection timeout period)

d: The `ClientRetryInterval` environment setting parameter (connection retry interval)

#

If the environment setting parameters for the following definition keys have been changed, you will need to estimate a value. Specify `JP1_DEFAULT` for the physical host. For *logical-host-name*, specify the name of a logical host.

- [{JP1_DEFAULT | *logical-host-name* } \JP1AJS2\HOST\NETWORK]
- [{JP1_DEFAULT | *logical-host-name* } \JP1AJS2\HOST\NETWORK\QUEUEMANAGER]
- [{JP1_DEFAULT | *logical-host-name* } \JP1AJSMANAGER\ *scheduler-service-name* \NETWORK\QUEUEMANAGER]

(3) AGMINTERVALFORRECOVER

Use this parameter to specify the interval at which to conduct a communication status recovery confirmation.

This parameter takes effect if `yes` is set for the `AGMMONITORING` environment setting parameter.

Format

"AGMINTERVALFORRECOVER" = dword: *communication-status-recovery-confirmation-interval*

Specifiable values

A hexadecimal value (in seconds) from 0000003C to 00000E20 (60 to 3,600 in decimal)

Default value

dword:000000B4 (180 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

You do not need to change the value for normal operation.

If you want to accelerate the recovery detection of the communication error, change the interval for communication status recovery confirmation by using this parameter. However, if you decrease the value of this parameter, the load on the network will increase when the status of a large number of execution agents is *Unconnectable*.

(4) AGMCONNECTTIMEOUT

Use this parameter to specify the time in which to conduct a communication status confirmation and communication status recovery confirmation (connection timeout).

This parameter takes effect if `yes` is set for the `AGMMONITORING` environment setting parameter.

Format

"AGMCONNECTTIMEOUT" = dword: *time-for-conducting-communication-status-confirmation-and-communication-status-recovery-confirmation*

Specifiable values

A hexadecimal value (in seconds) from 0000000A to 00000258 (10 to 600 in decimal)

Default value

dword:0000000A (10 in decimal)

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

Cautionary note

Depending on the connection timeout specifications or settings of the OS, the connection might time out before the time set for this parameter expires.

When the status of an execution agent that is operating normally becomes *Unconnectable*, an attempt to perform communication status confirmation might time out. If this occurs, change the amount of time after which communication times out as specified by this parameter.

(5) AGMPUTSYSLOG

This parameter is used to specify the output destination of the following messages that are output by the job distribution delay reduction function:

- KNAC1701-W
- KNAC1702-I
- KNAC1703-W
- KNAC1704-I
- KNAC1705-E
- KNAC1706-I
- KNAC1707-I
- KNAC1708-I
- KNAC1709-E
- KNAC1710-E
- KNAC1711-E

- KNAC1713-I
- KNAC1714-I
- KNAC1774-E
- KNAC1775-E
- KNAC1776-E
- KNAC1801-E
- KNAC1802-E
- KNAC1803-E
- KNAC1804-E
- KNAC1805-E
- KNAC1806-E
- KNAC1807-E
- KNAC1808-E
- KNAC1809-E
- KAVT0351-W

This parameter takes effect if `yes` is set for the `AGMMONITORING` environment setting parameter.

Format

```
"AGMPUTSYSLOG" = {no|yes}
```

Specifiable values

`no`

Messages are output to the integrated trace log only.

`yes`

Messages are output to the integrated trace log, syslog, and Windows event log.

Default value

`no`

Recommended value

Default value

When the setting takes effect

The next time the JP1/AJS3 service is started

20.13 Setting up the agent management control environment

This section describes the environment setting parameters for agent management control.

20.13.1 List of environment setting parameters for agent management control

To set up the agent management control, perform the necessary setup operations in the manager environment (JP1/AJS3 - Manager). Nothing is required in the agent environment (JP1/AJS3 - Agent).

The table below lists the environment setting parameters to be used to set the agent management control in the manager environment (JP1/AJS3 - Manager).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column.

Table 20–13: Environment setting parameters (agent management control)

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[JP1_DEFAULT\JP1AJS2\HOST\AGENTMANAGER]	"AJSODBC_DSNAME"=	The ODBC file data source name	Windows Linux	M
2		"AJSODBC_DBNAME"=	The database name	Windows Linux	M

20.13.2 Details of the environment setting parameters for agent management control

This subsection describes details of the environment setting parameters for agent management control.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) AJSODBC_DSNAME

If you want to use an external database, specify the name of the ODBC file data source.

Usually, you do not need to change this value.

Format

```
"AJSODBC_DSNAME"="ODBC-file-data-source-name"
```

Specifiable values

In Windows:

A character string of no more than 255 bytes

In Linux:

A character string of no more than 128 bytes

Default value

None

Recommended value

A value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts

(2) AJSODBC_DBNAME

If you want to use an external database, specify the name of the database.

Usually, you do not need to change this value.

Format

"AJSODBC_DBNAME"="*database-name*"

Specifiable values

A character string of no more than 128 bytes

Default value

None

Recommended value

A value set in JP1/AJS3 - Manager

When the setting takes effect

When the scheduler service starts

20.14 Environment settings for HTTP connection job

This section describes the environment setting parameters for HTTP connection job.

20.14.1 List of the environment setting parameters for HTTP connection job

The same settings for HTTP connection job can be used for the manager environment (JP1/AJS3 - Manager) and for the agent environment (JP1/AJS3 - Agent).

The table below lists the environment setting parameters to be used to set HTTP connection job in the manager environment (JP1/AJS3 - Manager) and in the agent environment (JP1/AJS3 - Agent).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column.

Table 20–14: Environment setting parameters (HTTP connection job)

No.	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\HTTPREQAGENT]#	"TRANSFER_DECODING"=	Whether data in chunk format is to be decoded when it is output to the received body file	Windows Linux	M, A, ME

Legend:

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

ME: JP1/AJS3 - Agent Minimal Edition

#

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

20.14.2 Details of the environment setting parameters for HTTP connection job

This subsection describes details of the environment setting parameters for HTTP connection job.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) TRANSFER_DECODING

For data that is in chunk format and that is received from the Web API via an HTTP connection job, specify whether the data is to be decoded when the data is output to the received body file.

Format

```
"TRANSFER_DECODING"="{ Y | N } "
```

Specifiable values

Y

Data in chunk format is decoded.

N

Data in chunk format is not decoded.

Default value

N

During a new installation of JP1/AJS3, Y is set.

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately

Cautionary note

If the setting of the environment setting parameter is changed on an agent host, the format of the received body file for HTTP connection jobs that are run on that agent host is also changed. Therefore, before you change the setting of this environment setting parameter, confirm that the processing that uses the received body file for HTTP connection jobs will not be affected even if the output format of data in chunk format is changed.

20.15 Management Portal execution environment

This section describes the environment setting parameters for management portal execution environment.

20.15.1 List of the environment setting parameters for Management Portal execution environment

The management portal execution environment requires different settings in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

The table below describes the environment setting parameters to be used to set the management portal execution environment in the manager environment (JP1/AJS3 - Manager) and the agent environment (JP1/AJS3 - Agent).

To determine whether an environment setting parameter is to be set in Windows or UNIX, see the *Applicable OS* column.

Table 20–15: Environment setting parameters (Management Portal execution environment)

No	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
1	[JP1_DEFAULT\JP1AJS2\CONTROL]	"AUTHSYSLOG"=	In Windows: Sets whether messages related to user authentication are output to the Windows event log and integrated trace log. In UNIX: Sets whether messages related to user authentication are output to the syslog and integrated trace log.	Windows UNIX	M, A, ME
2		"SYSLOGCODE"=	Sets the language of messages that the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service output to syslog.	UNIX	M, A, ME
3	[JP1_DEFAULT\JP1AJS2\CONTROL\MANAGER]	"CONRESTRICTSYSLOG"=	In Windows: Sets whether messages related to connection-source restriction are output to the Windows event log. In UNIX: Sets whether messages related to connection-source restriction are output to the syslog.	Windows UNIX	M
4		"AJSSYSCTLDLOGSIZE"=	Size of the ajssysctlmd internal log	Windows UNIX	M
5		"LOGSIZE"=	Size of the ajssysctlmd log	Windows UNIX	M
6		"MAXOPEEXEC"=	Maximum number of on-screen operations that can be performed concurrently by using the Web GUI (Management Portal)	Windows UNIX	M
7		"MAXAGGEXEC"=	Maximum number of threads to perform aggregation concurrently	Windows UNIX	M

No	Definition key	Environment setting parameter	Definition	Applicable OS	Applicable product
8	[JP1_DEFAULT\JP1AJS2\CONTROL\MANAGER]	"JOBAGGTIMEOUT"=	Timeout of a wait for the number of job executions to be aggregated	Windows UNIX	M
9	[JP1_DEFAULT\JP1AJS2\CONTROL\AGENT]	"AJSSYSCTLDLOGSIZE"=	Size of the ajssysctlad internal log	Windows UNIX	A, ME
10		"LOGSIZE"=	Size of the ajssysctlad log	Windows UNIX	A, ME
11		"MAXOPEEEXEC"=	Maximum number of on-screen operations that can be performed concurrently by using the Web GUI (Management Portal)	Windows UNIX	A, ME
12	[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler- <i>service-name</i>]#	"PERIODICJOBAGG"=	Whether the number of job executions is automatically aggregated	Windows UNIX	M
13		"JOBAGGSTARTTIME"=	The time at which aggregation of the number of job executions starts	Windows UNIX	M
14		"JOBAGGLOGDIR"=	The name of the directory for containing job execution count aggregation log files	Windows UNIX	M
15		"JOBAGGRESULTSSTOREDAYPERIOD"=	The number of days for which the aggregation results of the number of job executions are stored	Windows UNIX	M
16		"JOBAGGJP1USER NAME"=	The name of the JP1 user who aggregates the number of job executions	Windows UNIX	M

Legend:

M: JP1/AJS3 - Manager

A: JP1/AJS3 - Agent

ME: JP1/AJS3 - Agent Minimal Edition

#

Specify JP1_DEFAULT for the physical host. For *logical-host-name*, specify the name of a logical host.

20.15.2 Details of the environment setting parameters for Management Portal execution environment

This subsection describes details of the environment setting parameters for management portal execution environment.

Note that the default of an environment setting parameter means the value that is assumed when the environment setting parameter is omitted.

(1) AUTHSYSLOG

In Windows:

This parameter sets whether to output messages regarding user authentication to the Windows event log and the integrated trace log.

In Linux:

This parameter sets whether to output messages regarding user authentication to the syslog and the integrated trace log.

Format

```
"AUTHSYSLOG"="{none|all}"
```

Specifiable values

none

Messages related to user authentication are not output.

all

Messages related to user authentication are output.

In Windows, if authentication is denied for the `ajssysctcmd` or `ajssysctlad` process, the KAVS1009-W message is output to the event log and the integrated trace log. In UNIX, that message is output to the syslog and the integrated trace log.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time a user authentication request is received)

(2) SYSLOGCODE

Use this parameter to specify the language type of the messages that are output by the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service to the syslog file.

Format

```
"SYSLOGCODE"="{C|en_US.UTF-8|en_US.utf8|LANG-environment-variable-value}"
```

Specifiable values (when the language type of JP1/AJS3 is Japanese or English)

C, `en_US.UTF-8`, or `en_US.utf8`

The messages are output encoded with the English ASCII character set.

LANG-environment-variable-value (character string other than C)

Operation depends on the settings of the LANG environment variable at the time the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service starts. However, in some systems, a message in the language type corresponding to the LANG environment variable at the time the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service starts might not be output to syslog. In such a system, make sure that this parameter is set to C. Check whether Japanese can be output in the system you are using by executing the `logger` command to output a message in Japanese and then confirming that the message is correctly output to syslog.

The LANG environment variable value differs depending on the OS.

The following table describes the values that can be specified for the LANG environment variable.

Table 20–16: Specifiable values of the LANG environment variable

OS	Environment variable value for setting Shift JIS	Environment variable value for setting EUC	Environment variable value for setting UTF-8
AIX	Ja_JP	ja_JP	JA_JP

OS	Environment variable value for setting Shift JIS	Environment variable value for setting EUC	Environment variable value for setting UTF-8
AIX	Ja_JP.IBM-932	ja_JP.IBM-eucJP	JA_JP.UTF-8
Linux	Not available	Not available	ja_JP.UTF-8 ja_JP.utf8

Specifiable values (when the language type of JP1/AJS3 is Chinese)

C

The messages are output encoded with the English ASCII character set.

Default value

C

Recommended value

Default value

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service and JP1/AJS3 System Control Agent service

(3) CONRESTRICTSYSLOG

In Windows:

This parameter sets whether to output messages regarding connection source restrictions to the Windows event log.

In UNIX:

This parameter sets whether to output messages regarding connection source restrictions to the syslog.

Format

"CONRESTRICTSYSLOG"="{ none | all }"

Specifiable values

none

Does not output messages regarding connection source restrictions.

all

Outputs messages regarding connection source restrictions.

In Windows, if connection is denied by the connection source restriction function for the ajssysctlmd or ajssysctlad process, the KAVS8040-E message is output to the event log. In UNIX, that message is output to the syslog.

Default value

none

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

(4) AJSSYSCTLDLOGSIZE (for manager process)

Use this parameter to specify the size of the ajssysctlmd internal log file.

Format

"AJSSYSCTLDLOGSIZE"=dword:*size-of-ajssysctlmd-internal-log-file*

Specifiable values

00000000 or a value in kilobytes from 00000004 to 001E8480 in hexadecimal (in decimal 0 or a value from 4 to 2,000,000)

If you specify dword:00000000, the system does not create a log file.

Default value

dword:00001000 (4,096 in decimal)

Recommended value

Default value

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

(5) LOGSIZE (for manager process)

Use this parameter to specify the size of the ajssysctlmd log file.

Format

"LOGSIZE"=dword:*size-of-ajssysctlmd-log-file*

Specifiable values

00000000 or a value in kilobytes from 00000004 to 001E8480 in hexadecimal (in decimal 0 or a value from 4 to 2,000,000)

If you specify dword:00000000, the system does not create a log file.

Default value

dword:00002800 (10,240 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

(6) MAXOPEEXEC (for manager process)

Use this parameter to specify the maximum number of on-screen operations that can be performed concurrently for the manager host from the management portal for JP1/AJS3 - Web Console. Change this if operations are concentrated from multiple Web Console servers to a specific manager host and the message "KNAK3290-E The number of operation requests from the management portal to the connection-destination manager has exceeded the maximum number of operations that can be concurrently run." is displayed frequently.

The value specified for this parameter is the maximum value for the total number of operations on all physical and logical hosts that exist on the same machine. If the number of concurrent on-screen operations exceeds this value, attempts to perform more on-screen operations fail.

Format

"MAXOPEEXEC"=dword:*maximum-number-of-operations-that-can-be-performed-concurrently*

Specifiable values

A hexadecimal value from 0 to 64 (0 to 100 in decimal)

Default value

dword:00000005 (5 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

(7) MAXAGGEXEC

Use this parameter to specify the maximum number of threads that can run concurrently to perform aggregation on the manager host.

Aggregation is performed for each scheduler service on the manager host if aggregation is started from the Usage Status of the Scheduler Service or Details on the Retention Status of Jobnets with Start Conditions dialog box of the Web GUI (Management Portal).

While multiple scheduler services are concurrently performing aggregation, if the KAVS8521-E message, which reports a failure in starting aggregation because the maximum number of concurrent threads is exceeded, is displayed frequently, you must increase the value of this parameter.

Format

"MAXAGGEXEC"=dword:*maximum-number-of-threads-to-perform-aggregation-concurrently*

Specifiable values

A hexadecimal value from 1 to 14 (1 to 20 in decimal)

Default value

dword:00000005 (5 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

Cautionary note

The value specified for this parameter is used as the maximum number of threads that are used to perform aggregation by the scheduler services on all physical and logical hosts on the same machine.

(8) JOBAGGTIMEOUT

Use this parameter to specify the time for which the system waits before starting aggregation of the number of job executions.

Aggregation of the number of job executions can be performed for only one scheduler service on one machine. Therefore, while the aggregation process for a scheduler service is in progress, if the aggregation process for another scheduler service occurs, the latter process waits for the current aggregation to end.

If an aggregation process is not performed, the KAVS8604-E message is output to the job execution count aggregation log. If this message is output, increase the value of this parameter or change the value of the PERIODICJOBAGG environment setting parameter so that multiple aggregation processes do not occur concurrently.

Format

"JOBAGGTIMEOUT"=dword:*timeout-of-a-wait-for-the-number-of-job-executions-to-be-aggregated*

Specifiable values

A hexadecimal value (in minutes) from 1 to 564 (1 to 1,380 in decimal)

Default value

dword:0000003C (60 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time aggregation is started)

(9) AJSSYSCTLDLOGSIZE (for agent process)

Use this parameter to specify the size of the ajssysctlad internal log file.

Format

"AJSSYSCTLDLOGSIZE"=dword:*size-of-ajssysctlad-internal-log-file*

Specifiable values

00000000 or a value in kilobytes from 00000004 to 001E8480 in hexadecimal (in decimal 0 or a value from 4 to 2,000,000)

If you specify dword:00000000, the system does not create a log file.

Default value

dword:00001000 (4,096 in decimal)

Recommended value

Default value

When the setting takes effect

After restarting the JP1/AJS3 System Control Agent service

(10) LOGSIZE (for agent process)

Use this parameter to specify the size of the ajssysctlad log file.

Format

"LOGSIZE"=dword:*size-of-ajssysctlad-log-file*

Specifiable values

00000000 or a value in kilobytes from 00000004 to 001E8480 in hexadecimal (in decimal 0 or a value from 4 to 2,000,000)

If you specify dword:00000000, the system does not create a log file.

Default value

dword:00002800 (10,240 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restarting the JP1/AJS3 System Control Agent service

(11) MAXOPEEXEC (for agent process)

Use this parameter to specify the maximum number of on-screen operations that can be performed concurrently for the agent host from the management portal for JP1/AJS3 - Web Console. Change this if operations are concentrated from multiple Web Console servers to a specific agent host and the message "KAVS8510-E The operation cannot be executed, because the maximum number of concurrent operations has been exceeded. *maintenance-information*" is displayed frequently.

The value specified for this parameter is the maximum value for the total number of operations on all physical and logical hosts that exist on the same machine. If the number of concurrent on-screen operations exceeds this value, attempts to perform more on-screen operations fail.

Format

```
"MAXOPEEXEC"=dword:maximum-number-of-operations-that-can-be-performed-concurrently
```

Specifiable values

A hexadecimal value from 0 to 64 (0 to 100 in decimal)

Default value

```
dword:00000005 (5 in decimal)
```

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restarting the JP1/AJS3 System Control Agent service

(12) PERIODICJOBAGG

Use this parameter to specify whether the number of jobs executed by scheduler services is to be automatically aggregated every day.

Set *yes* for this parameter if you want to check the number of jobs executed by scheduler services in the Number of job executions or Number of job executions in a day dialog box of the Web GUI (Management Portal).

Format

```
"PERIODICJOBAGG"="{yes | no}"
```

Specifiable values

yes

Aggregation is automatically performed every day.

no

Aggregation is not performed.

Default value

no

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

(13) JOBAGGSTARTTIME

Use this parameter to specify the aggregation start time if the number of jobs executed by scheduler services is aggregated automatically every day.

This parameter must be set if `yes` is set for the `PERIODICJOBAGG` environment setting parameter.

Format

"JOBAGGSTARTTIME"=*the-time-at-which-aggregation-of-the-number-of-job-executions-starts*

Specifiable values

A 5-byte character string from 00:00 to 23:59.

Specify the time at which aggregation of the number of job executions starts in *hh:mm* format.

For *hh*, specify the hour as a number in the range from 00 to 23. For example, specify 01 for 1 o'clock.

For *mm*, specify the minute as a number in the range from 00 to 59. For example, specify 01 for 1 minute past the hour.

Default value

00:00

Recommended value

A time when the execution of jobs and jobnets does not put a heavy load on the system and when commands and JP1/AJS3 - View are not operating on any units

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

Cautionary note

The setting of this parameter is ignored if `no` is specified for the `PERIODICJOBAGG` environment setting parameter.

(14) JOBAGGLOGDIR

Use this parameter to specify the directory for containing job execution count aggregation log files.

If the scheduler service automatically counts the number of executed jobs every day, you can check the job execution history in the job execution count aggregation log files.

This parameter must be set if `yes` is set for the `PERIODICJOBAGG` environment setting parameter.

Format

"JOBAGGLOGDIR"="*the-name-of-the-directory-for-containing-job-execution-count-aggregation-log-files*"

Specifiable values

A character string of no more than 233 bytes

Do not use a semicolon (;) or spaces.

Default value

- In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\schedule\scheduler-service-name
The default value of %ALLUSERSPROFILE% is *system-drive*\ProgramData.
A *folder protected by the system* is the path to a folder in any of the following:
 - *system-drive*\Windows
 - *system-drive*\Program Files

- *system-drive*\Program Files (x86)

- In Windows, if the installation folder is other than the above:

JP1/AJS3-Manager-installation-folder\log\schedule*scheduler-service-name*

- In UNIX:

/var/opt/jplajs2/log/schedule/scheduler-service-name

Recommended value

Default value

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

Cautionary note

The setting of this parameter is ignored if `no` is specified for the `PERIODICJOBAGG` environment setting parameter.

(15) JOBAGGRESULTSSTOREDAYPERIOD

Use this parameter to specify the number of days for which to store the aggregation results of the number of jobs executed by scheduler services. This parameter must be set if `yes` is set for the `PERIODICJOBAGG` environment setting parameter.

Format

"JOBAGGRESULTSSTOREDAYPERIOD"=`dword`: *the-number-of-days-for-which-the-aggregation-results-of-the-number-of-job-executions-are-stored*

Specifiable values

A hexadecimal value from 1E to 16D (30 to 365 in decimal)

Default value

`dword:0000001E` (30 in decimal)

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

Immediately (the next time aggregation is started)

Cautionary note

If you set a smaller value for this parameter, the aggregation results for the differential days will be lost.

(16) JOBAGGJP1USERNAME

Use this parameter to specify the name of the JP1 user who aggregates the number of job executions for a scheduler service.

This parameter must be set if `yes` is set for the `PERIODICJOBAGG` environment setting parameter.

Format

"JOBAGGJP1USERNAME"="*the-name-of-the-JP1-user-who-aggregates-the-number-of-job-executions*"

Specifiable values

A character string of no more than 31 bytes

Default value

`jpladmin`

Recommended value

Set the value appropriate for the operating environment.

When the setting takes effect

After restarting the JP1/AJS3 System Control Manager service

Cautionary note

The setting of this parameter is ignored if `no` is specified for the `PERIODICJOBAGG` environment setting parameter.

21

Setup of Functions Based on Operation Methods

This chapter provides details about the setup of functions based on the method of operation.

21.1 Setting up functions by using operation profiles

This section describes how to set up functions by using operation profiles.

For details about how to change the operation profile settings, see *7.10 Changing an operation profile* in the *JP1/Automatic Job Management System 3 Administration Guide*.

21.1.1 Setting execution agent restrictions

In an execution agent profile, specify the settings related to execution agent restrictions. For details about such restrictions, see *2.5.1(6) Execution agent restriction* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The following describes the procedure for setting an execution agent profile.

(1) Setting an execution agent profile

1. Copy the model file to the environment-settings file storage folder.

The model file and the environment-settings file storage folder are as follows:

In Windows:

Model file:

`JP1/AJS3-Manager-installation-folder\conf\ajsprof_AJSROOT1_agent.conf.model`

Environment-settings file storage folder

For a physical host:

`JP1/AJS3-Manager-installation-folder\conf`

For a logical host:

`shared-folder\jp1ajs2\conf`

In UNIX:

Model file:

`/etc/opt/jp1ajs2/conf/ajsprof_AJSROOT1_agent.conf.model`

Environment-settings file storage directory

For a physical host:

`/etc/opt/jp1ajs2/conf`

For a logical host:

`shared-directory/jp1ajs2/conf`

2. Rename the copy of the file to the predetermined name.

Rename the file to:

`ajsprof_scheduler-service-name_agent.conf`

3. Use a text editor to edit the file.

Specify the necessary settings in the execution agent profile.

In Windows:

For editing, use a text editor such as Notepad.

You can also use either of the following methods to copy execution agent names or execution agent group names from the defined execution agents or execution agent groups:

- Copy execution agent names or execution agent group names from the list output by using the `ajsagtshow` command. For details about the copying procedure, see (2) *Copying from the list output by the ajsagtshow command*.
- Copy execution agent names or execution agent group names from the results of a search in JP1/AJS3 - View. For details about the copying procedure, see (3) *Copying from the results of a search in JP1/AJS3 - View*. For details about execution agent profiles, see 21.1.2 *Details of execution agent profile*.

In UNIX:

For editing, use a text editor such as `vi`.

You can copy execution agent names or execution agent group names from the list of defined execution agents or execution agent groups output by using the `ajsagtshow` command. For details about the copying procedure, see (2) *Copying from the list output by the ajsagtshow command*.

For details about execution agent profiles, see 21.1.2 *Details of execution agent profile*.

Cautionary note:

The following information is set in the model file:

- Full name of the unit to which the file is applied: `/example`
- Restriction check when the unit is defined: Restrictions are checked
- Operation when the unit is defined: The dialog box cannot be closed by clicking **OK** if an execution target that is not allowed has been specified.
- Restriction check when a job is executed: Restrictions are checked.
- Permitted execution target: Execution is allowed only on the default execution agent (`@SYSTEM`).

If this model file is applied as is when a unit named `/example` exists, the jobs in the `/example` unit become executable only on the default execution agent. Before you apply the execution agent profile, edit it as needed to fit the operation.

4. Apply the execution agent profile settings.

Do the following to enable the execution agent profile settings:

- If the JP1/AJS3 service is not running:
Start the JP1/AJS3 service. The execution agent profile settings for all scheduler services configured on the relevant host are enabled.
- If the JP1/AJS3 is running but the scheduler service is not:
Do either of the following:
 - Start the scheduler service. The execution agent profile settings for the scheduler service you started are enabled.
 - Execute the following command:

```
ajsprofalter -F scheduler-service-name -t agent -m set
```

The execution agent profile settings for the scheduler service which are specified with the `-F` option are enabled.
- If the JP1/AJS3 service and the scheduler service are both running:
Execute the following command:

```
ajsprofalter -F scheduler-service-name -t agent -m set
```

The execution agent profile settings for the scheduler service which are specified with the `-F` option will be enabled.

For details about the `ajsprofalter` command, see `ajsprofalter` in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(2) Copying from the list output by the ajsagtshow command

To copy execution agent names or execution agent group names from a list of execution agent definitions output by the ajsagtshow command:

1. Execute the ajsagtshow -n command.
2. Copy the required execution agent names or execution agent group names from the output result of the ajsagtshow command.

Copy the required names from the shaded part shown below.

```
KNAC1101-I The output of the agent manager information started.
HOSTNAME:host1
AGENT
-----
@SYSTEM
AGT01
AGT02
AGT11
AGT12

AGENT GROUP
-----
Group1
KNAC1102-I The output of the agent manager information ended.
```

3. Paste the copied information into the execution agent profile.
Paste the copied execution agent names or execution agent group names on the lines between @SYS_AGENTLIST_START and @SYS_AGENTLIST_END in the execution agent profile.

(3) Copying from the results of a search in JP1/AJS3 - View

To copy execution agent names or execution agent group names from the results of a search in JP1/AJS3 - View:

1. Use the JP1/AJS3 - View Search window to find the execution agents configured in the target unit.
2. In the Search window, choose **Options**, and then **Save Csv Unit Data**.
The search results are copied to the clipboard in CSV format.
3. Paste the search results into a spreadsheet.
4. Copy the execution agent names from the information you have pasted.
Copy the required names in the shaded part shown below.

A	B	C	...
#	20XX/10/10 10:18	jp1admin	...
Unit name	Execution agent	Upper-level path	
net1		/Group1	
Unix job	AGT01	/Group1/net1	
Unix job 2	AGT02	/Group1/net1	
Unix job 3	AGT02	/Group1/net1	
net2		/Group1	
Unix job 2	AGT12	/Group1/net2	
Unix job 3	AGT11	/Group1/net2	
#	20XX/10/10 10:18		

5. Paste the copied information into the execution agent profile.

Paste the copied information on the lines between @SYS_AGENTLIST_START and @SYS_AGENTLIST_END in the execution agent profile.

Cautionary note:

If the job is running on the manager host with no execution agent specified in the detailed definition of a unit, the default execution agent @SYSTEM is not output to the JP1/AJS3 - View search result. Accordingly, manually add @SYSTEM to the execution agent profile.

21.1.2 Details of execution agent profile

Specify the settings related to execution agent restriction in an execution agent profile. Next, create a file for each scheduler service, and then set the execution agents that will be permitted to execute the jobs of each unit.

For details about execution agent restriction, see 2.5.1(6) *Execution agent restriction* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For how to create an execution agent profile, see 21.1.1 *Setting execution agent restrictions*.

(1) Format

Create an execution agent profile for each scheduler service.

The following shows the format of an execution agent profile.

```
@SYS_RESTRICT_START
unit_path=full-name-of-the-unit
View=restriction-check-when-a-unit-is-defined
ViewCheckLevel=operation-when-a-unit-is-defined
JobExec=restriction-check-at-job-execution
@SYS_AGENTLIST_START
entity-for-which-definition-or-execution-permitted
:
:
@SYS_AGENTLIST_END
@SYS_RESTRICT_END
```

(2) Setting items

The following describes the items that need to be set. Use a linefeed character to separate items.

(a) @SYS_RESTRICT_START

The setting on this line is the fixed value @SYS_RESTRICT_START, which indicates the start of the execution agent restriction settings.

The information enclosed by this line and the corresponding @SYS_RESTRICT_END constitutes the settings for one unit. To specify information for multiple units, repeatedly specify the information for each enclosed by a @SYS_RESTRICT_START and a @SYS_RESTRICT_END. You can specify information for a maximum of 128 units.

This item must be set.

Cautionary note

If a large amount of information is set in the execution agent profile, the memory used by the execution agent profile might be insufficient. Use the `AGENTPROFMEMSIZE` environment setting parameter to set the amount of memory that can be used for the execution agent profile. Use the formula below to estimate the required amount of memory, then round the result to the next whole number and set the resulting value in hexadecimal. Note, however, that if the resulting value is smaller than 512, set `dword:00000200` (512 in decimal).

Amount of memory in kilobytes required for the execution agent profile = $(a + 256) / 1,024$

a

Result of the following calculation performed for each unit (the information enclosed by a `@SYS_RESRTICT_START` and a `@SYS_RESTRICT_END`):

$b + 1,280$

b

Result of the following calculation performed for the execution entities (the information between `@SYS_AGENTLIST_START` and `@SYS_AGENTLIST_END`):

length-of-target-name-permitted-for-definition-or-execution + 128

For example, the execution agent profile might contain the following settings:

```
@SYS_RESTRICT_START
unit_path=/net1
View=on
ViewCheckLevel=warning
JobExec=on
@SYS_AGENTLIST_START
@SYSTEM
AGT01
@SYS_AGENTLIST_END
@SYS_RESTRICT_END

@SYS_RESTRICT_START
unit_path=/net2
View=on
ViewCheckLevel=warning
JobExec=on
@SYS_AGENTLIST_START
AGT02
AGT03
@SYS_AGENTLIST_END
@SYS_RESTRICT_END
```

For unit `/net1`, `@SYSTEM` and `AGT01` are specified as execution targets. Therefore, the value of *b* is as follows:

$$(7 + 128) + (5 + 128) = 268$$

For unit `/net2`, `AGT02` and `AGT03` are specified as execution targets. Therefore, the value of *b* is as follows:

$$(5 + 128) + (5 + 128) = 266$$

The value of *a* is as follows:

$$(268 + 1,280) + (266 + 1,280) = 3,094$$

The amount of memory in kilobytes required for the execution agent profile is as follows:

$$(3,094 + 256) / 1,024 = \text{Approx. } 3.27$$

Because the value obtained from the above calculation is smaller than 512, set the `AGENTPROFMEMSIZE` environment setting parameter to 512.

For details about the `AGENTPROFMEMSIZE` environment setting parameter, see [20.4.2\(98\) AGENTPROFMEMSIZE](#).

(b) `unit_path=full-name-of-the-unit`

Use a character string of no more than 930 bytes to specify the full name of the unit. `unit_path=` is fixed. Specify this setting after `@SYS_RESTRICT_START`.

You can specify one of the following types of unit:

- Any unit contained in a scheduler service (a forward slash (/) is set in the unit name)
- Job group
- Root jobnet
- Nested jobnet
- Unix job
- PC job
- Event job
- Action job
- Custom job
- Flexible job[#]
- HTTP connection job
- Custom event job

#

A flexible job uses a relay agent, not an execution agent.

This item must be set.

(c) `View=restriction-check-when-a-unit-is-defined`

Specify whether you want to display the selected execution agents and check the restrictions for the specified execution agents when a unit is defined in the JP1/AJS3 - View Define Details dialog box. You can set either of the following values:

- `on`
The selected execution agents are displayed and the restrictions are checked.
- `off`
The selected execution agents are not displayed and the restrictions are not checked.

`View=` is fixed. Set this information on a line between `unit_path=full-name-of-the-unit` and `@SYS_AGENTLIST_START`.

This item is optional. If it is not specified, `on` is assumed.

(d) ViewCheckLevel=operation-when-a-unit-is-defined

Specify the operation to be performed if an execution entity that is not permitted is encountered during restriction checking when a unit is defined in the JP1/AJS3 - View Define Details dialog box. You can set either of the following values.

- `error`
The dialog box cannot be closed by clicking the **OK** button if an execution entity that is not permitted is specified.
- `warning`
If an execution target that is not permitted is specified, the KAVV1501-Q message is output. Depending on the response to the message, the unit definition is registered in JP1/AJS3 - Manager even when an execution entity that is not permitted is specified.

`ViewCheckLevel=` is fixed. Set this information on a line between `unit_path=full-name-of-the-unit` and `@SYS_AGENTLIST_START`. This setting is valid only when `on` is set for `View=restriction-check-when-a-unit-is-defined`.

This item is optional. If it is not specified, `error` is assumed.

(e) JobExec=restriction-check-at-job-execution

Set either of the following values to specify whether restriction checking is to be performed for execution agents when a job is executed.

- `on`
Restrictions are checked.
- `off`
Restrictions are not checked.

`JobExec=` is fixed. Set this information on a line between `unit_path=full-name-of-the-unit` and `@SYS_AGENTLIST_START`.

This item is optional. If it is not specified, `on` is assumed.

(f) @SYS_AGENTLIST_START

The setting on this line is the fixed value `@SYS_AGENTLIST_START`, which indicates the start of the specification of entities for which definition or execution is permitted. The information between this line and the corresponding `@SYS_AGENTLIST_END` holds the settings of the execution entities that are permitted to perform definition or execution.

This item must be set.

(g) entity-for-which-definition-or-execution-permitted

On one line, specify the execution agent, execution agent group, or execution host for which definition or execution is to be permitted. Use a character string of no more than 255 bytes for an execution entity. A maximum of 2,048 execution entities can be set on the lines enclosed by `@SYS_AGENTLIST_START` and `@SYS_AGENTLIST_END`.

Note that the specified values are not case sensitive.

If you specify more than 255 bytes for an execution entity or specify more than 2,048 execution entities between @SYS_AGENTLIST_START and @SYS_AGENTLIST_END, a syntax error occurs in the execution agent profile and the settings are not applied.

To specify an execution entity that begins with a hash mark (#) or a backslash (\), do the following:

- If the execution entity begins with a hash mark (#):
Use a backslash (\) as an escape character. The escape character is not required if the hash mark (#) is the second or a subsequent character.
- If the execution entity begins with a backslash (\):
Use a backslash (\) as an escape character. The escape character is not required if the backslash is the second or a subsequent character.

If the specified execution entity begins with a backslash (\) and the second character is neither a hash mark (#) nor a backslash (\), a syntax error occurs in the execution agent profile.

The following table contains concrete examples.

Table 21–1: How to specify permitted execution entities

No.	Permitted execution entity	Specification in the execution agent profile	Remarks
1	AGT1	AGT1	--
2	#AGT1	\#AGT1	--
		#AGT1	The line is treated as a comment line.
3	\AGT1	\\AGT1	--
		\AGT1	A syntax error for the execution agent profile occurs.
4	##AGT1	\##AGT1	Only the first character requires an escape character. The second and subsequent characters do not need one.
5	\\AGT1	\\\AGT1	
6	\#AGT1	\\#AGT1	
7	#\AGT1	\#\AGT1	
8	AGT#1	AGT#1	The second and subsequent characters do not require an escape character.
9	AGT\1	AGT\1	

Legend:

--: None

When permitting execution on the local host:

@SYSTEM must be specified. Note, however, that if you want to permit an execution agent that has the same name as the local host name, specify the execution agent name.

If you want to permit execution of queueless jobs on the local host, specify the local host name. Hereafter, *local host name* refers to names that can be checked by using the following methods.

- Physical host:
The host name determined by executing the `hostname` command
- Logical host (Windows):

On the host on which JP1/AJS3 is running, in **Control Panel**, either choose **Services**, or choose **Administrative Tools** and then **Services**. In the Services dialog box that opens, the host name is displayed as `xxxxx` in `JP1/AJS3_XXXX`

- Logical host (UNIX):
Execute the `ps` command. The host name is displayed after the `jajs_spm` process.

When specifying an execution agent group as the execution agent for units:

To specify an execution agent group as the execution agent for units, set the name of the execution agent group.

When specifying a macro variable name as the execution agent for units:

To specify a macro variable name as the execution agent for units, set an execution agent name or a macro variable name according to the settings of `View=restriction-check-when-a-unit-is-defined` and `JobExec=restriction-check-at-job-execution`. The following table describes the information that needs to be set for this item.

Table 21–2: Settings when a macro variable is specified

No.	View=restriction-check-when-a-unit-is-defined setting	JobExec=restriction-check-at-job-execution setting	Setting required for entity-for-which-definition-or-execution-permitted
1	<code>off</code>	<code>On</code>	Execution agent name
2	<code>on</code>	<code>Off</code>	Macro variable name
3	<code>on</code>	<code>On</code>	<ul style="list-style-type: none"> • Macro variable name • Execution agent name

For queueless jobs:

To use the execution agent restriction functionality for a queueless job, set the name of the host on which the queueless job will be executed.

If the target host with a class name is specified in **Exec-agent** in the Define Details dialog box, you do not need to set the `!class-name` portion in the execution agent profile.

If a logical host that has not been attached is specified as the execution host for the queueless job, the queueless job is executed on the physical host corresponding to the logical host when the following conditions exist:

- The logical host specified for the queueless job has been set in the execution agent profile.
- `exec` is set in the `AJSQL_NOATTACHREQ` environment setting parameter.

Whether the physical host is set in the execution agent profile does not matter. Even if the physical host is not defined in the execution agent profile, the queueless job can be executed on the physical host.

(h) @SYS_AGENTLIST_END

The setting on this line is the fixed value `@SYS_AGENTLIST_END`, which indicates the end of the specification of the execution entities permitted for definition or execution.

This item must be set.

(i) @SYS_RESTRICT_END

The setting on this line is the fixed value `@SYS_RESTRICT_END`, which indicates the end of the execution agent restriction settings.

This item must be set.

(3) Examples

The following are examples of specifying execution agent profiles.

(a) When setting an execution agent profile for all units in the scheduler service

Suppose that an execution agent will be permitted for all units in the scheduler service as described in the following table.

Table 21–3: Example 1

Target unit	Restriction check when a unit is defined	Restriction check at job execution	Permitted execution entity
All units in the scheduler service	Restriction checked	Restriction not checked	@SYSTEM and AGT01

Specify the execution agent profile as follows.

```
@SYS_RESTRICT_START
unit_path=/
View=on
JobExec=off
@SYS_AGENTLIST_START
@SYSTEM
AGT01
@SYS_AGENTLIST_END
@SYS_RESTRICT_END
```

(b) When setting an execution agent profile for multiple unit paths

Suppose that an execution agent will be permitted for multiple unit paths as described in the following table.

Table 21–4: Example 2

Target unit	Restriction check when a unit is defined	Restriction check at job execution	Permitted execution entity
All units in job group /Grp1	Restriction checked	Restriction not checked	AGT01 and AGT02
Jobnet /net1 and subordinate units	Restriction checked	Restriction checked	AGT03

Specify the execution agent profile as follows.

```
@SYS_RESTRICT_START
unit_path=/Grp1
View=on
JobExec=off
@SYS_AGENTLIST_START
AGT01
AGT02
@SYS_AGENTLIST_END
@SYS_RESTRICT_END

@SYS_RESTRICT_START
unit_path=/net1
View=on
ViewCheckLevel=warning
JobExec=on
@SYS_AGENTLIST_START
AGT03
```

```
@SYS_AGENTLIST_END
@SYS_RESTRICT_END
```

21.1.3 Setting up the upper-level unit-attribute inheritance function and execution-user fixing function

In a unit-attribute profile, set the upper-level unit-attribute inheritance function and execution-user fixing function. Create a file for each scheduler service, and set the functions for each unit.

For details about the upper-level unit-attribute inheritance function, see *6.4.1(4) Access permission for creating or copying a unit, or making a release entry* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For details about the execution-user fixing function, see *6.4.1(5) Job execution user* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

To set a unit-attribute profile:

1. Copy the model file to the environment-settings file storage folder.

The model file and the environment-settings file storage folder are as follows:

In Windows:

Model file:

JP1/AJS3-Manager-installation-folder\conf\ajspref_AJSROOT1_unit.conf.model

Environment-settings file storage folder

For a physical host:

JP1/AJS3-Manager-installation-folder\conf

For a logical host:

shared-folder\jplajs2\conf

In UNIX:

Model file:

/etc/opt/jplajs2/conf/ajspref_AJSROOT1_unit.conf.model

Environment-settings file storage directory

For a physical host:

/etc/opt/jplajs2/conf

For a logical host:

shared-directory/jplajs2/conf

2. Rename the copy of the file to the predetermined name.

Rename the file to:

```
ajspref_scheduler-service-name_unit.conf
```

3. Use a text editor to edit the file.

Specify the necessary settings in the unit-attribute profile.

In Windows, use a text editor such as Notepad for editing. In UNIX, use a text editor such as vi for editing.

For details about unit-attribute profiles, see *21.1.4 Details of unit-attribute profile*.

Cautionary note:

The following information is set in the model file:

- Full name of the unit to which the file is applied: `/example`
- Upper-level unit-attribute inheritance function: The owner and JP1 resource group are inherited from the upper-level unit.
- Execution-user fixing function: The owner of the unit for which the execution-user fixing function has been set is fixed as the execution user.

If this model file is applied as is when a unit named `/example` exists, the subordinate units operate as follows:

- Subordinate units defined for the `example` unit inherit the owner and JP1 resource group defined for the `/example` unit.
- Subordinate jobs of the `/example` unit are always executed by the owner set for the `/example` unit.

Before you apply the unit-attribute profile, edit it as needed to fit the operation.

4. Apply the unit-attribute profile settings.

Do the following to enable the unit-attribute profile settings:

- If the JP1/AJS3 service is not running:
Start the JP1/AJS3 service. The unit-attribute profile settings for all scheduler services configured on the relevant host are enabled.
- If the JP1/AJS3 is running but the scheduler service is not:
Do either of the following:
 - Start the scheduler service. The unit-attribute profile settings for the scheduler service you started are enabled.
 - Execute the following command:

```
ajsprofalter -F scheduler-service-name -t unit -m set
```


The unit-attribute profile settings for the scheduler service which are specified with the `-F` option enabled.
- If the JP1/AJS3 service and the scheduler service are both running:
Execute the following command:

```
ajsprofalter -F scheduler-service-name -t unit -m set
```


The unit-attribute profile settings for the scheduler service which are specified with the `-F` option enabled.

For details about the `ajsprofalter` command, see *ajsprofalter* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

21.1.4 Details of unit-attribute profile

In a unit-attribute profile, set the upper-level unit-attribute inheritance function and execution-user fixing function. Create a file for each scheduler service, and set the functions for each unit.

For details about the upper-level unit-attribute inheritance function, see *6.4.1(4) Access permission for creating or copying a unit, or making a release entry* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For details about the execution-user fixing function, see *6.4.1(5) Job execution user* in the *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

For details about how to create a unit-attribute profile, see *21.1.3 Setting up the upper-level unit-attribute inheritance function and execution-user fixing function*.

(1) Format

Create a unit-attribute profile for each scheduler service.

The following shows the format of a unit-attribute profile.

```
@SYS_PROFILE_START
unit_path=full-name-of-the-unit
InheritUnitAttr=upper-level-unit-attribute-inheritance-function-setting-method
FixedExecUser=execution-user-fixing-function-setting-method
@SYS_PROFILE_END
```

(2) Setting items

The following describes the items that need to be set. Use a linefeed character to separate items.

(a) @SYS_PROFILE_START

The setting on this line is the fixed value @SYS_PROFILE_START, which indicates the start of the unit-attribute profile settings.

The information enclosed by this line and the corresponding @SYS_PROFILE_END constitutes the settings for one unit. To specify information for multiple units, repeatedly specify the information for each enclosed by a @SYS_PROFILE_START and a @SYS_PROFILE_END. You can specify information for a maximum of 128 units.

This item must be set.

Cautionary note

If many units are set in the unit-attribute profile, the memory used by the unit-attribute profile might be insufficient. Use the UNITPROFMEMSIZE environment setting parameter to set the amount of memory that can be used by the unit-attribute profile. Use the following formula to estimate the required memory size.

Size of memory in kilobytes required for the unit-attribute profile = *total-number-of-units-set-in-the-unit-attribute-profile* x 2

For details about the UNITPROFMEMSIZE environment setting parameter, see [20.4.2\(99\) UNITPROFMEMSIZE](#).

(b) unit_path=full-name-of-the-unit

Use a character string of no more than 930 bytes to specify the full name of the unit for which you want to set the upper-level unit-attribute inheritance function and execution-user fixing function. unit_path= is fixed.

You can set any type of unit.

Set a forward slash (/) to enable the unit-attribute profile for all units in the specified scheduler service.

This item must be set.

Even if only this item is specified as shown below, a syntax error will not occur and the setting has the effect that the upper-level unit-attribute inheritance function and the execution-user fixing function are not used. Use the following specification when you want to temporarily suppress the functions.

```
@SYS_PROFILE_START
unit_path=/
@SYS_PROFILE_END
```

Because a line beginning with a hash mark (#) is treated as a comment line, the following specification also has the effect that the upper-level unit-attribute inheritance function and the execution-user fixing function are not used.

```
@SYS_PROFILE_START
unit_path=/
#InheritUnitAttr=all
#FixedExecUser=all
@SYS_PROFILE_END
```

(c) InheritUnitAttr=upper-level-unit-attribute-inheritance-function-setting-method

Set either of the following values as the method for setting the upper-level unit-attribute inheritance function.

- `entryuser`
The units in the job group or jobnet specified for `unit_path=full-name-of-the-unit` inherit the owner and JP1 resource group from the upper-level unit. However, for a unit created by copying a job for which **User who owns** is set for **Executed by**, the setting of the copy-source unit is retained instead of the setting of the upper unit being inherited.
- `all`
The units in the job group or jobnet specified for `unit_path=full-name-of-the-unit` inherit the owner and JP1 resource group from the upper-level unit. Even if a unit is created by copying a job for which **User who owns** is set for **Executed by**, the unit inherits the setting of the upper unit.

`InheritUnitAttr=` is fixed.

Specify this setting only if you want to use the upper-level unit-attribute inheritance function.

When you use the upper-level unit-attribute inheritance function, we recommend that you set the same value that is set for `FixedExecUser=execution-user-fixing-function-setting-method`.

(d) FixedExecUser=execution-user-fixing-function-setting-method

Set either of the following values as the method for setting the execution-user fixing function.

- `entryuser`
The owner of the unit for which the execution-user fixing function has been set is fixed as the user that executes the jobs in the unit specified for `unit_path=full-name-of-the-unit`. However, for those jobs for which **User who owns** is set for **Executed by**, the owner of each job is the execution user.
- `all`
The owner of the unit for which the execution-user fixing function has been set is fixed as the user that executes the jobs in the unit specified for `unit_path=full-name-of-the-unit`. This also holds true for jobs for which **User who owns** is set for **Executed by**.

`FixedExecUser=` is fixed.

Specify this setting only if you want to use the execution-user fixing function.

When you use the execution-user fixing function, we recommend that you set the same value that is set for `InheritUnitAttr=upper-level-unit-attribute-inheritance-function-setting-method`.

(e) @SYS_PROFILE_END

The setting on this line is the fixed value `@SYS_PROFILE_END`, which indicates the end of the unit-attribute profile settings.

This item must be set.

(3) Example

The following are examples of specifying unit-attribute profiles.

(a) When setting a unit-attribute profile for all units in a scheduler service

Suppose that you want to set a unit-attribute profile for all units in a scheduler service as described in the following table:

Table 21–5: Example 1

Target unit	Upper-level unit-attribute inheritance function	Execution-user fixing function
All units in the scheduler service	Used (setting: all)	Used (setting: all)

Write the unit-attribute profile as follows.

```
@SYS_PROFILE_START
unit_path=/
InheritUnitAttr=all
FixedExecUser=all
@SYS_PROFILE_END
```

(b) When setting a unit-attribute profile for multiple unit paths

Suppose that you want to set a unit-attribute profile for multiple paths as described in the following table:

Table 21–6: Example 2

Target unit	Upper-level unit-attribute inheritance function	Execution-user fixing function
Units in job group /Grp1	Used (setting: entryuser)	Used (setting: entryuser)
Units in jobnet /net1	Used (setting: all)	Not used

Write the unit-attribute profile as follows.

```
@SYS_PROFILE_START
unit_path=/Grp1
InheritUnitAttr=entryuser
FixedExecUser=entryuser
@SYS_PROFILE_END

@SYS_PROFILE_START
unit_path=/net1
InheritUnitAttr=all
@SYS_PROFILE_END
```

21.1.5 Cautionary notes on operation profiles

The following are cautionary notes on operation profiles.

- You must set the view permission for the following user or account in advance to prevent unintended users from editing or deleting the operation profiles.

In Windows:

An account that starts the JP1/AJS3 service

The default is SYSTEM.

In UNIX:

Root user

- Use the character set that is used in JP1/AJS3.
- The maximum size of an operation profile is 10 megabytes.
- If the same unit path is specified multiple times, the path that is specified first takes effect.
- The following lines are ignored:
 - 0-byte line
 - A line that contains only spaces or tab characters
 - A line beginning with a hash mark (#) (the line is treated as a comment line)
If the second character of a line that begins with a space or tab character is #, the line is treated as a comment line.
- The maximum length of a line in an operation profile is as follows:
A line containing a linefeed character (LF: 0x0a or CR: 0x0d)
2,047 bytes, not including linefeed characters
A line without a linefeed character (LF: 0x0a or CR: 0x0d)
2,048 bytes
An operation profile that contains a line longer than the maximum has no effect (syntax error).
- If there is a space or tab character at the beginning or end of the line, the value without the space or tab character is used.
- When you use the `jaajs_setup` command to rename a scheduler service for which an operation profile is enabled, you also need to change the scheduler service name in the operation profile name.
If you start the renamed scheduler service without making the change, the operation profile does not take effect because the applicable operation profile no longer exists.
- When you use the `jaajs_setup` command to delete a scheduler service for which an operation profile is enabled, you also need to move or delete the operation profile that corresponds to the scheduler service from the environment settings file storage folder.
If you do not make either change and you add a new scheduler service that has the same name as the deleted scheduler service, the remaining operation profile takes effect with the result that unintended operations might occur.
- When you execute the `jaajs_setup_cluster` command, operation profiles on physical hosts are copied to the logical host. Delete the copied operation profiles as required.

21.2 Restricting connections to JP1/AJS3

This section describes the setting procedure for restricting connections to JP1/AJS3.

For details about how to restrict connections to JP1/AJS3, see *2.3.9 Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The setting for restricting connections to JP1/AJS3 is disabled by default. The procedure for enabling the setting is described below. For details about how to enable the setting, see *7.11.1 Enabling and disabling restricting connection sources* in the *JP1/Automatic Job Management System 3 Administration Guide*.

21.2.1 Setting the procedure for restricting connections to JP1/AJS3

The following describes the setting procedure for restricting connection to JP1/AJS3.

(1) Setting the procedure

1. Copy the model file of the connection permission configuration file to the environment settings file storage folder.
For details about the model file and the environment settings file storage folder, see *(3) The connection permission configuration file*.
2. Change the name of the copied file to the specified name.
For details about the file names, see *(3) The connection permission configuration file*.
3. Use a text editor to edit the file.
In Windows, use a text editor such as Notepad for editing. In UNIX, use a text editor such as vi for editing.
Set the IP address of the hosts that you want to permit to connect in the connection permission configuration file.
For details about how to set the connection permission configuration file, see *21.2.2 How to set the connection permission configuration file*.
4. Change the access permission of the connection permission configuration file.
The access permission of the model file is inherited as the permission of the storage folder. You need to change the access permission of the file so that general users will not be able to access or edit the file.
5. Stop the following service:

In Windows:

In Windows Control Panel, open the Services administrative tool, and stop the following service:

- JP1/AJS3 service
- JP1/AJS3 Queueless Agent service^{#1}
- JP1/AJS3 System Control Manager service^{#2}
- JP1/AJS3 System Control Agent service^{#2}

In UNIX:

Execute the following commands to stop the JP1/AJS3 service, and then make sure that all processes are stopped:

```
# /opt/jp1ajs2/bin/jajs_spmd_stop
# /opt/jp1ajs2/bin/jajs_spmd_status
# /opt/jp1ajs2/bin/ajsqstop#1
```

```
# /opt/jp1ajs2/bin/ajsqlstatus#1
# /opt/jp1ajs2/bin/ajssysctlstop#2
# /opt/jp1ajs2/bin/ajssysctlstatus#2
```

#1:

This operation needs to be executed only if queueless jobs are used.

On the logical host, detach the logical host from the queueless agent service by using an `ajsqldetach` command or another method, without stopping the Service.

#2:

You only need to execute these commands when using the Web GUI (Management Portal).

6. Execute the following command to set the environment setting parameters described in (2) below:

```
jajs_config -k definition-key "parameter-name"=value
```

7. Restart the services that you stopped in step 5.

The new settings are applied.

If you detached the logical host from the queueless agent service in step 5, execute the `ajsqlattach` command to attach the logical host.

(2) Environment setting parameter

Table 21–7: Environment setting parameter for setting whether restricting access to JP1/AJS3 is to be enabled or disabled

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJS2COMMON]#	"CONNECTIONRESTRICTION"=	Setting for whether restricting connection is to be enabled or disabled

#:

The specification of the {JP1_DEFAULT|logical-host} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.11.2\(5\) CONNECTIONRESTRICTION](#).

Note that messages related to restricting connections are not output to the log by default. To output these messages to the log, you need to set the following environment setting parameters.

Table 21–8: Environment setting parameter for outputting messages related to restricting connections to JP1/AJS3 to the log

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1AJSMANAGER]#	"CONRESTRICTLOG"=	Setting for whether connection restriction log data is to be output to the scheduler log
	"CONRESTRICTSYSLOG"=	In Windows: Setting for whether connection restriction log data is to be output to the Windows event log In UNIX: Setting for whether connection restriction log data is to be output to the syslog

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AJS2\CONTROL\MANAGER]	"CONRESTRICTSYSLOG"=	<p>In Windows:</p> <p>Sets whether messages related to connection-source restriction of the management portal execution environment are output to the Windows event log.</p> <p>In UNIX:</p> <p>Sets whether messages related to connection-source restriction of the management portal execution environment are output to the syslog.</p>

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(23\) CONRESTRICTLOG](#)
- [20.4.2\(24\) CONRESTRICTSYSLOG](#)
- [20.15.2\(3\) CONRESTRICTSYSLOG](#)

(3) The connection permission configuration file

The following describes folders and files related to the connection permission configuration file.

(a) The environment settings file storage folder

Store the connection permission configuration file in the following environment settings file storage folder:

In Windows:

For a physical host:

- JP1/AJS3 - Manager
JP1/AJS3 - Manager-installation-folder\conf
- JP1/AJS3 - Agent
JP1/AJS3 - Agent-installation-folder\conf

For a logical host:

shared-folder\jplajs2\conf

In UNIX:

For a physical host:

/etc/opt/jplajs2/conf/

For a logical host:

shared-directory/jplajs2/conf/

(b) Name of the connection permission configuration file

Specify the name of the connection permission configuration file as follows:

Manager connection permission configuration file

`permitted_host_manager.conf`

Agent connection permission configuration file

`permitted_host_agent.conf`

(c) The model file of the connection permission configuration file

The following table lists the model file of the connection permission configuration file.

Table 21–9: The model file of the connection permission configuration file

Installed product	The model file of the manager connection permission configuration file	The model file of the agent connection permission configuration file
JP1/AJS3 - Manager	In Windows: <i>JP1/AJS3 - Manager-installation-folder</i> \conf\permitted_host_manager.conf.model In UNIX: <code>/etc/opt/jplajs2/conf/permitted_host_manager.conf.model</code>	In Windows: <i>JP1/AJS3 - Manager-installation-folder</i> \conf\permitted_host_agent.conf.model In UNIX: <code>/etc/opt/jplajs2/conf/permitted_host_agent.conf.model</code>
JP1/AJS3 - Agent	--	In Windows: <i>JP1/AJS3 - Agent-installation-folder</i> \conf\permitted_host_agent.conf.model In UNIX: <code>/etc/opt/jplajs2/conf/permitted_host_agent.conf.model</code>

Legend:

-- : Not applicable

21.2.2 How to set the connection permission configuration file

Set the IP address of the hosts that you want to permit to connect to JP1/AJS3 in the connection permission configuration file.

(1) Settings for restricting connections to JP1/AJS3 - Manager

To restrict connections to JP1/AJS3 - Manager, specify the following IP addresses in the manager connection permission configuration file or the agent connection permission configuration file:

- IP address of a host that you want to permit to connect
- IP address of the local host

Cautionary note:

JP1/AJS3 - Manager internally performs TCP/IP communication. Accordingly, you need to specify all IP addresses that can be used as connection-source IP addresses, such as the loopback address or the IP address of the logical host, as the IP addresses of the local host.

Make sure that you specify the IP address of the local host in the manager connection permission configuration file and the agent connection permission configuration file. If you do not do so, the JP1/AJS3 service will not be able to start. Also,

if you do not specify the IP address of the local host in the agent connection permission configuration file, the passing information setting job cannot be executed.

The file that needs to be set differs according to whether restricting connections to JP1/AJS3 - Manager is enabled. The value that is specified for the CONNECTIONRESTRICTION environment setting parameter also differs according to the setting for restricting connection sources. Which file must be set and the value that must be specified for the CONNECTIONRESTRICTION environment setting parameter for each type of restricted connection to JP1/AJS3 - Manager is described below.

If connections to manager hosts are restricted and connections to agent hosts are not restricted:

File that needs to be set

Manager connection permission configuration file

Value to be specified for the CONNECTIONRESTRICTION environment setting parameter
manager

If restricting connections to manager hosts is not enabled and restricting connections to agent hosts is enabled:

File that needs to be set

Agent connection permission configuration file

Value to be specified for the CONNECTIONRESTRICTION environment setting parameter
agent

If restricting connections to both manager hosts and agent hosts:

Files that needs to be set

- Manager connection permission configuration file
- Agent connection permission configuration file

Value to be specified for the CONNECTIONRESTRICTION environment setting parameter
all

(2) Settings for restricting connections to JP1/AJS3 - Agent

To restrict connections to JP1/AJS3 - Agent, specify the IP address of the manager host that you want to allow to connect in the agent connection permission configuration file.

Unlike in JP1/AJS3 - Manager, in JP1/AJS3 - Agent, you do not need to specify the IP address of the local host.

(3) Coding rules for the connection permission configuration file

Specify the IP address that you want to permit to connect in the connection permission configuration file as follows:

- Specify one IP address and one linefeed character per line.
- Specify all the IP addresses of all hosts that can be used as connection sources.
- IP addresses can be either IPv4 addresses or IPv6 addresses.

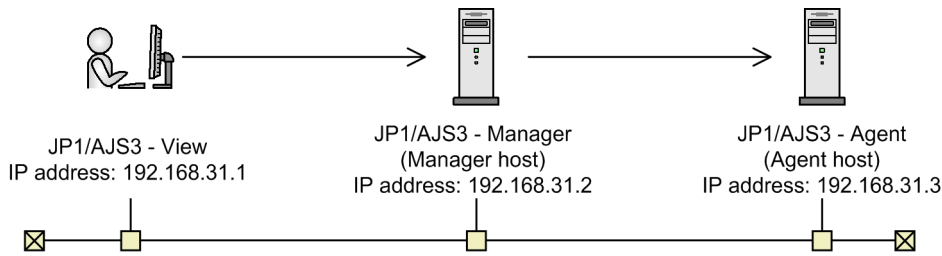
For details about IPv6 addresses, see *2.3.5 Communication using IPv6 addresses* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about how to specify IPv6 addresses, see *1.1.5 Specifying an IPv6 address* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(4) An example of coding

Suppose that you enable restricting connection sources in the following environment.

Figure 21–1: An example of setting restricting connection sources



Code the manager connection permission configuration file on the manager host as below. Note that the information following # is treated as a comment.

```
127.0.0.1      #Communication permission from the local host (loopback address)
192.168.31.2  #Communication permission from the local host
192.168.31.1
```

Code the agent connection permission configuration file on the agent host as follows:

```
192.168.31.2
```

(5) Notes on the connection permission configuration file

- The following is the maximum number of specifiable IP addresses for each file:
Manager connection permission configuration file: 512
Agent connection permission configuration file: 64
- The maximum length of a line in the connection permission configuration file is 1,022 bytes.
Any lines that exceed the maximum length are treated as a syntax errors when the JP1/AJS3 service starts, the JP1/AJS3 Queueless Agent service starts^{#1}, the JP1/AJS3 System Control Manager service starts^{#2}, the JP1/AJS3 System Control Agent service starts^{#1}, or the `jajs_pmtcon` command is executed with the `-u` option specified.
#1
Applies only to the agent connection permission configuration file.
#2
Applies only to the manager connection permission configuration file.
- The following lines are ignored:
 - 0-byte line
 - A line that contains only spaces or tab characters
 - A line beginning with a hash mark (#) (the line is treated as a comment line)
If a # mark occurs midway in a line, the # and what follows the mark is treated as a comment.
- If space characters or tab characters occur at either the beginning or the end of a line, the value without these characters is used.
- If no correct IP addresses have been specified, all connections are refused.

- If the format of the specified IP address is incorrect, a message (KAVS8036-E) is output and the specified value is ignored.
- If there is a syntax error on a line in the connection permission configuration file, a message (KAVS8036-E) is output to the integrated trace log and the JP1/AJS3 service starts.

In this case, the line with the syntax error is ignored and the settings of only the correct lines are subject to restriction. If all the lines have a syntax error, connections from all hosts are refused.

21.3 Setup to execute flexible jobs

This section describes the setup procedure to enable execution of flexible jobs.

21.3.1 Setup procedure to distribute a job by using a load balancer

This subsection describes the setup procedure to distribute a job in a cloud environment that uses a relay agent and a load balancer.

(1) Setting up JP1/AJS3 - Manager

This subsection describes how to set up JP1/AJS3 - Manager.

1. Install and set up JP1/AJS3 - Manager and JP1/Base.
2. On the manager host, start the following service:
 - JP1/AJS3 service
3. Set up a relay agent, and then execute the `ajsagtadd` command on the manager host to register the relay agent as an execution agent.

For details about how to set up a relay agent, see [\(2\) Setting up a relay agent](#).

For details about the `ajsagtadd` command, see `ajsagtadd` in [3. Commands Used for Normal Operations](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(2) Setting up a relay agent

This subsection describes how to set up a relay agent.

1. Install and set up JP1/AJS3 - Agent and JP1/Base.
2. Execute the `ajsatsetup` command with the `-m` option specified.

The host is set up as a relay agent. At the same time, the JP1/AJS3 Autonomous Agent Messenger service is set up completely. For details about the `ajsatsetup` command, see `ajsatsetup` in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.
3. In the relay agent, specify settings to enable the communication using port number `22251/tcp(jp1ajs2atmsg)` to pass through the firewall.

For details about the setting of port numbers, see [2.3.4 Communications in firewall environments](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

4. On the relay agent, start the following services:
 - JP1/AJS3 service
 - JP1/AJS3 Autonomous Agent Messenger service

(3) Setting up the cloud environment

This subsection describes how to set up the cloud environment.

1. Create an instance for the destination agent in the cloud environment.

2. Install and set up JP1/AJS3 - Agent and JP1/Base in the created instance.

3. Execute the `ajsatsetup` command with the `-a` option specified.

The host is set up as a destination agent. At the same time, the JP1/AJS3 Autonomous Agent and JP1/AJS3 Autonomous Agent Messenger services are set up completely. For details about the `ajsatsetup` command, see *ajsatsetup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Specify the following settings for the instance:

- Set up user mapping in JP1/Base.

When you use a relay agent, enter the host name of the relay agent or an asterisk (*) for **Server host**.

- In Linux, set automatic startup of the JP1/AJS3 Autonomous Agent and JP1/AJS3 Autonomous Agent Messenger services.

For details about how to set automatic startup, see *15.10.1(5) Setting automatic startup and termination of the JP1/AJS3 Autonomous Agent service or the JP1/AJS3 Autonomous Agent Messenger service*.

In Windows, this setting is not necessary because the JP1/AJS3 Autonomous Agent and JP1/AJS3 Autonomous Agent Messenger services always start automatically.

- If necessary, disable automatic startup of JP1/Base and JP1/AJS3 services.

The JP1/Base and JP1/AJS3 services do not need to start on the destination agent. When you want to avoid starting unnecessary services, disable their automatic startup.

- Enable the host name of the relay agent to be resolved.

When you do not use the relay agent, enable the host name of the manager host to be resolved. Note that you cannot use `jp1hosts` and `jp1hosts2` for host name resolution.

- Specify settings to enable the communication using the port with port number `22251/tcp (jp1ajs2atmsg)` to pass through the firewall.

For details about the setting of port numbers, see *2.3.4 Communications in firewall environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

- Deploy the program (user program) to be executed.

- You might need to enable the host name of the destination agent to which the load balancer transferred a flexible-job execution request to be checked in the log file output from the source of the flexible-job execution request. To enable this, specify appropriate settings so that individual instances to be added by auto scaling as needed will have unique host names.

5. Specify the following settings for the cloud environment:

- Set up auto scaling.

- Set up security appropriately so that only the communications originating from the relay agent will be permitted.

- Specify settings appropriately so that the load balancer will deliver the communication using the port with port number `22251/tcp (jp1ajs2atmsg)` to the instance that is added by auto scaling. For details, see the documentation of the cloud environment you are using.

For details about the setting of port numbers, see *2.3.4 Communications in firewall environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

21.3.2 Setup procedure to execute a job by broadcast execution

This subsection describes the setup procedure to execute a job by broadcast execution in a cloud environment that uses a relay agent and a broadcast agent.

(1) Setting up JP1/AJS3 - Manager

This subsection describes how to set up JP1/AJS3 - Manager.

1. Install and set up JP1/AJS3 - Manager and JP1/Base.
2. On the manager host, start the following service:
 - JP1/AJS3 service
3. Set up a relay agent, and then execute the `ajsagtadd` command on the manager host to register the relay agent as an execution agent.
For details about how to set up a relay agent, see (2) *Setting up a relay agent*.
For details about the `ajsagtadd` command, see *ajsagtadd* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(2) Setting up a relay agent

This subsection describes how to set up a relay agent.

1. Install and set up JP1/AJS3 - Agent and JP1/Base.
2. Execute the `ajsatsetup` command with the `-m` option specified.
The host is set up as a relay agent. At the same time, the JP1/AJS3 Autonomous Agent Messenger service is set up completely. For details about the `ajsatsetup` command, see *ajsatsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.
3. In the relay agent, specify settings to enable the communication using port number 22251/tcp (jplajs2atmsg) to pass through the firewall.
For details about the setting of port numbers, see 2.3.4 *Communications in firewall environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
4. On the relay agent, start the following services:
 - JP1/AJS3 service
 - JP1/AJS3 Autonomous Agent Messenger service

(3) Setting up the cloud environment

This subsection describes how to set up the cloud environment.

(a) Setting up a broadcast agent

Create an instance for the broadcast agent in the cloud environment.

1. Create an instance for the broadcast agent in the cloud environment.
2. Install and set up JP1/AJS3 - Agent and JP1/Base in the created instance.
3. Execute the `ajsatsetup` command with the `-g` option specified.
The host is set up as a relay agent. At the same time, the JP1/AJS3 Autonomous Agent and JP1/AJS3 Autonomous Agent Messenger services are set up completely. For details about the `ajsatsetup` command, see *ajsatsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Specify the following settings for the instance:

- Enable the host name of the relay agent to be resolved.

When you do not use the relay agent, enable the host name of the manager host to be resolved. Note that you cannot use `jp1hosts` and `jp1hosts2` for host name resolution.

- Specify settings to enable connections via ports with port numbers 22251/tcp (`jp1ajs2atmsg`) and 22251/udp (`jp1ajs2atmsg`) to pass through the firewall.

For details about the setting of port numbers, see *2.3.4 Communications in firewall environments* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

5. Start the following services:

- JP1/AJS3 Autonomous Agent service
- JP1/AJS3 Autonomous Agent Messenger service

6. Specify the following settings for the cloud environment:

- Set up security appropriately so that only the communications originating from the relay agent will be permitted. If you do not use a relay agent, set up security so that only communications originating from the manager host are permitted.
- Set a static IP address.
- Disable auto-scaling.

(b) Setting up a destination agent

Create an instance for the destination agent in the cloud environment.

1. Create an instance for the destination agent in the cloud environment.
2. Install and set up JP1/AJS3 - Agent and JP1/Base in the created instance.
3. Execute the `ajsatsetup` command with the `-a -p` option specified.

For the `-p` option, specify the host name or IP address of a broadcast agent.

The host is set up as a broadcast-execution destination agent. At the same time, the JP1/AJS3 Autonomous Agent and JP1/AJS3 Autonomous Agent Messenger services are set up completely. For details about the `ajsatsetup` command, see *ajsatsetup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Specify the following settings for the instance:

- Set up user mapping in JP1/Base.
When you use a broadcast agent, enter the host name of the broadcast agent or an asterisk (*) for **Server host**.
- In Linux, set automatic startup of the JP1/AJS3 Autonomous Agent and JP1/AJS3 Autonomous Agent Messenger services.

For details about how to set automatic startup, see *15.10.1(5) Setting automatic startup and termination of the JP1/AJS3 Autonomous Agent service or the JP1/AJS3 Autonomous Agent Messenger service*.

In Windows, this setting is not necessary because the JP1/AJS3 Autonomous Agent and JP1/AJS3 Autonomous Agent Messenger services always start automatically.

- If necessary, disable automatic startup of JP1/Base and JP1/AJS3 services.
The JP1/Base and JP1/AJS3 services do not need to start on the destination agent. When you want to avoid starting unnecessary services, disable their automatic startup.
- Enable the host name of the broadcast agent to be resolved.

- Specify settings to enable connections via ports with port numbers 22251/tcp (jp1ajs2atmsg) and 22251/udp (jp1ajs2atmsg) to pass through the firewall. For details about the setting of port numbers, see *2.3.4 Communications in firewall environments in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
- Deploy the program (user program) to be executed.

5. Start the following services:

- JP1/AJS3 Autonomous Agent service
- JP1/AJS3 Autonomous Agent Messenger service

6. Specify the following setting for the cloud environment:

- Set up auto scaling.
- Configure the broadcast agent and destination agent so that communication for port numbers 22251/tcp (jp1ajs2atmsg) and 22251/udp (jp1ajs2atmsg) is possible.

For details about the setting of port numbers, see *2.3.4 Communications in firewall environments in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

21.4 Setting up the communication using SSL

This section describes how to set up the SSL encryption of the communication between JP1/AJS3 components.

The procedure for setting up the communication using SSL varies by the JP1/AJS3 system configuration. Before setting up SSL communication, you must understand the intended system and component configurations of JP1/AJS3.

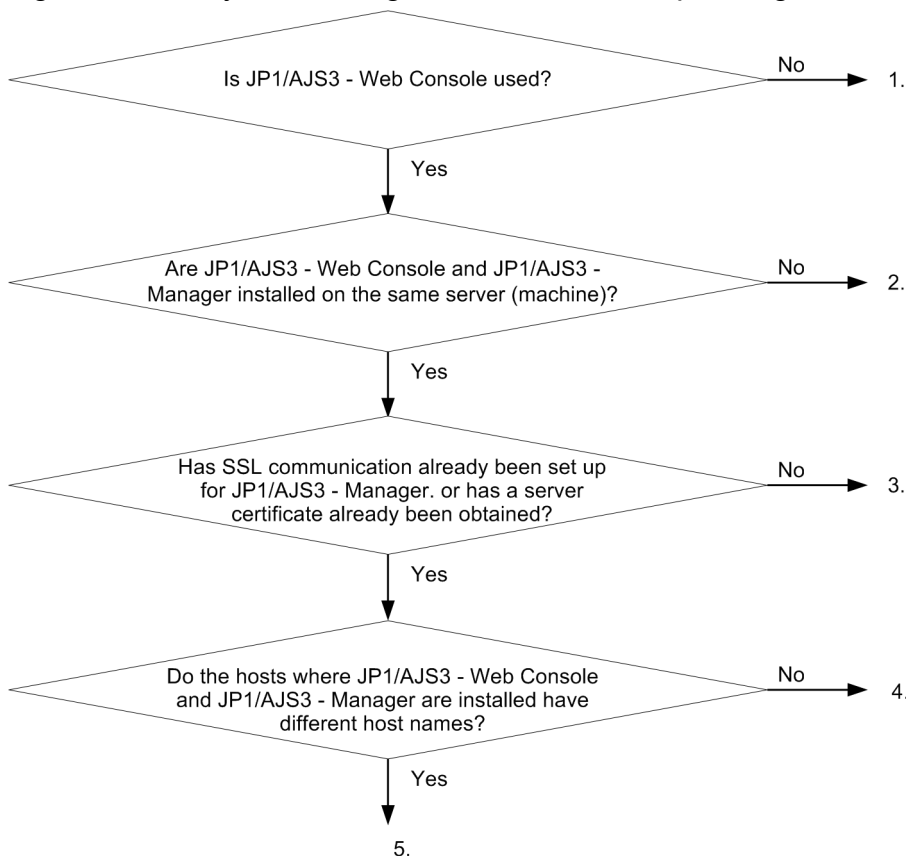
21.4.1 JP1/AJS3 system configuration and SSL communication setup procedure

To use SSL communication in a JP1/AJS3 system, server hosts require server certificates, and client hosts require root certificates. Therefore, the procedure for setting up SSL communication varies depending on the JP1/AJS3 system configuration.

For details about server and root certificates, see *2.3.6 Encryption of JP1/AJS3 communications with SSL* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Referring to the figure and table below, set up SSL communication by using a procedure appropriate for the configuration of your JP1/AJS3 system. Note that the numbers shown in the figure correspond to the item numbers in the table.

Figure 21–2: System configurations and corresponding SSL communication setup procedures



No.	Description	Reference
1	This system configuration excludes the Web Console server. The system consists of JP1/AJS3 - Manager, JP1/AJS3 - Agent, and JP1/AJS3 - View.	<i>21.4.2 SSL communication setup procedure (in a manager/agent configuration)</i>

No.	Description	Reference
2	This system configuration has a Web Console server and a manager host as different hosts. Separate server certificates are obtained for these hosts.	<i>21.4.3 SSL communication setup procedure (when different server certificates are used for manager host and Web Console server)</i>
3	This system configuration has a Web Console server and a manager host as the same hosts. This configuration is applied in cases, such as performing a new installation of JP1/AJS3, in which SSL communication is not set up for the whole system. A server certificate is obtained for the Web Console server, and the same server certificate is also set on the manager host.	<i>21.4.4 SSL communication setup procedure (when the server certificate for Web Console server is used for manager host)</i>
4	This system configuration has a Web Console server and a manager host as the same hosts. This configuration is applied in cases, such as performing a new installation of Web Console server in an existing JP1/AJS3 system, in which the server certificate for the manager host has already been obtained. The server certificate obtained for the manager host is copied, and the copy is used for the Web Console server.	<i>21.4.5 SSL communication setup procedure (when the server certificate for manager host is used for Web Console server)</i>
5	This system configuration has a Web Console server and a manager host that are installed on a single server (machine) but given different host names. This configuration is applied when logical hosts are used or in other cases. Separate server certificates must be obtained for the manager host and Web Console server.	<i>21.4.3 SSL communication setup procedure (when different server certificates are used for manager host and Web Console server)</i>

Supplementary note:

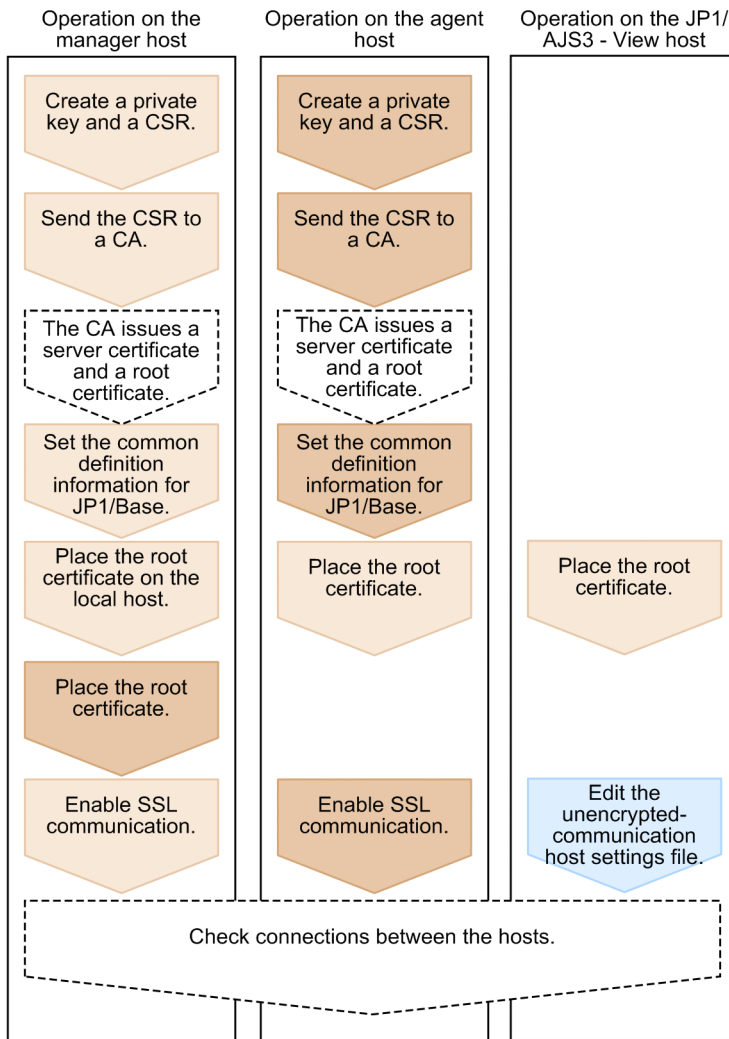
Every certificate has an expiration date. Manage the certificates by using an appropriate method, and renew them before they expire.

21.4.2 SSL communication setup procedure (in a manager/agent configuration)

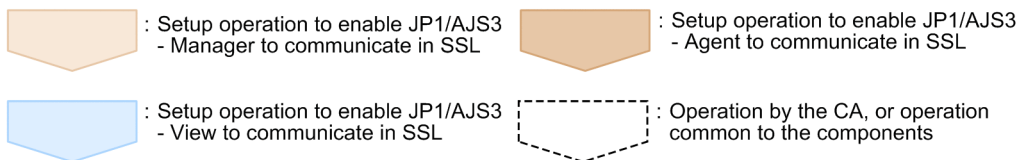
This subsection describes the SSL communication setup procedure to be performed when a manager/agent configuration is used.

The following figure shows an overview of setup operations on individual hosts.

Figure 21–3: Overview of how to set up SSL communication in a manager/agent configuration



Legend:



The setup operation on a host involves not only the setup of the JP1/AJS3 components installed in the host but also the setup of communication-destination components.

Perform this operation on all the hosts constituting the JP1/AJS3 system. When, however, the value of the `AJS3SSL` environment setting parameter is `INETD`, do not specify settings to enable JP1/AJS3 - Agent to communicate in SSL but specify settings to enable JP1/AJS3 - View and JP1/AJS3 - Manager to communicate in SSL. If the setup of SSL communication is performed for the wrong component, an error will occur in the communication between hosts.

(1) Setup to enable JP1/AJS3 - Manager to communicate in SSL

The following describes the setup operation to enable JP1/AJS3 - Manager to communicate in SSL:

1. Create a private key and CSR by using JP1/Base.

For details about how to create a private key and a CSR, see the *JP1/Base User's Guide*.

2. Send the CSR to a CA.

When the CA receives the sent CSR, the CA issues a server certificate and a root certificate to verify the server certificate.

3. Obtain the server certificate and root certificate from the CA.

4. If a server certificate issued by an intermediate CA excludes an intermediate certificate, obtain an intermediate certificate from the intermediate CA, and put the server certificate and intermediate certificate together into a file.

If the server certificate excludes the intermediate certificate, validity of the server certificate cannot be verified. Obtain the intermediate certificate to verify that the server certificate is valid.

After obtaining the intermediate certificate, open the server certificate and intermediate certificate by using a text editor, copy the content of the intermediate certificate, and paste the copy at the end of the server certificate.

If multiple intermediate certificates exist, integrate all certificates according to their hierarchical structure into a file.

5. Stop the JP1/AJS3 and JP1/Base services.

6. Place the private key and server certificate in a folder, and specify the path to the folder in the common definition information `CERTIFICATEFILE` of JP1/Base.

For details about the common definition information `CERTIFICATEFILE` of JP1/Base, see the *JP1/Base User's Guide*.

7. Deploy a PEM-format root certificate to communication-destination hosts.

To verify the server certificate for the manager host at the communication destination (client), deploy, to communication-destination hosts, the root certificate for the CA that issued the server certificate for the manager host.

The following lists the hosts to which to deploy the root certificate:

- Working manager host (local host)
- All manager hosts for which communication is to be established
- All agent hosts for which communication is to be established (when the value of the `AJS3SSL` environment parameter is `ALL`)
- All JP1/AJS3 - View hosts for which communication is to be established

The following table describes the paths to the storage folders.

Table 21–10: Storage folders for root certificate

No.	Host type	Path to storage folder (in Windows)	Path to storage folder (in Linux)
1	Manager host	Root certificates are stored in a folder of JP1/Base. For details, see the <i>JP1/Base User's Guide</i> .	
2	Agent host		
3	JP1/AJS3 - View host	<i>JP1/AJS3 - View-installation-folder</i> \conf\ssl\rootcer	Not applicable

When a root certificate has already been deployed to a communication-destination host, check whether the CA that issued the deployed root certificate is the same as the CA from which the server certificate was obtained as described in step 3.

When the CA is the same:

You can use the root certificate deployed already. You do not need to overwrite the root certificate.

When the CA is different:

Bind the already deployed root certificate and the obtained root certificate together in a file. Then, bind the certificates in a way that allows individual root certificates to be associated with the corresponding parts of the

bound root certificate. This is to enable any expiring part of the bound root certificate to be replaced appropriately. Because root certificates are Base64-encoded, in the file of bound root certificates, you cannot see which parts of the file correspond to individual root certificates.

For details, see the *JP1/Base User's Guide*.

8. Check that the root certificates for the agent hosts are placed on the manager hosts.

Perform deployment of the root certificates for the agent hosts as part of the setup operation to enable JP1/AJS3 - Agent to communicate in SSL. Check the operation to set up JP1/AJS3 - Agent.

9. Enable SSL communication.

For details about how to enable SSL communication, see the description of the communication encryption function in the *JP1/Base User's Guide*.

(2) Setup to enable JP1/AJS3 - Agent to communicate in SSL

The following describes the setup operation to enable JP1/AJS3 - Agent to communicate in SSL:

1. Create a private key and CSR by using JP1/Base.

For details about how to create a private key and a CSR, see the *JP1/Base User's Guide*.

2. Send the CSR to a CA.

When the CA receives the sent CSR, the CA issues a server certificate and a root certificate to verify the server certificate.

3. Obtain the server certificate and root certificate from the CA.

4. If a server certificate issued by an intermediate CA excludes an intermediate certificate, obtain an intermediate certificate from the intermediate CA, and put the server certificate and intermediate certificate together into a file.

If the server certificate excludes the intermediate certificate, validity of the server certificate cannot be verified. Obtain the intermediate certificate to verify that the server certificate is valid.

After obtaining the intermediate certificate, open the server certificate and intermediate certificate by using a text editor, copy the content of the intermediate certificate, and paste the copy at the end of the server certificate.

If multiple intermediate certificates exist, integrate all certificates according to their hierarchical structure into a file.

5. Stop the JP1/AJS3 and JP1/Base services.

6. Place the private key and server certificate in a folder, and specify the path to the folder in the common definition information `CERTIFICATEFILE` of JP1/Base.

For details about the common definition information `CERTIFICATEFILE` of JP1/Base, see the *JP1/Base User's Guide*.

7. Deploy a PEM-format root certificate to all the manager hosts for which communication is to be established.

To verify the server certificate for the agent host at the communication destinations (manager hosts) deploy the root certificate for the CA that issued the server certificate for the agent host to communication-destination hosts. For details about the path to the certificate storage folder, see the *JP1/Base User's Guide*.

When a root certificate has already been deployed to a communication-destination manager host, check whether the CA that issued the deployed root certificate is the same as the CA from which the server certificate was obtained as described in step 3.

When the CA is the same:

You can use the root certificate deployed already. You do not need to overwrite the root certificate.

When the CA is different:

Bind the already deployed root certificate and the obtained root certificate together in a file. Then, bind the certificates in a way that allows individual root certificates to be associated with the corresponding parts of the bound root certificate. This is to enable any expiring part of the bound root certificate to be replaced appropriately. Because root certificates are Base64-encoded, in the file of bound root certificates, you cannot see which parts of the file correspond to individual root certificates.

For details, see the *JP1/Base User's Guide*.

8. Check that the root certificates for the manager hosts are placed on the agent hosts.

Perform deployment of the root certificates for the manager hosts as part of the setup operation to enable JP1/AJS3 - Manager to communicate in SSL. Check the operation to set up JP1/AJS3 - Manager.

9. Enable SSL communication.

For details about how to enable SSL communication, see the description of the communication encryption function in the *JP1/Base User's Guide*.

(3) Setup to enable JP1/AJS3 - View to communicate in SSL

The following describes the setup operation to enable JP1/AJS3 - View to communicate in SSL:

1. If you have logged in from JP1/AJS3 - View to JP1/AJS3 - Manager, log out of JP1/AJS3 - Manager.

2. Open the unencrypted-communication host settings file (`nosslhost.conf`) by using a text editor.

The unencrypted-communication host settings file (`nosslhost.conf`) of JP1/AJS3 - View defines the manager hosts that do not encrypt messages in the communication with JP1/AJS3 - View.

For details about the `nosslhost.conf` file, see [21.4.6 Details on the settings in the unencrypted-communication host settings file \(nosslhost.conf\)](#).

3. In the `nosslhost.conf` file, define the manager host that does not perform SSL communication with JP1/AJS3 - View.

By default, the `nosslhost.conf` file specifies an asterisk (*) for all manager hosts so that the communication with any manager host will not be encrypted. Edit the file as shown below so that only the manager hosts not communicating in SSL are specified while the manager hosts communicating in SSL are excluded.

```
[NO_SSL_HOST]
host-name-or-IP-address-of-a-manager-host-that-does-not-communicate-in-SSL
host-name-or-IP-address-of-a-manager-host-that-does-not-communicate-in-SSL
...
host-name-or-IP-address-of-a-manager-host-that-does-not-communicate-in-SSL
```

When communications with all manager hosts are to be encrypted, write only `[NO_SSL_HOST]`.

4. Save and close the `nosslhost.conf` file.

5. Check that the root certificates for the manager hosts are placed on the View hosts.

Perform deployment of the root certificates for the manager hosts as part of the setup operation to enable JP1/AJS3 - Manager to communicate in SSL. Check the operation to set up JP1/AJS3 - Manager.

(4) Checking the connection of SSL communication

The following describes the procedure for checking that the communication between components is encrypted:

(a) Checking the connection of SSL communication between the manager host and JP1/AJS3 - View host

1. From JP1/AJS3 - View, log in to JP1/AJS3 - Manager.
2. Check the integrated trace log of the manager host to determine that the KNAD3995-I and KAVS0532-I messages have been output.
The KNAD3995-I message indicates that SSL communication is enabled.
The KAVS0532-I message indicates that the user has normally logged in to JP1/AJS3 - Manager by using JP1/AJS3 - View.

(b) Checking the connection of SSL communication between the manager host and agent host

1. From JP1/AJS3 - View, log in to JP1/AJS3 - Manager.
2. Create a jobnet by using JP1/AJS3 - View, define PC or Unix jobs under the jobnet, and specify the agent host to be connected by SSL communication in the **Exec-agent** field.
3. Register the defined jobnet for immediate execution.
4. Check that the jobnet ends normally.
When the jobnet ends normally, the SSL communication between the manager and agent hosts is operating normally.

21.4.3 SSL communication setup procedure (when different server certificates are used for manager host and Web Console server)

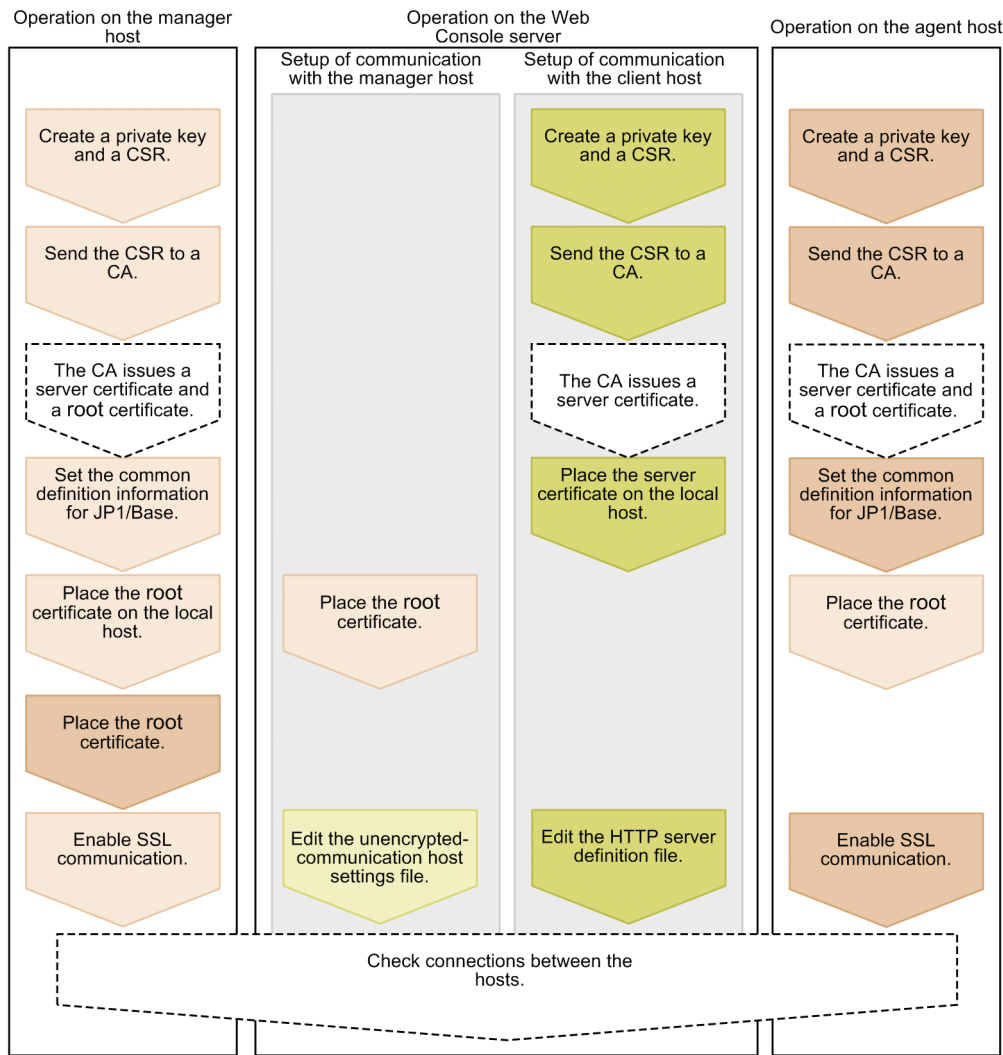
This subsection describes the SSL communication setup procedure to be performed when different server certificates are used for the manager host and Web Console server.

The following two types of settings are required to set up SSL communication for the Web Console server:



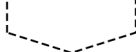

- Setting for the SSL encryption of the communication between the manager host and Web Console server
- Setting for the SSL encryption of the communication between the Web Console server and client host

The following figure shows an overview of setup operations on individual hosts.

Figure 21–4: Overview of how to set up SSL communication when different server certificates are used for the manager host and Web Console server



Legend:

-  : Setup operation to enable JP1/AJS3 - Manager to communicate in SSL
-  : Setup operation to enable JP1/AJS3 - Web Console to communicate with the manager host in SSL
-  : Operation by the CA, or operation common to the components
-  : Setup operation to enable JP1/AJS3 - Agent to communicate in SSL
-  : Setup operation to enable JP1/AJS3 - Web Console to communicate with the client host in SSL

The setup operation on a host involves not only the setup of the JP1/AJS3 components installed in the host but also the setup of communication-destination components.

Perform this operation on all the hosts constituting the JP1/AJS3 system. If SSL communication is enabled for some hosts and disabled for other hosts, an error will occur in the communication between hosts.

(1) Setup to enable JP1/AJS3 - Manager to communicate in SSL

The following describes the setup operation to enable JP1/AJS3 - Manager to communicate in SSL:

1. Create a private key and CSR by using JP1/Base.

For details about how to create a private key and a CSR, see the *JP1/Base User's Guide*.

2. Send the CSR to a CA.

When the CA receives the sent CSR, the CA issues a server certificate and a root certificate to verify the server certificate.

3. Obtain the server certificate and root certificate from the CA.

4. If a server certificate issued by an intermediate CA excludes an intermediate certificate, obtain an intermediate certificate from the intermediate CA, and put the server certificate and intermediate certificate together into a file.

If the server certificate excludes the intermediate certificate, validity of the server certificate cannot be verified. Obtain the intermediate certificate to verify that the server certificate is valid.

After obtaining the intermediate certificate, open the server certificate and intermediate certificate by using a text editor, copy the content of the intermediate certificate, and paste the copy at the end of the server certificate.

If multiple intermediate certificates exist, integrate all certificates according to their hierarchical structure into a file.

5. Stop the JP1/AJS3 and JP1/Base services.

6. Place the private key and server certificate in a folder, and specify the path to the folder in the common definition information CERTIFICATEFILE of JP1/Base.

For details about the common definition information CERTIFICATEFILE of JP1/Base, see the *JP1/Base User's Guide*.

7. Deploy a PEM-format root certificate to communication-destination hosts.

To verify the server certificate for the manager host at the communication destination (client), deploy, to communication-destination hosts, the root certificate for the CA that issued the server certificate for the manager host.

The following lists the hosts to which to deploy the root certificate:

- Working manager host (local host)
- All manager hosts for which communication is to be established
- All agent hosts for which communication is to be established
- All JP1/AJS3 - View hosts for which communication is to be established
- All Web Console servers for which communication is to be established

The following table describes the paths to the storage folders.

Table 21–11: Storage folders for root certificate

No.	Host type	Path to storage folder (in Windows)	Path to storage folder (in Linux)
1	Manager host	Root certificates are stored in a folder of JP1/Base. For details, see the <i>JP1/Base User's Guide</i> .	
2	Agent host		
3	JP1/AJS3 - View host	<i>JP1/AJS3 - View-installation-folder</i> \conf\ssl\rootcer	Not applicable
4	Web Console server	<i>data-folder-of-JP1/AJS3 - Web-Console</i> ^{#1} \conf\ssl\rootcer	/etc/opt/jp1ajs3web/ conf/ssl/rootcer ^{#2}

#1

data-folder-of-JP1/AJS3 - Web-Console is as follows:

If the installation folder is the default installation folder or is in a folder protected by the system:

%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\jp1ajs3web

A *folder protected by the system* is a folder under any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

The default value for %ALLUSERSPROFILE% is *system-drive*\ProgramData.

If the installation folder is other than the above:

JP1/AJS3-Web-Console-installation-folder

In a cluster environment:

shared-folder\jplajs3web

#2

In a cluster environment:

shared-directory/jplajs3web/conf/ssl/rootcer

When a root certificate has already been deployed to a communication-destination host, check whether the CA that issued the deployed root certificate is the same as the CA from which the server certificate was obtained as described in step 3.

When the CA is the same:

You can use the root certificate deployed already. You do not need to overwrite the root certificate.

When the CA is different:

Bind the already deployed root certificate and the obtained root certificate together in a file. Then, bind the certificates in a way that allows individual root certificates to be associated with the corresponding parts of the bound root certificate. This is to enable any expiring part of the bound root certificate to be replaced appropriately. Because root certificates are Base64-encoded, in the file of bound root certificates, you cannot see which parts of the file correspond to individual root certificates.

For details, see the *JP1/Base User's Guide*.

8. Check that the root certificates for the agent hosts are placed on the manager hosts.

Perform deployment of the root certificates for the agent hosts as part of the setup operation to enable JP1/AJS3 - Agent to communicate in SSL. Check the operation to set up JP1/AJS3 - Agent.

9. Enable SSL communication.

For details about how to enable SSL communication, see the description of the communication encryption function in the *JP1/Base User's Guide*.

(2) Setup to enable JP1/AJS3 - Web Console to communicate in SSL

The following describes the setup operation to enable JP1/AJS3 - Web Console to communicate in SSL:

(a) Setting for the SSL encryption of the communication between the manager host and Web Console server

The following describes the setting to enable JP1/AJS3 - Web Console to communicate with the manager host in SSL:

1. Open the unencrypted-communication host settings file (*nosslhost.conf*) by using a text editor.

The unencrypted-communication host settings file (*nosslhost.conf*) of JP1/AJS3 - Web Console defines the manager hosts that do not encrypt messages in the communication with JP1/AJS3 - Web Console.

For details about the *nosslhost.conf* file, see [21.4.6 Details on the settings in the unencrypted-communication host settings file \(nosslhost.conf\)](#).

2. In the `nosslhost.conf` file, define the manager host that does not perform SSL communication with JP1/AJS3 - Web Console.

By default, the `nosslhost.conf` file specifies an asterisk (*) for all manager hosts so that the communication with any manager host will not be encrypted. Edit the file as shown below so that only the manager hosts not communicating in SSL are specified while the manager hosts communicating in SSL are excluded.

```
[NO_SSL_HOST]
host-name-or-IP-address-of-a-manager-host-that-does-not-communicate-in-SSL
host-name-or-IP-address-of-a-manager-host-that-does-not-communicate-in-SSL
...
host-name-or-IP-address-of-a-manager-host-that-does-not-communicate-in-SSL
```

When communications with all manager hosts are to be encrypted, write only `[NO_SSL_HOST]`.

3. Save the `nosslhost.conf` file by using UTF-8 encoding.
4. Check that the root certificates for the manager hosts are placed on the Web Console server.
Perform deployment of the root certificates for the manager hosts as part of the setup operation to enable JP1/AJS3 - Manager to communicate in SSL. Check the operation to set up JP1/AJS3 - Manager.

(b) Setting for the SSL encryption of the communication between the Web Console server and client host

The following describes the setting to enable JP1/AJS3 - Web Console to communicate with the client host in SSL:

1. Create a private key by executing the applicable command.

Execute the following command. The command to be used depends on the type of the certificate to be created. The following command creates a PEM-format private key without a passphrase. You can use neither a private key with a passphrase nor a private key that is not in PEM format.

To create an RSA certificate:

- In Windows:

```
openssl.bat genrsa -rand name-of-the-file-to-be-used-for-random-number-generation -out path-to-private-key-file bit-length-of-private-key
```

The path of the `openssl.bat` is `JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat`. For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

- In Linux:

```
openssl.sh genrsa -rand name-of-the-file-to-be-used-for-random-number-generation -out path-to-private-key-file bit-length-of-private-key
```

The path of the `openssl.sh` is `/opt/jplajs3web/uCPSB/httpsd/sbin/openssl.sh`. For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

To create an ECDSA certificate:

- In Windows:

```
openssl.bat ecpkcs11 -genkey -noout -rand name-of-the-file-to-be-used-for-random-number-generation -name elliptic-curve-name -out path-to-private-key-file
```

The path of the `openssl.bat` is *JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat*. For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

- In Linux:

```
openssl.sh ecparam -genkey -noout -rand name-of-the-file-to-be-used-for-random-number-generation[:name-of-the-file-to-be-used-for-random-number-generation ...] -name elliptic-curve-name -out path-to-private-key-file
```

The path of the `openssl.sh` is */opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh*. For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

Specify the following path as *path-to-private-key-file*.

In Windows:

```
JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\conf\ssl\server\name-of-private-key-file
```

In Linux:

```
/opt/jp1ajs3web/uCPSB/httpsd/conf/ssl/server/name-of-private-key-file
```

For details about the command for creating a private key, see [E.1 Creating a private key](#).

You can specify any value for *name-of-private-key-file*. As the default of this file name, `httpsdkey.pem` is specified in the HTTP server definition file (`httpsd.conf`) to be set later. Using the default file name eliminates the need to change the setting of the name of the private key file in the HTTP server definition file.

2. If you are creating an ECDSA certificate, convert the format of the private key.

Execute the following command:

- In Windows:

```
openssl.bat pkcs8 -topk8 -in conversion-source-private-key-file -out conversion-destination-private-key-file -nocrypt
```

The path of the `openssl.bat` is *JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat*. For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

- In Linux:

```
openssl.sh pkcs8 -topk8 -in conversion-source-private-key-file -out conversion-destination-private-key-file -nocrypt
```

The path of the `openssl.sh` is */opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh*. For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

For details about the command that converts the private key format, see [E.2 Converting the private key format \(when using an ECDSA certificate\)](#).

3. Create a CSR by executing the applicable command.

Execute the following command:

- In Windows:

```
openssl.bat req -new signature-algorithm -key path-to-the-private-key-file -out path-to-the-CSR-file
```

The path of the `openssl.bat` is *JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat*. For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

- In Linux:

```
openssl.sh req -new signature-algorithm -key path-to-the-private-key-file
-out path-to-the-CSR-file
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`. For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

For *path-to-the-private-key-file*, specify the path you specified in the command for creating a private key in step 1. For *path-to-the-CSR-file*, specify the path name of an output folder and the name of the CSR file.

For details about the command for creating a CSR, see [E.3 Creating a Certificate Signing Request \(CSR\)](#).

4. Send the CSR to a CA.

When the CA receives the CSR, the CA issues a server certificate.

5. Obtain a PEM-format server certificate from the CA.

You cannot use a server certificate that is not in PEM format. You can specify any value for the name of the server certificate file. As the default of the file name, `httpsd.pem` is specified in the HTTP server definition file (`httpsd.conf`) to be set later. Using the default file name eliminates the need to change the setting of the name of the server certificate file in the HTTP server definition file.

6. If you use an intermediate certificate, combine the server certificate and intermediate certificate into one file.

Open the server certificate and intermediate certificate with a text editor, and then copy the content of the intermediate certificate to the server certificate so that the following items are specified in the indicated order:

1. Server certificate
2. Intermediate certificate
3. Cross signed root certificate[#]

[#]: This item is required only when you use a cross signed root certificate.

7. Place the server certificate on the Web Console server.

The folder to store the server certificate is as follows:

In Windows:

```
JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\conf\ssl\server
```

In Linux:

```
/opt/jp1ajs3web/uCPSB/httpsd/conf/ssl/server
```

8. Edit the HTTP server definition file (`httpsd.conf`) to enable SSL communication.

In the `httpsd.conf` file, cancel comments in the SSL communication setting section to enable SSL communication.

An example of changing the `httpsd.conf` file in Windows is shown below. In this example, the defaults are used for the communication port number, the server certificate file name, the private key file name, the version of TLS used for SSL communication, and the cipher types usable for TLS. Note that the default server certificate file is `httpsd.pem`, the default private key file is `httpsdkey.pem`, and the default TLS version is `TLSv1.2`. Only the comment lines beginning with a hash mark (`#`) have been edited.

Before change

```
...
Listen 22252
```

```
#Listen [::]:22252

#Listen 22253
#Listen [::]:22253
#<VirtualHost *:22253>
#  ServerName MyServer
#  SSLEngine On
#  SSLCertificateFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsd.pem"
#  SSLCertificateKeyFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsdkey.pem"
#  SSLProtocol +TLSv1.2
#  SSLCipherSuite TLSv1.3 TLS_AES_128_GCM_SHA256:TLS_AES_256_GCM_SHA384
#  SSLCipherSuite AES128-GCM-SHA256:AES256-GCM-SHA384:ECDHE-RSA-AES128-SHA256:ECDHE-RSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-SHA384:ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384
#  AllowEncodedSlashes On
#</VirtualHost>

...
```

After change

```
...
#Listen 22252
#Listen [::]:22252

Listen 22253
#Listen [::]:22253
<VirtualHost *:22253>
  ServerName MyServer
  SSLEngine On
  SSLCertificateFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsd.pem"
  SSLCertificateKeyFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsdkey.pem"
  SSLProtocol +TLSv1.2
  SSLCipherSuite TLSv1.3 TLS_AES_128_GCM_SHA256:TLS_AES_256_GCM_SHA384
  SSLCipherSuite AES128-GCM-SHA256:AES256-GCM-SHA384:ECDHE-RSA-AES128-SHA256:ECDHE-RSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-SHA384:ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384
  AllowEncodedSlashes On
</VirtualHost>

...
```

If the port number for SSL communication, name of server certificate file, name of the private key file, the version of TLS used for SSL communication, and the cipher types usable for TLS have been changed in the environment being used, also change the settings in the `httpsd.conf` file to adjust to the environment.

The following table lists the defaults settings in the `httpsd.conf` file.

Table 21–12: Defaults in the `httpsd.conf` file

No.	Item	Default
1	SSL communication port number	22253
2	Server certificate file name	httpsd.pem

No.	Item	Default
3	Private key file name	httpsdkey.pem
4	Version of TLS used for SSL communication	TLSv1.2
5	Cipher types usable for TLSv1.3	<ul style="list-style-type: none"> • TLS_AES_128_GCM_SHA256 • TLS_AES_256_GCM_SHA384
6	Cipher types usable for TLSv1.2	<ul style="list-style-type: none"> • AES128-GCM-SHA256 • AES256-GCM-SHA384 • ECDHE-RSA-AES128-SHA256 • ECDHE-RSA-AES256-SHA384 • ECDHE-RSA-AES128-GCM-SHA256 • ECDHE-RSA-AES256-GCM-SHA384 • ECDHE-ECDSA-AES128-SHA256 • ECDHE-ECDSA-AES256-SHA384 • ECDHE-ECDSA-AES128-GCM-SHA256 • ECDHE-ECDSA-AES256-GCM-SHA384

For details about the `httpsd.conf` file, see [3.4.5 Details on the settings in the HTTP server definition file \(`httpsd.conf`\)](#) (for Windows) or [13.3.5 Details on settings in the HTTP server definition file \(`httpsd.conf`\)](#) (for Linux).

9. Edit the HTTP server definition file to enable the SSL communication log output.

In the `httpsd.conf` file, release the `LogFormat` and `CustomLog` settings from the comment status to enable the SSL communication log output. An example of changing the `httpsd.conf` file in Windows is shown below.

Before change

```
...
#LogFormat "%t %{version}c %{cipher}c %{clientcert}c" hws_ssl
#CustomLog "|\"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/sbin/rot
atelogs2.exe\" \"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/logs/ssl
\" 10240 8\" hws_ssl
...
```

After change

```
...
LogFormat "%t %{version}c %{cipher}c %{clientcert}c" hws_ssl
CustomLog "|\"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/sbin/rota
telogs2.exe\" \"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/logs/ssl\
\" 10240 8\" hws_ssl
...
```

10. Restart the JP1/AJS3 HTTP Server service.

(3) Setup to enable JP1/AJS3 - Agent to communicate in SSL

The procedure for the setup to enable JP1/AJS3 - Agent to communicate in SSL is the same as the setup procedure for the manager/agent configuration. For details, see [21.4.2\(2\) Setup to enable JP1/AJS3 - Agent to communicate in SSL](#).

(4) Setup to enable JP1/AJS3 - View to communicate in SSL

The procedure for the setup to enable JP1/AJS3 - View to communicate in SSL is the same as the setup procedure for the manager/agent configuration. For details, see [21.4.2\(3\) Setup to enable JP1/AJS3 - View to communicate in SSL](#).

(5) Setup to enable a client to communicate in SSL

The following two types of clients are available for the Web Console server:

- Web GUI
- User application

The following describes the setup operation to enable a client to communicate with the Web Console server in SSL.

(a) Setup to enable the Web GUI to communicate in SSL

The following describes the setup operation to enable the Web GUI to communicate in SSL:

1. Enable SSL communication with your browser.

You must enable SSL and TLS in your web browser beforehand. For details about how to enable them, see the documentation for your browser.

If SSL and TLS are disabled, the login window does not appear even when you access the URL for SSL communication. Also, if you disable SSL and TLS after login, subsequent operation will be disabled.

(b) Setup to enable the user application to communicate in SSL

The method of setting to enable the user application to communicate in SSL varies with the programming language used for the user application.

Develop the user application by using the setup method provided in each programming language.

(6) Checking the connection of SSL communication

The following describes the procedure for checking that the communication between components is encrypted.

(a) Checking the connection of SSL communication between the manager host and JP1/AJS3 - View host

1. From JP1/AJS3 - View, log in to JP1/AJS3 - Manager.
2. Check the integrated trace log of the manager host to determine whether the KNAD3995-I and KAVS0532-I messages have been output.
The KNAD3995-I message indicates that SSL communication is enabled.
The KAVS0532-I message indicates that the user has normally logged in to JP1/AJS3 - Manager by using JP1/AJS3 - View.

(b) Checking the connection of SSL communication between the manager host and agent host

1. From JP1/AJS3 - View, log in to JP1/AJS3 - Manager.
2. Create a jobnet by using JP1/AJS3 - View, define PC or Unix jobs under the jobnet, and specify the agent host to be connected by SSL communication in the **Exec-agent** field.
3. Register the defined jobnet for immediate execution.
4. Check that the jobnet ends normally.
When the jobnet ends normally, the SSL communication between the manager and agent hosts is operating normally.

(c) Checking the connection of SSL communication between the Web Console server and Web GUI

1. Access the following URL by using the Web GUI:

`https://host-name-or-IP-address-of-Web-Console-server:SSL-communication-port-number/ajs/login.html`

The default of *SSL-communication-port-number* is 22253.

When the login window appears normally, SSL communication is operating normally.

(d) Checking the connection of SSL communication between the manager host and Web Console server

1. From the Web GUI, log in to JP1/AJS3 - Manager.

2. Check the integrated trace log of the manager host to determine whether the KNAD3995-I message has been output. The KNAD3995-I message indicates that SSL communication is enabled.

21.4.4 SSL communication setup procedure (when the server certificate for Web Console server is used for manager host)

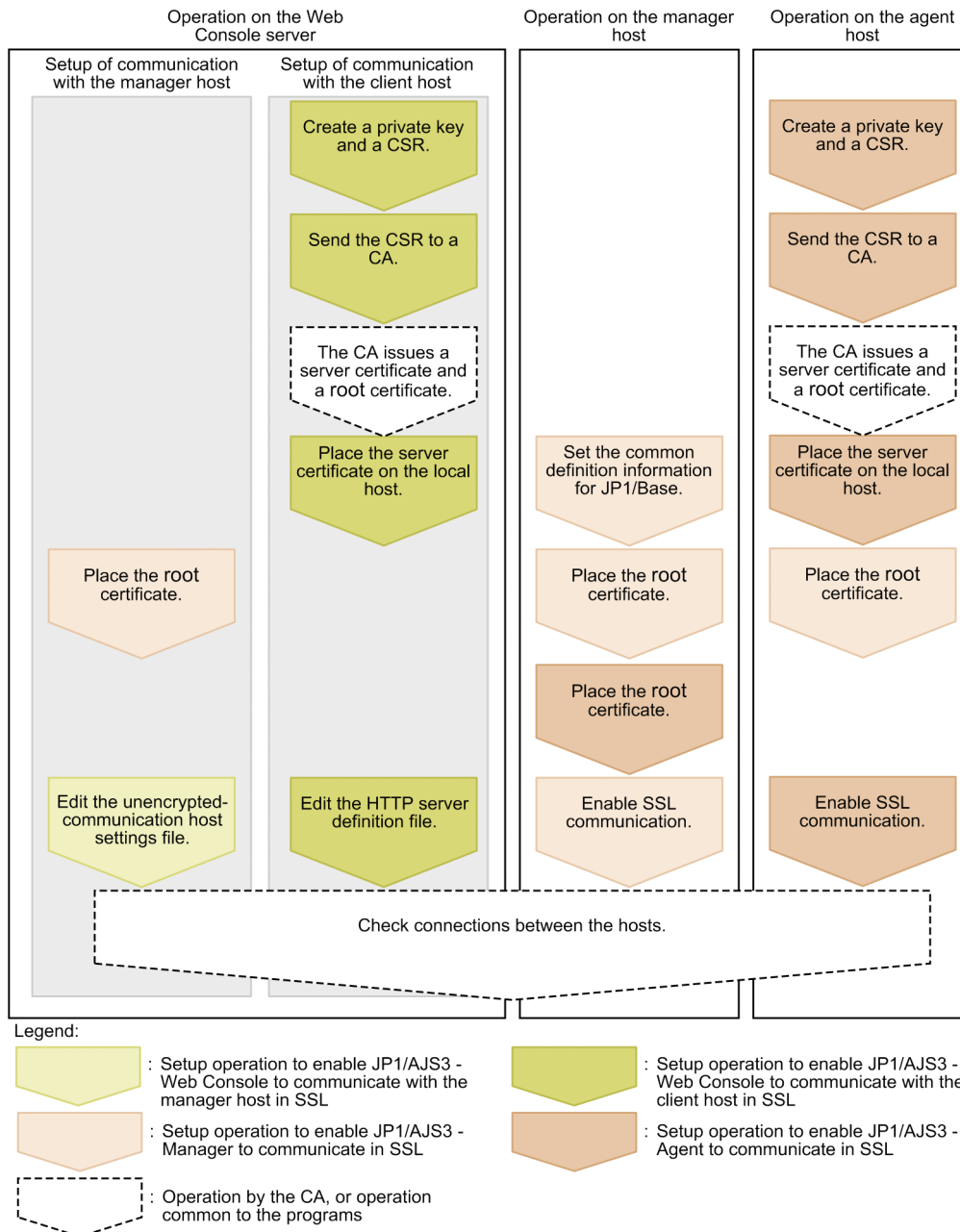
This subsection describes the SSL communication setup procedure to be performed when the server certificate for the Web Console server is used for the manager host.

The following two types of settings are required to set up SSL communication for the Web Console server:

- Setting for the SSL encryption of the communication between the manager host and Web Console server
- Setting for the SSL encryption of the communication between the Web Console server and client host

The following figure shows an overview of setup operations on individual hosts.

Figure 21–5: Overview of how to set up SSL communication when the server certificate for the Web Console server is used for the manager host



The setup operation on a host involves not only the setup of the JP1/AJS3 components installed in the host but also the setup of communication-destination components.

Perform this operation on all the hosts constituting the JP1/AJS3 system. If SSL communication is enabled for some hosts and disabled for other hosts, an error will occur in the communication between hosts.

(1) Setup to enable JP1/AJS3 - Web Console to communicate in SSL

The following describes the setup operation to enable JP1/AJS3 - Web Console to communicate in SSL:

(a) Setting for the SSL encryption of the communication with the manager host

The setup to enable JP1/AJS3 - Web Console to communicate with the manager host in SSL is the same as the setup to be performed when different server certificates are used for the manager host and Web Console server. For details, see [21.4.3\(2\)\(a\) Setting for the SSL encryption of the communication between the manager host and Web Console server](#).

(b) Setting for the SSL encryption of the communication with the client host

The following describes the setup to enable JP1/AJS3 - Web Console to communicate with the client host in SSL:

1. Create a private key by executing the applicable command.

Execute the following command. The command to be used depends on the type of the certificate to be created. The following command creates a PEM-format private key without a passphrase. You can use neither a private key with a passphrase nor a private key that is not in PEM format.

To create an RSA certificate:

- In Windows:

```
openssl.bat genrsa -rand name-of-the-file-to-be-used-for-random-number-generation -out path-to-private-key-file bit-length-of-private-key
```

The path of the `openssl.bat` is `JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat`. For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

- In Linux:

```
openssl.sh genrsa -rand name-of-the-file-to-be-used-for-random-number-generation -out path-to-private-key-file bit-length-of-private-key
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`. For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

To create an ECDSA certificate:

- In Windows:

```
openssl.bat eparam -genkey -noout -rand name-of-the-file-to-be-used-for-random-number-generation -name elliptic-curve-name -out path-to-private-key-file
```

The path of the `openssl.bat` is `JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat`. For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

- In Linux:

```
openssl.sh eparam -genkey -noout -rand name-of-the-file-to-be-used-for-random-number-generation[:name-of-the-file-to-be-used-for-random-number-generation ...] -name elliptic-curve-name -out path-to-private-key-file
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`. For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

Specify the following path as *path-to-private-key-file*.

In Windows:

```
JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\conf\ssl\server\name-of-private-key-file
```

In Linux:

```
/opt/jp1ajs3web/uCPSB/httpsd/conf/ssl/server/name-of-private-key-file
```

For details about the command for creating a private key, see [E.1 Creating a private key](#).

You can specify any value for *name-of-private-key-file*. As the default of this file name, `httpsdkey.pem` is specified in the HTTP server definition file (`httpsd.conf`) to be set later. Using the default file name eliminates the need to change the setting of the name of the private key file in the HTTP server definition file.

2. If you are creating an ECDSA certificate, convert the format of the private key.

Execute the following command:

- In Windows:

```
openssl.bat pkcs8 -topk8 -in conversion-source-private-key-file -out conversion-destination-private-key-file -nocrypt
```

The path of the `openssl.bat` is *JP1/AJS3-Web-Console-installation-folder*\uCPBS\httpsd\sbin\openssl.bat. For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

- In Linux:

```
openssl.sh pkcs8 -topk8 -in conversion-source-private-key-file -out conversion-destination-private-key-file -nocrypt
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`. For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

For details about the command that converts the private key format, see [E.2 Converting the private key format \(when using an ECDSA certificate\)](#).

3. Create a CSR by executing the applicable command.

Execute the following command:

- In Windows:

```
openssl.bat req -new signature-algorithm -key path-to-the-private-key-file -out path-to-the-CSR-file
```

The path of the `openssl.bat` is *JP1/AJS3-Web-Console-installation-folder*\uCPBS\httpsd\sbin\openssl.bat. For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

- In Linux:

```
openssl.sh req -new signature-algorithm -key path-to-the-private-key-file -out path-to-the-CSR-file
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`. For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

For *path-to-the-private-key-file*, specify the path you specified in the command for creating a private key in step 1. For *path-to-the-CSR-file*, specify the path name of an output folder and the name of the CSR file.

For details about the command for creating a CSR, see [E.3 Creating a Certificate Signing Request \(CSR\)](#).

4. Send the CSR to a CA.

When the CA receives the sent CSR, the CA issues a server certificate and a root certificate to verify the server certificate.

5. Obtain a PEM-format server certificate and root certificate from the CA.

You cannot use a server certificate or root certificate that is not in PEM format. You can specify any values as the names of server certificate and root certificate files.

As the default of the name of server certificate file, `httpsd.pem` is specified in the HTTP server definition file (`httpsd.conf`) to be set later. Using the default file name eliminates the need to change the setting of the name of the server certificate file in the HTTP server definition file.

The obtained root certificate is used for the setup to enable JP1/AJS3 - Manager to communicate in SSL.

6. If you use an intermediate certificate, combine the server certificate and intermediate certificate into one file.

Open the server certificate and intermediate certificate with a text editor, and then copy the content of the intermediate certificate to the server certificate so that the following items are specified in the indicated order:

1. Server certificate
2. Intermediate certificate
3. Cross signed root certificate[#]

[#]: This item is required only when you use a cross signed root certificate.

7. Place the server certificate on the Web Console server.

The folder to store the server certificate is as follows:

In Windows:

```
JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\conf\ssl\server
```

In Linux:

```
/opt/jp1ajs3web/uCPSB/httpsd/conf/ssl/server
```

8. Edit the HTTP server definition file (`httpsd.conf`) to enable SSL communication.

In the `httpsd.conf` file, cancel comments in the SSL communication setting section to enable SSL communication.

An example of changing the `httpsd.conf` file in Windows is shown below. In this example, the defaults are used for the communication port number, the server certificate file name, the private key file name, the version of TLS used for SSL communication, and the cipher types usable for TLS. Note that the default server certificate file is `httpsd.pem`, the default private key file is `httpsdkey.pem`, and the default TLS version is TLSv1.2. Only the comment lines beginning with a hash mark (#) have been edited.

Before change

```
...
Listen 22252
#Listen [::]:22252

#Listen 22253
#Listen [::]:22253
#<VirtualHost *:22253>
#  ServerName MyServer
#  SSLEngine On
#  SSLCertificateFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsd.pem"
#  SSLCertificateKeyFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsdkey.pem"
#  SSLProtocol +TLSv1.2
#  SSLCipherSuite TLSv1.3 TLS_AES_128_GCM_SHA256:TLS_AES_256_GCM_SHA384
#  SSLCipherSuite AES128-GCM-SHA256:AES256-GCM-SHA384:ECDHE-RSA-AES128-SHA256:ECDHE-RSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-SHA384:ECDHE-ECDSA-
```

```
AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384
# AllowEncodedSlashes On
#</VirtualHost>
...
```

After change

```
...
#Listen 22252
#Listen [::]:22252

Listen 22253
#Listen [::]:22253
<VirtualHost *:22253>
  ServerName MyServer
  SSLEngine On
  SSLCertificateFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsd.pem"
  SSLCertificateKeyFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsdkey.pem"
  SSLProtocol +TLSv1.2
  SSLCipherSuite TLSv1.3 TLS_AES_128_GCM_SHA256:TLS_AES_256_GCM_SHA384
  SSLCipherSuite AES128-GCM-SHA256:AES256-GCM-SHA384:ECDHE-RSA-AES128-SHA256:ECDHE-RSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-SHA384:ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384
  AllowEncodedSlashes On
</VirtualHost>
...
```

If the port number for SSL communication, name of server certificate file, name of the private key file, the version of TLS used for SSL communication, and the cipher types usable for TLS have been changed in the environment being used, also change the settings in the `httpsd.conf` file to adjust to the environment.

The following table lists the defaults settings in the `httpsd.conf` file.

Table 21–13: Defaults in the `httpsd.conf` file

No.	Item	Default
1	SSL communication port number	22253
2	Server certificate file name	httpsd.pem
3	Private key file name	httpsdkey.pem
4	Version of TLS used for SSL communication	TLSv1.2
5	Cipher types usable for TLSv1.3	<ul style="list-style-type: none"> • TLS_AES_128_GCM_SHA256 • TLS_AES_256_GCM_SHA384
6	Cipher types usable for TLSv1.2	<ul style="list-style-type: none"> • AES128-GCM-SHA256 • AES256-GCM-SHA384 • ECDHE-RSA-AES128-SHA256 • ECDHE-RSA-AES256-SHA384 • ECDHE-RSA-AES128-GCM-SHA256 • ECDHE-RSA-AES256-GCM-SHA384 • ECDHE-ECDSA-AES128-SHA256 • ECDHE-ECDSA-AES256-SHA384 • ECDHE-ECDSA-AES128-GCM-SHA256

No.	Item	Default
6	Cipher types usable for TLSv1.2	<ul style="list-style-type: none"> ECDHE-ECDSA-AES256-GCM-SHA384

For details about the `httpsd.conf` file, see [3.4.5 Details on the settings in the HTTP server definition file \(`httpsd.conf`\)](#) (for Windows) or [13.3.5 Details on settings in the HTTP server definition file \(`httpsd.conf`\)](#) (for Linux).

9. Edit the HTTP server definition file to enable the SSL communication log output.

In the `httpsd.conf` file, release the `LogFormat` and `CustomLog` settings from the comment status to enable the SSL communication log output. An example of changing the `httpsd.conf` file in Windows is shown below.

Before change

```
...
#LogFormat "%t %{version}c %{cipher}c %{clientcert}c" hws_ssl
#CustomLog "|\"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/sbin/rot
atelogs2.exe\" \"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/logs/ssl
\" 10240 8\" hws_ssl
...
```

After change

```
...
LogFormat "%t %{version}c %{cipher}c %{clientcert}c" hws_ssl
CustomLog "|\"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/sbin/rota
telogs2.exe\" \"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/logs/ssl
\" 10240 8\" hws_ssl
...
```

10. Restart the JP1/AJS3 HTTP Server service.

(2) Setup to enable JP1/AJS3 - Manager to communicate in SSL

The following describes the setup operation to enable JP1/AJS3 - Manager to communicate in SSL:

1. Stop the JP1/AJS3 and JP1/Base services.
2. Specify the folder storing the private key and server certificate for the Web Console server in the `PRIVATEKEYFILE` common definition information of JP1/Base.

For details about the `PRIVATEKEYFILE` common definition information of JP1/Base, see the *JP1/Base User's Guide*.

The following shows the folder storing the private key and server certificate for the Web Console server:

In Windows:

`JP1/AJS3 - Web-Console-installation-folder\uCPSB\httpsd\conf\ssl\server`

In Linux:

`/opt/jp1ajs3web/uCPSB/httpsd/conf/ssl/server`

3. Copy the root certificate (into the communication-destination host) obtained by the setup operation to enable the Web Console server to perform SSL encryption of the communication with the client host.

To verify server certificates at the communication destination (client), copy the root certificate obtained by the setup operation for the Web Console server to the communication-destination host.

The following lists the hosts into which to copy the root certificate:

- Working manager host (local host)

- All manager hosts for which communication is to be established
- All agent hosts for which communication is to be established
- All JP1/AJS3 - View hosts for which communication is to be established
- All JP1/AJS3 - Web Console servers for which communication is to be established

The following table describes the paths to the storage folders.

Table 21–14: Storage folders for root certificate

No.	Host type	Path to storage folder (in Windows)	Path to storage folder (in Linux)
1	Manager host	Root certificates are stored in a folder of JP1/Base. For details, see the <i>JP1/Base User's Guide</i> .	
2	Agent host		
3	JP1/AJS3 - View host	<i>JP1/AJS3 - View-installation-folder</i> \conf\ssl\rootcer	Not applicable
4	Web Console server	<i>data-folder-of-JP1/AJS3 - Web-Console</i> ^{#1} \conf\ssl\rootcer	/etc/opt/jplajs3web/ conf/ssl/rootcer ^{#2}

#1

data-folder-of-JP1/AJS3 - Web-Console is as follows:

If the installation folder is the default installation folder or is in a folder protected by the system:

%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\jplajs3web

A *folder protected by the system* is a folder under any of the following:

- *system-drive*\Windows
- *system-drive*\Program Files
- *system-drive*\Program Files (x86)

The default value for %ALLUSERSPROFILE% is *system-drive*\ProgramData.

If the installation folder is other than the above:

JP1/AJS3-Web-Console-installation-folder

In a cluster environment:

shared-folder\jplajs3web

#2

In a cluster environment:

shared-directory/jplajs3web/conf/ssl/rootcer

When a root certificate has already been deployed to a communication-destination host, check whether the CA that issued the deployed root certificate is the same as the CA from which the server certificate was obtained as described.

When the CA is the same:

You can use the root certificate deployed already. You do not need to overwrite the root certificate.

When the CA is different:

Put together and bind the root certificates already deployed and the root certificates newly deployed to manager hosts. Then, bind the certificates in a way that allows individual root certificates to be associated with the corresponding parts of the bound root certificate. This is to enable any expiring part of the bound root certificate to be replaced appropriately. Because root certificates are Base64-encoded, in the file of bound root certificates, you cannot see which parts of the file correspond to individual root certificates.

For details, see the *JP1/Base User's Guide*.

4. Check that the root certificates for the agent hosts are placed on the manager hosts.

Perform deployment of the root certificates for the agent hosts as part of the setup operation to enable JP1/AJS3 - Agent to communicate in SSL. Check the operation to set up JP1/AJS3 - Agent.

5. Enable SSL communication.

For details about how to enable SSL communication, see the description of the communication encryption function in the *JP1/Base User's Guide*.

(3) Setup to enable JP1/AJS3 - Agent to communicate in SSL

The procedure for the setup to enable JP1/AJS3 - Agent to communicate in SSL is the same as the setup procedure for the manager/agent configuration. For details, see [21.4.2\(2\) Setup to enable JP1/AJS3 - Agent to communicate in SSL](#).

(4) Setup to enable JP1/AJS3 - View to communicate in SSL

The procedure for the setup to enable JP1/AJS3 - View to communicate in SSL is the same as the setup procedure for the manager/agent configuration. For details, see [21.4.2\(3\) Setup to enable JP1/AJS3 - View to communicate in SSL](#).

(5) Setup to enable the Web GUI to communicate in SSL

The setup to enable the Web GUI to communicate in SSL is the same as the setup to be performed when different server certificates are used for the manager host and Web Console server. For details, see [21.4.3\(5\)\(a\) Setup to enable the Web GUI to communicate in SSL](#).

(6) Setup to enable the user application to communicate in SSL

The setup to enable the user application to communicate in SSL is the same as the setup to be performed when different server certificates are used for the manager host and Web Console server. For details, see [21.4.3\(5\)\(b\) Setup to enable the user application to communicate in SSL](#).

(7) Checking the connection of SSL communication

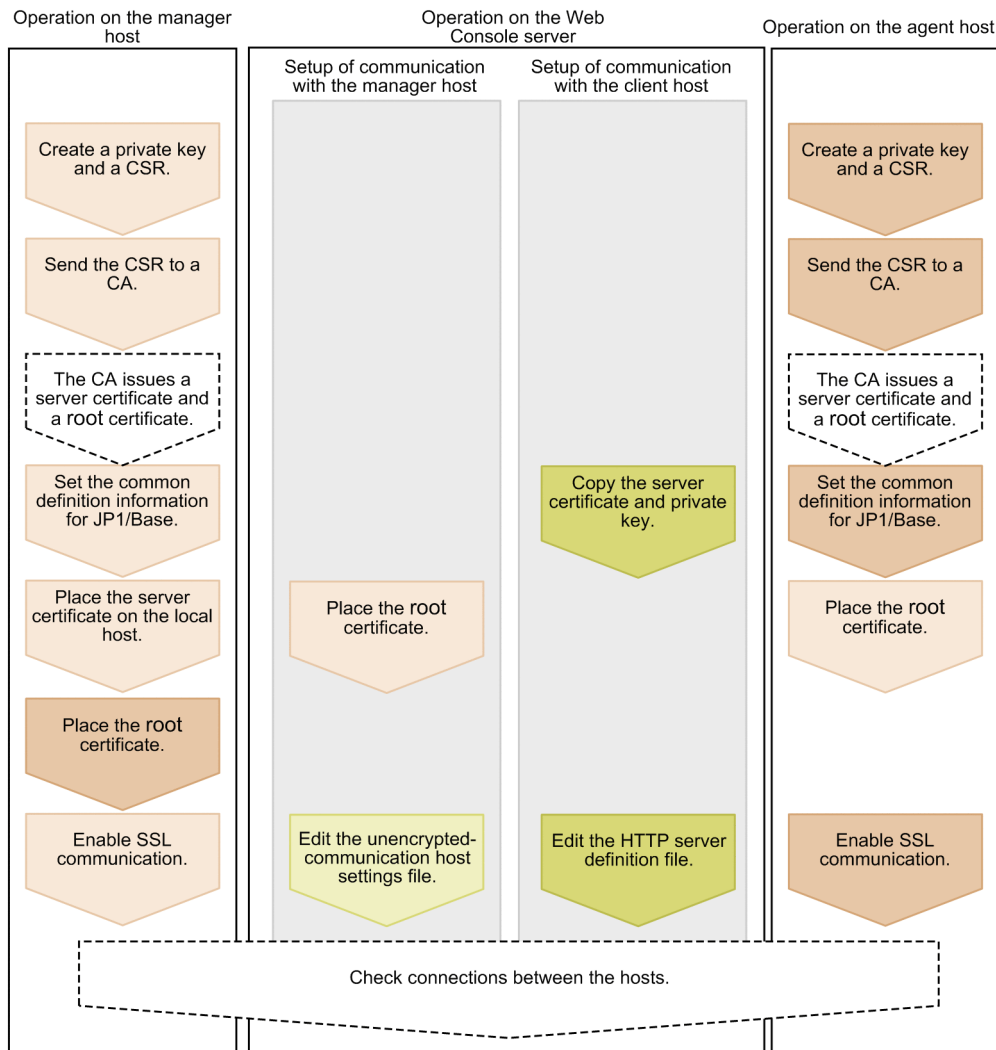
The method of checking the connection of SSL communication between components is the same as the method of checking when different server certificates are used for the manager host and Web Console server. For details, see [21.4.3\(6\) Checking the connection of SSL communication](#).

21.4.5 SSL communication setup procedure (when the server certificate for manager host is used for Web Console server)

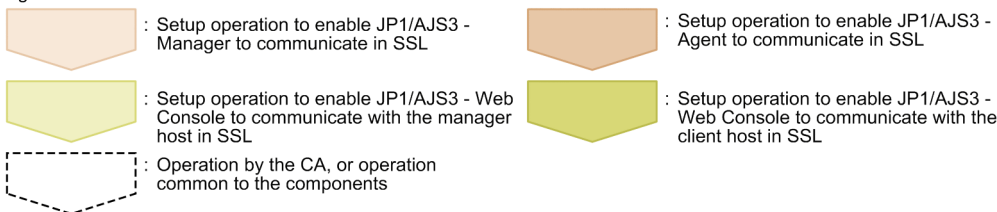
This subsection describes the SSL communication setup procedure to be performed when the server certificate for the manager host is used for the Web Console server.

The following figure shows an overview of setup operations on individual hosts.

Figure 21–6: Overview of how to set up SSL communication when the server certificate for the manager host is used for the Web Console server



Legend:



The setup operation on a host involves not only the setup of the JP1/AJS3 components installed in the host but also the setup of communication-destination components.

Perform this operation on all the hosts constituting the JP1/AJS3 system. If SSL communication is enabled for some hosts and disabled for other hosts, an error will occur in the communication between hosts.

(1) Setup to enable JP1/AJS3 - Manager to communicate in SSL

The procedure for the setup to enable JP1/AJS3 - Manager to communicate in SSL is the same as the setup procedure for the manager/agent configuration. For details, see [21.4.2\(1\) Setup to enable JP1/AJS3 - Manager to communicate in SSL](#).

(2) Setup to enable JP1/AJS3 - Web Console to communicate in SSL

The following describes the setup operation to enable JP1/AJS3 - Web Console to communicate in SSL:

(a) Setting for the SSL encryption of the communication with the manager host

The setup to enable JP1/AJS3 - Web Console to communicate with the manager host in SSL is the same as the setup to be performed when different server certificates are used for the manager host and Web Console server. For details, see [21.4.3\(2\)\(a\) Setting for the SSL encryption of the communication between the manager host and Web Console server](#).

(b) Setting for the SSL encryption of the communication with the client host

The following describes the setup procedure to enable JP1/AJS3 - Web Console to communicate with the client host in SSL:

1. Copy the private key and server certificate for the manager host into a folder of JP1/AJS3 - Web Console.
Copy the private key and server certificate (into the folder of JP1/AJS3 - Web Console) obtained by the setup operation to enable JP1/AJS3 - Manager to communicate in SSL.

The following shows the copy-destination folder of JP1/AJS3 - Web Console:

In Windows:

```
JP1/AJS3 - Web-Console-installation-folder\uCPSB\httpspd\conf\ssl\server
```

In Linux:

```
/opt/jp1ajs3web/uCPSB/httpspd/conf/ssl/server
```

2. Edit the HTTP server definition file (`httpspd.conf`) to enable SSL communication.

In the `httpspd.conf` file, cancel comments in the SSL communication setting section to enable SSL communication.

An example of changing the `httpspd.conf` file in Windows is shown below. In this example, the defaults are used for the communication port number, the server certificate file name, the private key file name, the version of TLS used for SSL communication, and the cipher types usable for TLS. Note that the default server certificate file is `httpspd.pem`, the default private key file is `httpspdkey.pem`, and the default TLS version is TLSv1.2. Only the comment lines beginning with a hash mark (#) have been edited.

Before change

```
...
Listen 22252
#Listen [::]:22252

#Listen 22253
#Listen [::]:22253
#<VirtualHost *:22253>
#  ServerName MyServer
#  SSLEngine On
#  SSLCertificateFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpspd/co
nf/ssl/server/httpspd.pem"
#  SSLCertificateKeyFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpspd
/conf/ssl/server/httpspdkey.pem"
#  SSLProtocol +TLSv1.2
#  SSLCipherSuite TLSv1.3 TLS_AES_128_GCM_SHA256:TLS_AES_256_GCM_SHA384
#  SSLCipherSuite AES128-GCM-SHA256:AES256-GCM-SHA384:ECDHE-RSA-AES128-SHA
256:ECDHE-RSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-G
CM-SHA384:ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-SHA384:ECDHE-ECDSA-
AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384
#  AllowEncodedSlashes On
```

```
#</VirtualHost>
...
```

After change

```
...
#Listen 22252
#Listen [::]:22252

Listen 22253
#Listen [::]:22253
<VirtualHost *:22253>
  ServerName MyServer
  SSLEngine On
  SSLCertificateFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsd.pem"
  SSLCertificateKeyFile "C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/conf/ssl/server/httpsdkey.pem"
  SSLProtocol +TLSv1.2
  SSLCipherSuite TLSv1.3 TLS_AES_128_GCM_SHA256:TLS_AES_256_GCM_SHA384
  SSLCipherSuite AES128-GCM-SHA256:AES256-GCM-SHA384:ECDHE-RSA-AES128-SHA256:
  ECDHE-RSA-AES256-SHA384:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384:
  ECDHE-ECDSA-AES128-SHA256:ECDHE-ECDSA-AES256-SHA384:ECDHE-ECDSA-AES128-GCM-SHA256:
  ECDHE-ECDSA-AES256-GCM-SHA384
  AllowEncodedSlashes On
</VirtualHost>
...
```

If the port number for SSL communication, name of server certificate file, name of the private key file, the version of TLS used for SSL communication, and the cipher types usable for TLS have been changed in the environment being used, also change the settings in the `httpsd.conf` file to adjust to the environment.

The following table lists the defaults settings in the `httpsd.conf` file.

Table 21–15: Defaults in the `httpsd.conf` file

No.	Item	Default
1	SSL communication port number	22253
2	Server certificate file name	httpsd.pem
3	Private key file name	httpsdkey.pem
4	Version of TLS used for SSL communication	TLSv1.2
5	Cipher types usable for TLSv1.3	<ul style="list-style-type: none"> • TLS_AES_128_GCM_SHA256 • TLS_AES_256_GCM_SHA384
6	Cipher types usable for TLSv1.2	<ul style="list-style-type: none"> • AES128-GCM-SHA256 • AES256-GCM-SHA384 • ECDHE-RSA-AES128-SHA256 • ECDHE-RSA-AES256-SHA384 • ECDHE-RSA-AES128-GCM-SHA256 • ECDHE-RSA-AES256-GCM-SHA384 • ECDHE-ECDSA-AES128-SHA256 • ECDHE-ECDSA-AES256-SHA384 • ECDHE-ECDSA-AES128-GCM-SHA256 • ECDHE-ECDSA-AES256-GCM-SHA384

For details about the `httpsd.conf` file, see [3.4.5 Details on the settings in the HTTP server definition file \(httpsd.conf\)](#) (for Windows) or [13.3.5 Details on settings in the HTTP server definition file \(httpsd.conf\)](#) (for Linux).

3. Edit the HTTP server definition file to enable the SSL communication log output.

In the `httpsd.conf` file, release the `LogFormat` and `CustomLog` settings from the comment status to enable the SSL communication log output. An example of changing the `httpsd.conf` file in Windows is shown below.

Before change

```
...
#LogFormat "%t %{version}c %{cipher}c %{clientcert}c" hws_ssl
#CustomLog "|\"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/sbin/rot
atelogs2.exe\" \"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/logs/ssl
\" 10240 8\"" hws_ssl
...
```

After change

```
...
LogFormat "%t %{version}c %{cipher}c %{clientcert}c" hws_ssl
CustomLog "|\"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/sbin/rota
telogs2.exe\" \"C:/Program Files/HITACHI/JP1AJS3WEB/uCPSB/httpsd/logs/ssl\"
\" 10240 8\"" hws_ssl
...
```

4. Restart the JP1/AJS3 HTTP Server service.

(3) Setup to enable JP1/AJS3 - Agent to communicate in SSL

The procedure for the setup to enable JP1/AJS3 - Agent to communicate in SSL is the same as the setup procedure for the manager/agent configuration. For details, see [21.4.2\(2\) Setup to enable JP1/AJS3 - Agent to communicate in SSL](#).

(4) Setup to enable JP1/AJS3 - View to communicate in SSL

The procedure for the setup to enable JP1/AJS3 - View to communicate in SSL is the same as the setup procedure for the manager/agent configuration. For details, see [21.4.2\(3\) Setup to enable JP1/AJS3 - View to communicate in SSL](#).

(5) Setup to enable the Web GUI to communicate in SSL

The setup to enable the Web GUI to communicate in SSL is the same as the setup to be performed when different server certificates are used for the manager host and Web Console server. For details, see [21.4.3\(5\)\(a\) Setup to enable the Web GUI to communicate in SSL](#).

(6) Setup to enable the user application to communicate in SSL

The setup to enable the user application to communicate in SSL is the same as the setup to be performed when different server certificates are used for the manager host and Web Console server. For details, see [21.4.3\(5\)\(b\) Setup to enable the user application to communicate in SSL](#).

(7) Checking the connection of SSL communication

The method of checking the connection of SSL communication between components is the same as the method of checking when different server certificates are used for the manager host and Web Console server. For details, see [21.4.3\(6\) Checking the connection of SSL communication](#).

21.4.6 Details on the settings in the unencrypted-communication host settings file (nsslhost.conf)

This subsection describes details on the settings in the unencrypted-communication host settings file (`nsslhost.conf`).

(1) File storage folder

The following shows the folder storing the `nsslhost.conf` file.

For JP1/AJS3 - View

`JP1/AJS3 - View-installation-folder\conf\ssl`

Note that the same folder stores also a model file (`nsslhost.conf.model`). If the `nsslhost.conf` file is not found in the file storage folder, copy the model file (`nsslhost.conf.model`), and rename the copy to `nsslhost.conf`.

For JP1/AJS3 - Web Console

In Windows, if the installation folder is the default installation folder or is in a folder protected by the system:

`%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\jplajs3web\conf`

The default of `%ALLUSERSPROFILE%` is `system-drive\ProgramData`.

A folder protected by the system is the path to one of the following folders:

- Folder in `system-drive\Windows`
- Folder in `system-drive\Program Files`
- Folder in `system-drive\Program Files (x86)`

In Windows, if the installation folder is other than the above:

`JP1/AJS3 - Web-Console-installation-folder\conf`

In a cluster environment of Windows:

`shared-folder\jplajs3web\conf`

In Linux:

`/etc/opt/jplajs3web/conf`

In a cluster environment of Linux:

`shared-directory/jplajs3web/conf`

Note that the `nsslhost.conf` file is not allocated immediately after JP1/AJS3 - Web Console is installed. If the `nsslhost.conf` file is not found in the file storage folder, copy the model file (`nsslhost.conf.model`), and rename the copy to `nsslhost.conf`.

The following shows the folder storing the model file (`nsslhost.conf.model`).

In Windows:

`JP1/AJS3-Web-Console-installation-folder\conf`

In Linux:

`/etc/opt/jplajs3web/conf`

(2) When the setting takes effect

The next time you log in from JP1/AJS3 - View or JP1/AJS3 - Web Console

(3) Format

The following shows the format of settings in the `nosslhost.conf` file:

```
[NO_SSL_HOST]
host-name-or-IP-address-of-manager-host
host-name-or-IP-address-of-manager-host
...
host-name-or-IP-address-of-manager-host
```

(4) Setting items

The following describes the items to be set. Delimit each item by using a linefeed.

host-name-or-IP-address-of-manager-host

Specify the host name or IP address (not more than 255 characters) of the manager host that does not perform SSL communication (that is, the manager host sends out plain-text communication messages).

By default, an asterisk (*) is specified, which indicates that communication messages are not encrypted.

The asterisk must always be specified independently. For example, *host** cannot be specified as a host name beginning with *host*.

When neither the host name nor the IP address is specified, communication messages are encrypted during communication with any manager host.

The host name is not case sensitive.

(5) Examples

The following shows examples of setting the `nosslhost.conf` file:

When communication between manager hosts *hostA* and *hostB* are not to be encrypted:

```
[NO_SSL_HOST]
hostA
hostB
```

To encrypt communications with all manager hosts:

```
[NO_SSL_HOST]
```

(6) Notes

- Empty lines are ignored.
- The maximum number of host names and IP addresses that can be specified is 1,024.
- The maximum length of the character string of a host name or IP address is 255 characters.
- You cannot log in if reading of the file fails. Reading of the file fails in the following cases:
 - The number of host names and IP addresses has exceeded the maximum number.
 - The length of the character string of a host name or IP address has exceeded the maximum length.
 - `[NO_SSL_HOST]` is not written at the top of the file.
 - The file is not found.
 - Duplicate host names or IP addresses are found.

- If JP1/AJS3 - View is installed in a folder other than the default folder, reference privileges must be given to the OS users who use JP1/AJS3 - View.
- File update privileges must be set appropriately according to operations.

21.5 Setting up the job distribution delay reduction function

This section describes the procedures for enabling and disabling the job distribution delay reduction function.

21.5.1 Procedure to enable the job distribution delay reduction function

This subsection describes the procedure to enable the job distribution delay reduction function.

1. Stop the JP1/AJS3 service.

2. Enable the job distribution delay reduction function.

Specify *yes* for the AGMMONITORING environment setting parameter by executing the following command:

```
jajs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJS2\HOST\AGENTMONITOR  
]" "AGMMONITORING" = "yes"
```

3. Specify settings to start the ajsagtmond process.

To start the ajsagtmond process, you must revise the JP1/AJS3 startup process definition file (`jplajs_hstd.conf`). The following shows the storage folders for the JP1/AJS3 startup process definition file (`jplajs_hstd.conf`) and model files:

For a physical host (in Windows)

`JP1/AJS3-Manager-installation-folder\conf`

For a physical host (in UNIX)

`/etc/opt/jplajs2/conf`

For a logical host (in Windows)

`shared-folder\conf`

For a logical host (in UNIX)

`shared-directory/conf`

The procedure to edit the JP1/AJS3 startup process definition file differs depending on whether the file has been updated since JP1/AJS3 was installed. For details about how to edit, see [\(1\) Procedure to edit the JP1/AJS3 startup process definition file](#).

4. If necessary, change the restart setting of the ajsagtmond process.

The restart of the ajsagtmond process is defined in the extended startup process definition file (`jplajs_hstd_0700.conf`). For details about the extended startup process definition file, see [6.3.1 Restarting an abnormally terminated JP1/AJS3 process](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

5. Start the JP1/AJS3 service.

6. Execute the `jajs_spm�_status` command to confirm that the following process name is displayed:

In Windows

`agentmon`

In UNIX

`ajsagtmond`

7. Execute the `ajsagtcheck` command with the `-m` status option specified to confirm that the command can be executed normally.

(1) Procedure to edit the JP1/AJS3 startup process definition file

This subsection describes the procedure to edit the JP1/AJS3 startup process definition file.

The procedure differs depending on whether the file has been updated since JP1/AJS3 was installed.

(a) Procedure to apply if the JP1/AJS3 startup process definition file has not been updated

If the JP1/AJS3 startup process definition file has not been updated, edit the file by completing the following procedure:

1. Back up the JP1/AJS3 startup process definition file (jp1ajs_hstd.conf), and store the backup file in any folder.
2. Copy the model file (jp1ajs_hstd_agtmon.conf.model).
3. Rename the copy of the model file to jp1ajs_hstd.conf, and then overwrite the file.

(b) Procedure to apply if the JP1/AJS3 startup process definition file has been updated

If the JP1/AJS3 startup process definition file has been updated, edit the file by completing the following procedure:

1. Open the model file for the JP1/AJS3 startup process definition file (jp1ajs_hstd_agtmon.conf.model) by using a text editor.
2. Copy the definition entry for the ajsagtmond process in the model file, and then close the file.
The entry to be copied is as follows:
In Windows
`agentmon|ajsagtmond.exe|||1800|`
In UNIX
`ajsagtmond|/opt/jp1ajs2/bin/ajsagtmond|||1800|`
3. Open the JP1/AJS3 startup process definition file (jp1ajs_hstd.conf) by using a text editor.
4. Add the definition entry for the ajsagtmond process.
Create a new line anywhere in the file, and paste the entry that you copied in step 2.
5. Save and close the JP1/AJS3 startup process definition file.

21.5.2 Procedure to disable the job distribution delay reduction function

This subsection describes the procedure to disable the job distribution delay function.

1. Stop the JP1/AJS3 service.
2. In UNIX, execute the ajsshmdel command.
The ajsshmdel command is located in the /opt/jp1ajs2/bin/ajsshmdel. For example, execute the command as follows:

```
sh
/opt/jp1ajs2/bin/ajsshmdel > /dev/null 2>&1
```



```
ssh
/opt/jp1ajs2/bin/ajssshmdel >&/dev/null
```

3. Disable the job distribution delay reduction function.

Specify no for the AGMMONITORING environment setting parameter by executing the following command:

```
jaajs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJS2\HOST\AGENTMONITOR
]" "AGMMONITORING" = "no"
```

4. Open the JP1/AJS3 startup process definition file (jp1ajs_hstd.conf) by using a text editor.

Edit the JP1/AJS3 startup process definition file to suppress startup of the ajsagtmond process. The location of the JP1/AJS3 startup process definition file and its model file (jp1ajs_hstd.conf.model) is as follows:

For a physical host (in Windows)

JP1/AJS3-Manager-installation-folder\conf

For a physical host (in UNIX)

/etc/opt/jp1ajs2/conf

For a logical host (in Windows)

shared-folder\conf

For a logical host (in UNIX)

shared-directory/conf

5. Delete the definition entry for the ajsagtmond process.

The entry to be deleted is as follows:

In Windows

agentmon|ajsagtmond.exe|||1800|

In UNIX

ajsagtmond|/opt/jp1ajs2/bin/ajsagtmond|||1800|

6. Save and close the JP1/AJS3 startup process definition file.

7. Start the JP1/AJS3 service.

21.6 Settings for backing up and recovering an embedded database while JP1/AJS3 is running

This section describes how to enable or disable the backup enhancement function. If you enable this function, you can back up an embedded database while JP1/AJS3 is running.

For details about the backup enhancement function, see *5.2.5 Backing up and recovering an embedded database by using the backup enhancement function* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

When you perform an advanced setup of an embedded database, you can also enable the backup enhancement function, irrespective of the host type (physical or logical). For details about how to perform an advanced setup of an embedded database, see *23.4 Advanced setup of an embedded database*.

21.6.1 Setup on a physical host

The following describes how to change the setting of the backup enhancement function on a physical host.

(1) When creating a new scheduler service and embedded database after performing a new installation

If you want to enable the backup enhancement function when you perform a new installation of JP1/AJS3 - Manager on a physical host, skip the setup of a scheduler service and an embedded database during installation.

The new installation procedure for JP1/AJS3 - Manager varies depending on the OS. For details about the procedure, see the following.

No.	OS	Reference
1	Windows	<i>2.2.3(1) New installation</i>
2	HP-UX	<i>12.2.3 Installation in HP-UX</i>
3	Solaris	<i>12.2.4 Installation in Solaris</i>
4	AIX	<i>12.2.5 Installation in AIX</i>
5	Linux	<i>12.2.6 Installation in Linux</i>

After performing a new installation of JP1/AJS3, set up a scheduler service and an embedded database by using the `jajs_setup` command. By specifying the `-B` option for the `jajs_setup` command, you can enable the backup enhancement function during setup.

For details about how to set up a scheduler service and an embedded database on a physical host, see *6.1.1(1) Adding a scheduler service* (for Windows) or *15.1.1(1) Adding a scheduler service* (for UNIX).

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(2) When setting up an embedded database and adding a scheduler service

When you create a new embedded database and add a scheduler service, you can enable the backup enhancement function by executing the `jajs_setup` command with the `-B` option specified.

For details about how to set up a scheduler service and an embedded database on a physical host, see [6.1.1\(1\) Adding a scheduler service](#) (for Windows) or [15.1.1\(1\) Adding a scheduler service](#) (for UNIX).

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(3) When changing the setting of the backup enhancement function for the embedded database

To change the setting of the backup enhancement function for the operating embedded database:

1. Back up the data of the embedded database for which you want to change the setting of the backup enhancement function.

Back up the following types of information that were used in the embedded database:

- Execution agent information
- Definitions of units other than root job groups[#]
- Root job group information[#]
- Calendar information for root job groups[#]
- Registered execution-schedule information for jobnets[#]

[#]:

If multiple scheduler services are set up on the embedded database for which you want to change the setting of the backup enhancement function, repeat the backup procedure as many times as the number of scheduler services. To check the number of scheduler services that are set up on the embedded database, execute the `ajsembdbidlist` command.

For details about how to back up, see [2.2.3 Backing up the JP1/AJS3 - Manager setup information](#) in the *JP1/Automatic Job Management System 3 Administration Guide*, and [3.4 Backing up and recovering the execution registration status of jobnets by using the `ajsrlexport` and `ajsrimport` commands](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

2. Stop the JP1/AJS3 services.

Stop all JP1/AJS3 services, including the JP1/AJS3 - Manager services, on logical hosts.

3. Use the `ajsembdbstatus` command to check the settings of the embedded database that you want to change.

For example, execute the `ajsembdbstatus` command as follows.

(Example) If the setup identifier of the embedded database is `_JF0`

```
ajsembdbstatus -c -id _JF0
```

4. Use the `ajsembdbunset -e` command to delete the embedded database environment.

For example, execute the `ajsembdbunset` command as follows.

(Example) If the setup identifier of the embedded database is `_JF0`

```
ajsembdbunset -e -id _JF0
```

Information about all the scheduler databases set up in the embedded database having the specified setup identifier is deleted. For details about the `ajsembdbunset` command, see *ajsembdbunset* in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

5. Execute the `ajsembdbbuild` command to configure the embedded database.

If you want to enable the backup enhancement function, execute the command with the `-b` option specified. If you want to disable this function, execute the command without specifying the `-b` option.

For example, execute the command as follows if you want to enable the backup enhancement function.

(Example) Configuring the embedded database in the following environment

- Database model: Small-scale
- Data area directory: C:\Program Files (x86)\Hitachi\JP1AJS2\embdb_JF0\dbarea
- Embedded database practical directory: C:\Program Files (x86)\Hitachi\JP1AJS2\embdb_JF0
- setup identifier: _JF0
- port number: 22220
- backup enhancement function: Enabled

```
ajsembdbbuild -s -d "C:\Program Files (x86)\Hitachi\JP1AJS2\embdb\_JF0\dbarea" -i "C:\Program Files (x86)\Hitachi\JP1AJS2\embdb\_JF0" -id _JF0 -p 22220 -b
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

6. Execute the `ajsembdbsetup` command to set up the embedded database.

If you want to enable the backup enhancement function, execute the command with the `-b` option specified. If you want to disable this function, execute the command without specifying the `-b` option.

For example, execute the command as follows if you want to enable the backup enhancement function.

(Example) Setting up scheduler service AJSROOT1 in the following embedded database with the backup enhancement function enabled

- Database model: Small-scale
- setup identifier: _JF0
- port number: 22220

```
ajsembdbsetup -F AJSROOT1 -ru s -id _JF0 -p 22220 -b
```

If multiple scheduler services are set up in the embedded database for which you want to change the settings, execute the `ajsembdbsetup` command more than once so that the necessary scheduler database is set up. For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in *2. Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

7. Use the `ajsembdbstop` command to stop the embedded database.

For example, execute the `ajsembdbstop` command as follows.

(Example) Stopping the embedded database whose setup identifier is _JF0

```
ajsembdbstop -id _JF0
```

For details about the `ajsembdbstop` command, see *ajsembdbstop* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

8. Cold-start the JP1/AJS3 service.

For details about how to cold-start the JP1/AJS3 service, see 6.2.1 *Temporarily changing the start mode of JP1/AJS3* in the *JP1/Automatic Job Management System 3 Administration Guide*.

You can change the setting of the backup enhancement function only for some embedded databases configured in the same environment. In this case, cold-start the scheduler services that have data stored in the embedded databases whose setting is to be changed.

9. Recover the information that you backed up in step 1.

If there are multiple scheduler services, repeat the recovery procedure as many times as the number of scheduler services. For details about the recovery procedure, see 2.3.4 *Recovering the JP1/AJS3 - Manager setup information* in the *JP1/Automatic Job Management System 3 Administration Guide*.

Supplementary notes

To cold-start some scheduler services only:

1. Suppress the startup of the target scheduler services.

Execute the `jajs_config` command, and then set the `AUTOSTART` environment setting parameter to `no`.

For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the `AUTOSTART` environment setting parameter, see 20.4.2(36) *AUTOSTART*.

2. Start the JP1/AJS3 service.

3. Cold-start the target scheduler services.

Execute the `ajsstart` command with the `-c` option specified to cold-start the target scheduler services.

For details about the `ajsstart` command, see *ajsstart* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Cancel the suppression of the startup of the target scheduler services.

Execute the `jajs_config` command, and then set the `AUTOSTART` environment setting parameter to `yes`.

21.6.2 Setup on a logical host

The following describes how to change the setting of the backup enhancement function on a logical host.

(1) When creating a new logical host

When you create a new logical host, you can enable the backup enhancement function by executing the `jajs_setup_cluster` command with the `-B` option specified.

For details about how to create a new logical host, see 8.2.2 *Procedure for setting up a cluster system environment (in Windows version of JP1/AJS3 - Manager)* (for Windows) or 17.2.2 *Procedure for setting up a cluster system environment (in UNIX version of JP1/AJS3 - Manager)* (for UNIX).

For details about the `jajs_setup_cluster` command, see *jajs_setup_cluster* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(2) When setting up an embedded database and adding a scheduler service

When you create a new embedded database and add a scheduler service, you can enable the backup enhancement function by executing the `jajs_setup` command with the `-B` option specified.

For details about how to set up a scheduler service and an embedded database on a logical host, see [8.2.10\(1\) Adding scheduler services on a logical host](#) (for Windows) or [17.2.10\(1\) Adding scheduler services on a logical host](#) (for UNIX).

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(3) When changing the setting of the backup enhancement function for the embedded database

To change the setting of the backup enhancement function for the operating embedded database:

1. Back up the data of the embedded database for which you want to change the setting of the backup enhancement function.

Back up the following types of information that were used in the embedded database:

- Execution agent information
- Definitions of units other than root job groups[#]
- Root job group information[#]
- Calendar information for root job groups[#]
- Registered execution-schedule information for jobnets[#]

[#]:

If multiple scheduler services are set up on the embedded database for which you want to change the setting of the backup enhancement function, repeat the backup procedure as many times as the number of scheduler services. To check the number of scheduler services that are set up on the embedded database, execute the `ajsembdbidlist` command.

For details about how to back up, see [2.2.3 Backing up the JP1/AJS3 - Manager setup information](#) in the *JP1/Automatic Job Management System 3 Administration Guide*, and [3.4 Backing up and recovering the execution registration status of jobnets by using the `ajsrlexport` and `ajsrimport` commands](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

2. Stop the JP1/AJS3 services on logical hosts.

Stop all JP1/AJS3 services, including the JP1/AJS3 - Manager services, on physical hosts.

3. Use the `ajsembdbstatus` command to check the settings of the embedded database that you want to change.

For example, execute the `ajsembdbstatus` command as follows.

(Example) If the setup identifier of the embedded database is `_JFA`

```
ajsembdbstatus -c -id _JFA
```

4. Use the `ajsembdbunset -e` command to delete the embedded database environment.

For example, execute the `ajsembdbunset` command as follows.

(Example) If the setup identifier of the embedded database is `_JFA`

```
ajsembdbunset -e -id _JFA
```

Information about all the scheduler databases set up in the embedded database having the specified setup identifier is deleted. For details about the `ajsembdbunset` command, see *ajsembdbunset* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Execute the `ajsembdbbuild` command to configure the embedded database.

If you want to enable the backup enhancement function, execute the command with the `-b` option specified. If you want to disable this function, execute the command without specifying the `-b` option.

For example, execute the command as follows if you want to enable the backup enhancement function.

(Example) Configuring the embedded database in the following environment on logical host `LHOST` that operates on physical host `HOST01`

- Database model: Small-scale
- Data area directory: `D:\ShareDisk\JP1AJS2\emddb_JFA\dbarea`
- Embedded database practical directory: `C:\Program Files (x86)\Hitachi\JP1AJS2\emddb_JFA`
- Work area directory: `C:\Program Files (x86)\Hitachi\JP1AJS2\emddb_JFA\dbarea`
- setup identifier: `_JFA`
- port number: 22230
- backup enhancement function: Enabled

```
ajsembdbbuild -s -r -d "D:\ShareDisk\JP1AJS2\emddb\_JFA\dbarea" -ld "C:\Program Files (x86)\Hitachi\JP1AJS2\emddb\_JFA\dbarea" -mh LHOST -eh HOST01 -i "C:\Program Files (x86)\Hitachi\JP1AJS2\emddb\_JFA" -id _JFA -p 22230 -b
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

6. Execute the `ajsembdbsetup` command to set up the embedded database.

If you want to enable the backup enhancement function, execute the command with the `-b` option specified. If you want to disable this function, execute the command without specifying the `-b` option.

For example, execute the command as follows if you want to enable the backup enhancement function.

(Example) Setting up scheduler service `AJSROOTA` with the backup enhancement function enabled in the following embedded database on logical host `LHOST`

- Database model: Small-scale
- setup identifier: `_JFA`
- port number: 22230

```
ajsembdbsetup -mh LHOST -F AJSROOTA -ru s -id _JFA -p 22230 -b
```

If multiple scheduler services are set up in the embedded database for which you want to change the settings, execute the `ajsembdbsetup` command more than once so that the necessary scheduler database is set up. For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. Use the `ajsembdbstop` command to stop the embedded database.

For example, execute the `ajsembdbstop` command as follows.

(Example) Stopping the embedded database whose setup identifier is `_JFA`

```
ajsembdbstop -id _JFA
```

For details about the `ajsembdbstop` command, see *ajsembdbstop* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

8. Cold-start the JP1/AJS3 service.

For details about how to cold-start the JP1/AJS3 service, see *6.2.1 Temporarily changing the start mode of JP1/AJS3* in the *JP1/Automatic Job Management System 3 Administration Guide*.

If you changed the setting of the backup enhancement function only for some embedded databases on the logical host, cold-start only the scheduler services that have data stored in those embedded databases.

9. Recover the information that you backed up in step 1.

If there are multiple scheduler services, repeat the recovery procedure as many times as the number of scheduler services. For details about the recovery procedure, see *2.3.4 Recovering the JP1/AJS3 - Manager setup information* in the *JP1/Automatic Job Management System 3 Administration Guide*.

Supplementary notes

To cold-start some scheduler services only:

1. Suppress the startup of the target scheduler services.

Execute the `jajs_config` command, and then set the `AUTOSTART` environment setting parameter to `no`.

For details about the `jajs_config` command, see *jajs_config* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the `AUTOSTART` environment setting parameter, see *20.4.2(36) AUTOSTART*.

2. Start the JP1/AJS3 service.

3. Cold-start the target scheduler services.

Execute the `ajsstart` command with the `-c` option specified to cold-start the target scheduler services.

For details about the `ajsstart` command, see *ajsstart* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. Cancel the suppression of the startup of the target scheduler services.

Execute the `jajs_config` command, and then set the `AUTOSTART` environment setting parameter to `yes`.

21.7 Settings for detecting factors that might stop job execution

JP1/AJS3 can monitor and report the following three items to prevent failures that might stop the job execution of scheduler services:

- Number of jobs in the *Now queuing* or *Now running* status
- Number of execution generations in the *Wait for start cond.* status
- Number of unreported information items managed by the event/action control manager

This section describes the settings for monitoring and reporting factors that might stop job execution.

21.7.1 Procedure for detecting factors that might stop job execution

This section describes the procedure for monitoring and reporting factors that might prevent scheduler services from executing jobs.

Note that these factors can also be monitored by using the Web GUI (Management Portal). To use the Web GUI (Management Portal), you must set it up on the manager host. For details about how to setup, see [6.7 Settings related to the Web GUI \(Management Portal\)](#) (for Windows) or [15.8 Settings related to the Web GUI \(Management Portal\)](#) (for Linux).

For details about performing operations on Web GUI (Management Portal), see [16. Management Portal of the Web GUI](#) in the *JP1/Automatic Job Management System 3 Operator's Guide*.

(1) Definition procedure

1. Stop the service.

In Windows:

In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
- JP1/AJS3 service

In UNIX:

Execute the following commands to confirm that all processes have stopped:

```
# /opt/jplajs2/bin/jajs_spmd_stop  
# /opt/jplajs2/bin/jajs_spmd_status
```

2. Execute the following command to set the environment setting parameter described in (2) below:

```
jajs_config -k "definition-key" "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 21–16: Environment setting parameters for monitoring and reporting factors that might stop job execution

Definition key	Environment setting parameter	Explanation
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job]# For a specific scheduler service [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name\QUEUE\MANAGER\Job]# 	"AlarmContentJobEventInterval"=	Interval for issuing a JP1 event when the number of jobs in the <i>Now queuing</i> or <i>Now running</i> status exceeds the value specified for the <code>AlarmContentJob</code> environment setting parameter
[{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name]#	"CONDGENWARNINT"=	The interval for checking the number of retained execution generations of the jobnets with start conditions before a message is output
	"CONDGENWARNNUM"=	The threshold for the number of retained execution generations of the jobnets with start conditions
<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJS2\SCHEDULER\EV\MANAGER]# For a specific scheduler service [{JP1_DEFAULT <i>logical-host-name</i> } \JP1AJSMANAGER\scheduler-service-name\EV\MANAGER]# 	"AlarmUnreportedInfoEvent"=	Threshold for monitoring the number of unreported information items for the scheduler service and outputting a message and issuing a JP1 event
	"AlarmUnreportedInfoEventInterval"=	Interval for outputting a message and issuing a JP1 event during monitoring of the number of unreported information items for the scheduler service

#:

The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of these environment setting parameters, see the following:

- [20.4.2\(118\) CONDGENWARNINT](#)
- [20.4.2\(119\) CONDGENWARNNUM](#)
- [20.5.2\(13\) AlarmContentJob](#)
- [20.5.2\(14\) AlarmContentJobEventInterval](#)
- [20.6.2\(11\) AlarmUnreportedInfoEvent](#)
- [20.6.2\(12\) AlarmUnreportedInfoEventInterval](#)

(3) Settings for performance reports

If a factor that might stop job execution is detected, you can determine whether corrective actions are required by checking the transition of values output by the performance report function. Therefore, we recommend the performance report function be enabled. For details about how to enable the performance report function, see [6.6.1 Settings for the performance report output function](#) (for Windows) or [15.7.1 Settings for the performance report output function](#) (for UNIX).

The following table lists the column of the `ajsreport` command corresponding to the items to be monitored.

Table 21–17: Columns of the `ajsreport` command corresponding to the monitored items

Monitored item	Column name of the <code>ajsreport</code> command
Number of jobs in the <i>Now queuing</i> or <i>Now running</i> status	CONTENTJOB_NUM
Number of generations of a jobnet with start conditions	RUNNING_AND_SCHEDULED_NEXT_GENERATIONS_NUM
Number of unreported information items for the scheduler service	EVJOB_UNREPORTED_EVENT_NUM

21.8 Settings for installing JP1/AJS3 - Agent in containers

This section describes the procedure for installing JP1/AJS3 - Agent in containers.

21.8.1 Procedure for creating a container image

The following shows the procedure for incorporating JP1/AJS3 - Agent into a container image:

1. Create a JP1/Base container image.

For details about how to create a JP1/Base container image, see the *JP1/Base User's Guide*. In this step, do not activate the container. If the container is active, de-activate it.

2. Copy the contents of the JP1/AJS3 - Agent media to a Dockerfile storage directory.

Make sure that the original and copy files and directories match at the binary level.

```
# mount /dev/cdrom mount-point-directory-on-the-host
# cp -a mount-point-directory-on-the-host Dockerfile-storage-directory
```

In the sample Dockerfile shown in step 3, the contents of the JP1/AJS3 - Agent media are copied to *Dockerfile-storage-directory/media/JP1AJS*. You can use any directory of your choice for *Dockerfile-storage-directory*. Make sure that the Dockerfile storage directory specified here is different from the Dockerfile storage directory specified in JP1/Base. Also make sure that the Dockerfile storage directory specified here is not contained in the Dockerfile storage directory specified in JP1/Base.

3. Create a Dockerfile from which to create a Docker image.

The following shows a sample Dockerfile. For details about the format of a Dockerfile, see *Dockerfile reference or man dockerfile* provided by Docker, Inc.

```
FROM image-name[:tag-name]#1
MAINTAINER creator <email-address>#2
RUN yum -y install libuuid.i686#3
RUN mkdir /var/tmp/JP1/JP1AJS#4
COPY media/JP1AJS /var/tmp/JP1/JP1AJS#5
WORKDIR /var/tmp/JP1/JP1AJS#6
RUN export LANG=ja_JP.utf8 && ./LINUX/setup -f -k P-8112-33CL ./#7
RUN rm -rf /var/tmp/JP1/JP1AJS#8
```

#1:

Specify the container image you created in step 1 as the base image. To use the latest version of image, specify *latest* for *tag-name*.

#2:

Specify the full name of the creator as the manager of the image and the creator's email address as the contact information. You can omit this parameter.

#3:

This parameter specifies that the package software required by JP1/AJS3 - Agent was installed beforehand.

#4:

This parameter specifies that a work directory is created in the container.

#5:

This parameter specifies that the contents of the product media that have already been copied to a Dockerfile storage directory need to be copied to the `/var/tmp/JP1/JP1AJS` work directory in the container.

#6:

This parameter specifies that the current directory is changed to `/var/tmp/JP1/JP1AJS` in the container.

#7:

This parameter sets the `LANG` environment variable according to the language, and then specifies that JP1/AJS3 - Agent is installed in the container by using the silent installation function of the Hitachi program product installer. Make sure that the value of the `LANG` environment variable set in this parameter and the value of the `LANG` environment variable used by JP1/Base are the same. In the preceding example, `UTF-8` is set. For the languages that can be used, see *2.4.2 Language type and character encoding of the system* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

#8:

This parameter specifies that the work directory in the container is to be deleted.

4. Run the `docker build` command, specifying the Dockerfile created in step 3, to create a container image.

On the container host machine, run the following command. If you use Podman instead of Docker, replace `docker` by `podman` on the command line.

```
# docker build -t image-name:tag-name Dockerfile-storage-directory
```

Note that to run this command as shown in the example in this procedure, you must change the current directory to the Dockerfile storage directory.

21.8.2 Settings for linkage with a host that is not the container host machine

If a container in which JP1/AJS3 - Agent is installed needs to link with a host that is not the container host machine, make sure that the container and the host can communicate with each other (in both directions) via TCP/IP. For details about the procedure for specifying the required communication settings, see the *JP1/Base User's Guide*.

To use the port forwarding function, specify the communication settings so that not only the port numbers used by JP1/Base, but also the port numbers used by JP1/AJS3 - Agent, are forwarded. For details about the port numbers used by JP1/AJS3 - Agent, see *A.1(2) JP1/AJS3 - Agent port numbers* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*. In addition, if the port forwarding function is used to make communication settings, the following services cannot be started on container host machines because of conflicts in ports.

- JP1/AJS3 Queueless Agent service
- JP1/AJS3 Autonomous Agent Messenger service
- JP1/AJS3 Check Agent service
- JP1/AJS3 System Control Manager service
- JP1/AJS3 System Control Agent service

For this reason, if you want to use queueless jobs, flexible jobs, the definition pre-check function, and the management portal execution environment for both containers and container host machines, make communication settings by using a macvlan bridge.

21.8.3 Environment in which each container requires a different port number for communication

There might be an environment in which JP1/AJS3 - Agent is deployed for each container of the container orchestration system or container management software and communication to each container is performed with a different port number from external hosts. In such an environment, the destination port mapping function of JP1/Base must be used on the external hosts that communicate to the containers. For details about the destination port mapping function, see 2.12.2(4) *Destination port mapping function* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The procedure for setting up the destination port mapping function is as follows:

1. Edit the destination communications port settings file (`jpl_destport.conf`).

Create the destination communications port settings file by editing its model file (`jpl_destport.conf.model`). In the initial settings of the model file, all lines are commented out by prefixing a hash mark (#). If necessary, delete the hash marks (#) and change the port numbers from the default values. A port number specification is required for each container. An example of editing the file is as follows:

Before the change:

```
#
# jpl_destport.conf
#
#[container1]
#jplajs2qagt      20242      # To send job execution requests to JP1/AJS3 - A
gent
#jplajs2eaagt    20247      # JP1/AJS3 - Agent event job execution
#jplajs2chkagt   23139      # To use the definition pre-check function
#jplajs2qlagt    20300      # To use queueless jobs(For queueless job execut
ion by JP1/AJS3 - Agent)
#jplajs2atmsg    22251      # Flexible job execution
#jplajs3sysctla  22257      # To use the Web GUI (Management Portal)
#jplimevt        20098      # Transferring JP1 events to another host
```

After the change:

```
#
# jpl_destport.conf
#
[container1]
jplajs2qagt      30242      # To send job execution requests to JP1/AJS3 - Ag
ent
jplajs2eaagt    30247      # JP1/AJS3 - Agent event job execution
jplajs2chkagt   33139      # To use the definition pre-check function
jplajs2qlagt    30300      # To use queueless jobs(For queueless job execut
ion by JP1/AJS3 - Agent)
jplajs2atmsg    32251      # Flexible job execution
jplajs3sysctla  32257      # To use the Web GUI (Management Portal)
jplimevt        30098      # Transferring JP1 events to another host

[container2]
jplajs2qagt      31242
jplajs2eaagt    31247
jplajs2chkagt   34139
jplajs2qlagt    31300
jplajs2atmsg    33251
```

```
jplajs3sysctl 33257
jplimevt      31098
```

For details about how to edit the destination communications port settings file, see the *JP1/Base User's Guide*.

Cautionary note:

When defining a destination communication port by using the `jbsdestpimport` command, ensure that no jobs are being executed on the target container. Defining the destination port while jobs are running can cause communication failures with the target container, resulting in jobs ending abnormally or command execution failures.

Additionally, it may take up to 30 seconds for the definition of the destination port for services used by queueless jobs (`jp1ajs2qlagt`) to take effect. Therefore, avoid executing queueless jobs on the target container immediately after defining the destination port.

2. Execute the `jbsdestpimport` command.

For details about the `jbsdestpimport` command, see the *JP1/Base User's Guide*.

To check the information registered by the `jbsdestpimport` command, execute the `jbsdestpexport` command. For details about the `jbsdestpexport` command, see the *JP1/Base User's Guide*.

3. Enable the destination port mapping function (if it has not been enabled).

For details about how to enable the destination port mapping function, see [21.8.6 Settings for using the destination port mapping function](#).

21.8.4 Settings for concurrently using JP1/AJS3 in a container and on the container host machine

To concurrently use JP1/AJS3 in a container and on the container host machine, set the `CONTAINER_HOST` environment setting parameter to `yes` on the container host machine. If a JP1/AJS3 service is started or stopped on a container host machine on which the `CONTAINER_HOST` environment setting parameter is set to `no` or omitted, JP1/AJS3 might behave incorrectly. For example, the intended JP1/AJS3 service on the container host machine might not be started or an unintended JP1/AJS3 service in the container might be stopped.

The following shows the procedure for setting the `CONTAINER_HOST` environment setting parameter to `yes` on the container host machine:

1. In the container, stop the following services:

- JP1/AJS3 Check Agent service
- JP1/AJS3 Autonomous Agent service

2. On the container host machine, stop the following services:

- JP1/AJS3 Check Agent service
- JP1/AJS3 Autonomous Agent service

3. On the container host machine, run the following command to change the setting of the `CONTAINER_HOST` environment setting parameter to `yes`:

```
jajs_config -k "[JP1_DEFAULT\JP1AJS2\HOST]" "CONTAINER_HOST"="yes"
```

For details about the definition of this environment setting parameter, see [20.3.2\(21\) CONTAINER_HOST](#).

4. On the physical host running on the container host machine, enable automatic startup and termination for the JP1/AJS3 services.
If necessary, in the automatic start and stop script, specify the settings for using the physical host as a container host machine. For details about the setting procedure, see *15.10.1 Setting automatic startup and termination of the JP1/AJS3 service*.
5. On the logical host running on the container host machine, specify the settings that control startup and termination of JP1/AJS3.
If necessary, in the settings that control JP1/AJS3 when the JP1/AJS3 services are started or terminated in a logical host environment, add a setting for using the logical host as a container host machine. For details about the setting procedure, see *17.2.11 Specifying the settings that control startup and termination of JP1/AJS3 in a logical host environment*.
6. Restart the services that you stopped in step 2.
7. Restart the container services that you stopped in step 1.

21.8.5 Setting Automatic Startup and Termination of the JP1/AJS3 Service upon Container Startup and Stoppage

If you deploy JP1/AJS3 - Agent to a container, you cannot apply the settings for automatic startup and termination of the JP1/AJS3 service upon container startup and stoppage. If you start a container, you must start the JP1/AJS3 service after starting the container. Alternatively, you must create a shell script containing commands required for starting the JP1/AJS3 service and run the shell script upon container startup. If you want to stop the container, you must terminate the JP1/AJS3 service before stopping the container.

For details on how to start or terminate the JP1/AJS3 service, see *6.1 Starting or stopping JP1/AJS3 services* in the *JP1/Automatic Job Management System 3 Administration Guide*.

21.8.6 Settings for using the destination port mapping function

This section describes the procedure for enabling the destination port mapping function.

If you use the destination port mapping function to set the port numbers used for communication from a JP1/AJS3 - Manager host to JP1/AJS3 - Agent hosts, perform this procedure on the JP1/AJS3 - Manager host.

When configuring the communication port by using the destination port mapping function for communication from JP1/AJS3 - Agent (relay agent) to JP1/AJS3 - Agent (destination agent) or from JP1/AJS3 - Agent (relay agent) to JP1/AJS3 - Agent (broadcast agent), set this parameter on the JP1/AJS3 - Agent (relay agent).

(1) Setting the procedure

1. On the host where the destination port mapping function is enabled, stop the JP1/AJS3 service according to the service for which the port number is defined by using the destination port mapping function.

In Windows:

In Windows Control Panel, open the Services administrative tool, and stop the following service:

- When setting the destination port for jp1ajs2qagt, jp1ajs2eaagt, or jp1ajs2qlagt

JP1/AJS3 service

- When setting the destination port for jp1ajs2chkagt
JP1/AJS3 Check Manager service
- When setting the destination port for jp1ajs2atmsg or jp1ajs3sysctla
Stopping the service is not necessary.

In UNIX:

Execute the following commands to stop the JP1/AJS3 service, and then make sure that all processes are stopped:

- When setting the destination port for jp1ajs2qagt, jp1ajs2eaagt, or jp1ajs2qlagt
/opt/jp1ajs2/bin/jajs_spmd_stop
/opt/jp1ajs2/bin/jajs_spmd_status
- When setting the destination port for jp1ajs2chkagt
/opt/jp1ajs2/bin/ajschkstop
- When setting the destination port for jp1ajs2atmsg or jp1ajs3sysctla
Stopping the service is not necessary.

2. On the host on which to enable the destination port mapping function, set the environment setting parameter in (2) *Environment setting parameter* shown later by executing a command in the following format:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart the services that you stopped in step 1.
The new settings are applied.

(2) Environment setting parameter

Table 21–18: Environment setting parameter for setting whether destination port mapping function is to be enabled or disabled

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2COMMON]#	"DESTPORTMAPPING"=	Setting for whether destination port mapping function is to be enabled or disabled

#: The specification of the {JP1_DEFAULT | *logical-host*} part depends on whether the host is a physical host or a logical host. For a physical host, specify JP1_DEFAULT. For a logical host, specify the logical host name.

For details about the definition of this environment setting parameter, see [20.11.2\(7\) DESTPORTMAPPING](#).

22

Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up

This chapter describes the procedure for replicating a virtual machine after installation or setup of JP1/AJS3 - Manager or JP1/AJS3 - Agent.

For an overview of how to replicate a virtual machine on which JP1/AJS3 is installed, see [2.8 Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

22.1 Replicating a virtual machine after installation of JP1/AJS3 - Manager

This section describes replication of a virtual machine after installation of JP1/AJS3 - Manager.

The work procedure for replicating a virtual machine differs between the replication-source and replication-destination hosts.

- Overview of replicating a virtual machine after installation of JP1/AJS3 - Manager
22.1.1 Overview of replicating a virtual machine after installation of JP1/AJS3 - Manager
- Procedure on the original virtual machine
22.1.2 Procedure for replicating a virtual machine after installing JP1/AJS3 - Manager (on the original VM)
- Procedure on the replicated virtual machine
22.1.3 Procedure for replicating a virtual machine after setup of JP1/AJS3 - Manager (on the replicated VM)

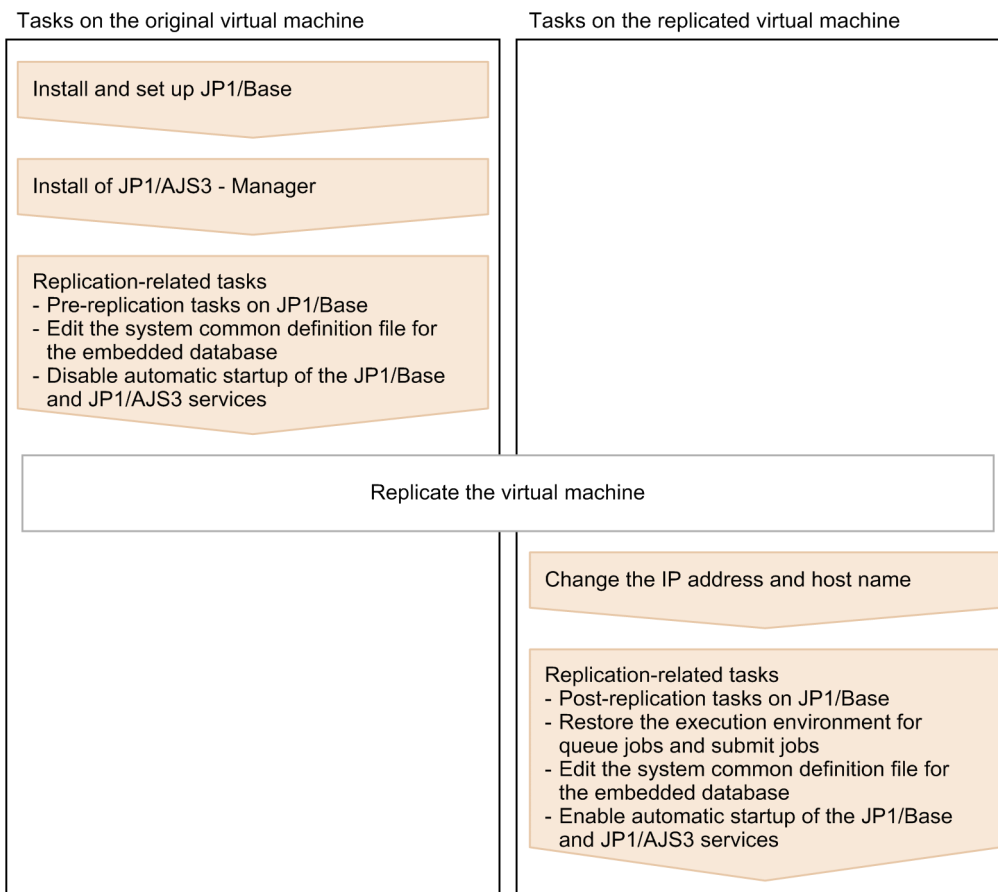
Important

Among the OSs, only Windows and Linux support replication of a virtual machine with JP1/AJS3 installed.

22.1.1 Overview of replicating a virtual machine after installation of JP1/AJS3 - Manager

The following figure gives an overview of replicating a virtual machine after installing JP1/AJS3 - Manager.

Figure 22–1: Overview of replicating a virtual machine after installing JP1/AJS3 - Manager



22.1.2 Procedure for replicating a virtual machine after installing JP1/AJS3 - Manager (on the original VM)

This subsection describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Manager) that must be performed on the original virtual machine.

1. Install JP1/Base on a virtual machine.
For details about the installation procedure, see the *JP1/Base User's Guide*.
2. Set up JP1/Base.
For details about the setup procedure, see the *JP1/Base User's Guide*.
3. Install JP1/AJS3 - Manager on the virtual machine.
For details about the installation procedure, see [2.2.3 Installing a JP1/AJS3 series program](#) (in Windows), or [12.2 Installing JP1/AJS3 series programs](#) (in UNIX).
4. Start the JP1/AJS3 service, and make sure that no error messages were output to the integrated trace log.
Cautionary note:
After the JP1/AJS3 service starts, do not perform any operations such as executing a job.
5. Stop the JP1/AJS3 service.
6. If the embedded database is active, stop it by executing the command `ajsembdbstop`.

To check whether the embedded database is active, execute the command `ajsembddbstatus`.

For details about the command `ajsembdbstop`, see *ajsembdbstop* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

7. Perform the tasks that are required in JP1/Base before the virtual machine is replicated as a disk copy installation. For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.

8. In a text editor, open the system configuration file for the embedded database, and then delete the specification of the replication-source host name.

You do not need to perform this procedure if a new installation of JP1/AJS3 - Manager version 12-10 or later was performed.

The location of the system configuration file for the embedded database is given below.

In Windows:

```
embedded-database-practical-directory\conf\pdsys
```

In UNIX:

```
embedded-database-practical-directory/conf/pdsys
```

An example of editing the file is given below.

Before the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1, source_host_name
```

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1
```

9. Disable automatic startup of the JP1/Base and JP1/AJS3 services.

Disable automatic startup of the JP1/Base and JP1/AJS3 services on the replicated virtual machine.

For details about how to disable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to disable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

10. Make sure that the JP1/Base and JP1/AJS3 services, as well as related services, are not running, and then shut down the virtual machine.

11. Replicate the virtual machine.

For details about how to replicate a virtual machine, see the documentation for the virtualization software.

22.1.3 Procedure for replicating a virtual machine after setup of JP1/AJS3 - Manager (on the replicated VM)

If you replicate a virtual machine after setting up JP1/AJS3 - Manager, the replication procedure varies depending on whether you change the IP address or host name after replication. If you change the IP address or host name, the procedure also varies depending on which item you change. The following subsections describe the procedure to be performed on the replicated virtual machine in each case:

(1) When changing neither the IP address nor the host name

The following describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Manager) that must be performed on the replicated virtual machine when neither the IP address nor the host name is to be changed.

1. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
2. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) When changing the IP address only

The following describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Manager) that must be performed on the replicated virtual machine when only the IP address is to be changed.

1. Perform the tasks required in JP1/Base when the IP address is changed.
For details about the tasks required in JP1/Base when the IP address is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
3. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(3) When changing the host name only

The following describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Manager) that must be performed on the replicated virtual machine when only the host name is to be changed.

1. Perform the tasks required in JP1/Base when the host name is changed.
For details about the tasks required in JP1/Base when the host name is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
3. Restore the execution environment for queue jobs and submit jobs.
You can skip this step if the system is in the standard configuration (without ISAM).
On the replication-destination host, delete the execution environment for queue jobs and submit jobs, and then use the command `jqimport` to re-create the execution environments. After executing the command `jqimport`, make sure the return value is 0 (normal termination).
For details about the command `jqimport`, see `jqimport` in 4. *Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.
4. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to enable automatic startup of the JP1/AJS3 service, see *4.2.4 Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) When changing both the IP address and the host name

The following describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Manager) that must be performed on the replicated virtual machine when both the IP address and host name are to be changed.

1. Perform the tasks required in JP1/Base when the IP address is changed.

For details about the tasks required in JP1/Base when the IP address is changed, see the *JP1/Base User's Guide*.

2. Perform the tasks required in JP1/Base when the host name is changed.

For details about the tasks required in JP1/Base when the host name is changed, see the *JP1/Base User's Guide*.

3. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.

For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.

4. Restore the execution environment for queue jobs and submit jobs.

You can skip this step if the system is in the standard configuration (without ISAM).

On the replication-destination host, delete the execution environment for queue jobs and submit jobs, and then use the command `jpgimport` to re-create the execution environments. After executing the command `jpgimport`, make sure the return value is 0 (normal termination).

For details about the command `jpgimport`, see `jpgimport` in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.

For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to enable automatic startup of the JP1/AJS3 service, see *4.2.4 Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

22.2 Replicating a virtual machine after setup of JP1/AJS3 - Manager

This section describes replication of a virtual machine after setup of JP1/AJS3 - Manager.

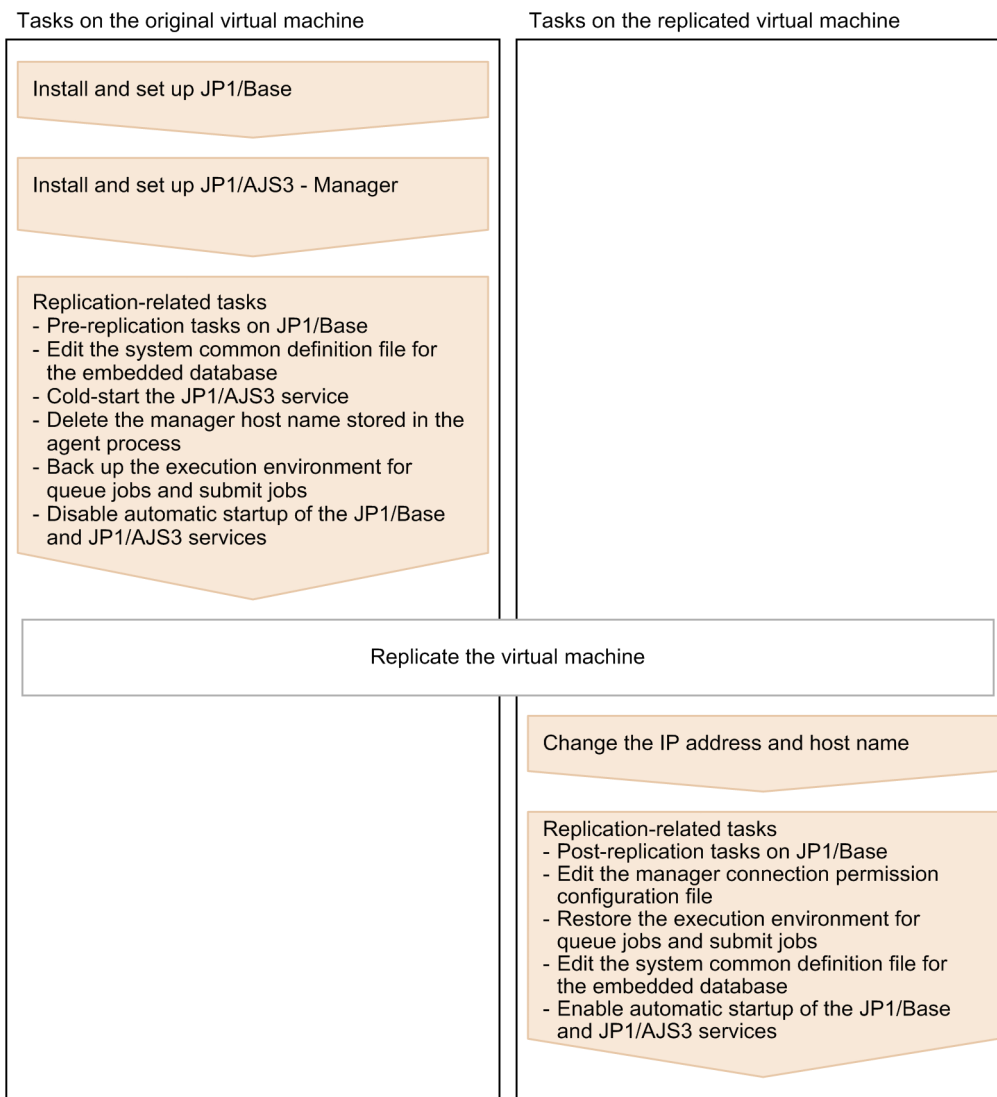
The work procedure for replicating a virtual machine differs between the replication-source and replication-destination hosts.

- Overview of replicating a virtual machine after setup of JP1/AJS3 - Manager
 - 22.2.1 Overview of replicating a virtual machine after setup of JP1/AJS3 - Manager*
- Procedure on the original virtual machine
 - 22.2.2 Procedure for replicating a virtual machine after setting up JP1/AJS3 - Manager (on the original VM)*
- Procedure on the replicated virtual machine
 - 22.2.3 Procedure for replicating a virtual machine after setup of JP1/AJS3 - Manager (on the replicated VM)*

22.2.1 Overview of replicating a virtual machine after setup of JP1/AJS3 - Manager

The following figure gives an overview of replicating a virtual machine after setting up JP1/AJS3 - Manager.

Figure 22–2: Overview of replicating a virtual machine after setting up JP1/AJS3 - Manager



22.2.2 Procedure for replicating a virtual machine after setting up JP1/AJS3 - Manager (on the original VM)

This subsection describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Manager) that must be performed on the original virtual machine.

1. Install JP1/Base on a virtual machine.
For details about the installation procedure, see the *JP1/Base User's Guide*.
2. Set up JP1/Base.
For details about the setup procedure, see the *JP1/Base User's Guide*.
3. Install JP1/AJS3 - Manager on the virtual machine.
For details about the installation procedure, see [2.2.3 Installing a JP1/AJS3 series program](#) (in Windows), or [12.2 Installing JP1/AJS3 series programs](#) (in UNIX).
4. Set up JP1/AJS3 - Manager.

Specify only the settings that are necessary for the replicated virtual machine.

For the setup procedures, see the subsections listed below.

In Windows:

3.1.2 Setting up JP1/AJS3 - Manager

In UNIX:

13.1.2 Setting up JP1/AJS3 - Manager

Cautionary note:

You can only replicate a virtual machine if no logical host was created for that virtual machine. Do not replicate a virtual machine that is in a cluster or a disaster recovery environment, because a logical host was created for that virtual machine.

5. Start the JP1/AJS3 service, and make sure that no error messages were output to the integrated trace log.

6. Define the units that are necessary for the replicated virtual machine.

7. Make sure there are no problems with jobnet execution, command execution, or other actions that are essential for operation.

Cautionary notes:

- To register a jobnet execution, make sure to register the jobnet for immediate execution. If you register it for planned execution or fixed execution, unintended jobs might be executed on the replicated virtual machine.
- Do not stop the JP1/AJS3 service while jobnets are being executed. Wait until the execution of all jobnets ends or forcibly terminate the jobnets, and then stop the JP1/AJS3 service.

8. Stop the JP1/AJS3 service.

9. If the embedded database is active, stop it by executing the command `ajsembdbstop`.

To check whether the embedded database is active, execute the command `ajsembdbstatus`.

For details about the command `ajsembdbstop`, see *ajsembdbstop* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

10. Perform the tasks that are required in JP1/Base before the virtual machine is replicated as a disk copy installation.

For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.

11. Edit the system configuration file for the embedded database.

You do not need to perform this procedure if a new installation of JP1/AJS3 - Manager version 12-10 or later was performed.

The location of the system configuration file for the embedded database is given below.

In Windows:

embedded-database-practical-directory\conf\pdsys

In UNIX:

embedded-database-practical-directory/conf/pdsys

In a text editor, open the system configuration file for the embedded database, and then delete the specification of the replication-source host name. An example of editing the file is given below.

Before the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,source_host_name
```

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1
```

12. Cold-start the JP1/AJS3 service.

For details about how to cold-start the JP1/AJS3 service, see *6.2.1 Temporarily changing the start mode of JP1/AJS3* in the *JP1/Automatic Job Management System 3 Administration Guide*.

13. Delete the manager host name stored in the agent process.

Execute the command `jpoagoec -r` to delete the manager host name. After command execution finishes, make sure the return value is 0 (normal termination). In addition, execute the command `jpoagoec -p`, and make sure the deleted manager host name is not output.

For details about the command `jpoagoec`, see the description *jpoagoec* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

14. If you want the replicated virtual machine to inherit the execution environment for queue jobs and submit jobs, and if you want to change the host name after replication, back up the execution environment.

Execute the command `jpqexport` to back up the execution environment for queue jobs and submit jobs. After command execution finishes, make sure the return value is 0 (normal termination).

For details about the command `jpqexport`, see the description *jpqexport* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

15. Disable automatic startup of the JP1/Base and JP1/AJS3 services.

Disable automatic startup of the JP1/Base and JP1/AJS3 services on the replicated virtual machine.

For details about how to disable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to disable automatic startup of the JP1/AJS3 service, see *4.2.4 Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

16. Make sure that the JP1/Base and JP1/AJS3 services, as well as related services, are not running, and then shut down the virtual machine.

17. Replicate the virtual machine.

For details about how to replicate a virtual machine, see the documentation for the virtualization software.

22.2.3 Procedure for replicating a virtual machine after setup of JP1/AJS3 - Manager (on the replicated VM)

If you replicate a virtual machine after setting up JP1/AJS3 - Manager, the replication procedure varies depending on whether you change the IP address or host name after replication. If you change the IP address or host name, the procedure also varies depending on which item you change. The following subsections describe the procedure to be performed on the replicated virtual machine in each case:

(1) When changing neither the IP address nor the host name

The following describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Manager) that must be performed on the replicated virtual machine when neither the IP address nor the host name is to be changed.

1. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.

For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.

2. To use the manager connection permission configuration file, edit it based on the replication-destination environment.

For details about the manager connection permission configuration file, see 2.3.9 *Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

3. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.

For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) When changing the IP address only

1. Perform the tasks required in JP1/Base when the IP address is changed.

For details about the tasks required in JP1/Base when the IP address is changed, see the *JP1/Base User's Guide*.

2. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.

For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.

3. To use the manager connection permission configuration file, edit it based on the replication-destination environment.

For details about the manager connection permission configuration file, see 2.3.9 *Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

4. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.

For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(3) When changing the host name only

The following describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Manager) that must be performed on the replicated virtual machine when only the host name is to be changed.

1. Perform the tasks required in JP1/Base when the host name is changed.

For details about the tasks required in JP1/Base when the host name is changed, see the *JP1/Base User's Guide*.

2. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.

For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.

3. To use the manager connection permission configuration file, edit it based on the replication-destination environment.

For details about the manager connection permission configuration file, see 2.3.9 *Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

4. Restore the execution environment for queue jobs and submit jobs.

You can skip this step if the system is in the standard configuration (without ISAM).

On the replication-destination host, delete the execution environment for queue jobs and submit jobs, and then use the command `jpqimport` to re-create the execution environments. After executing the command `jpqimport`, make sure the return value is 0 (normal termination).

For details about the command `jqimport`, see *jqimport* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see *4.2.4 Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) When changing both the IP address and the host name

The following describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Manager) that must be performed on the replicated virtual machine when both the IP address and host name are to be changed.

1. Perform the tasks required in JP1/Base when the IP address is changed.
For details about the tasks required in JP1/Base when the IP address is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks required in JP1/Base when the host name is changed.
For details about the tasks required in JP1/Base when the host name is changed, see the *JP1/Base User's Guide*.
3. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
4. To use the manager connection permission configuration file, edit it based on the replication-destination environment.
For details about the manager connection permission configuration file, see *2.3.9 Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
5. Restore the execution environment for queue jobs and submit jobs.
You can skip this step if the system is in the standard configuration (without ISAM).
On the replication-destination host, delete the execution environment for queue jobs and submit jobs, and then use the command `jqimport` to re-create the execution environments. After executing the command `jqimport`, make sure the return value is 0 (normal termination).
For details about the command `jqimport`, see *jqimport* in *4. Commands Used for Special Operation* in the manual *JP1/Automatic Job Management System 3 Command Reference*.
6. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see *4.2.4 Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

22.3 Replicating a virtual machine after installation of JP1/AJS3 - Agent

This section describes replication of a virtual machine after installation of JP1/AJS3 - Agent.

The work procedure for replicating a virtual machine differs between the replication-source and replication-destination hosts.

- Overview of replicating a virtual machine after installation of JP1/AJS3 - Agent
 - 22.3.1 Overview of replicating a virtual machine after installation of JP1/AJS3 - Agent*
- Procedure on the original virtual machine
 - 22.3.2 Procedure for replicating a virtual machine after installing JP1/AJS3 - Agent (on the original VM)*
- Procedure on the replicated virtual machine
 - 22.3.3 Procedure for replicating a virtual machine after installation of JP1/AJS3 - Agent (on the replicated VM)*

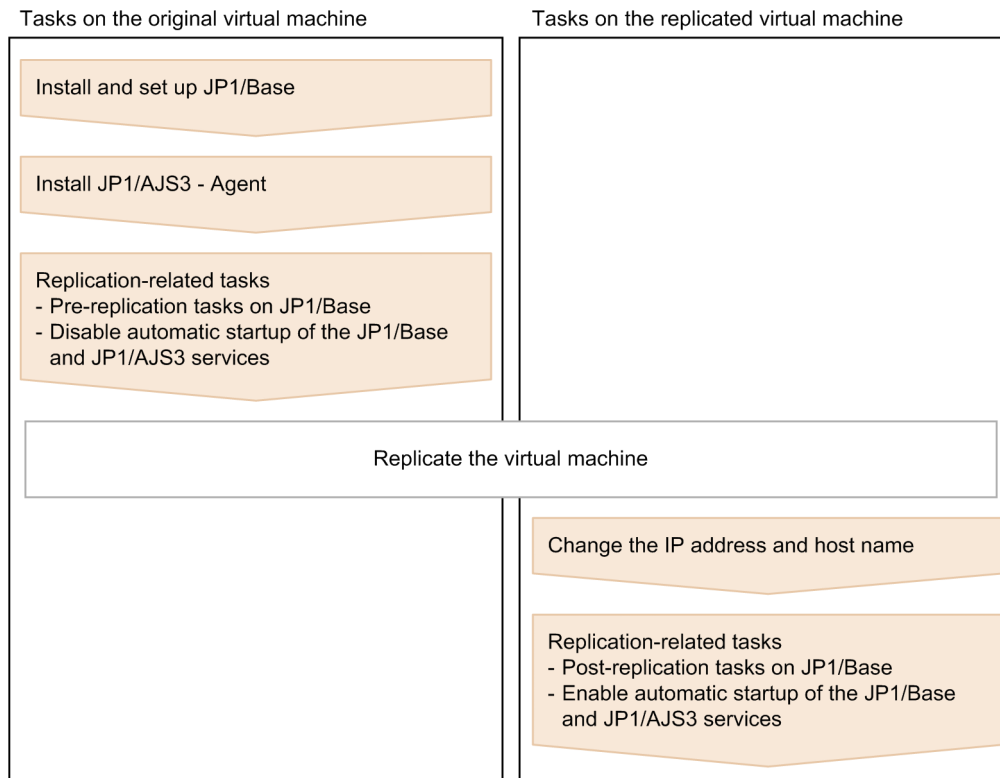
! Important

Among the OSs, only Windows and Linux support replication of a virtual machine with JP1/AJS3 installed.

22.3.1 Overview of replicating a virtual machine after installation of JP1/AJS3 - Agent

The following figure gives an overview of replicating a virtual machine after installing JP1/AJS3 - Agent.

Figure 22–3: Overview of replicating a virtual machine after installing JP1/AJS3 - Agent



22.3.2 Procedure for replicating a virtual machine after installing JP1/AJS3 - Agent (on the original VM)

This subsection describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Agent) that must be performed on the original virtual machine.

1. Install JP1/Base on a virtual machine.

For details about the installation procedure, see the *JP1/Base User's Guide*.

2. Set up JP1/Base.

For details about the setup procedure, see the *JP1/Base User's Guide*.

3. Install JP1/AJS3 - Agent on the virtual machine.

For details about the installation procedure, see [2.2.3 Installing a JP1/AJS3 series program](#) (in Windows), or [12.2 Installing JP1/AJS3 series programs](#) (in UNIX).

4. Start the JP1/AJS3 service, and make sure that no error messages were output to the integrated trace log.

Cautionary note:

After the JP1/AJS3 service starts, do not execute jobs on the agent host.

5. Stop the JP1/AJS3 service.

6. Perform the tasks that are required in JP1/Base before the virtual machine is replicated as a disk copy installation.

For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.

7. Disable automatic startup of the JP1/Base and JP1/AJS3 services.

Disable automatic startup of the JP1/Base and JP1/AJS3 services on the replicated virtual machine.

For details about how to disable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to disable automatic startup of the JP1/AJS3 service, see [4.2.4 Settings for starting and stopping JP1/AJS3 services automatically](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

8. Make sure that the JP1/Base and JP1/AJS3 services, as well as related services, are not running, and then shut down the virtual machine.

9. Replicate the virtual machine.

For details about how to replicate a virtual machine, see the documentation for the virtualization software.

22.3.3 Procedure for replicating a virtual machine after installation of JP1/AJS3 - Agent (on the replicated VM)

If you replicate a virtual machine after installing JP1/AJS3 - Agent, the replication procedure varies depending on whether you change the IP address or host name after replication. If you change the IP address or host name, the procedure also varies depending on which item you change. The following subsections describe the procedure to be performed on the replicated virtual machine in each case:

(1) When changing neither the IP address nor the host name

The following describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when neither the IP address nor the host name is to be changed.

1. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
2. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) When changing the IP address only

The following describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when only the IP address is to be changed.

1. Perform the tasks required in JP1/Base when the IP address is changed.
For details about the tasks required in JP1/Base when the IP address is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
3. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(3) When changing the host name only

The following describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when only the host name is to be changed.

1. Perform the tasks required in JP1/Base when the host name is changed.
For details about the tasks required in JP1/Base when the host name is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
3. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) When changing both the IP address and the host name

The following describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when both the IP address and host name are to be changed.

1. Perform the tasks required in JP1/Base when the IP address is changed.

- For details about the tasks required in JP1/Base when the IP address is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks required in JP1/Base when the host name is changed.
For details about the tasks required in JP1/Base when the host name is changed, see the *JP1/Base User's Guide*.
 3. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
 4. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see *4.2.4 Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

22.4 Replicating a virtual machine after setup of JP1/AJS3 - Agent

This section describes replication of a virtual machine after setup of JP1/AJS3 - Agent.

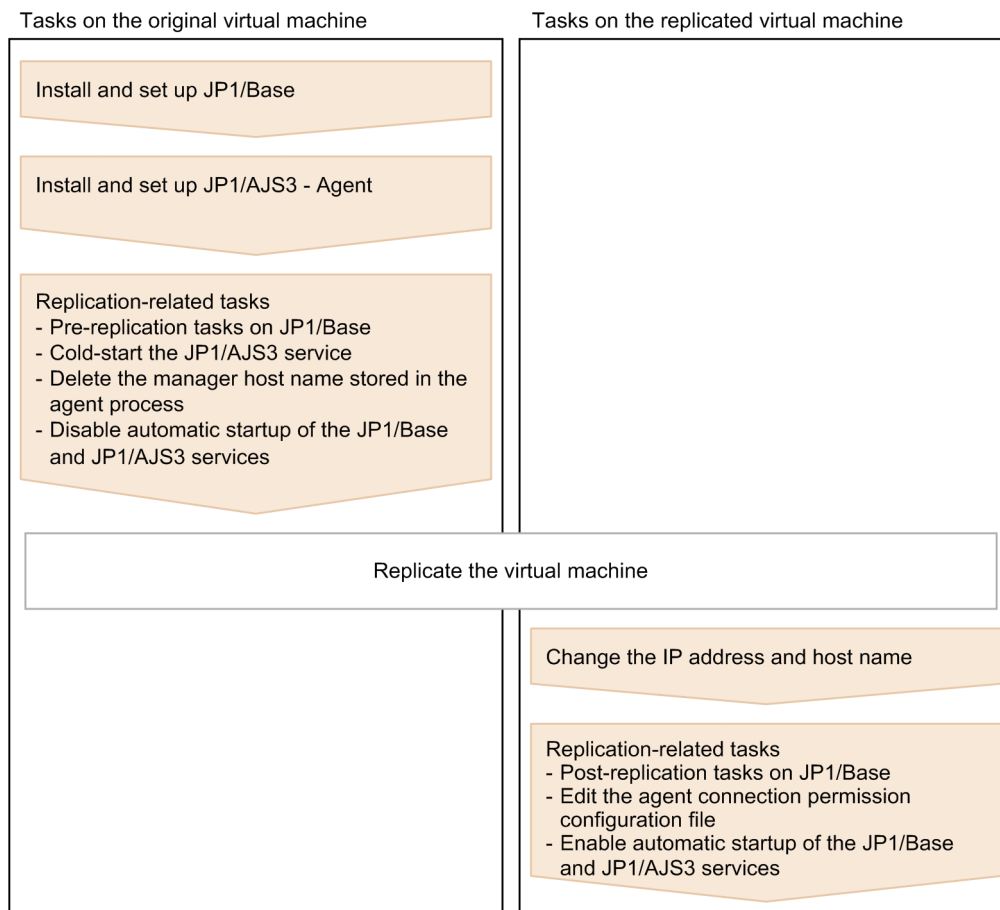
The work procedure for replicating a virtual machine differs between the replication-source and replication-destination hosts.

- Overview of replicating a virtual machine after setup
 - 22.4.1 Overview of replicating a virtual machine after setup of JP1/AJS3 - Agent*
- Procedure on the original virtual machine
 - 22.4.2 Procedure for replicating a virtual machine after setting up JP1/AJS3 - Agent (on the original VM)*
- Procedure on the replicated virtual machine
 - 22.4.3 Procedure for replicating a virtual machine after setup of JP1/AJS3 - Agent (on the replicated VM)*

22.4.1 Overview of replicating a virtual machine after setup of JP1/AJS3 - Agent

The following figure gives an overview of replicating a virtual machine after setting up JP1/AJS3 - Agent.

Figure 22–4: Overview of replicating a virtual machine after setting up JP1/AJS3 - Agent



22.4.2 Procedure for replicating a virtual machine after setting up JP1/AJS3 - Agent (on the original VM)

This subsection describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Agent) that must be performed on the original virtual machine.

1. Install JP1/Base on a virtual machine.

For details about the installation procedure, see the *JP1/Base User's Guide*.

2. Set up JP1/Base.

For details about the setup procedure, see the *JP1/Base User's Guide*.

3. Install JP1/AJS3 - Agent on the virtual machine.

For details about the installation procedure, see [2.2.3 Installing a JP1/AJS3 series program](#) (in Windows), or [12.2 Installing JP1/AJS3 series programs](#) (in UNIX).

4. Set up JP1/AJS3 - Agent.

Specify only the settings that are necessary for the replicated virtual machine.

For the setup procedure, see [3.2 Required setup for JP1/AJS3 - Agent](#) (in Windows), or [13.2 Required setup for JP1/AJS3 - Agent](#) (in UNIX).

5. Start the JP1/AJS3 service, and make sure that no error messages were output to the integrated trace log.

6. Make sure there are no problems with job execution and other actions that are essential for operation.

Cautionary note:

After executing a job on the agent host, do not stop the JP1/AJS3 service while the jobnet is being executed. Wait until execution of the job ends or forcibly terminate the job, and then stop the JP1/AJS3 service.

7. Stop the JP1/AJS3 service.

8. Perform the tasks that are required in JP1/Base before the virtual machine is replicated as a disk copy installation.

For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.

9. Cold-start the JP1/AJS3 service.

For details about how to cold-start the JP1/AJS3 service, see [6.2.1 Temporarily changing the start mode of JP1/AJS3](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

10. Delete the manager host name stored in the agent process.

Execute the command `jpoagoec -r` to delete the manager host name. After command execution finishes, make sure the return value is 0 (normal termination). In addition, execute the command `jpoagoec -p`, and make sure the deleted manager host name is not output.

For details about the command `jpoagoec`, see the description `jpoagoec` in [3. Commands Used for Normal Operations](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

11. Disable automatic startup of the JP1/Base and JP1/AJS3 services.

Disable automatic startup of the JP1/Base and JP1/AJS3 services on the replicated virtual machine.

For details about how to disable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to disable automatic startup of the JP1/AJS3 service, see [4.2.4 Settings for starting and stopping JP1/AJS3 services automatically](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

12. Make sure that the JP1/Base and JP1/AJS3 services, as well as related services, are not running, and then shut down the virtual machine.
13. Replicate the virtual machine.
For details about how to replicate a virtual machine, see the documentation for the virtualization software.

22.4.3 Procedure for replicating a virtual machine after setup of JP1/AJS3 - Agent (on the replicated VM)

If you replicate a virtual machine after setting up JP1/AJS3 - Agent, the replication procedure varies depending on whether you change the IP address or host name after replication. If you change the IP address or host name, the procedure also varies depending on which item you change. The following subsections describe the procedure to be performed on the replicated virtual machine in each case:

(1) When changing neither the IP address nor the host name

The following describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when neither the IP address nor the host name is to be changed.

1. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
2. To use the agent connection permission configuration file, edit it based on the replication-destination environment.
For details about the agent connection permission configuration file, see 2.3.9 *Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
3. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) When changing the IP address only

The following describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when only the IP address is to be changed.

1. Perform the tasks required in JP1/Base when the IP address is changed.
For details about the tasks required in JP1/Base when the IP address is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
3. To use the agent connection permission configuration file, edit it based on the replication-destination environment.
For details about the agent connection permission configuration file, see 2.3.9 *Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
4. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.

For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.

For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(3) When changing the host name only

The following describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when only the host name is to be changed.

1. Perform the tasks required in JP1/Base when the host name is changed.
For details about the tasks required in JP1/Base when the host name is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
3. To use the agent connection permission configuration file, edit it based on the replication-destination environment.
For details about the agent connection permission configuration file, see 2.3.9 *Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
4. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) When changing both the IP address and the host name

The following describes the procedure for replicating a virtual machine (after setting up JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when both the IP address and host name are to be changed.

1. Perform the tasks required in JP1/Base when the IP address is changed.
For details about the tasks required in JP1/Base when the IP address is changed, see the *JP1/Base User's Guide*.
2. Perform the tasks required in JP1/Base when the host name is changed.
For details about the tasks required in JP1/Base when the host name is changed, see the *JP1/Base User's Guide*.
3. Perform the tasks that are required in JP1/Base after the virtual machine is replicated by performing disk copy installation.
For the tasks that must be performed in JP1/Base during disk copy installation, see the *JP1/Base User's Guide*.
4. To use the agent connection permission configuration file, edit it based on the replication-destination environment.
For details about the agent connection permission configuration file, see 2.3.9 *Restricting hosts that can access JP1/AJS3* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.
5. Enable automatic startup of the JP1/Base and JP1/AJS3 services again based on the operational requirements.
For details about how to enable automatic startup of the JP1/Base service, see the *JP1/Base User's Guide*.
For details about how to enable automatic startup of the JP1/AJS3 service, see 4.2.4 *Settings for starting and stopping JP1/AJS3 services automatically* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

23

Setting Up an Embedded Database

This chapter describes the preparation required to use an embedded database, including estimation of the required database area, and how to perform advanced setup.

23.1 Preparation for using an embedded database

This subsection describes the preparation for using an embedded database.

The following table lists points to consider when using an embedded database.

Table 23–1: Points to consider when using an embedded database

No.	Key decisions	Relevant chapter
1	Examining the configuration, operating environment, and setup method for an embedded database	23.1.1
2	Estimation based on the scale selected for the embedded database	23.2
3	Maintenance plan for the embedded database	23.3
4	Advanced setup procedures for an embedded database (in a non-cluster configuration)	23.4
5	Advanced setup procedures for an embedded database (in a cluster configuration)	23.5

23.1.1 Examining the embedded-database operating environment and operating method

This subsection describes considerations based on which the operating environment and operating method for an embedded database can be determined.

(1) Operating environment

Carefully consider the following environment conditions related to operation of the embedded database:

- System configuration
- Environment scale
- System file area
- Operating environment
- Environment before an embedded database is installed

(a) System configuration

Decide whether to configure the embedded database in a non-cluster configuration (physical host) or in a cluster configuration (logical host). The environment conditions consist of both those related to embedded databases and those related to the overall JP1/AJS3 service configuration. Also, if you start multiple scheduler services, decide on the combination of scheduler services and embedded database to be set up.

Note that external client software cannot connect to an embedded database.

(b) Environment scale

Based on the scale of JP1/AJS3 operations, select small, medium, or large as the scale of the embedded database environment. The following table provides a guideline for selecting the scale. For details about how to estimate the database area required for the scale selected, see [23.2 Estimating the database area](#).

(c) System file area

Decide whether it is necessary to duplicate the system files used for the embedded database. Duplication of system files requires more disk space. However, if a failure occurs on one of two disks that contain the system files, the embedded database can be restored to the point at which the failure occurred by using the system files on the other disk.

The following table shows the required disk space for each type of embedded database operating environment. Select one of the possibilities.

Cautionary note:

If the backup enhancement function is enabled, you cannot duplicate system files.

Table 23–2: Disk space required for the embedded database operating environment

No.	Operating environment				Required disk space (in megabytes)								
	Backup enhancement function	System configuration	Environment scale	System files duplicated	System area ^{#1}	Data area	System file area	Work area	Total ^{#2}				
1	disabled	Non-cluster	Small	No	170 ^{#3}	200	320	--	520				
2				Yes					640	840			
3			Medium	No		1,400	2,800		--	4,200			
4				Yes						5,600	7,000		
5			Large	No		6,700	14,000			--	20,700		
6				Yes							28,000	34,700	
7		Cluster	Small	No	170 ^{#3} , #4	200	320	40 x 2 ^{#5}			600		
8				Yes							640	920	
9			Medium	No		1,400	2,800		--		4,280		
10				Yes							5,600	7,080	
11			Large	No		6,700	14,000			--	20,780		
12				Yes							28,000	34,780	
13	enabled	Non-cluster	Small	170 ^{#3}	700	320	--	1,020					
14			Medium					No			1,900	2,800	4,700
15			Large					No	7,200		14,000	21,200	
16		Cluster	Small		170 ^{#3} , #4	700		320	40 x 2 ^{#5}		1,100		
17			Medium							No	1,900	2,800	4,780
18			Large							No	7,200	14,000	21,280

Legend

--: The work area is not necessary

#1

The system area is created on the disk on which JP1/AJS3 is installed or in the directory specified in the `-i` option of the `ajsembdbinstl` command. For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

#2

This value does not include the system area amount.

#3

This value varies according to the OS.

OS	Size (MB)
Windows	170
HP-UX (IPF)	400
Solaris	260
AIX	200
Linux	210

#4

In a cluster system, the embedded database must be installed on both the primary and secondary nodes.

#5

In a cluster configuration, work areas must be created on both local disks, and must not be created on a shared disk. That is, you must create a work area on both the primary node and the secondary node.

(d) Operating environment

Take into consideration the following operating environment items related to the embedded database:

- System definitions

The operands in the following system definitions are described below.

- System common definition
- Single server definition

■ System common definition

The following describes the operands in the system common definition, the values of which can be changed by the embedded database system administrator.

The path name of the system common definition file is as shown below. You (the embedded database system administrator) can change the values of operands specified in this file.

- Windows: *embedded-database-practical-directory\conf\pdsys*
- UNIX: *embedded-database-practical-directory/conf/pdsys*

Note that the operands in the following table that are enclosed in square brackets ([]) are not written when the embedded database is set up. Add the operands if necessary.

Important

To ensure correct JP1/AJS3 operation, do not change the values of any operands that are not described here.

No.	Format
1	<code>set pd_max_users = <i>maximum-number-of-concurrently-connectable-users</i></code>
2	<code>[set pd_service_port = <i>client-connection-port-number</i>]</code>
3	<code>set pd_mode_conf = <i>embedded-database-start-method</i></code>
4	<code>[set pd_utl_exec_time = <i>execution-monitoring-time-of-a-command-for-operating-the-embedded-database</i>]</code>

(1) `pd_max_users` = *maximum-number-of-concurrently-connectable-users*

~ <unsigned integer> ((1 to 2000))

This operand specifies the maximum number of users who can connect to the embedded database. If you want to change the maximum number of users who can connect to the embedded database, change the value of this operand. If connection to the embedded database is requested when the number of users who have already been connected to the embedded database has reached the maximum, the embedded database does not accept the request (the request results in an error). Note that in JP1/AJS3, if the backup enhancement function is disabled, the default setting is 128, and if the backup enhancement function is enabled, the default setting is 256.

Cautionary notes:

- For embedded-database operation commands, each command is counted as a single connection to an embedded database.

The number of connections to the embedded database is counted as shown in the following table.

JP1/AJS3 behavior	Number of connections
Startup of JP1/AJS3 - Manager	2
Startup of a scheduler service	4 ^{#1, #2, #3}
Execution of a command that performs an operation on a unit ^{#4}	1
Connection from JP1/AJS3 - View	The number of viewed scheduler services
Execution of a command that performs an operation on the embedded database	2
Execution of a remote jobnet (execution host)	1
Execution of a remote jobnet (target host)	1
Connection from JP1/AJS3 - Web Console	Number of connected scheduler services

#1

If wait conditions are used, add 1 to this value. To determine whether wait conditions are used, check whether the procedure described in [6.1.8 Settings for using wait conditions](#) has been performed.

#2

If the manager functions for queueless job execution have been set up, add the value specified in the `QUEUELESSMULTIREQ` environment setting parameter to this value.

For details about the `QUEUELESSMULTIREQ` environment setting parameter, see [20.4.2\(76\) QUEUELESSMULTIREQ](#).

#3

If the backup enhancement function is enabled, add 1. You can check the setting of the backup enhancement function by using the `ajsembdbstatus` command. For details about the `ajsembdbstatus` command, see [ajsembdbstatus](#) in [3. Commands Used for Normal Operations](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

#4

Cases of linking to JP1/IM2 and referring to unit information are also applicable.

Note that, when a JP1/AJS3 command is executed from JP1/AJS3 - View, 1 connection is used from JP1/AJS3 - View to the embedded database, and 1 connection is used for executing the command. When units are to be operated from JP1/AJS3 - Web Console, 1 connection is used from JP1/AJS3 - Web Console to the embedded database, and 1 connection is used for executing the command.

- If you set a value larger than 500 for `pd_max_users`, you need to expand the space for the sink point dump files. Execute the `ajsembdbaddlog` command three times with the `-s 7` and `-r spd` options specified to expand the space for the sink point dump files.

The following shows an example of specifying the `ajsembdbaddlog` command:

```
ajsembdbaddlog -s 7 -r spd -id _JF0 -d directory-name
```

For details about the option of the `ajsembdbaddlog` command, see [ajsembdbaddlog](#) in [3. Commands Used for Normal Operations](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

- In UNIX, if you increase the value of this operand, adjust system resources. For the system resources that require adjustment, see the *Release Notes*.

(2) `pd_service_port = client-connection-port-number`

~ <unsigned integer> ((5001 to 65535))

If there is a firewall on the embedded database server side, specify the client connection port number. Note that the port number you specify must satisfy the following condition:

- Port number that is unique on the host

Explanation:

- Specify this operand as necessary if you use a product that links to JP1/AJS3. You do not need to specify this operand in JP1/AJS3 - Manager because it is not available in JP1/AJS3 - Manager.
- If you start multiple servers or units on the same computer, specify a separate port number for each embedded database.

Cautionary note:

Make sure that the port number you specify is outside the range of port numbers assigned automatically by the OS. This differs depending on the OS. If another program is already using a port number in the range and you specify that port number, you will not be able to start the embedded database.

(3) `pd_mode_conf = starting-the-embedded-database`

Specify how the embedded database starts. You can set the values below for `pd_mode_conf`. The default is `MANUAL2`. You usually do not need to change the default.

- `AUTO`

When the OS starts, the embedded database is started automatically. If the embedded database terminates abnormally, it is restarted automatically.

- `MANUAL1`

When the OS starts, the embedded database is not started automatically. The embedded database is restarted automatically only if it terminates abnormally.

- `MANUAL2`

When the OS starts, the embedded database is not started automatically. Unlike `MANUAL1`, if the embedded database terminates abnormally, it is not restarted automatically.

(4) `pd_utl_exec_time = execution-monitoring-time-of-a-command-for-operating-the-embedded-database`

~ <unsigned integer> ((0 to 35791394)) <<0>> (unit: second)

If you monitor the execution time of the following commands that operate the embedded database, specify the monitoring time in minutes.

- `ajsembdbreclaim` command
- `ajsembdbroorg` command

If the command does not complete execution within the time specified in this operand, a message (KAVS2117-E) is output to the standard error output and the command terminates abnormally.

Advantage:

If the command does not send any response during execution in a nighttime batch job because of a problem such as a communication error or disk error, you can allow the command to terminate abnormally at the specified time.

Guideline for specifying a value

The purpose of this operand is to handle a non-response error, not to monitor the maintenance processing time of the database. Therefore, specify a value for the operand that includes a margin for the maximum value of the actual performance value for the command execution time. For example, if the maximum execution time of the

`ajsembdbreclaim` command is about 60 minutes and the maximum execution time of the `ajsembdborg` command is about 90 minutes, specify 120 for `pd_utl_exec_time` to provide the margin. The reason for this value is that a non-response error might occur if processing that always finishes in 90 minutes fails to send a response after an additional 30 minutes has elapsed. Note that the time of 30 minutes added to the maximum command execution time is based on the assumption that maintenance is being performed on a scheduler database and the agent management database. If a different type of database access is being performed (for example, access for execution of a job or unit operation command) during the maintenance processing, the maintenance processing waits one minute for the processing to be completed. Accordingly, as a guideline for the time to be added, specify a value that includes a margin obtained from the expression *number-of-processing-target-tables* $\times 2 \times 1$ (in minutes).

For details about the tables that are created in the embedded database, see 2.6.3 *JP1/AJS3 database tables* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

■ Single server definition

The following describes the operands in the single server definition, the values of which can be changed by the embedded database system administrator. The path name of the single server definition file is as shown below. You (the embedded database system administrator) can change the values of operands specified in this file.

- Windows: *embedded-database-practical-directory\conf\ajs2*
- UNIX: *embedded-database-practical-directory/conf/ajs2*

Important

To ensure correct JP1/AJS3 operation, do not change the values of any operands that are not described here.

No.	Format
1	<code>set pd_lck_pool_size = size-of-pool-used-for-locking</code>

(1) `pd_lck_pool_size = size-of-pool-used-for-locking`

~ <unsigned integer> (unit: KB) ((1 to 2000000))

Specify, in kilobytes, the size of the shared memory area in the embedded database.

In JP1/AJS3, the default differs depending on the scale specified by the `ajsembdbbuild`, `jajs_setup`, or `jajs_setup_cluster` command.

Scale	Command option	Lock pool size
Large	-l	60,000
Medium	-m	37,500
Small	-s	15,000

Operation method:

If units are to be operated by using commands, JP1/AJS3 - View or JP1/AJS3 - Web Console, the size of memory area used for locking changes based on the number of units to be operated. For this reason, estimate and set the appropriate memory area size in advance.

If many units are operated at the same time, the memory area for locking might become insufficient, causing the following problems:

- The message KAVS0902-E is output to the integrated log, syslog, or Windows event log, and the message KFPA11912-E is output as maintenance information for the message KAVS0902-E. The operations being performed end abnormally.

If insufficient memory area for locking prevents scheduler services from normally accessing the database, the following problems might occur:

- The message KAVS0902-E is output, and jobs and jobnets cannot be executed normally.
- The message KAVS0230-E is output to the integrated log, syslog, or Windows event log, and scheduler services end abnormally.

The unit operations^{#1} that use the memory area for locking are as follows:

1. The unit defined by using the `ajsdefine` command and all the units under control of the unit
2. The unit to be deleted by using the `ajsdelete` command or JP1/AJS3 - View and all the units under control of the unit^{#2}
3. The unit specified as the copy source for the unit copy operation by using the `ajscopy` command or JP1/AJS3 - View and all the units under control of the unit
4. The unit to be restored by using the restoring operation via the `ajsrestore` command or JP1/AJS3 - View and all the units under control of the unit
5. The root jobnet specified as the release source for the release operation by using the `ajsrelease` command or JP1/AJS3 - View and all the units under control of the root jobnet^{#3}
6. The root jobnet to be registered by using the execution registration operation via the `ajsentry` command, JP1/AJS3 - View or JP1/AJS3 - Web Console and all the units under control of the root jobnet
7. The root jobnet to be re-executed by using the re-execution operation via the `ajsrerun` command, JP1/AJS3 - View or JP1/AJS3 - Web Console and all the units under control of the root jobnet
8. The units that have been added to or deleted from the root jobnet to be released from suspended state by using the suspension cancellation operation via the `ajsuspend` command or JP1/AJS3 - View
9. The unit to be imported by using the `ajsimport` command or JP1/AJS3 - View and all the units under control of the unit
10. The units to be changed by using the `ajsplan` command or the temporary change operation in JP1/AJS3 - View or JP1/AJS3 - Web Console
11. The root jobnet to which registered execution-schedule information is to be imported by using the `ajsrimport` command and all the units under control of the root jobnet
12. The units to be checked by using the pre-check on definition contents via the `ajschkdef` command
13. Registration cancellation by using the `ajsleave` command, JP1/AJS3 - View or JP1/AJS3 - Web Console^{#4}

To prevent shortages in the memory area for locking, compare the value set for `pd_lck_pool_size` and the value calculated by using the following expression^{#5}. If the value set for `pd_lck_pool_size` is smaller, change the value to the calculated value.

- In cases 1, 2, 3, 4, 5, 8, or 9 above

$$(a + b + c + d + e) / 4 \times 1.2$$

a: *(total-number-of-job-groups x 2) + total-number-of-years-in-the-calendar-defined-for-job-groups*

b: *(total-number-of-jobnets x 2) + total-number-of-schedule-rules-defined-for-all-jobnets*

c: *total-number-of-jobs x 2*

d: *total-number-of-relations-defined-for-jobs-and-jobnets*

e: *total-number-of-jobs-and-jobnets-with-wait-condition-defined + total-number-of-defined-units-to-be-waited-for*

If the `UNITDEFDIVIDEUPDATE` environment setting parameter is set to `yes` and the calculated value is 4,000 or greater, set 4,000.

- In cases 6, 7, 10, or 11 above
 $(f + g) / 4 \times 1.2$
f: total-number-of-jobs-and-jobnets $\times 3$
g: total-number-of-jobs-and-jobnets-with-wait-conditions-defined
- In cases 12 above
 $h / 4 \times 1.2$
h: total-number-of-jobs-and-jobnets-and-jobgroups

If the jobnets used in the calculation use the jobnet release function, perform the calculation by using the jobnet definition as the target of operation. Also when an operation equivalent to the above operation is performed by a product related to or linked with JP1/AJS3, the memory area for exclusive control is used in a similar way.

If you change the value set for `pd_lck_pool_size`, see 3. *Estimates* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide* and the *Release Notes*, and then revise the memory requirements.

#1:

The memory area for locking is also used when operations equivalent to those described above are performed from products related to or linked with JP1/AJS3.

#2:

If the jobnet used for calculation uses the jobnet release function, definitions whose statuses are *Release wait* or *Applied* are subject to processing. Add the total number of units in those definitions. To estimate the number of units in a definition whose status is *Applied*, use the following expression: *number-of-units-under-control-of-the-root-jobnet* \times *number-of-release-registrations-performed-in-maximum-number-of-days-for-which-generations-are-retained*

For details about the status of a jobnet definition, see 7.3.3 *Jobnet status after registration of a jobnet-definition release* in the *JP1/Automatic Job Management System 3 Administration Guide*.

#3:

If the jobnet used for calculation uses the jobnet release function, definitions of release-destination units whose statuses are *Applied* are subject to processing. Add the total number of units in those definitions. To estimate the number of units in a definition whose status is *Applied*, use the following expression: *number-of-units-under-control-of-the-root-jobnet* \times *number-of-release-registrations-performed-in-maximum-number-of-days-for-which-generations-are-retained*

For details about the status of a jobnet definition, see 7.3.3 *Jobnet status after registration of a jobnet-definition release* in the *JP1/Automatic Job Management System 3 Administration Guide*.

#4:

It is necessary to estimate only when the backup enhancement function is enabled.

#5:

If multiple operations are performed at the same time, use the sum of the calculated values for comparison.

Cautionary notes:

- If you change the specified value of this operand to a larger value and then concurrently operate more units than the guideline for the database scale suggests, a message (KFPS01220-E) is output to the event log or to syslog and the embedded database might terminate abnormally. In such cases, reduce the number of units that are operated concurrently or consider configuring the embedded database on a larger scale.
For details about the guideline for the number of units, see 23.2 *Estimating the database area*.
- If you increase the value of this operand, the amount of memory used by the embedded database also increases proportionally. Before you change the value, make sure that there is sufficient memory.
In addition, if you change the specified value of this operand to a larger value in UNIX, adjust the system resources accordingly. For details about the system resources that need to be adjusted, see the *Release Notes*.
If the value of this operand is too small, an attempt to access JP1/AJS3 might result in an error.

- The maximum value that can be specified for this operand is 2,000,000. However, if OS memory management cannot secure a continuous area, startup of the embedded database fails. If a continuous area cannot be secured, adjust the value so that a continuous area can be secured.

■ Changing the system definition

To change the system definition:

1. Stop the JP1/AJS3 services.
2. Check the status of the target embedded database.

```
ajsembdbstatus -s ust -id _JF0#
```

3. If the target embedded database is running, stop it normally. If the target embedded database is not running, start it, and then stop it normally.

Example of the command used to start an embedded database:

```
ajsembdbstart -id _JF0#
```

Example of the command used to stop an embedded database normally:

```
ajsembdbstop -id _JF0#
```

4. Using a text editor, open the system common definition file or a single server definition file.
Before performing this operation, create a backup of the file in case a problem occurs.
5. Change the value of the operand.
6. Save the change made in step 5, and then close the file.
7. In a cluster configuration, copy the changed system common definition file or the single server definition file to the standby host.
8. Start the JP1/AJS3 services that you stopped.
The embedded database is also started at this time.

#:

For the `-id` option, specify the setup identifier of the target embedded database. To start the embedded database in Windows, start the JP1/AJS3 Database `_JFn` (n : 0 to 9 or A to Z) service in advance.

Important

If you use a multi-byte space or character, or add an unnecessary line-feed or space character in the system common definition or single server definition, startup of the JP1/AJS3 services fails.

(e) Environment required for installing an embedded database

This subsection describes how to determine the environmental requirements for the configuration of the embedded database that will be built.

■ Required disk space

For details about disk capacity, see the *Release Notes*.

Note that if you install an embedded database on an NTFS-formatted disk in Windows, you must not compress the files in the embedded database practical directory. If you do so, the embedded database will not operate normally.

■ Required memory

For the memory requirements, see the *Release Notes*.

In Windows, you must also check the virtual memory requirement. To do this, perform the following:

1. In Windows **Control Panel**, and then double-click **System**.

The System dialog box appears.

2. Click **Advanced system settings**.

The System Properties dialog box appears.

3. Click the **Advanced** tab.

4. Click the **Settings** button of **Performance**.

The Performance Options dialog box appears.

5. Click the **Advanced** tab.

6. Click the **Change** button of **Virtual memory**.

The virtual memory required for one instance of an embedded database is as follows:

Paging file size = 130 MB

To determine the size you actually specify, add the size required by Windows and other programs. If you change the size of the virtual memory, you must restart Windows.

Cautionary note

The size may increase depending on the number of JP1/AJS3 - Views or JP1/AJS3 - Web Consoles that are connected or the number of scheduler services that are set.

For the initial size, specify a quantity of virtual memory that can be allocated in a continuous area on one drive. If a contiguous area cannot be used for virtual memory, the embedded database might terminate abnormally because memory is insufficient.

■ Checking kernel parameters

In UNIX, you must change the kernel parameters as necessary. For details about estimating kernel parameters, see *3.2.5 Estimating the values for kernel parameters* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) Database operations

Consider the following items related to embedded database operations:

- Use of the system log data
- Times at which the embedded database is backed up
- Point up to which the embedded database is restored from the backup
- Method for restoring the embedded database from the backup

(a) Use of the system log data

The following describes operation when the system log is used for restoration. You can ignore this item if you do not use the system log for restoration.

Operation that uses unloading

In this method, the data output to a system log file is unloaded (that is, backed up) to another file. The contents of the system log files are unloaded automatically by the embedded database, at which time the system log file becomes available for reuse. However, since disk space is required to store the unloaded log files (called *unload log files*), available disk space must be monitored. In addition, when the system is restored, the unload log files must be specified in the correct order.

(b) Times at which the embedded database is backed up

The embedded database can be backed up at either of the following times:

While the JP1/AJS3 service is stopped (while no jobs or jobnets are being executed)

In this case, you must stop JP1/AJS3 when you back up the embedded database. This is the basic backup method. With this method, you can restore the status of the embedded database at the time it was backed up by using the obtained backup data only.

While the JP1/AJS3 service is running (when jobs and jobnets are being executed)

Two methods are available for creating a backup while the JP1/AJS3 service is running:

- Use the backup enhancement function
- Use an unload operation

You do not have to stop the operation of JP1/AJS3 when you back up an embedded database by using these methods. When you use an unload operation to recover data, however, you need the unload log files output by the embedded database in addition to the backup data.

You cannot use the backup enhancement function and unload log files at the same time.

(c) Point up to which the embedded database is restored from the backup

The embedded database can be restored from the backup up to the following times:

Time when the embedded database was backed up

In this case, you can restore the embedded database to the state existing at the time the embedded database was backed up. However, any updates made after the backup was acquired will not be restored.

Latest synchronization timepoint following backup of the embedded database

In this case, in addition to restoring the embedded database to the state existing at the time of the backup, you can also restore updates occurring after the backup, thereby restoring the database to the latest state.

(d) Methods for restoring the embedded database from a backup

The following describes how you can restore the embedded database from backup data.

By using the backup data only

In this case, you use only the backup data to restore the embedded database. The embedded database is restored to the state existing at the time it was backed up.

By using the backup data and the system log data

In this case, you use the backup data and the system log information output after the backup to restore the embedded database. This method also restores any updates made to the database after the backup. Use this method to restore the embedded database if you use backup data obtained while JP1/AJS3 was running.

The following table shows the methods of embedded database operation.

Table 23–3: Methods of embedded database operation

No.		Method of operation			
		System log	Time that the embedded database is backed up	Time up to which the embedded database is restored from the backup data	Method for recovering the embedded database from the backup data
A	A-1	Not used	While the JP1/AJS3 service is stopped	Up to the time when the embedded database was backed up	Backup data only
	A-2	Not used (The backup enhancement function is used.)	While the JP1/AJS3 service is running	Up to the time when the embedded database was backed up	Backup data only
B	B-1	Unloading used	When the JP1/AJS3 service is stopped	Up to the time when the embedded database was backed up	Backup data only
	B-2		While the JP1/AJS3 service is running	Latest synchronization point	Backup data and system log data
	B-3				

The following table shows the advantages and disadvantages of each method of operation. Study this table before you select a method from [Table 23-3](#).

Table 23–4: Advantages and disadvantages of each method of operation

No.#		Advantages and disadvantages	
		Advantages	Disadvantages
A	Common	Monitoring the status of the system log file is not required.	The embedded database can be restored only up to the time when it was backed up.
	A-1	No setup is required before using this method.	The JP1/AJS3 service must be stopped during the backup.
	A-2	A backup can be created while the JP1/AJS3 service is running.	Configuration is required during setup of the embedded database.
B	Common	Monitoring the status of the system log file is not required.	<ul style="list-style-type: none"> The operating status of the automatic log unload functionality must be monitored. An unload log file creation directory must be created.
	B-1	If an error occurs in the system log file, the embedded database can be restored by using the backup data only.	<ul style="list-style-type: none"> The embedded database can be restored only up to the time when the database was backed up. The JP1/AJS3 service must be stopped during the backup.
	B-2	<ul style="list-style-type: none"> If an error occurs in the system log file, the embedded database can be restored by using the backup data only. The embedded database can be restored to the latest state in which updates made after the backup are reflected. 	The JP1/AJS3 service must be stopped during the backup.
	B-3	<ul style="list-style-type: none"> The JP1/AJS3 service need not be stopped during the backup. 	If the unload log file is lost, the embedded database cannot be recovered by using the backup data only.

No.#		Advantages and disadvantages	
		Advantages	Disadvantages
B	B-3	<ul style="list-style-type: none"> The embedded database can be restored to the latest state, which includes updates made after the backup. 	If the unload log file is lost, the embedded database cannot be recovered by using the backup data only.

#

The numbers in this table correspond to the numbers in [Table 23-3](#).

For details about the backup and how to restore the database from the backup data only, see the following:

- [5.2.5 Backing up and recovering an embedded database by using the backup enhancement function in the JPI/Automatic Job Management System 3 System Design \(Configuration\) Guide](#)
- [F.1\(1\) Restoring the scheduler database from unload log files in the JPI/Automatic Job Management System 3 System Design \(Configuration\) Guide](#)
- [F.1\(2\) Restoring the scheduler database without using the system log in the JPI/Automatic Job Management System 3 System Design \(Configuration\) Guide](#)

When using a method you have selected in [Table 23-3](#), you need to use the following commands to set up the environment for the embedded database, back up the embedded database, and restore the embedded database from the backup data only:

- `ajsembdbbbuild` command (sets up the embedded database environment)
- `ajsembdbsetup` command (set up the embedded database)
- `jajs_dbbackup` command (backs up the embedded database in an environment in which the backup enhancement function is enabled)
- `jajs_dbrestore` command (restores the embedded database from the backup in an environment in which the backup enhancement function is enabled)
- `ajsembdbbackup` command (backs up the embedded database)
- `ajsembdbrestore` command (restores the embedded database from the backup data only)

The `jajs_dbbackup` and `jajs_dbrestore` commands can be used only in an environment in which the backup enhancement function is enabled. The `ajsembdbbackup` and `ajsembdbrestore` commands are used in an environment in which the backup enhancement function is disabled.

The following table shows whether the each of the methods in [Table 23-3](#) can be used with commands and their options.

Table 23–5: Specifiable command options

No.#		Dupli- catin- g syste- m files	Commands to be executed and options related to backup and recovery					
			<code>ajsembdbbuil- d (-bs, -br, -bl, - b)</code>	<code>ajsembdbsetup (-b)</code>	<code>ajsembdbbackup (-s)</code>	<code>ajsembdbrestore (-ld, -l)</code>	<code>jajs_dbbac- kup</code>	<code>jajs_dbrestore</code>
A	A-1	Not availa- ble	Not available	Not available	Not available	Not available	--	--
	A-2		-b	-b	--	--	Y	Y
B	B-1		-bs -bl	Not available	Not available	Not available	--	--
	B-2				-ld or -l	--	--	

No.#		Dupli catin g syste m files	Commands to be executed and options related to backup and recovery					
			ajsembdbbuil d (-bs, -br, -bl, - b)	ajsembdbsetup (-b)	ajsembdbbackup (-s)	ajsembdbrstr (-ld, -l)	jajs_dbbac kup	jajs_dbrestore
B	B-3	Not availa ble	-bs -bl	Not available	-s	-ld or -l	--	--
A	A-1	Avail able	--	--	--	--	--	--
	A-2							
B	B-1		-br -bl	Not available	Not available	Not available	--	--
	B-2					-ld or -l	--	--
	B-3					-s	-ld or -l	--

Legend

--: Cannot be used with the applicable method

Y: Can be used with the applicable method

#:

The numbers in this table correspond to the numbers in [Table 23-3](#).

For details about the `ajsembdbbuild` command, see [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the `ajsembdbbackup` and `ajsembdbrstr` commands, see [3. Commands Used for Normal Operations](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(3) How to monitor the data area usage

If a database is not maintained for a long time, or if the number of units or the number of logs that must be retained exceeds that which is assumed for the scale of the database, the unused data capacity will become insufficient. If the unused data capacity is insufficient, the system might not be able to execute jobs. Check data area usage so that you can detect a shortage in data area capacity before that capacity becomes insufficient.

For details about how to check the data area usage, see [5.2.1 How to check the database usage](#) in the *JP1/Automatic Job Management System 3 Administration Guide*.

(4) How to set up an embedded database

You can build an embedded database as an extension of a JP1/AJS3 installation or set up an embedded database by using the `jajs_setup_cluster` command. If you build an embedded database in this way, you do not need to perform advanced setup for the embedded database.

For details about the settings for an embedded database to be set up in JP1/AJS3, see [2.6.5 Database settings that are set up in JP1/AJS3](#) in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

To build an embedded database by specifying other settings, perform an advanced setup of an embedded database.

To change the settings for an existing embedded database, such as the `_JF0` setup identifier specified during installation of JP1/AJS3, set up the embedded database again. For details about setting up the embedded database again, see [23.4.1\(6\) Setting up an embedded database again](#), [23.5.1\(6\) Setting up an embedded database again](#) (in a cluster configuration (executing system)), or [23.5.2\(6\) Setting up an embedded database again](#) (in a cluster configuration (standby system)).

23.1.2 Notes on using the embedded database

This subsection provides notes on using the embedded database.

(1) For Windows

- An embedded DB service consumes the desktop heap, which is used by service processes, in proportion to the number of its connections to the DB server. For that reason, services set to the JP1/AJS3 system account might fail and become unable to start. In such cases, you can change the desktop heap by using the OS settings.

Edit the third parameter value of `SharedSection`, which is the registry variable to define the size of the desktop heap. For details about how to edit the registry, go to the Microsoft website and see the related articles in the support and technical information sections.

- If the value of the `PATH` environment variable specified as a system environment variable includes a network drive name (a path to another machine), and the user does not have access permissions for that machine, the following might occur:
 - A `0xC0000022` error (cannot initialize the application correctly) might occur during startup of an embedded DB service.
 - Service Control Manager might output warning messages with the event IDs 7009 and 7000.

Check whether the user has access permissions for the specified server.

- Make sure not to delete the files under `%TMP%` during execution. An embedded DB normally creates under *the-embedded-DB-operation-directory*\tmp temporary files to be used as working files for executing the command daemon. However, when the `%TMP%` environment variable is set, some temporary files will be created under `%TMP%`.

(2) In UNIX

- During execution, take care not to delete the files located under `$TMPDIR`. Usually, the embedded DB creates the temporary files used for tasks during daemon (or command) execution under *the-embedded-DB-operation-directory*/tmp. However, some temporary files with the environment variable `$TMPDIR` set are created under `$TMPDIR`.
- After the embedded DB is set up, do not use the `chown` command to change the owner. If you change the owner by using the `chown` command, you might not be able to start the embedded DB.
- The following directories and files are not deleted automatically when the embedded database is deleted. Delete them as necessary.
 - *embedded-DB-operation-directory*
 - *embedded-DB-operation-directory*/conf
 - Files located under *The-embedded-DB-operation-directory*/conf
- When the embedded database is set up by running the `ajsembdbinstl` command with the `-v9standard` option specified, JP1/AJS3 - Manager generates a file that contains the path of the embedded database in the following directory:

In Linux

`/etc/init`

In HP-UX, Solaris, or AIX

`/etc/inittab`

Do not manually delete or edit this file. When JP1/AJS3 or the embedded database is uninstalled, this file is deleted from the preceding directories. For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Note that if the run level of the OS is single-user mode and processing takes time before this file is generated in the preceding directories, the embedded database might not be registered. As a result, the embedded database and JP1/AJS3 might be unable to operate normally.

If you want to change the run level to single-user mode, be sure to stop JP1/AJS3 and the embedded DB before changing the run level.

23.2 Estimating the database area

The following describes an estimate of the database area, which is required when you want to customize the database area.

In JP1/AJS3, you can create a large-, medium-, or small-scale database. When you perform a new installation or configure an embedded database, you can select the scale of the embedded database to be configured.

You can also set the database scale by executing the `jaajs_setup` or `jaajs_setup_cluster` command with the `-M` option specified or by performing advanced setup of the embedded database. To change the scale of an embedded database that has already been configured, you need to remove the setup of the embedded database, and then perform advanced setup of the embedded database.

Although JP1/AJS3 allows you to set up and use multiple embedded database environments, the following describes the estimation method for a single embedded database environment. If you want to set up multiple scheduler services in a single embedded database environment, add the estimates for all scheduler services in the environment.

The following table describes the database models that can be specified during setup of the embedded-database environment. Make sure that the disk has extra free space, because some file systems require more disk space than described in the table.

The following estimate assumes that you perform regular database maintenance. If you are using the database auto-increment function, the actual size might be bigger than the estimated size unless you perform regular database maintenance.

Table 23–6: Database models that can be specified during setup of the embedded-database environment

Scale	Purpose
Large	<p>Total number of units: About 48,000 to 240,000 Number of units executed per day: 30,000 to 120,000 Disk space guideline: About 20,700 MB[#] Number of logs to keep: 5 (data area: about 6,700 MB, system area: about 14,000 MB) When the database auto-increment function is used: If the total number of estimated units is larger than expected, add the following to the disk space guideline: About $20,700 + 0.1 \times (\text{total number of units} - 240,000)$ MB[#]</p>
Medium	<p>Total number of units: About 5,000 to 48,000 Number of units executed per day: 5,000 to 30,000 Disk space guideline: About 4,200 MB[#] Number of logs to keep: 5 (data area: about 1,400 MB, system area: about 2,800 MB) When the database auto-increment function is used: If the total number of estimated units is larger than expected, add the following to the disk space guideline: About $4,200 + 0.1 \times (\text{total number of units} - 48,000)$ MB[#]</p>
Small	<p>Total number of units: About 5,000 or fewer Number of units executed per day: 5,000 or fewer Disk space guideline: About 520 MB[#] Number of logs to keep: 5 (data area: about 200 MB, system area: about 320 MB) When the database auto-increment function is used: If the total number of estimated units is larger than expected, add the following to the disk space guideline:</p>

Scale	Purpose
Small	About 520 + 0.1 x (total number of units - 5,000) MB [#]

#:

To use the backup enhancement function, add 500MB to the estimated disk space.

For example, if the total number of units falls into the large scale range (48,000 to 240,000), the number of units executed per day is in the medium scale range (5,000 to 30,000), and the operation does not meet the usage in the above table, calculate as follows:

$$(0.0045^{\#} \times a) + (0.001 \times b) + (c \times 0.0065) \quad (\text{unit: MB})$$

Legend:

a:

Substitutes for the total number of units.

b:

Substitutes for the total number of waits, which is defined for every unit with wait conditions.

c:

Substitutes for the value calculated by using the expression below for all root jobnets to be registered by execution registration.

```
Total-number-of-root-jobnets-and-subsequent-units x (number-of-generations-to-be-saved + d)
```

If LEGACY is specified in the SAVEGENTYPE environment parameter, use the following calculation expression for the root jobnets with startup conditions set.

```
Total-number-of-root-jobnets-and-subsequent-units x (number-of-generations-to-be-saved + d + number-of-generations-to-be-saved x number-of-generations-to-be-saved)
```

d:

Substitute a following value, according to the execution registration method.

Immediate execution registration: 1

Planned execution registration: 1

Fixed execution registration: number of scheduled generations

#

The calculation is made assuming the total of the values entered in the unit definition, such as the command statement, executable file name, and script file name, is 2 KB per unit.

When using the jobnet release function, calculate the size of the root jobnet in the release source unit that is set for release and the units contained in that jobnet, and then add that value.

If the calculated value is larger than 200 MB, we recommend that you configure the embedded database environment using a medium-scale model. If the value is larger than 1,400 MB, we recommend that you configure the embedded database environment using a large-scale model.

If the calculated value is larger than 6,700 MB, we recommend that you configure the embedded database environment using a large-scale model, and extend the data area (AJS2DATA and AJS2INDX) after configuration. For details about the data area extension, see *ajsembdbaddarea* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic*

Job Management System 3 Command Reference. Note that if you use the `ajsembdbaddarea` command to extend the data area, extend the table area (AJS2DATA) and the index area (AJS2INDX) at a ratio of 5:2.

When you estimate the size of the system area (the area for system log files), estimate the size of the system area for the scale determined when the data area size was estimated. If the required system area exceeds the system area for the large-scale model, use the following expressions for estimation. If there is no area larger than that estimated, expand the system log files.

- Unload log operation: $Data-area \times 2$ (in megabytes)
- Operation without using system logs: $(0.0045^{\#} \times a) \times 2$ (in megabytes)

Legend:

a: Total number of units

#

The calculation is made assuming the total of the values entered in the unit definition, such as the command statement, execution file name, and script file name, is 2 KB per unit.

For details about the system log file extension, see `ajsembdbaddlog` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

The following is an example estimate for the database model in an embedded database environment.

Example:

The following case serves as an example:

The environment setting parameter `SAVEGENTYPE: TOTAL`

Total number of units: 200,000

Total number of waits defined in all units with wait conditions: 1,000

Number of units executed per day: 10,000

Number of generations to be saved: 5

Number of scheduled generations that registered a jobnet for fixed execution: 10

$(0.0045 \times 200,000) + (0.001 \times 1,000) + (10,000 \times (5 + 10) \times 0.0065)$

$= 900 + 1 + 975$

$= 1,876$ (MB)

In this case, we recommend that you configure the embedded database environment using a large-scale model.

If you execute the `ajsembdbsetup` command with the `-e sjis` option specified to set up the database of the scheduler service, the database models are as shown in the following table.

Table 23–7: Database models that can be specified during setup of the embedded-database environment (when the `-e sjis` option is specified for the `ajsembdbsetup` command)

Scale	Purpose
Large	<p>Total number of units: About 38,400 to 192,000</p> <p>Number of units executed per day: 24,000 to 96,000</p> <p>Disk space guideline: About 20,700MB[#]</p> <p>Number of logs to keep: 4</p> <p>(data area: about 6,700 MB, system area: about 14,000 MB)</p> <p>When the database auto-increment function is used:</p> <p>If the total number of estimated units is larger than expected, add the following to the disk space guideline:</p> <p>About $20,700 + 0.125 \times (total\ number\ of\ units - 192,000)$ MB[#]</p>

Scale	Purpose
Medium	Total number of units: About 4,000 to 38,400 Number of units executed per day: 4,000 to 24,000 Disk space guideline: About 4,200 MB [#] Number of logs to keep: 4 (data area: about 1,400 MB, system area: about 2,800 MB) When the database auto-increment function is used: If the total number of estimated units is larger than expected, add the following to the disk space guideline: About 4,200 + 0.125 x (total number of units - 38,400) MB [#]
Small	Total number of units: About 4,000 or fewer Number of units executed per day: 4,000 or fewer Disk space guideline: About 520 MB [#] Number of logs to keep: 4 (data area: about 200 MB, system area: about 320 MB) When the database auto-increment function is used: If the total number of estimated units is larger than expected, add the following to the disk space guideline: About 520 + 0.125 x (total number of units - 4,000) MB [#]

#:

To use the backup enhancement function, add 500MB to the estimated disk space.

For example, if the total number of units falls into the large scale range (38,400 to 192,000), the number of units executed per day is in the medium scale range (4,000 to 24,000), and the operation does not meet the usage in the above table, calculate as follows:

$$((0.0045^{\#} \times a) + (0.001 \times b) + (c \times 0.0065)) \times 1.25 \text{ (MB)}$$

Legend:

a:

Substitutes for the total number of units.

b:

Substitutes for the total number of waits, which is defined for every unit with wait conditions.

c:

Substitutes for the value calculated by using the expression below for all root jobnets to be registered by execution registration.

$$\text{Total-number-of-root-jobnets-and-subsequent-units} \times (\text{number-of-generations-to-be-saved} + d)$$

If LEGACY is specified in the SAVEGENTYPE environment parameter, use the following calculation expression for the root jobnets with startup conditions set.

$$\text{Total-number-of-root-jobnets-and-subsequent-units} \times (\text{number-of-generations-to-be-saved} + d + \text{number-of-generations-to-be-saved} \times \text{number-of-generations-to-be-saved})$$

d:

Substitute a following value, according to the execution registration method.

Immediate execution registration: 1

Planned execution registration: 1

Fixed execution registration: number of scheduled generations

#

The calculation is made assuming the total of the values entered in the unit definition, such as the command statement, executable file name, and script file name, is 2 KB per unit.

When using the jobnet release function, calculate the size of the root jobnet in the release source unit that is set for release and the units contained in that jobnet, and then add that value.

If the calculated value is larger than 200 MB, we recommend that you configure the embedded database environment using a medium-scale model. If the value is larger than 1,400 MB, we recommend that you configure the embedded database environment using a large-scale model.

If the calculated value is larger than 6,700 MB, we recommend that you configure the embedded database environment using a large-scale model, and extend the data area (AJS2DATA and AJS2INDX) after configuration. For details about the data area extension, see *ajsembdbaddarea* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*. Note that when you use the *ajsembdbaddarea* command to extend the data area, extend the table area (AJS2DATA) and the index area (AJS2INDX) at a ratio of 5:2.

Estimate the system area (system log file) by using the following formula. If the space is insufficient, extend the system log file.

When you estimate the size of the system area (the area for system log files), estimate the size of the system area for the scale determined when the data area size was estimated. If the required system area exceeds the system area for the large-scale model, use the following expressions for estimation. If there is no area larger than that estimated, increase the number or size of the system log files.

- Unload log operation: $Data-area \times 2$ (in megabytes)
- Operation without using system logs: $(0.0045^{\#} \times a) \times 1.25 \times 2$ (in megabytes)

Legend:

a: Total number of units

#

The calculation is made assuming that the total of the values entered in the unit definition, such as the command statement, execution file name, and script file name, is 2 KB per unit.

For details about the system log file extension, see *ajsembdbaddlog* in 3. *Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

The following is an example estimate for the database model in an embedded database environment.

Example:

The following case serves as an example:

The environment setting parameter SAVEGENTYPE: TOTAL

Total number of units: 100,000

Total number of waits defined in all units with wait conditions: 1,000

Number of units executed per day: 10,000

Number of generations to be saved: 5

Number of scheduled generations that registered a jobnet for fixed execution: 10

$$\begin{aligned} & ((0.0045 \times 100,000) + (0.001 \times 1,000) + (10,000 \times (5 + 10) \times 0.0065)) \times 1.25 \\ & = (450 + 1 + 975) \times 1.25 \end{aligned}$$

= 1782.5 (MB)

In this case, we recommend that you configure the embedded database environment using a large-scale model.

If the system area for the embedded database is duplexed during setup of the embedded-database environment, more disk space is required. The following table shows how much additional disk space is required.

Table 23–8: Amount of additional disk space required for duplexing the system area for the embedded database

Scale	Amount of additional disk space required
Large	About 14,000 MB
Medium	About 2,800 MB
Small	About 320 MB

Estimation required when enabling the backup enhancement function:

If you want to enable the backup enhancement function, in addition to the above estimate for the data area (AJS2DATA and AJS2INDX), you need to estimate the data area (AJS2DATA2 and AJS2INDX2). Calculate the size by using the following formula, and if the calculated value is larger than 300 megabytes, we recommend that you extend the data area (AJS2DATA2 and AJS2INDX2). For details about the data area extension, see *ajsembdbaddarea* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*. Note that when you use the *ajsembdbaddarea* command to extend the data area, extend the table area (AJS2DATA2) and the index area (AJS2INDX2) at a ratio of 5:2.

$$(0.0008 \times X) + (0.008 \times (Y + Z)) \text{ (MB)}$$

Legend:

X:

Substitutes for the value calculated by using the expression below for all root jobnets to be registered by execution registration.

$$a + (b \times (c + d)) + (\text{total-number-of-nested-jobnets-in-root-jobnets-and-judgement-jobs-and-OR-jobs-and-event-jobs-for-which-event-job-passing-information-is-set-and-custom-event-jobs-for-which-custom-event-job-passing-information-is-set}) \times c$$

Y:

Of all root jobnets to be registered for execution, substitute the total value calculated by using the following formula into root jobnets that use macro variables.

$$(\text{total-number-of-event-jobs-for-which-event-job-passing-information-is-set} + \text{total-number-of-custom-event-jobs-for-which-custom-event-job-passing-information-is-set} + e) \times c$$

Z:

Sum of the values calculated by using the following formula for all root jobnets to be registered for execution.

$$f \times g$$

a:

Substitute either of the following values according to the value set in BACKGROUNDLEAVE environment parameter.

yes: 1

no: 0

b:

Substitute either of the following values according to the value set in BACKGROUNDLEAVE environment parameter.

yes: 2

no: 1

c:

If LEGACY is specified in the SAVEGENTYPE environment parameter, use the following calculation expression for the root jobnets with startup conditions set.

$$(number-of-generations-to-be-saved + number-of-generations-to-be-saved \times number-of-generations-to-be-saved)$$

If the above does not apply, substitute the *number-of-generations-to-be-saved*.

d:

Substitute a following value, according to the execution registration method.

Immediate execution registration: 1

Planned execution registration: 1

Fixed execution registration: number of scheduled generations

e:

Substitute the following value.

When a passing information settings job is used: 1

When a passing information settings job is not used: 0

f:

Substitute the following value.

When a macro variable is specified during the registration for execution: 1

When a macro variable is not specified during the registration for execution: 0

g:

Substitute one of the following values according to the execution registration method.

Fixed execution registration (specifying the number of future generations) or planned execution registration: 1

Execution registration methods other than the above: 0

If the backup enhancement function is enabled, consider the operation to monitor the utilization of the table area (AJS2DATA2) of the database as well as the estimation of the database area. For details about monitoring the database, see 5.2.5(5) *Considerations before using the backup enhancement function* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

About the database auto-increment function:

If the database auto-increment function is used, each time the data area becomes insufficient it is automatically expanded a little, and will expand until the size of one file reaches the maximum of 64 gigabytes or until the disk on which the data area is built is completely used up. The files that can be expanded by this function are as follows:

- The ajssys041, ajssys042, ajssys043[#] and ajssys044[#] files in the data area storage directory
- The files created under the directory specified for the -d option in the ajsembdbaddarea command

#

This area exists only when the backup enhancement function is enabled.

Similarly, if you use the system log auto-increment function, the amount of allocated system log file is also automatically increased a little bit each time it becomes insufficient. The system area can be expanded to three times the initial size. Note that the initial size of a system log file is 23 megabytes for small scale models, 224 megabytes for medium scale models, and 1,152 megabytes for large scale models.

The system log files that can be expanded by this function are as follows:

- The `ajssys01101` to `ajssys01112#` files in the data area storage directory
- The files created under the directory specified for the `-d` option in the `ajsembdbaddlog` command, for which `sys` is specified for the `-r` option

#:

If system file area creation directories 1 and 2 are specified in the `ajsembdbbuild` command during advanced setup of an embedded database, the following files are expanded:

- The `ajssys01101` to `ajssys01112` files in system file area creation directory 1
- The `ajssys01701` to `ajssys01712` files in system file area creation directory 2

For details about the `ajsembdbaddarea` and `ajsembdbaddlog` commands, see 3. *Commands Used for Normal Operations* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

Supplementary notes

- For details about the required disk space when system files are duplicated, see *Table 23-2 Disk space required for the embedded database operating environment* in 23.1.1 *Examining the embedded-database operating environment and operating method*.
- When advanced setup of the embedded database is used to create an embedded database that will be used for operation that uses unloading, you need to estimate the disk space for storing unload log files. For details about operation that uses unloading, see *F.1(1) Restoring the scheduler database from unload log files* in the *JPI/Automatic Job Management System 3 System Design (Configuration) Guide*.
- For details about how to estimate the disk space after migration from a version 8 embedded database, see 8.5.2(7) *Estimating the disk space requirements after migration from a version 8 embedded database* in the *JPI/Automatic Job Management System 3 System Design (Configuration) Guide*.

23.3 Maintaining an embedded database

This section describes considerations for maintaining an embedded database.

JP1/AJS3 uses a database to manage information about job definitions, job execution registrations, and other items. Repeated addition and deletion of data will degrade the efficiency of database use. Therefore, you must periodically perform maintenance of the database to reclaim or reorganize unavailable areas. Also, increased information about job definitions and job execution registrations, or increased unavailable areas will put pressure on the disk capacity, preventing JP1/AJS3 from operating normally. To avoid this, you must also monitor the data area usage.

Table 23–9: Points to consider regarding maintenance of an embedded database

No.	Key decisions	Relevant chapter
1	Flow of tasks for maintaining an embedded database	<i>6. Maintenance Planning in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide</i>
2	How to maintain an embedded database	<i>9.2 Performing maintenance in the JP1/Automatic Job Management System 3 Administration Guide</i>

For JP1/AJS3, we recommend that you perform maintenance once a day by using the automatic maintenance function or by using the `ajsembdbreclaim` command.

For details about the setting for using the automatic maintenance function, see *9.2.1 Using the automatic maintenance function* in the *JP1/Automatic Job Management System 3 Administration Guide*. For details about the settings for automatically executing the `ajsembdbreclaim` command, see *9.2.2(1) Executing the ajsembdbreclaim command automatically* in the *JP1/Automatic Job Management System 3 Administration Guide*.

Note that if an embedded database has not been maintained for a long time, a large area might be unavailable. In such cases, if the `ajsembdbreclaim` command is executed, the embedded database terminates abnormally (as a result of insufficient system logs).

If the system logs become insufficient, you must estimate the number of system logs required for executing the `ajsembdbreclaim` command, and expand system logs. For details about estimating the number of system logs, see *9.1.1 Analyzing the database area* in the *JP1/Automatic Job Management System 3 Administration Guide*.

23.4 Advanced setup of an embedded database

This section describes how to perform advanced setup of the embedded database when you use an embedded database as the scheduler database.

23.4.1 Setting up an embedded database

This subsection describes the procedures for installing an embedded database, setting up the environment for operating the embedded database, and setting up the embedded database.

(1) Installing an embedded database

If you want to use an embedded database as the JP1/AJS3 - Manager scheduler database, execute the following command:

```
ajsembdbinstl
```

For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Notes on installation:

- Before you execute the `ajsembdbinstl` command, make sure that you are a user who has administrator privileges. If a user who does not have administrator privileges attempts to execute the command, an error message appears and installation is canceled.
- Do not install an embedded database on a network drive.
- When an embedded database is installed, the `tmp` folder is created immediately under the installation drive. Do not delete this folder. It is used by the embedded database.
- In a Windows environment, the character encoding used by the embedded database is Shift-JIS (SJIS).

(2) Setting up the embedded database environment

To set up an embedded database environment:

1. Stop all the services.

Stop all the services that access the scheduler database. Such services include the JP1/AJS3 on the physical host and all logical hosts.

2. In UNIX, delete the environment setting information from the shared memory.

Use the `ajsshmdel` command to delete the environment setting information in the shared memory.

```
ajsshmdel >/dev/null 2>&1
```

3. Execute commands to set up the embedded database environment.

Use the `ajsembdbbuild` command to set up the embedded database environment.

When executed, the `ajsembdbbuild` command performs the following operations:

- Creates the definition information for the embedded database.
- Creates an area for the embedded database.
- Starts the embedded database system.

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

The following shows examples of specifying the `ajsembdbbuild` command when a large-scale embedded database environment is set up. The examples also provide the combination of item numbers shown in *Table 23-2* and *Table 23-3*.

Supplementary note:

If the system files are duplicated and the system log is not used (combination 2-A, 4-A or 6-A in *Table 23-2* and *Table 23-3*), the environment cannot be set up.

Cautionary notes:

- Register the name of the host on which the embedded database environment is set up in the `hosts` file or DNS.
- If you register the name of the host on which the embedded database environment is created in the `jp1hosts` or `jp1hosts2` definition file, the host name does not take effect as the host name used for the embedded database.
- Do not use aliases for the name of the host on which the embedded database environment is set up.
- To configure an embedded-database environment on a physical host, set the physical host name by using 1 to 63 bytes.

(a) For Windows

The specification examples in this subsection assume that the following values are set. Create the following directories before executing the `ajsembdbbuild` command:

- Data area creation directory: `d:\EmbDB\RDArea`
- System file area creation directory 1: `e:\EmbDB\SYSArea1`
- System file area creation directory 2: `f:\EmbDB\SYSArea2`
- Unload log file creation directory: `g:\EmbDB\Unload_Log`
- Embedded database installation directory: `c:\Program Files#1\HITACHI\JP1AJS2\embdb_JF3`
- Port number of the embedded database: 22223
- Embedded database setup identifier: `_JF3`
- If the system files are not duplicated and the system log is not used^{#2} (combination 5-A in *Table 23-2* and *Table 23-3*):

```
ajsembdbbuild -l
-d "d:\EmbDB\RDArea,e:\EmbDB\SYSArea1"
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JF3"
-id _JF3 -p 22223
```

- If the system files are not duplicated and unloading is used (combination 5-B in *Table 23-2* and *Table 23-3*):

```
ajsembdbbuild -l
-d "d:\EmbDB\RDArea,e:\EmbDB\SYSArea1" -bs
-bl g:\EmbDB\Unload_Log -i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JF3"
-id _JF3 -p 22223
```

- If the system files are duplicated and unloading is used (combination 6-B in *Table 23-2* and *Table 23-3*):

```
ajsembdbbuild -l
-d "d:\EmbDB\RDArea,e:\EmbDB\SYSArea1,f:\EmbDB\SYSArea2"
-br -bl g:\EmbDB\Unload_Log
```

```
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JF3"  
-id _JF3 -p 22223
```

#1:

For 64-bit versions of Windows, replace Program Files with Program Files (x86).

#2:

To use the backup enhancement function, specify the `-b` option for the `ajsembdbbuild` command.

(b) For UNIX

The specification examples in this subsection assume that the following values are set. Create the following directories before executing the `ajsembdbbuild` command:

- Unload log file creation directory: `/Unload_Log_JF3`
- Embedded database work area directory: `/WorkArea_JF3`
- Embedded database practical directory: `/opt/jp1ajs2/embdb/_JF3`
- Port number of the embedded database: 22223
- Embedded database setup identifier: `_JF3`
- Data area creation directory: `/RDArea_JF3`
- System area creation directory 1: `/SYSArea1_JF3`
- System area creation directory 2: `/SYSArea2_JF3`
- If the system files are not duplicated and the system log is not used[#] (combination 5-A in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l -d "/RDArea_JF3,/SYSArea1_JF3"  
-i /opt/jp1ajs2/embdb/_JF3 -id _JF3 -p 22223
```

- If the system files are not duplicated and unloading is used (combination 5-B in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l  
-d "/RDArea_JF3,/SYSArea1_JF3" -bs -bl /Unload_Log_JF3  
-i opt/jp1ajs2/embdb/_JF3 -id _JF3 -p 22223
```

- If the system files are duplicated and unloading is used (combination 6-B in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l  
-d "/RDArea_JF3,/SYSArea1_JF3,/SYSArea2_JF3"  
-br -bl /Unload_Log_JF3 -i /opt/jp1ajs2/embdb/_JF3  
-id _JF3 -p 22223
```

#:

To use the backup enhancement function, specify the `-b` option for the `ajsembdbbuild` command.

(3) Environment setting parameter settings

When you change the number of characters that can be specified for the unit name of the detailed definition of a unit, the comment for the detailed definition of a unit, and the exclusive jobnet name of the schedule setting in a UTF-8 environment in UNIX, change the value of the `AJSCHARCODE` environment setting parameter to UTF-8.

For details on setting the environment setting parameters, see [4.2 Environment setting parameter settings](#) (for Windows) or [14.2 Environment setting parameter settings](#) (for UNIX).

If you execute the `jaajs_config` command after performing an advanced setup, a message (KAVS1516-E) is output and an error occurs. In this case, execute the `jbssetcnf` command to set the environment setting parameter. For details about the `jbssetcnf` command, see [4.2.2 Procedure for setting the environment setting parameters by using the jbssetcnf command](#) (for Windows), or [14.2.2 Procedure for setting the environment setting parameters by using the jbssetcnf command](#) (for UNIX).

In addition, do not start JP1/AJS3 while you are setting the environment setting parameters, because setup is not yet complete. Perform the procedure described in [\(4\) Setting up the scheduler database in an embedded database environment](#) or [\(5\) Setting up multiple scheduler databases in one or more embedded database environments](#), and then start JP1/AJS3.

(4) Setting up the scheduler database in an embedded database environment

The `ajsembddbsetup` command can be used to set up the contents of a scheduler database in an embedded database environment.

When executed, the `ajsembddbsetup` command performs the following operations:

- Sets the database information of the embedded database (schema and table).
- Sets the JP1/AJS3 environment setting parameter.

An example of executing the `ajsembddbsetup` command in a large-scale embedded database environment is shown below. This example assumes that the following values are set:

- Scheduler service name: AJSROOT2
- Port number of the embedded database: 22223
- Embedded database setup identifier: _JF3

```
ajsembddbsetup -F AJSROOT2 -ru -l -id _JF3 -p 22223
```

For details about the `ajsembddbsetup` command, see `ajsembddbsetup` in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Supplementary notes:

- When you change the number of characters that can be specified for the unit name of the detailed definition of a unit, the comment for the detailed definition of a unit, and the exclusive jobnet name of the schedule setting in a UTF-8 environment in UNIX, execute the `ajsembddbsetup` command with the `-e sjis` option specified.
- When the `ajsembddbsetup` command is executed, the environment setting parameters listed in the following table are set. Do not change the values of the environment setting parameters listed in the table. For details about the parameters, see [20.4 Setting up the scheduler service environment](#).

Table 23–10: Environment setting parameters specified when the `ajsembddbsetup` command is executed

Environment setting parameter	Definition	Setting specified by the <code>ajsembddbsetup</code> command#1
AJSDBTYPE	Type of database	EmbedDB
TABLENAMEPREFIX	Table name prefix	Either of the following: <ul style="list-style-type: none"> • <code>-tp</code> option specification value

Environment setting parameter	Definition	Setting specified by the <code>ajsembdbsetup</code> command ^{#1}
<code>TABLERNAMEPREFIX</code>	Table name prefix	<ul style="list-style-type: none"> • <code>AJS1</code>
<code>TABLERNAMEPOSTFIX</code>	Table ID	--
<code>RDBAUTHID</code>	RDB permission identifier	<code>root</code>
<code>RDBUSER</code>	RDB access user name	<code>ajs2</code>
<code>RDBPASSWORD</code>	RDB user password	--
<code>RDBHOST</code>	Name of the host at the RDB connection destination	<code>127.0.0.1</code>
<code>RDBPORT</code>	RDB connection port number	Either of the following: <ul style="list-style-type: none"> • <code>-p</code> option specification value • <code>22220</code>
<code>RDBIPC</code>	Method for communication with RDB server	<code>MEMORY</code>
<code>RDBSENDMEMSIZE</code>	Send-data memory size for RDB interprocess memory communication	Either of the following: <ul style="list-style-type: none"> • <code>-s</code> option specification value • <code>100</code>
<code>RDBRECVMEMSIZE</code>	Receive-data memory size for RDB interprocess memory communication	Either of the following: <ul style="list-style-type: none"> • <code>-r</code> option specification value • <code>1600</code>
<code>DEFLENTYPE</code>	Number of characters that can be used in a UTF-8 environment	Either of the following: ^{#2, #3} <ul style="list-style-type: none"> • For <code>-e sjis</code> <code>sjis</code> • For <code>-e byte</code> <code>byte</code>
<code>ENHANCEDBACKUP</code>	The setting of the backup enhancement function	Either of the following: <ul style="list-style-type: none"> • When the <code>-b</code> option is specified <code>yes</code> • When the <code>-b</code> option is not specified <code>no</code>

#1

Settings that are numeric values use decimal numbers.

#2

The `-e` option can be specified only in UNIX.

#3

If you omit the `-e` option in Linux, `byte` is set.

(5) Setting up multiple scheduler databases in one or more embedded database environments

The following describes how to set up multiple scheduler databases in one or more embedded databases.

(a) Setting up a different embedded database environment for each scheduler service

To set up a different embedded database environment for each scheduler service when multiple scheduler services are defined, separately prepare the areas listed below.

Prepare the system file area, the embedded database work area, and, if necessary, the unload log creation directory:

- Embedded database practical directory
- Data area
- System file area
- Embedded database work area
- Unload log file creation directory

If you set up multiple embedded database environments, specify port numbers and embedded database setup identifiers that are different from those for other embedded databases. That is, when executing the `ajsembdbbuild` or `ajsembdbsetup` command, you must specify a unique port number for each embedded database in the `-p` option. Similarly, when executing the `ajsembdbinstl`, `ajsembdbbuild`, or `ajsembdbsetup` command, you must specify a unique embedded database setup identifier for each embedded database in the `-id` option.

An example for setup is shown below.

This example assumes that the environment described in (2) *Setting up the embedded database environment* and (3) *Environment setting parameter settings* is already set up.

■ For Windows

Environment for the embedded database:

- Data area creation directory: `h:\EmbDB\RDArea`
- System file area creation directory 1: `i:\EmbDB\SYSArea1`
- System file area creation directory 2: `j:\EmbDB\SYSArea2`
- Unload log file creation directory: `k:\EmbDB\Unload_Log`
- Embedded database installation directory: `c:\Program Files#\HITACHI\JP1AJS2\embdb_JF5`
- Scheduler service name: `AJSROOT2`
- Port number of the embedded database: `22224`
- Embedded database setup identifier: `_JF5`

#:

For 64-bit versions of Windows, replace `Program Files` with `Program Files (x86)`.

Specification of the `ajsembdbinstl` command:

```
ajsembdbinstl -s "c:\Program Files\HITACHI\JP1AJS2\tools\AJS3DB"  
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JF5"  
-id _JF5
```

Specification of the `ajsembdbbuild` command:

```
ajsembdbbuild -l  
-d "h:\EmbDB\RDArea,i:\EmbDB\SYSArea1,  
j:\EmbDB\SYSArea2" -br -bl k:\EmbDB\Unload_Log  
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JF5"  
-p 22224 -id _JF5
```

Specification of the `ajsembdbsetup` command:

```
ajsembdbsetup -F AJSROOT2 -ru l -id _JF5 -p 22224
```

■ For UNIX

Environment of the embedded database:

- Data area creation directory: /RDArea_JF5
- System file area creation directory 1: /SYSArea1_JF5
- System file area creation directory 2: /SYSArea2_JF5
- Unload log file creation directory: /Unload_Log_JF5
- Embedded database practical directory: /opt/jp1ajs2/emdbdb/_JF5
- Scheduler service name: AJSROOT2
- Embedded database port number: 22224
- Embedded database setup identifier: _JF5

Specification of the ajsembdbinstl command:

```
ajsembdbinstl -s /opt/jp1ajs2/tools/AJS3DB
-i /opt/jp1ajs2/emdbdb/_JF5 -id _JF5
```

Specification of the ajsembdbbuild command:

```
ajsembdbbuild -l
-d "/RDArea_JF5,/SYSArea1_JF5,/SYSArea2_JF5"
-br -b1 /Unload_Log_JF5 -i :/opt/jp1ajs2/emdbdb/_JF5
-p 22224 -id _JF5
```

Specification of the ajsembdbsetup command:

```
ajsembdbsetup -F AJSROOT2 -ru 1 -id _JF5 -p 22224
```

For details about the `ajsembdbinstl`, `ajsembdbbuild`, and `ajsembdbsetup` commands, see 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(b) Setting up multiple scheduler databases in one embedded database environment

If you want to set up multiple scheduler databases in one embedded database environment, you must create and manage a different table for each scheduler service in the embedded database. To do this, you must change the table name prefix specified when you execute the `ajsembdbsetup` command.

The following shows an example of specifying the `ajsembdbsetup` command when setting up the second scheduler database in an embedded database environment.

- Scheduler service name: AJSROOT3
- Table name prefix: AJS3
- Embedded database setup identifier: _JF0

```
ajsembdbsetup -F AJSROOT3 -tp AJS3 -ru 1 -id _JF0
```

For details about the `ajsembdbsetup` command, see `ajsembdbsetup` in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Cautionary notes:

- In an embedded database environment in which multiple scheduler databases have been set up, you cannot reorganize just one scheduler database. In this environment, you need to reorganize all the scheduler databases that have been set up. If you want to reorganize only one scheduler database, you must prepare an embedded database environment for each scheduler service. For details, see *(a) Setting up a different embedded database environment for each scheduler service*.
- In an embedded database environment in which multiple scheduler databases have been set up, you cannot use the `ajsembddbbackup` command to back up just one scheduler database. The `ajsembddbbackup` command can only back up all the scheduler databases set up in an embedded database environment. If a backup created by using the `ajsembddbbackup` command is used for restoration, all the scheduler databases are restored. Therefore, when you use the `ajsembddbbackup` and `ajsembdbrestore` commands to perform backup and restore operations, you must stop all the scheduler services that access the relevant embedded database beforehand. If you use the `ajsprint` command to back up only the unit definition, you can create a backup for each scheduler database without stopping scheduler services.

If you want to use the `ajsembddbbackup` command to back up only one scheduler database, you must prepare an embedded database for each scheduler service. For details, see *(a) Setting up a different embedded database environment for each scheduler service*.

(6) Setting up an embedded database again

To set up an embedded database again:

1. Back up the unit definition and execution agent information.
For details about how to perform the backup, see *2.2.3 Backing up the JP1/AJS3 - Manager setup information* in the *JP1/Automatic Job Management System 3 Administration Guide*.
2. Stop all the services that access the scheduler database. Such services include the JP1/AJS3 on the physical host and all logical hosts.
3. Use the `ajsembdbunset -e` command to delete the embedded database environment.
4. If you need to change the embedded database practical directory, uninstall the embedded database, and then reinstall it.
5. Use the `ajsembdbbuild` command to create an embedded database.
6. Use the `ajsembdbsetup` command to set up the embedded database.
7. Use the `ajsembdbstop` command to stop the embedded database.
8. Start the JP1/AJS3 service.
9. Restore the unit definition and execution agent information you backed up in step 1.
See *2.3.4 Recovering the JP1/AJS3 - Manager setup information* in the *JP1/Automatic Job Management System 3 Administration Guide*.
10. Register the required jobnet for execution.

For details about commands used in the above procedure, see *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference* and *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Supplementary notes:

- In a single embedded database environment, if you execute the `ajsembdbunset` command when multiple scheduler databases are set up, information about all the scheduler databases is deleted. If this happens, perform steps 1, 6, 9, and 10 above for all the scheduler databases set up for the embedded database environment.
- If the KNAC1111-E message is output indicating an error during restoration of the execution agent information in step 9, check the registered execution agent information. If the execution agent information you acquired in step 1 has been registered, ignore the error message.
- If you set up the embedded database of a scheduler service with a jobnet that is registered for execution, cold-start the scheduler service corresponding to the embedded database that you set up.

(7) Changing the embedded database settings to the settings for a version earlier than 10-00

To change the embedded database management function to a version earlier than JP1/AJS3 - Manager 10-00:

1. Stop the target JP1/AJS3 service.

2. Perform an overwrite installation of the embedded database.

Execute the `ajsembdbinstl` command with the `-v9standard` option specified.

For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

3. Change the settings in the system common definition file.

Use an editor to open the following file, and then change the settings.

System common definition file

- In Windows:

`embedded-database-practical-directory\conf\pdsys`

- In UNIX:

`embedded-database-practical-directory/conf/pdsys`

Before the change:

```
set pd_mode_conf = MANUAL2
```

After the change:

```
set pd_mode_conf = AUTO#
```

#

If you changed the system common definition file in JP1/AJS3 - Manager version 9 or earlier, use that value rather than `AUTO`.

4. Copy the model files to the JP1/AJS3 startup process definition file and JP1/AJS3 extended startup process definition file, which are used for database management.

Overwrite the following files by copying the model files.

In Windows:

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	<code>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd.conf</code>	<code>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd.conf.v9standard.model</code>

File type	File name	Model file
JP1/AJS3 extended startup process definition file (database management)	<i>JP1/AJS3-Manager-installation-folder</i> \conf\jplajs_dbmd_0700.conf	<i>JP1/AJS3-Manager-installation-folder</i> \conf\jplajs_dbmd_0700.conf.v9standard.model

In UNIX:

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	/etc/opt/jplajs2/conf/jplajs_dbmd.conf	/etc/opt/jplajs2/conf/jplajs_dbmd.conf.v9standard.model
JP1/AJS3 extended startup process definition file (database management)	/etc/opt/jplajs2/conf/jplajs_dbmd_0700.conf	/etc/opt/jplajs2/conf/jplajs_dbmd_0700.conf.v9standard.model

5. Change the setting in the JP1/AJS3 extended startup process definition file used for system management.

Use an editor to open the following file, and then change the underlined value in the line under *Before the change*. If the underlined value is already the same as the value *after the change*, you do not need to change it.

In Windows:

JP1/AJS3 extended startup process definition file (system management)

JP1/AJS3-Manager-installation-folder\conf\jplajs_service_0700.conf

Before the change

```
jajs_dbmd|jajs_dbmd.exe||1|3|3|21600|0|2||1|||||
```

After the change

```
jajs_dbmd|jajs_dbmd.exe||0|3|3|21600|0|2||1|||||
```

In UNIX:

JP1/AJS3 extended startup process definition file (system management)

/etc/opt/jplajs2/conf/jplajs_service_0700.conf

Before the change

```
jajs_dbmd|jajs_dbmd||1|3|3|21600|0|2||1|||||
```

After the change

```
jajs_dbmd|jajs_dbmd||0|3|3|21600|0|2||1|||||
```

(8) Uninstalling an embedded database

For details about uninstalling an embedded database, see [6.1.1\(3\) Uninstalling an unnecessary database environment](#).

23.5 Advanced setup for the embedded database (in a cluster configuration)

This section describes how to perform advanced setup for an embedded database when the embedded database is used as the scheduler database in a cluster configuration.

23.5.1 Advanced setting up an embedded database (on the primary node)

This subsection describes the procedures for installing an embedded database, setting up the environment for operating the embedded database, and setting up the embedded database on the primary node in a cluster configuration.

(1) Installing an embedded database

To install an embedded database, you must perform the procedure described in [23.4.1\(1\) Installing an embedded database](#). If you plan to install the embedded database on the primary node in a cluster configuration, read the following notes before starting the installation.

Cautionary notes:

- When you install the embedded database, install it on the local disk of the primary node. Specify the same drive name and the same folder name for both the primary and secondary nodes.
- If you create a physical host and multiple logical hosts on the same machine and use different embedded databases, specify unique setup identifiers to avoid duplication conflicts.

Also check the detailed information about installation. For details about installation, see [23.4.1\(1\) Installing an embedded database](#).

(2) Setting up the embedded database environment

To set up the embedded database environment:

1. Stop services.

Stop all services that access the scheduler database. Such services include the JP1/AJS3 on the physical host and all logical hosts.

2. In UNIX, delete the environment setting information from the shared memory.

Use the `ajsshmdel` command to delete the environment setting information in the shared memory.

```
ajsshmdel >/dev/null 2>&1
```

3. Execute a command to set up the embedded database environment.

Use the `ajsembdbbbuild` command to set up the embedded database environment.

When executed, the `ajsembdbbbuild` command performs the following operations:

- Creates the definition information of the embedded database.
- Creates the embedded database work area.
- Starts the embedded database system.

Specify an area on a shared disk for the data area and system file area specified in the `-d` option of the `ajsembdbbuild` command. Specify an area on the local disk for the embedded database work area specified in the `-ld` option.

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Supplementary note:

You cannot set up an environment that duplexes the system file, but does not use the system log (the combination of items in *Table 23-2* and *Table 23-3* is 8-A, 10-A, or 12-A).

Cautionary notes:

- In the `hosts` file or in the DNS, you must register the names of both the primary node physical and logical hosts on which an embedded database environment is set up.
- A host name registered in the `jp1hosts` or `jp1hosts2` definition file cannot be used as the name of a host on which an embedded database environment will be set up.
- Do not use an alias for the name of a host on which an embedded database environment will be set up.
- To configure an embedded-database environment on a host, set the host name by using 1 to 63 bytes for a physical host or by using 1 to 32 bytes for a logical host.

Examples of executing the command `ajsembdbbuild` when setting up a large-scale embedded database environment are shown in subsections (a) and (b) below. The examples also provide the combination of item numbers shown in *Table 23-2* and *Table 23-3*.

(a) For Windows

The specification examples in this subsection assume that the following values are set. Create the following directories before executing the `ajsembdbbuild` command:

- Data area creation directory: `l:\EmbDB\RDArea`
- System file area creation directory 1: `m:\EmbDB\SYSArea1`
- System file area creation directory 2: `n:\EmbDB\SYSArea2`
- Unload log file creation directory: `o:\EmbDB\Unload_Log`
- Embedded database work area directory: `p:\EmbDB\WorkArea`
- Embedded database installation directory: `c:\Program Files#1\HITACHI\JP1AJS2\embdb_JFA`
- Scheduler service name: `AJSROOT4`
- Embedded database port number: `22230`
- Embedded database setup identifier: `_JFA`
- Physical host name of the primary node: `physical_host`
- Logical host name: `logical_host`
- If the system files are not duplicated and the system log is not used^{#2} (combination 11-A in *Table 23-2* and *Table 23-3*):

```
ajsembdbbuild -l
-d "l:\EmbDB\RDArea,m:\EmbDB\SYSArea1"
-ld p:\EmbDB\WorkArea
```

```
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFA" -p 22230
-id _JFA -r -mh logical_host -eh physical_host
```

- If the system files are not duplicated and unloading is used (combination 11-B in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l
-d "l:\EmbDB\RDArea,m:\EmbDB\SYSArea1"
-ld p:\EmbDB\WorkArea -bs -bl o:\EmbDB\Unload_Log
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFA"
-p 22230 -id _JFA
-r -mh logical_host -eh physical_host
```

- If the system files are duplicated and unloading is used (combination 12-B in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l
-d "l:\EmbDB\RDArea,m:\EmbDB\SYSArea1,n:\EmbDB\SYSArea2"
-ld p:\EmbDB\WorkArea -br -bl o:\EmbDB\Unload_Log
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFA"
-p 22230 -id _JFA
-r -mh logical_host -eh physical_host
```

#1:

For 64-bit versions of Windows, replace Program Files with Program Files (x86).

#2:

To use the backup enhancement function, specify the `-b` option for the `ajsembdbbuild` command.

(b) For UNIX

The specification examples in this subsection assume that the following values are set. Create the following directories before executing the `ajsembdbbuild` command:

- Unload log file creation directory: `/Unload_Log_JFA`
- Embedded database work area directory: `/WorkArea_JFA`
- Embedded database practical directory: `/opt/jp1ajs2/embdb/_JFA`
- Scheduler service name: `AJSROOT4`
- Embedded database port number: `22230`
- Embedded database setup identifier: `_JFA`
- Physical host name of the primary node: `physical_host`
- Logical host name: `logical_host`
- Data area creation directory: `/share1/RDArea_JFA`
- System area creation directory 1: `/share2/SYSArea_JFA`
- System area creation directory 2: `/share3/SYSArea_JFA`
- If the system files are not duplicated and the system log is not used[#] (combination 11-A in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l
-d "/share1/RDArea_JFA,/share2/SYSArea_JFA"
-ld /WorkArea_JFA -i /opt/jp1ajs2/embdb/_JFA -p 22230
-id _JFA -r -mh logical_host -eh physical_host
```

- If the system files are not duplicated and unloading is used (combination 11-B in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l
-d "/share1/RDArea_JFA,/share2/SYSArea_JFA"
-ld /WorkArea_JFA -bs -bl /Unload_Log_JFA
-i /opt/jplajs2/embdb/_JFA -p 22230 -id _JFA
-r -mh logical_host -eh physical_host
```

- If the system files are duplicated and unloading is used (combination 12-B in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l
-d "/share1/RDArea_JFA,/share2/SYSArea_JFA,
/share3/SYSArea_JFA" -ld /WorkArea_JFA -br
-bl /Unload_Log_JFA -i /opt/jplajs2/embdb/_JFA
-p 22230 -id _JFA
-r -mh logical_host -eh physical_host
```

#:

To use the backup enhancement function, specify the `-b` option for the `ajsembdbbuild` command.

(3) Environment setting parameter settings

When you change the number of characters that can be specified for the unit name of the detailed definition of a unit, the comment for the detailed definition of a unit, and the exclusive jobnet name of the schedule setting in a UTF-8 environment in UNIX, change the value of the `AJSCHARCODE` environment setting parameter to UTF-8.

For details on setting the environment setting parameters, see [4.2 Environment setting parameter settings](#) (for Windows) or [14.2 Environment setting parameter settings](#) (for UNIX).

If you execute the `jajs_config` command after performing an advanced setup, a message (KAVS1516-E) is output and an error occurs. In this case, execute the `jbssetcnf` command to set the environment setting parameter. For details about the `jbssetcnf` command, see [4.2.2 Procedure for setting the environment setting parameters by using the jbssetcnf command](#) (for Windows), or [14.2.2 Procedure for setting the environment setting parameters by using the jbssetcnf command](#) (for UNIX).

In addition, do not start JP1/AJS3 while you are setting the environment setting parameters, because setup is not yet complete. Perform the procedure described in [\(4\) Setting up the scheduler database in an embedded database environment](#) or [\(5\) Setting up multiple scheduler databases in one or more embedded database environments](#), and then start JP1/AJS3.

(4) Setting up the scheduler database in an embedded database environment

The `ajsembdbsetup` command can be used to set up the contents of a scheduler database in an embedded database environment. Before you start setup by executing the `ajsembdbsetup` command, make sure that the scheduler service is set up in the logical host environment.

When executed, the `ajsembdbsetup` command performs the following operations:

- Sets the database information of the embedded database (schema and table).
- Sets the JP1/AJS3 environment setting parameter.

An example of executing the `ajsembdbsetup` command in a large-scale embedded database environment is shown below. This example assumes that the following values are set:

- Scheduler service name: AJSROOT4
- Port number of the embedded database: 22230
- Embedded database setup identifier: _JFA
- Logical host name: logical_host

```
ajsembdbsetup -F AJSROOT4 -ru -l -id _JFA
-mh logical_host -p 22230
```

For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Supplementary notes:

- When you change the number of characters that can be specified for the unit name of the detailed definition of a unit, the comment for the detailed definition of a unit, and the exclusive jobnet name of the schedule setting in a UTF-8 environment in UNIX, execute the `ajsembdbsetup` command with the `-e sjis` option specified.
- When the `ajsembdbsetup` command is executed, the environment setting parameters listed in the following table are set. Do not change the values set for these environment setting parameters. For details about the parameters, see *20.4 Setting up the scheduler service environment*.

Table 23–11: Environment setting parameters specified when the `ajsembdbsetup` command is executed

Environment setting parameter	Definition	Setting specified by the <code>ajsembdbsetup</code> command ^{#1}
AJSDBTYPE	Type of database	EmbedDB
TABLENAMEPREFIX	Table name prefix	Either of the following: <ul style="list-style-type: none"> • <code>-tp</code> option specification value • AJS1
TABLENAMEPOSTFIX	Table ID	--
RDBAUTHID	RDB permission identifier	root
RDBUSER	RDB access user name	ajs2
RDBPASSWORD	RDB user password	--
RDBHOST	Name of the host at the RDB connection destination	127.0.0.1
RDBPORT	RDB connection port number	Either of the following: <ul style="list-style-type: none"> • <code>-p</code> option specification value • 22220
RDBIPC	Method for communication with RDB server	MEMORY
RDBSENDMEMSIZE	Send-data memory size for RDB interprocess memory communication	Either of the following: <ul style="list-style-type: none"> • <code>-s</code> option specification value • 100
RDBRECVMEMSIZE	Receive-data memory size for RDB interprocess memory communication	Either of the following: <ul style="list-style-type: none"> • <code>-r</code> option specification value • 1600

Environment setting parameter	Definition	Setting specified by the ajsembdbsetup command ^{#1}
DEFLENTYPE	Number of characters that can be used in a UTF-8 environment	Either of the following ^{#2, #3} <ul style="list-style-type: none"> For <code>-e sjis</code> sjis For <code>-e byte</code> byte
ENHANCEDBACKUP	The setting of the backup enhancement function	Either of the following: <ul style="list-style-type: none"> When the <code>-b</code> option is specified yes When the <code>-b</code> option is not specified no

#1

Settings that are numeric values use decimal numbers.

#2

The `-e` option can be specified only in UNIX.

#3

If you omit the `-e` option in Linux, `byte` is set.

(5) Setting up multiple scheduler databases in one or more embedded database environments

The following describes how to set up multiple scheduler databases in one or more embedded databases.

(a) Setting up a different embedded database environment for each scheduler service

To set up a different embedded database environment for each scheduler service when multiple scheduler services are defined, prepare the following areas separately.

- Embedded database practical directory
- Data area
- System file area
- Embedded database work area
- Unload log file creation directory

Prepare the system file area and unload log file creation directory if these are necessary. For the data area and system file area, specify areas on a shared disk.

When you set up the embedded database environment, specify a port number and a setup identifier for the embedded database so that there are no duplication conflicts with other databases. That is, when executing the `ajsembdbbuild` or `ajsembdbsetup` command, you must specify a unique port number for each embedded database in the `-p` option. Similarly, when executing the `ajsembdbinstl`, `ajsembdbbuild`, or `ajsembdbsetup` command, you must specify a unique embedded database setup identifier for each embedded database in the `-id` option.

A setup example is shown below.

This example assumes that the environment described in [\(2\) Setting up the embedded database environment](#) and [\(3\) Environment setting parameter settings](#) is already set up.

■ For Windows

Environment for the embedded database:

The following are the details of the environment for the embedded database to be added:

- Data area creation directory: q:\EmbDB\RDArea
- System file area creation directory 1: r:\EmbDB\SYSArea1
- System file area creation directory 2: s:\EmbDB\SYSArea2
- Unload log file creation directory: t:\EmbDB\Unload_Log
- Embedded database work area directory: u:\EmbDB\WorkArea
- Embedded database installation directory: c:\Program Files#\HITACHI\JP1AJS2\embdb_JFB
- Scheduler service name: AJSROOT5
- Port number of the embedded database: 22231
- Embedded database setup identifier: _JFB
- Name of the primary node physical host: physical_host
- Logical host name: logical_host

#:

For 64-bit versions of Windows, replace Program Files with Program Files (x86).

Specification of the ajsembdbinstl command:

```
ajsembdbinstl -mh logical_host  
-s "c:\Program Files\HITACHI\JP1AJS2\tools\AJS3DB"  
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFB" -id _JFB
```

Specification of the ajsembdbbuild command:

```
ajsembdbbuild -l  
-d "q:\EmbDB\RDArea,r:\EmbDB\SYSArea1,s:\EmbDB\SYSArea2"  
-ld u:\EmbDB\WorkArea -br -bl t:\EmbDB\Unload_Log  
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFB"  
-p 22231 -id _JFB -r -mh logical_host -eh physical_host
```

Specification of the ajsembdbsetup command:

```
ajsembdbsetup -F AJSROOT5 -ru l -id _JFB -p 22231  
-mh logical_host
```

■ For UNIX

Environment for the embedded database:

The following are the details of the environment for the embedded database to be added:

- Data area creation directory: /share4/RDArea_JFB
- System file area creation directory 1:/share5/SYSArea_JFB
- System file area creation directory 2:/share6/SYSArea_JFB
- Unload log file creation directory: /Unload_Log_JFB
- Embedded database work area directory: /WorkArea_JFB

- Embedded database practical directory: /opt/jplajs2/embdb/_JFB
- Scheduler service name: AJSROOT5
- Port number of the embedded database: 22231
- Embedded database setup identifier: _JFB
- Name of the primary node physical host: physical_host
- Logical host name: logical_host

Specification of the ajsembdbinstl command:

```
ajsembdbinstl -mh logical_host -s /opt/jplajs2/tools/AJS3DB
-i /opt/jplajs2/embdb/_JFB -id _JFB
```

Specification of the ajsembdbbuild command:

```
ajsembdbbuild -l
-d "/share4/RDArea_JFB,/share5/SYSArea_JFB,
/share6/SYSArea_JFB" -ld /WorkArea_JFB -br
-b1 /Unload_Log_JFB -i /opt/jplajs2/embdb/_JFB
-p 22231 -id _JFB -r -mh logical_host -eh physical_host
```

Specification of the ajsembdbsetup command:

```
ajsembdbsetup -F AJSROOT5 -ru l -id _JFB
-p 22231 -mh logical_host
```

For details about the ajsembdbinstl, ajsembdbbuild, and ajsembdbsetup commands, see 2. *Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

(b) Setting up multiple scheduler databases in one embedded database environment

If you want to set up multiple scheduler databases in one embedded database environment, you must create and manage a different table for each scheduler service in the embedded database. To do this, you must change the table name prefix specified when you execute the ajsembdbsetup command.

The following shows an example of specifying the ajsembdbsetup command when setting up the second scheduler database in an embedded database environment. Note that the example assumes that the following settings are specified:

- Scheduler service name: AJSROOT6
- Table name prefix: AJS2
- Port number of the embedded database: 22230
- Embedded database setup identifier: _JFA
- Logical host name: logical_host

```
ajsembdbsetup -F AJSROOT6 -tp AJS2 -ru l
-id _JFA -mh logical_host -p 22230
```

For details about the ajsembdbsetup command, see *ajsembdbsetup* in 2. *Commands Used during Setup* in the manual *JPI/Automatic Job Management System 3 Command Reference*.

Cautionary notes:

- In an embedded database environment in which multiple scheduler databases are set up, you cannot reorganize just one scheduler database. In this environment, you need to reorganize all the scheduler databases that have been set up. If you want to reorganize only one scheduler database, you must prepare an embedded database environment for each scheduler service. For details, see *(a) Setting up a different embedded database environment for each scheduler service*.
- In an embedded database environment in which multiple scheduler databases are set up, you cannot use the `ajsembddbbackup` command to back up only one scheduler database. The `ajsembddbbackup` command can only back up all the scheduler databases set up in an embedded database environment. If a backup created by using the `ajsembddbbackup` command is used for restoration, all the scheduler databases are restored. Therefore, when you use the `ajsembddbbackup` and `ajsembdbstr` commands to perform backup and restore operations, you must stop all the scheduler services that access the relevant embedded database beforehand. If you use the `ajspint` command to back up only the unit definition, you can create a backup for each scheduler database without stopping scheduler services. If you want to use the `ajsembddbbackup` command to back up only one scheduler database, you must prepare an embedded database for each scheduler service. For details, see *(a) Setting up a different embedded database environment for each scheduler service*.
- You cannot set up both the scheduler database for the logical host and the scheduler database for the physical host in one environment database environment.

(6) Setting up an embedded database again

For details about setting up the embedded database again, see *23.4.1(6) Setting up an embedded database again*.

In Windows, make sure that `JP1/AJS3 Database _JFn#` has stopped before you start the `JP1/AJS3` for the first time after the embedded database has been set up again. For details, see *8.2.6 Registering the JP1/AJS3 service in the cluster software*.

_JFn is the embedded database setup identifier used by `JP1/AJS3` services on a logical host.

(7) Changing the embedded database settings to the settings for a version earlier than 10-00

To change the embedded database management function to a version earlier than `JP1/AJS3 - Manager 10-00`:

1. Stop the target `JP1/AJS3` service.
2. Perform an overwrite installation of the embedded database.
Execute the `ajsembdbinstl` command with the `-v9standard` option specified.
For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.
3. Change the settings in the system common definition file.
Use an editor to open the following file, and then change the settings.
System common definition file
 - In Windows:
`embedded-database-practical-directory\conf\pdsys`
 - In UNIX:

embedded-database-practical-directory/conf/pdsys

Before the change:

```
set pd_mode_conf = MANUAL2
```

After the change:

```
set pd_mode_conf = MANUAL1#
```

#

If you changed the system common definition file in JP1/AJS3 - Manager version 9 or earlier, use that value rather than MANUAL1.

4. Copy the model files to the JP1/AJS3 startup process definition file and JP1/AJS3 extended startup process definition file, which are used for database management.

Overwrite the following files by copying the model files.

In Windows:

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	<i>shared-folder</i> \jplajs2\conf\jplajs_dbmd.conf	<i>JP1/AJS3-Manager-installation-folder</i> \conf\jplajs_dbmd.conf.v9standard.model
JP1/AJS3 extended startup process definition file (database management)	<i>shared-folder</i> \jplajs2\conf\jplajs_dbmd_0700.conf	<i>JP1/AJS3-Manager-installation-folder</i> \conf\jplajs_dbmd_0700.conf.v9standard.cluster.model

In UNIX:

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	/etc/opt/jplajs2/conf/jplajs_dbmd.conf	/etc/opt/jplajs2/conf/jplajs_dbmd.conf.v9standard.model
JP1/AJS3 extended startup process definition file (database management)	/etc/opt/jplajs2/conf/jplajs_dbmd_0700.conf	/etc/opt/jplajs2/conf/jplajs_dbmd_0700.conf.v9standard.cluster.model

5. Change the setting in the JP1/AJS3 extended startup process definition file used for system management.

Use an editor to open the following file, and then change the underlined value in the line under *Before the change*. If the underlined value is already the same as the value *after the change*, you do not need to change it.

In Windows:

JP1/AJS3 extended startup process definition file (system management)

```
shared-folder\jplajs2\conf\jplajs_service_0700.conf
```

Before the change

```
jaajs_dbmd|jaajs_dbmd.exe||1|3|3|21600|0|2||1|||||
```

After the change

```
jaajs_dbmd|jaajs_dbmd.exe||0|3|3|21600|0|2||1|||||
```

In UNIX:

JP1/AJS3 extended startup process definition file (system management)

```
shared-directory/jplajs2/conf/jplajs_service_0700.conf
```

Before the change

```
jaajs_dbmd|jaajs_dbmd||1|3|3|21600|0|2||1|||||
```

After the change

(8) Uninstalling an embedded database

For details about uninstalling an embedded database, see [6.1.1\(3\) Uninstalling an unnecessary database environment](#).

23.5.2 Advanced setting up an embedded database (on the secondary node)

This subsection describes the procedures for installing an embedded database, setting up the environment for operating the embedded database, and setting up the embedded database on the secondary node in a cluster configuration.

(1) Installing an embedded database

To install an embedded database, you must perform the procedure described in [23.4.1\(1\) Installing an embedded database](#). If you plan to install the embedded database on the secondary node in a cluster configuration, read the following notes before starting the installation.

Cautionary notes:

- When you install the embedded database, install it on the local disk on the secondary node. Specify the same drive name and folder name for the local disks on the primary and secondary nodes.
- If physical host and multiple logical hosts reside on a single machine and use different embedded databases, specify unique setup identifiers to avoid duplication conflicts.

Also check the detailed information about installation. For details about installation, see [23.4.1\(1\) Installing an embedded database](#).

(2) Setting up the embedded database environment

To set up the embedded database environment:

1. Stop services.

Stop all services that access the scheduler database. Such services include the JP1/AJS3 on the physical host and all logical hosts.

2. In UNIX, delete the environment setting information from the shared memory.

Use the `ajsshmdel` command to delete the environment setting information in the shared memory.

```
ajsshmdel >/dev/null 2>&1
```

3. To set up an environment in JP1/AJS3 10-00 or later, copy the embedded database settings file from the primary node to the secondary node.

Copy the following embedded database settings file from the primary node to the secondary node.

- In Windows:
`embedded-database-practical-directory\conf\ajssdbst\ajsembdbsetup-identifier.conf`
- In UNIX:
`embedded-database-practical-directory/conf/ajssdbst/ajsembdbsetup-identifier.conf`

4. Execute a command to set up the embedded database environment.

Use the `ajsembdbbbuild` command to set up the embedded database.

When executed, the `ajsembdbbbuild` command performs the following operations:

- Creates the definition information of the embedded database.
- Creates the embedded database work area.

When you execute the `ajsembdbbbuild` command on the secondary node, specify the `-f` option instead of the `-r` option. For other arguments, specify the same settings that you specified for the primary node.

For details about the `ajsembdbbbuild` command, see *ajsembdbbbuild* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

Supplementary note:

You cannot set up an environment that duplexes the system file, but does not use the system log (the combination of items in *Table 23-2* and *Table 23-3* is 8-A, 10-A, or 12-A).

Cautionary notes:

- In the `hosts` file or in the DNS, you must register the names of both the primary node physical and logical hosts on which an embedded database environment is set up.
- A host name registered in the `jp1hosts` or `jp1hosts2` definition file cannot be used as the name of a host on which an embedded database environment will be set up.
- Do not use an alias for the name of a host on which an embedded database environment will be set up.
- To configure an embedded-database environment on a host, set the host name by using 1 to 63 bytes for a physical host or by using 1 to 32 bytes for a logical host.

Examples of executing the command `ajsembdbbbuild` when setting up a large-scale embedded database environment are shown in subsections (a) and (b) below. The examples also provide the combination of the item numbers indicated in *Table 23-2* and *Table 23-3*.

(a) For Windows

■ If the JP1/AJS3 version is 10-00 or later

Execute the following command:

```
ajsembdbbbuild -conf embedded-database-settings-file-name
```

Cautionary notes:

- For *embedded-database-settings-file-name*, specify the file name you copied in step 3 in (2) *Setting up the embedded database environment*.
- If you execute this command, the embedded database is configured with the same configuration as that when the option was specified for the `ajsembdbbbuild` command on the executing host. Before executing the `ajsembdbbbuild` command, create the following directories, which have already been specified on the executing host.
 - Unload log file creation directory
 - Embedded database work area directory
 - Embedded database installation directory

Note that the unload log file creation directory also needs to be created on the standby host if you specified a directory on the local disk when setting up the executing host.

■ If the JP1/AJS3 version is earlier than 10-00

The specification examples in this subsection assume that the following values are set. Create the following directories before executing the `ajsembdbbuild` command:

- Data area creation directory: `l:\EmbDB\RDArea`
- System file area creation directory 1: `m:\EmbDB\SYSArea1`
- System file area creation directory 2: `n:\EmbDB\SYSArea2`
- Unload log file creation directory: `o:\EmbDB\Unload_Log`
- Embedded database work area directory: `p:\EmbDB\WorkArea`
- Embedded database installation directory: `c:\Program Files#1\HITACHI\JP1AJS2\embdb_JFA`
- Scheduler service name: `AJSROOT4`
- Embedded database port number: `22230`
- Embedded database setup identifier: `_JFA`
- Name of the primary node physical host^{#2}: `physical_host`
- Logical host name: `logical_host`
- If the system files are not duplicated and the system log is not used^{#3} (combination 11-A in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l
-d "l:\EmbDB\RDArea,m:\EmbDB\SYSArea1"
-ld p:\EmbDB\WorkArea -i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFA"
-p 22230 -id _JFA -f -mh logical_host -eh physical_host
```

- If the system files are not duplicated and unloading is used (combination 11-B in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l
-d "l:\EmbDB\RDArea,m:\EmbDB\SYSArea1"
-ld p:\EmbDB\WorkArea -bs -bl o:\EmbDB\Unload_Log
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFA"
-p 22230 -id _JFA
-f -mh logical_host -eh physical_host
```

- If the system files are duplicated and unloading is used (combination 12-B in [Table 23-2](#) and [Table 23-3](#)):

```
ajsembdbbuild -l
-d "l:\EmbDB\RDArea,m:\EmbDB\SYSArea1,
n:\EmbDB\SYSArea2" -ld p:\EmbDB\WorkArea -br
-bl o:\EmbDB\Unload_Log
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFA"
-p 22230 -id _JFA -f -mh logical_host -eh physical_host
```

#1:

For 64-bit versions of Windows, replace `Program Files` with `Program Files (x86)`.

#2:

When setting up the environment of the embedded database on the secondary node, specify the name of the primary node physical host for the `-eh` option of the `ajsembdbbuild` command.

#3:

To use the backup enhancement function, specify the `-b` option for the `ajsembdbbuild` command.

(b) For UNIX

■ If the JP1/AJS3 version is 10-00 or later

Execute the following command:

```
ajsembdbbuild -conf embedded-database-settings-file-name
```

Cautionary notes:

- For *embedded-database-settings-file-name*, specify the file name you copied in step 3 in (2) *Setting up the embedded database environment*.
- If you execute this command, the embedded database is configured with the same configuration as that when the option was specified for the `ajsembdbbuild` command on the executing host. Before executing the `ajsembdbbuild` command, create the following directories, which have already been specified on the executing host.
 - Unload log file creation directory
 - Embedded database work area directory
 - Embedded database installation directoryNote that the unload log file creation directory also needs to be created on the standby host if you specified a directory on the local disk when setting up the executing host.

■ If the JP1/AJS3 version is earlier than 10-00

The specification examples in this subsection assume that the following values are set. Create the following directories before executing the `ajsembdbbuild` command:

- Unload log file creation directory: `/Unload_Log_JFA`
- Embedded database work area directory: `/WorkArea_JFA`
- Embedded database installation directory: `/opt/jp1ajs2/embdb/_JFA`
- Scheduler service name: `AJSROOT4`
- Embedded database port number: `22230`
- Embedded database setup identifier: `_JFA`
- Name of the primary node physical host#: `physical_host`
- Logical host name: `logical_host`
- Data area creation directory: `/share1/RDArea_JFA`
- System area creation directory: `/share2/SYSArea_JFA`
- System area creation directory: `/share3/SYSArea_JFA`

#:

When setting up the environment of the embedded database on the secondary node, specify the name of the primary node physical host for the `-eh` option of the `ajsembdbbuild` command.

- If the system files are not duplicated and the system log is not used# (combination 11-A in *Table 23-2* and *Table 23-3*):


```
ajsembdbbuild -l
-d "/share1/RDArea_JFA,/share2/SYSArea_JFA"
-lid /WorkArea_JFA -i /opt/jplajs2/embdb/_JFA -p 22230
-id _JFA -f -mh logical_host -eh physical_host
```

- If the system files are not duplicated and unloading is used (combination 11-B in *Table 23-2* and *Table 23-3*):

```
ajsembdbbuild -l
-d "/share1/RDArea_JFA,/share2/SYSArea_JFA"
-lid /WorkArea_JFA -bs -bl /Unload_Log_JFA
-i /opt/jplajs2/embdb/_JFA -p 22230 -id _JFA
-f -mh logical_host -eh physical_host
```

- If the system files are duplicated and unloading is used (combination 12-B in *Table 23-2* and *Table 23-3*):

```
ajsembdbbuild -l
-d "/share1/RDArea_JFA,/share2/SYSArea_JFA,
/share3/SYSArea_JFA"
-lid /WorkArea_JFA -br -bl /Unload_Log_JFA
-i /opt/jplajs2/embdb/_JFA -p 22230 -id _JFA -f
-mh logical_host -eh physical_host
```

#:

To use the backup enhancement function, specify the `-b` option for the `ajsembdbbuild` command.

(3) Environment setting parameter settings

No tasks are required if the common definition information and the settings on the executing host and on the standby host match and are in accordance with the procedures for the standby host in the following sections.

In Windows:

- [8.2.2 Procedure for setting up a cluster system environment \(in Windows version of JP1/AJS3 - Manager\)](#)
- [8.2.10 Setting startup of multiple scheduler services on a logical host](#)

In UNIX:

- [17.2.2 Procedure for setting up a cluster system environment \(in UNIX version of JP1/AJS3 - Manager\)](#)
- [17.2.10 Setting startup of multiple scheduler services on a logical host](#)

(4) Setting up the scheduler database in an embedded database environment

No tasks are required for the standby host.

(5) Setting up multiple scheduler databases in one or more embedded database environments

The following describes how to set up multiple scheduler databases in one or more embedded databases.

(a) Setting up a different embedded database environment for each scheduler service

To set up a different embedded database environment for each scheduler service when multiple scheduler services are defined, prepare the areas listed below separately.

- Embedded database practical directory
- Embedded database work area
- Unload log file creation directory

Prepare the unload log file creation directory if it is necessary.

When you set up an environment on the secondary node, it is not necessary to create the data area and system file area. Create these areas on a shared disk when the environment is created on the primary node.

When you set up an embedded database environment, specify a port number and embedded database setup identifier so that there are no duplication conflicts with other databases. That is, when executing the `ajsembdbbuild` command, you must specify a unique port number for each embedded database in the `-p` option. Similarly, when executing the `ajsembdbinstl` or `ajsembdbbuild` command, you must specify a unique embedded database setup identifier for each embedded database in the `-id` option.

An example of setup is shown below.

This example assumes that the environment described in (2) *Setting up the embedded database environment* and (3) *Environment setting parameter settings* is already set up.

■ For Windows

Environment for the embedded database:

The following are the details of the embedded database environment to be added:

- Data area creation directory: `q:\EmbDB\RDArea`
- System file area creation directory 1: `r:\EmbDB\SYSArea1`
- System file area creation directory 2: `s:\EmbDB\SYSArea2`
- Unload log file creation directory: `t:\EmbDB\Unload_Log`
- Embedded database work area directory: `u:\EmbDB\WorkArea`
- Embedded database installation directory: `c:\Program Files#\HITACHI\JP1AJS2\embdb_JFB`
- Scheduler service name: `AJSROOT5`
- Embedded database port number: `22231`
- Embedded database setup identifier: `_JFB`
- Physical host name of the primary node: `physical_host`
- Logical host name: `logical_host`

#:

For 64-bit versions of Windows, replace `Program Files` with `Program Files (x86)`.

Specification of the `ajsembdbinstl` command:

```
ajsembdbinstl -mh logical_host
-s "c:\Program Files\HITACHI\JP1AJS2\tools\AJS3DB"
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFB" -id _JFB
```

Specification of the `ajsembdbbuild` command:

```
ajsembdbbuild -l
-d "q:\EmbDB\RDArea,r:\EmbDB\SYSArea1,s:\EmbDB\SYSArea2"
-ld u:\EmbDB\WorkArea -br -bl t:\EmbDB\Unload_Log
```

```
-i "c:\Program Files\HITACHI\JP1AJS2\embdb\_JFB" -p 22231
-id _JFB -f -mh logical_host -eh physical_host
```

Procedure for setup in an embedded database environment:

For details about how to set up scheduler databases in an embedded database environment, see the specification examples in (4) *Setting up the scheduler database in an embedded database environment*.

■ For UNIX

Environment for the embedded database:

The following are the details of the embedded database environment to be added:

- Data area creation directory: /share4/RDArea_JFB
- System file area creation directory 1:/share5/SYSArea_JFB
- System file area creation directory 2: /share6/SYSArea_JFB
- Unload log file creation directory:/Unload_Log_JFB
- Embedded database work area directory:/WorkArea_JFB
- Embedded database practical directory: /opt/jplajs2/embdb/_JFB
- Scheduler service name: AJSROOT5
- Embedded database port number: 22231
- Embedded database setup identifier: _JFB
- Physical host name of the primary node: physical_host
- Logical host name: logical_host

Specification of the ajsembdbinstl command:

```
ajsembdbinstl -mh logical_host -s /opt/jplajs2/tools/AJS3DB
-i /opt/jplajs2/embdb/_JFB -id _JFB
```

Specification of the ajsembdbbuild command:

```
ajsembdbbuild -l
-d "/share4/RDArea_JFB, /share5/SYSArea_JFB,
/share6/SYSArea_JFB"
-ld /WorkArea_JFB -br -b1 /Unload_Log_JFB
-i /opt/jplajs2/embdb/_JFB -p 22231 -id _JFB
-f -mh logical_host -eh physical_host
```

Procedure for setup in an embedded database environment:

For details about how to set up scheduler databases in an embedded database environment, see the specification examples in (4) *Setting up the scheduler database in an embedded database environment*.

For details about the ajsembdbinstl and ajsembdbbuild commands, see 2. *Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

(b) Setting up multiple scheduler databases in one embedded database environment

For details, see (4) *Setting up the scheduler database in an embedded database environment*.

(6) Setting up an embedded database again

To set up an embedded database again:

1. Use the `ajsembdbunset` command to delete the data about the embedded database environment.
2. If you need to change the embedded database practical directory, uninstall the embedded database, and then reinstall it.
3. Use the `ajsembdbbuild` command to set up the embedded database.
4. Set the common definition information of the primary node on the secondary node.

When you have completed setup of the primary node, execute the `jbsgetcnf` command on the primary node to save the common definition information to a file.

Copy the saved file to the secondary node, specify the name of the saved file in the `jbssetcnf` command, and execute the following commands:

- Command to be executed on the primary node:
`jbsgetcnf -h logical-host-name > backup-file-name`
- Command to be executed on the secondary node:
`jbssetcnf backup-file-name`

For details about the `ajsembdbunset` and `ajsembdbbuild` commands, see *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*. For details about the `jbsgetcnf` and `jbssetcnf` commands, see the *JP1/Base User's Guide*.

In Windows, make sure that JP1/AJS3 Database `_JFn#` has stopped before you start the JP1/AJS3 for the first time after the embedded database has been set up again. For details, see *8.2.6 Registering the JP1/AJS3 service in the cluster software*.

`_JFn` is the embedded database setup identifier used by JP1/AJS3 services on a logical host.

(7) Changing the embedded database settings to the settings for a version earlier than 10-00

To change the embedded database management function to a version earlier than JP1/AJS3 - Manager 10-00:

1. Perform an overwrite installation of the embedded database.
Execute the `ajsembdbinstl` command with the `-v9standard` option specified.
For details about the `ajsembdbinstl` command, see *ajsembdbinstl* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

2. Change the settings in the system common definition file.
Use an editor to open the following file, and then change the settings.

System common definition file

- In Windows:
`embedded-database-practical-directory\conf\pdsys`
- In UNIX:
`embedded-database-practical-directory/conf/pdsys`

Before the change:

```
set pd_mode_conf = MANUAL2
```

After the change:

```
set pd_mode_conf = MANUAL1#
```

#

If you changed the system common definition file in JP1/AJS3 - Manager version 9 or earlier, use that value rather than MANUAL1.

(8) Uninstalling an embedded database

For details about uninstalling an embedded database, see [6.1.1\(3\) Uninstalling an unnecessary database environment](#).

23.5.3 Changing the settings of an embedded database in a cluster configuration

This subsection describes the system definition related to a cluster that can be changed.

The system definition described in this section is the system definition that is set in the system common definition file. The system common definition file is located in the following directory:

In Windows:

```
embedded-database-practical-directory\conf\pdsys
```

In UNIX:

```
embedded-database-practical-directory/conf/pdsys
```

The system common definition file is created by using the `ajsembdbbbuild` command, so edit this file after you execute the `ajsembdbbbuild` command.

You can change the following clustering system definitions:

- Starting the embedded database, `pd_mode_conf =`

You can set the following values for `pd_mode_conf`:

- MANUAL1

The embedded database is started manually. However, if it terminates abnormally, it is restarted automatically.

- MANUAL2

The embedded database is started manually. Unlike MANUAL1, if the embedded database terminates abnormally, it is not restarted automatically.

- AUTO

The embedded database is started automatically. When the OS starts, the embedded database starts automatically. If the embedded database terminates abnormally, it is restarted automatically.

If the environment was set up with the `-r` or `-f` option when the `ajsembdbbbuild` command was executed, the initial value of `pd_mode_conf` is MANUAL2.

Specify MANUAL1 or MANUAL2 in a cluster configuration. Change the value to match the environment that will be set up.

To edit the system common definition file:

- On the primary node:
 1. Stop the scheduler service that uses the embedded database.
 2. Stop the embedded database.
 3. Edit the system common definition file.
 4. Start the embedded database.
 5. Start the scheduler service that uses the embedded database.
- On the secondary node:

After completing the tasks on the primary node, use either of the following operations to change the system common definition file:

 - Copy the system common definition file edited on the primary node to the secondary node environment.
 - Edit the system common definition file so that the result is the same as the editing result in step 3 for the primary node above.

24

Performing setup for using an external database in a cloud environment

This chapter describes how to perform setup for using an external database in a cloud environment, and how to import data from the embedded database.

24.1 Preparations for using an external database

This section describes the preparations necessary to use an external database.

To use a JP1/AJS3 system with an external database, before setting up JP1/AJS3, make the following preparations:

- Create instances of the external database to be used in JP1/AJS3
- Create databases of the external database used in JP1/AJS3

Create a database or databases for managing the execution agent information and the scheduler service. The execution agent information and scheduler service can be managed by using the same database or by using separate databases.

However, to set up multiple scheduler services, you must create a separate database for each scheduler service.

- Install the ODBC driver

Install the ODBC driver on the manager host. For details about the version of the ODBC driver to be installed, see the *Release Notes*.

- Prepare the ODBC file data source

The following table shows the items to be specified in the ODBC file data source to be used in JP1/AJS3.

Table 24–1: Information to be specified for ODBC file data source items

No.	Specification item	ODBC file data source item
1	Connection-destination server address ^{#1} and port number	SERVER
2	User name	UID
3	Password	PWD
4	ODBC driver	DRIVER
5	Description ^{#2}	DESCRIPTION

#1

Connection between JP1/AJS3 and the external database does not depend on the JP1/Base communication settings. Therefore, make sure that the IP address can be resolved by using the OS functions such as the `hosts` file and the DNS.

#2

You can omit specifying this parameter.

The following shows an example of specifying ODBC file data source items:

- Connection-destination server address: `sqlsvr.example.com`
- Connection-destination server port number: 1433
- User name: `user1`
- Password: `pass1`
- ODBC Driver: ODBC Driver 17 for SQL Server

```
[ODBC]
SERVER=sqlsvr.example.com,1433
UID=user1
PWD=pass1
DRIVER=ODBC Driver 17 for SQL Server
```

Note that a single ODBC file data source can be shared with the agent management database and scheduler database. For details about how to set up the external database, including how to create instances and databases, see the documentation for the cloud environment and DBMS that you are using.

After preparations for using the external database are complete, set up JP1/AJS3. If you have just installed JP1/AJS3 as a new installation, you do not need to export data from the embedded database to the external database. In such a case, see [24.2 Setting up JP1/AJS3 to use an external database](#). To export data from the embedded database that is currently in use to the external database, see [24.3 Exporting data from the embedded database currently in use to the external database](#).

24.2 Setting up JP1/AJS3 to use an external database

This section describes how to set up JP1/AJS3 to use an external database.

Note that you cannot use an external database on a host on which both the embedded database environment and external database environment exist. Therefore, when you perform a new installation of JP1/AJS3, make sure that an embedded database is not automatically set up during installation. If an embedded database is set up during installation, before you set up the external database environment, you must delete the embedded database environment that was set up.

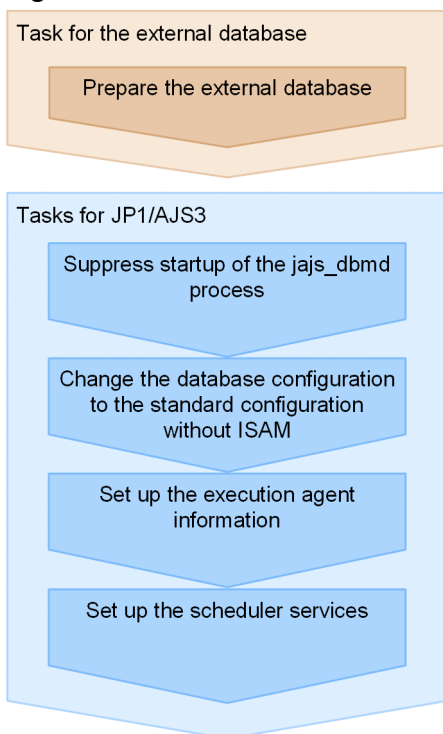
For details about the conditions for using an external database and about the basic configuration, see *2.11 Considering use of an external database in a cloud environment* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about how to export the data of JP1/AJS3 that was previously managed by using the embedded database to an external database, see *24.3.1 Procedure for exporting data to the external database*.

24.2.1 Setting up JP1/AJS3 to use an external database

The following figure shows an overview of setup for using an external database.

Figure 24–1: Overview of the setup process for using an external database



The following procedure shows how to set up JP1/AJS3 to use an external database.

1. Prepare the external database.

For details about the preparations for using an external database, see *24.1 Preparations for using an external database*.

2. Suppress startup of the `jajs_dbmd` process.

Suppress startup of the `jajs_dbmd` process and the `ajsdbmgrd` process (child process of `jajs_dbmd`) by editing the JP1/AJS3 startup process definition file (`jp1ajs_spmd.conf`) and the JP1/AJS3 extended startup process definition file (`jp1ajs_service_0700.conf`). If you do not specify this setting, startup of the `ajsdbmgrd` process fails and the JP1/AJS3 service does not start.

For details about the procedure for suppressing startup of the `jajs_dbmd` process, see [24.2.2 Suppressing startup of the `jajs_dbmd` process](#).

For details about the JP1/AJS3 extended startup process definition file, see [6.3 Changing the behavior of JP1/AJS3 if a JP1/AJS3 process terminates abnormally in the JP1/Automatic Job Management System 3 Administration Guide](#).

3. Change the database configuration of JP1/AJS3 from the *standard configuration* to the *standard configuration without ISAM*.

The external database can be used only in the standard configuration without ISAM. For details about how to change the standard configuration to the standard configuration without ISAM, see [6.9.2 Changing the JP1/AJS3 database configuration to the standard configuration without ISAM](#) (in Windows) or [15.10.2 Changing the JP1/AJS3 database configuration to the standard configuration without ISAM](#) (in UNIX).

4. Run the `jajs_setup` command to set up the execution agent information.

Execute the following command:

```
jajs_setup -G -a
-k SQLSVR
-of ODBC-file-data-source-name
-od database-name
```

For details about the `jajs_setup` command, see `jajs_setup` in [2. Commands Used during Setup](#) in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Use a program such as Windows Explorer to create the following folders:

- Database folder
- Folder for temporary files
- Job information folder
- Backup information folder

Make sure that all of the folders other than the folder for backup information do not have the same name as any folder used by any other scheduler service that is set up on the same host. In addition, make sure that you do not create any of the folders inside a folder used by a different scheduler service.

6. Run the `jajs_setup` command to set up a scheduler service that uses an external database.

Execute the following command:

```
jajs_setup
-a
-k SQLSVR
-F scheduler-service-name
-n scheduler-service-identification-number
-p service-for-the-port-reporting-the-job-status
-d database-folder
-t folder-for-temporary-files
-j job-information-folder
-b backup-information-folder
-of ODBC-file-data-source-name
-od database-name
[-E {byte | sjis}]
```

7. Set the STDFILEOUTDIR environment setting parameter.

In an environment where the external database is used, you must use the STDFILEOUTDIR environment setting parameter to specify the directory for storing standard output files and standard error output files for the job specified in the `ajsshow` command.

Execute the following command:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\scheduler-service-name]" "STDFILEOUTDIR"="directory"
```

For *directory*, specify a directory that is not used by any existing scheduler services.

Note that the files that are output to the specified directory are not deleted automatically. Manually delete them on a regular basis if it is necessary to do so.

For details about the `ajsshow` command, see `ajsshow` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the STDFILEOUTDIR environment setting parameter, see [20.4.2\(126\) STDFILEOUTDIR](#).

8. Specify a port number for the service name of the job status notification port.

Skip this step if, in step 6, you specified the service name (`jp1ajs2report`) that was created during installation.

Open the following file in a text editor such as Notepad.

If you are using a Windows host:

```
system-folder\system32\drivers\etc\Services
```

If you are using a UNIX host:

```
/etc/services
```

Specify a port number to correspond to the service name of the job status notification port specified in step 6.

Example: To set the port number to 20248

```
jp1ajs2report2 20248/tcp
```

Important

Make sure that the port number you specify does not duplicate any existing port number. To use JP1/AJS3 in an environment with a Windows Firewall, register the port number you specified (in the above example, service name `jp1ajs2report2` and port number 20248) in the Windows Firewall rules so that data will be able to pass through the firewall.

Cautionary note

Because the external database is accessed via a network, the following problems might occur due to a temporary error such as a communication failure:

- JP1/AJS3 fails to start.
- JP1/AJS3 operation temporarily stops.

If a temporary error occurs, restart JP1/AJS3 so that JP1/AJS3 startup will succeed or JP1/AJS3 operation will continue.

To change the interval at which restart is attempted and the maximum number of times restart is attempted, change the relevant settings in the extended startup process definition file. For details about the extended startup process definition file, see *6.3.1 Restarting an abnormally terminated JP1/AJS3 process* in the *JP1/Automatic Job Management System 3 Administration Guide*.

Note that the changes are applied to the host service (`jajs_hstd` process) and scheduler service (`jajs_schd` process).

24.2.2 Suppressing startup of the `jajs_dbmd` process

To suppress startup of the `jajs_dbmd` process, edit the JP1/AJS3 startup process definition file (`jplajs_spmd.conf`) and the JP1/AJS3 extended startup process definition file (`jplajs_service_0700.conf`).

The location of the `jplajs_spmd.conf` file, the `jplajs_service_0700.conf` file, and their model files are as follows:

In Windows:

```
JP1/AJS3-Manager-installation-folder\conf
```

In Linux:

```
/etc/opt/jplajs2/conf
```

The procedure for editing the definition files (`jplajs_spmd.conf` and `jplajs_service_0700.conf`) differs depending on whether the files have been revised since JP1/AJS3 was installed. The following describes the procedures for editing the definition files for suppressing startup of the `jajs_dbmd` process.

(1) When the definition files have not been revised

The following shows the procedure for suppressing startup of the `jajs_dbmd` process if the JP1/AJS3 startup process definition file and the JP1/AJS3 extended startup process definition file have not been revised since JP1/AJS3 was installed.

1. Create backups of the `jplajs_spmd.conf` and `jplajs_service_0700.conf` files.
2. Copy `jplajs_spmd.conf.extdb.model` (model file for the JP1/AJS3 startup process definition file for the external database) to any folder, and then rename the file to `jplajs_spmd.conf`.
3. Copy `jplajs_service_0700.conf.extdb.model` (model file for the JP1/AJS3 extended startup process definition file for the external database) to any folder, and then rename the file to `jplajs_service_0700.conf`.
4. Overwrite the original `jplajs_spmd.conf` and `jplajs_service_0700.conf` files with the new ones.

(2) When the definition files have already been revised

The following shows the procedure for suppressing startup of the `jajs_dbmd` process if the JP1/AJS3 startup process definition file and/or the JP1/AJS3 extended startup process definition file has been revised since JP1/AJS3 was installed.

1. Change the values set in the `jplajs_spmd.conf` file.

Open the `jplajs_spmd.conf` file in a text editor or in a similar program, and then delete the lines that begin with `jajs_dbmd`.

Before change

```
jajs_dbmd|jajs_dbmd.exe|||1800|
jajs_hstd|jajs_hstd.exe|||1800|
jajs_agtd|jajs_agtd.exe|||1800|
jajs_schd|jajs_schd.exe|||1800|
```

After change

```
jajs_hstd|jajs_hstd.exe|||1800|
```

```
jajs_agtd|jajs_agtd.exe|||1800|
jajs_schd|jajs_schd.exe|||1800|
```

2. Change the values set in the jplajs_service_0700.conf file.

Open the jplajs_service_0700.conf file in a text editor or in a similar program, and then delete the lines that begin with jajs_dbmd, and delete jajs_dbmd from the lines that begin with jajs_hstd.

Before change

```
jajs_dbmd|jajs_dbmd.exe||0|3|3|21600|0|2||1|||||
jajs_hstd|jajs_hstd.exe||1|3|20|21600|0|0|jajs_dbmd|1|||||
jajs_agtd|jajs_agtd.exe|-HA|1|3|3|21600|0|0|jajs_hstd|1|||||
jajs_schd|jajs_schd.exe|-HA|1|3|10|21600|0|1|jajs_agtd|1|||||
```

After change

```
jajs_hstd|jajs_hstd.exe||1|3|20|21600|0|0||1|||||
jajs_agtd|jajs_agtd.exe|-HA|1|3|3|21600|0|0|jajs_hstd|1|||||
jajs_schd|jajs_schd.exe|-HA|1|3|10|21600|0|1|jajs_agtd|1|||||
```

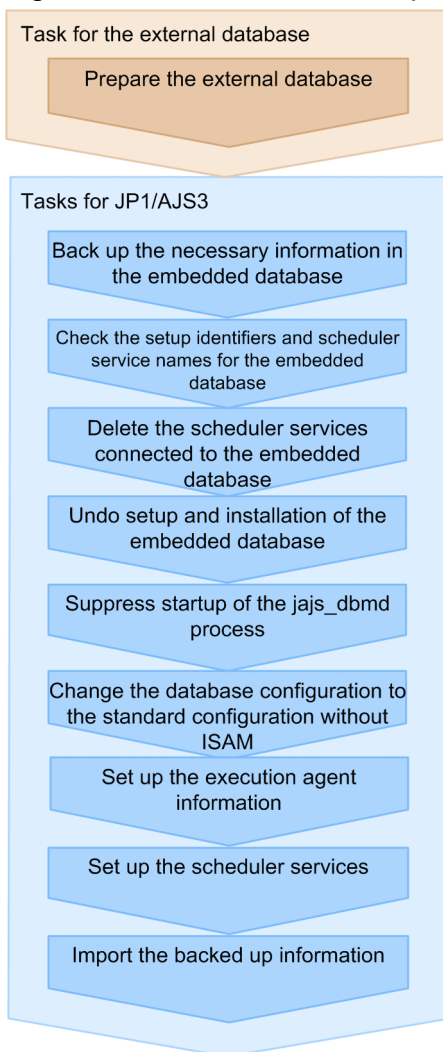
24.3 Exporting data from the embedded database currently in use to the external database

To export data from the embedded database that is currently in use to the external database, first, back up the data in the embedded database before setting up the external database. Then, after you perform setup for using the external database, import the backed up data into the external database.

24.3.1 Procedure for exporting data to the external database

The following figure shows an overview of exporting data to the external database.

Figure 24–2: Overview of exporting data to the external database



The following shows the procedure for exporting data to the external database.

1. Prepare the external database.

For details about the preparations for using an external database, see *24.1 Preparations for using an external database*.

2. Back up the settings of the manager host.

Back up the following types of information that were used in the embedded database:

- Execution agent information
- Definitions of units other than root job groups[#]
- Root job group information[#]
- Calendar information for root job groups[#]

#

If multiple scheduler services have been set up on the manager host, repeat the backup step for each scheduler service.

For details about how to back up, see *2.2.3 Backing up the JPI/AJS3 - Manager setup information* in the *JPI/Automatic Job Management System 3 Administration Guide*.

3. Back up the registered execution-schedule information for jobnets.

If multiple scheduler services have been set up on the manager host, repeat the backup step for each scheduler service.

For details about how to back up, see *3.4 Backing up and recovering the execution registration status of jobnets by using the ajsgexport and ajsgimport commands* in the *JPI/Automatic Job Management System 3 Administration Guide*.

4. If necessary, back up the embedded database.

Back up the embedded database because if the setup for using the external database fails, you might need to use the embedded database again. For details about how to back up and restore an embedded database, see *F.1 Overview of database backups* in the *JPI/Automatic Job Management System 3 System Design (Configuration) Guide*.

5. Run the ajsembdbidlist command to obtain the setup identifiers (`_JFn`) of the embedded database instances and the names of scheduler services that are used on the physical host.

The setup identifiers (`_JFn`) and scheduler service names that you obtained in this step are to be used in the subsequent steps.

Execute the following command:

```
ajsembdbidlist -a
```

6. Delete the scheduler service that uses the embedded database.

Delete all scheduler services whose names you obtained in step 5. For details about the procedure for deleting a scheduler service, see *6.1.1(2) Deleting a scheduler service that has been added* (for Windows) or *15.1.1(2) Deleting a scheduler service that has been added* (for UNIX).

Important

- For the AJSROOT1 scheduler service that is created during installation, folders (directories) having the names specified for the environment setting parameters listed in the following table are created. Delete these folders (directories) in a step for deleting the folders that were created when a scheduler service was added.

Table 24–2: AJSROOT1 related folders (directories) to be deleted

Folder (directory)	Environment setting parameter
Database folder specified in the <code>-d</code> option	[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1] "AJSDBDIRECTORY"=
Folder for temporary files specified in the <code>-t</code> option	[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1] "AJSTMPDIR"=

Folder (directory)	Environment setting parameter
Job information folder specified in the -j option	[JP1_DEFAULT\JP1AJSMANAGER\AJROOT1] "JOBINFDIR"=
Backup information folder specified in the -b option	[JP1_DEFAULT\JP1AJSMANAGER\AJROOT1] "AJSBKUROOT"=

- In the last step of the procedure for deleting a scheduler service, you do not need to restart the JP1/AJS3 service.

7. Run the `ajsembdbunset` command to undo the setup of all instances of the embedded database that you checked in step 5.

Execute the following command:

```
ajsembdbunset -e -id embedded-database-setup-ID
```

For details about the `ajsembdbunset` command, see `ajsembdbunset` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

8. Run the `ajsembdbuninstl` command to uninstall all instances of the embedded database that you obtained in step 5.

Uninstall all instances of the embedded database, including the one whose setup identifier is `_JF0`.

Execute the following command:

```
ajsembdbuninstl -id setup-identifier
```

For details about the `ajsembdbuninstl` command, see `ajsembdbuninstl` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

9. Suppress startup of the `jajs_dbmd` process.

Suppress startup of the `jajs_dbmd` process and the `ajsdmgrp` process (child process of `jajs_dbmd`) by editing the JP1/AJS3 startup process definition file (`jp1ajs_spmf.conf`) and the JP1/AJS3 extended startup process definition file (`jp1ajs_service_0700.conf`). If you do not specify this setting, startup of the `ajsdmgrp` process fails and the JP1/AJS3 service does not start.

For details about the procedure for suppressing startup of the `jajs_dbmd` process, see [24.2.2 Suppressing startup of the `jajs_dbmd` process](#)

For details about the JP1/AJS3 extended startup process definition file, see [6.3 Changing the behavior of JP1/AJS3 if a JP1/AJS3 process terminates abnormally in the JP1/Automatic Job Management System 3 Administration Guide](#).

10. Change the database configuration of JP1/AJS3 from the *standard configuration* to the *standard configuration without ISAM*.

The external database can be used only in the standard configuration without ISAM. For details about how to change the standard configuration to the standard configuration without ISAM, see [6.9.2 Changing the JP1/AJS3 database configuration to the standard configuration without ISAM](#) (for Windows) or [15.10.2 Changing the JP1/AJS3 database configuration to the standard configuration without ISAM](#) (for UNIX).

11. Run the `jajs_setup` command to set up the execution agent information.

Execute the following command:

```
jajs_setup -G -a  
-k SQLSVR
```



```
-of ODBC-file-data-source-name
-od database-name
```

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

12. Use a program such as Windows Explorer to create the following folders:

- Database folder
- Folder for temporary files
- Job information folder
- Backup information folder

Make sure that all of the folders other than the folder for backup information do not have the same name as any folder used by any other scheduler service that is set up on the same host. In addition, make sure that you do not create any of the folders inside a folder used by a different scheduler service.

13. Run the `jajs_setup` command to set up a scheduler service that uses an external database.

Execute the following command:

```
jajs_setup
-a
-k SQLSVR
-F scheduler-service-name
-n scheduler-service-identification-number
-p service-for-the-port-reporting-the-job-status
-d database-folder
-t folder-for-temporary-files
-j job-information-folder
-b backup-information-folder
-of ODBC-file-data-source-name
-od database-name
[-E {byte | sjis}]
```

14. Set the `STDFILEOUTDIR` environment setting parameter.

In an environment where the external database is used, you must use the `STDFILEOUTDIR` environment setting parameter to specify the directory for storing standard output files and standard error output files for the job specified in the `ajsshow` command.

Execute the following command:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\scheduler-service-name]" "STDFILEOUTDIR"="directory"
```

For *directory*, specify a directory that is not used by any existing scheduler services.

Note that the files that are output to the specified directory are not deleted automatically. Manually delete them on a regular basis if it is necessary to do so.

For details about the `ajsshow` command, see `ajsshow` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the `STDFILEOUTDIR` environment setting parameter, see [20.4.2\(126\) STDFILEOUTDIR](#).

15. Import the information that you backed up in steps 2 and 3.

For details about how to import the information, see [2.3.4\(8\) Recovering the execution agent information](#) in the *JP1/Automatic Job Management System 3 Administration Guide*, [2.3.4\(9\) Recovering the unit definition](#) in the *JP1/Automatic Job Management System 3 Administration Guide* and [3.4 Backing up and recovering the execution](#)

registration status of jobnets by using the `ajsrgeexport` and `ajsrgeimport` commands in the *JP1/Automatic Job Management System 3 Administration Guide*.

16. Specify a port number for the service name of the job status notification port.

Skip this step if, in step 13, you specified the service name (`jp1ajs2report`) that was created during installation. Open the following file in a text editor such as Notepad.

If you are using a Windows host:

```
system-folder\system32\drivers\etc\Services
```

If you are using a UNIX host:

```
/etc/services
```

Specify a port number to correspond to the service name of the job status notification port specified in step 13.

Example: To set the port number to 20248

```
jp1ajs2report2    20248/tcp
```

Important

Make sure that the port number you specify does not duplicate any existing port number. To use JP1/AJS3 in an environment with a Windows Firewall, register the port number you specified (in the above example, service name `jp1ajs2report2` and port number 20248) in the Windows Firewall rules so that data will be able to pass through the firewall.

Cautionary note

Because the external database is accessed via a network, the following problems might occur due to a temporary error such as a communication failure:

- JP1/AJS3 fails to start.
- JP1/AJS3 operation temporarily stops.

If a temporary error occurs, restart JP1/AJS3 so that JP1/AJS3 startup will succeed or JP1/AJS3 operation will continue.

To change the interval at which restart is attempted and the maximum number of times restart is attempted, change the relevant settings in the extended startup process definition file. For details about the extended startup process definition file, see *6.3.1 Restarting an abnormally terminated JP1/AJS3 process* in the *JP1/Automatic Job Management System 3 Administration Guide*. Note that the changes are applied to the host service (`jajs_hstd` process) and scheduler service (`jajs_schd` process).

24.4 Adding and deleting a scheduler service that uses an external database

This section describes the procedures for adding and deleting a scheduler service that uses an external databases.

24.4.1 Adding a scheduler service

This subsection describes the procedure for adding a scheduler service.

(1) On a Windows host

1. Prepare the external database.

For details about the preparations for using an external database, see [24.1 Preparations for using an external database](#).

Note that each scheduler service requires an instance of the database. When you add a scheduler service, you must also create an additional instance of the database.

Make sure that the database is already running.

2. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:

- JP1/AJS3 service

3. Use Explorer or another means to create the following folders:

- Database folder
- Folder for temporary files
- Job information folder
- Backup information folder

Make sure that the above folders, other than the backup information folder, are neither folders used by other scheduler services set on the local hosts (the physical host and all logical hosts) nor subfolders of those folders.

4. Run the `jajs_setup` command to add a scheduler service.

Execute the following command:

```
jajs_setup
-a
-k SQLSVR
-F scheduler-service-name
-n scheduler-service-identification-number
-p service-for-the-port-reporting-the-job-status
-d database-directory-name
-t temporary-directory-name
-j job-information-directory-name
-b backup-information-directory-name
-of ODBC-file-data-source-name
-od database-name
[-E {byte | sjis}]
```

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Specify the environment setting parameter STDFILEOUTDIR.

In an environment that uses an external database, the directory to which standard output files and standard error output files are to be output by the `ajsshow` command must be specified by using the environment setting parameter `STDFILEOUTDIR`.

Execute the following command:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\scheduler-service-name]" "STDFILEOUTDIR"="directory-of-your-choice"
```

With respect to the *directory-of-your-choice*, specify a directory that is not being used by an existing scheduler service.

Note that the files output to the specified directory will not be automatically deleted. Periodically delete the files manually as necessary.

For details about the `ajsshow` command, see *ajsshow* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the environment setting parameter `STDFILEOUTDIR`, see [20.4.2\(126\) STDFILEOUTDIR](#).

6. Open the following file with a text editor such as Notepad:

`system-folder\system32\drivers\etc\Services`

7. For the service name of the port that reports the job status specified in step 4, set the port number.

Example of setting 20248 as the port number:

```
jp1ajs2report2 20248/tcp
```

Important

Make sure that the port number you specify does not duplicate any existing port number. To use JP1/AJS3 in an environment with a Windows Firewall, register the port number you specified (in the above example, service name `jp1ajs2report2` and port number 20248) in the Windows Firewall rules so that data will be able to pass through the firewall.

8. Restart the JP1/AJS3 service.

The scheduler service is added and started with the specified settings.

After the JP1/AJS3 service has been restarted, use JP1/AJS3 - View to confirm that the manager job group is displayed with the name of the added scheduler service attached.

Supplementary note on command execution:

When the scheduler service is adding, if you execute a command without specifying a scheduler service name in the `-F` option, the default scheduler service is assumed.

You can omit the `-F` option when the name of a scheduler service name is specified in the `AJSCONF` environment variable.

(2) On a Linux host

1. Prepare the external database.

For details about the preparations for using the external database, see [24.1 Preparations for using an external database](#).

Note that each scheduler service requires an instance of the database. When you add a scheduler service, you must also create an additional instance of the database.

Make sure that the corresponding instance of the database is already running.

2. Stop the JP1/AJS3 service.

Execute the following commands to confirm that all processes have stopped:

```
# /etc/opt/jp1ajs2/jajs_stop
# /opt/jp1ajs2/bin/jajs_spmd_status
```

3. Use the `mkdir` command or another means to create the following directories:

- Database directory
- Directory for temporary files
- Job information directory
- Backup information directory

Make sure that the above directories, other than the backup information directory, are neither directories used by other scheduler services set on the local hosts (the physical host and all logical hosts) nor subdirectories of those directories.

4. Run the `jajs_setup` command to add a scheduler service.

Execute the following command:

```
jajs_setup
-a
-k SQLSVR
-F scheduler-service-name
-n scheduler-service-identification-number
-p service-for-the-port-reporting-the-job-status
-d database-directory-name
-t temporary-directory-name
-j job-information-directory-name
-b backup-information-directory-name
-of ODBC-file-data-source-name
-od database-name
[-E {byte | sjis}]
```

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

5. Specify the environment setting parameter `STDFILEOUTDIR`.

In an environment that uses an external database, the directory to which standard output files and standard error output files are to be output by the `ajsshow` command must be specified by using the environment setting parameter `STDFILEOUTDIR`.

Execute the following command:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\scheduler-service-name]" "STDFILEOUTDIR"="directory-of-your-choice"
```

With respect to the *directory-of-your-choice*, specify a directory that is not being used by an existing scheduler service.

Note that the files output to the specified directory will not be automatically deleted. Periodically delete the files manually as necessary.

For details about the `ajsshow` command, see `ajsshow` in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

For details about the environment setting parameter `STDFILEOUTDIR`, see [20.4.2\(126\) STDFILEOUTDIR](#).

- For the service name of the port that reports the job status specified in step 4, set the port number.
Open the `/etc/services` file with a text editor, and add the port number. Make sure that you do not specify an existing port number.

Example of setting 20248 as the port number:

```
jp1ajs2report2    20248/tcp
```

- Restart the JP1/AJS3 service.

The scheduler service is added and started with the specified settings.

After the JP1/AJS3 service has been restarted, use JP1/AJS3 - View to confirm that the manager job group is displayed with the name of the added scheduler service attached.

Supplementary note on command execution:

When the scheduler service is adding, if you execute a command without specifying a scheduler service name in the `-F` option, the default scheduler service is assumed.

You can omit the `-F` option when the name of a scheduler service name is specified in the `AJSCONF` environment variable.

24.4.2 Deleting a scheduler service

When you delete a scheduler service, make sure that the database is running. Note that the following files are not deleted automatically. Manually delete them if they are unnecessary.

- JP1/AJS3 database created on the external database
- ODBC file data source

(1) On a Windows host

- Stop the JP1/AJS3 services.
- Run the `jajs_setup` command to delete the target scheduler service.

Execute the following command:

```
jajs_setup -e -F scheduler-service-name
```

For details about the `jajs_setup` command, see *jajs_setup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

When a scheduler service is deleted, the tables that were created in the database are also deleted.

- Delete the folder that was created when the scheduler service was added.

Delete the following folders that were created when you executed the `jajs_setup` command:

- Database folder specified in the `-d` option
- Folder for temporary files specified in the `-t` option
- Job information folder specified in the `-j` option
- Backup information folder specified in the `-b` option

- If a trace log has been output per scheduler service, delete the trace log file for the deleted scheduler service.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, delete the trace log file for the deleted scheduler service.

5. Restart the JP1/AJS3 service.

Restart the services you stopped in Step 1, and make sure that the scheduler service has been deleted.

(2) On a Linux host

1. Execute the `jajs_spmd_stop` command to stop the JP1/AJS3 services.

2. Execute the `ajsshmdel` command to delete scheduler service information.

The `ajsshmdel` command is located in `/opt/jp1ajs2/bin/ajsshmdel`.

If the shell is `sh`, the command line is as follows:

```
/opt/jp1ajs2/bin/ajsshmdel >/dev/null 2>&1
```

If the shell is `csh`, the command line is as follows:

```
/opt/jp1ajs2/bin/ajsshmdel >&/dev/null
```

3. Run the `jajs_setup` command to delete the target scheduler service.

Execute the following command:

```
jajs_setup -e -F scheduler-service-name
```

For details about the `jajs_setup` command, see *jajs_setup* in *2. Commands Used during Setup* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

When a scheduler service is deleted, the tables that were created in the database are also deleted.

4. Delete the directory that was created when the scheduler service was added.

Delete the following directories that were created when you executed the `jajs_setup` command:

- Database directory specified in the `-d` option
- Directory for temporary files specified in the `-t` option
- Job information directory specified in the `-j` option
- Backup information directory specified in the `-b` option

5. If a trace log has been output per scheduler service, delete the trace log file for the deleted scheduler service.

If `yes` is set in the `TRACELOGDIV` environment setting parameter, a trace log is output for individual scheduler services. In that case, trace log files are output with the name `tracelog_scheduler-service-name` to the folder specified in the `TRACELOGDIVDIR` environment setting parameter. Therefore, delete the trace log file for the deleted scheduler service.

6. Start the JP1/AJS3 services.

The scheduler service you added is deleted.

24.4.3 Renaming a scheduler service

For details about the procedure for renaming a scheduler service, see [6.1.1\(4\) Renaming a scheduler service](#) (in Windows) or [15.1.1\(4\) Renaming a scheduler service](#) (in UNIX).

24.5 Tasks that must be performed after setup for using the external database

In an environment that uses an external database, if backups of JP1/AJS3 for which setup is complete are created as necessary by using snapshots or other methods, such backups can be used for recovery in the event of a system failure. When you create a backup, make sure that the JP1/AJS3 service is not running.

Each time you change the settings of the manager host during operation, create a backup. For details, see *12.2.1(2) Checking the environment information of the manager host* in the *JP1/Automatic Job Management System 3 Administration Guide*.

24.6 Notes on performing setup to use an external database

This section provides notes on performing setup to use an external database.

24.6.1 Notes on environment setting parameters

If you choose to use the external database, do not change the settings of the environment setting parameters listed in the following table.

Table 24–3: Parameters whose settings must not be changed if the external database is used

No.	Definition key	Environment setting parameter
1	[{ JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service]	"TABLENAMEPREFIX"=
2		"TABLENAMEPOSTFIX"=
3		"RDBAUTHID"=
4		"BACKGROUNDLEAVE"=
5	[{ JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\HOST]	"AGENTLIMITEXTEND"=

24.6.2 Notes on uninstallation

When JP1/AJS3 is uninstalled in an environment in which the external database is used, the following files are not deleted automatically. Delete these files manually if they are unnecessary:

- The data that JP1/AJS3 - Manager created in the external database (database tables)
- Databases created for JP1/AJS3 from the external database
- ODBC file data sources for JP1/AJS3

Appendixes

A. Checking the Installation and Setup

A.1 Installation and setup checklists (Windows host)

This section provides checklists used for installing and setting up JP1/AJS3.

(1) Checklist for JP1/AJS3 - Manager

The installation and setup checklist is given below.

Table A–1: Installation and setup checklist (for JP1/AJS3 - Manager)

Classification	Work contents	Base	AJS3	Check
Installation	Installing JP1/Base	R	--	
	Installing JP1/AJS3 - Manager	--	R	
Setting user information	Setting up the authentication servers	O#	--	
	Registering JP1 users	O#	--	
	Setting JP1 permission levels	O#	--	
	Setting user mapping information	O#	--	
Setting up the service account	Setting up the JP1/AJS3 service account	--	O#	
Setting up the scheduler service environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the job execution environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the event service environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the queueless job execution environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the user environment	Extending the trace log file	--	O	
Setting up other environments	Setting concurrent start of the scheduler services	--	O	
	Setting up the automatic reconfiguration function for ISAM files	--	O	
	Changing the output level of the integrated trace log of the scheduler service	--	O	
	Changing the schedule rule output method when the nested jobnet definition parameter is output	--	O	
	Renaming the scheduler trace log file	--	O	
	Limiting the JP1/AJS3 - Manager operation method to the registration and manipulation of submit jobs	--	O	
	Setting up the suspend function	--	O	

Legend:

- Base: Work performed in JP1/Base
- AJS3: Work performed in JP1/AJS3
- R: Required work
- O: Optional work
- : Not applicable

#

This work is not necessary when you want to use all the default values. Perform this work only if you need to change one of the default values.

(2) Checklist for JP1/AJS3 - Agent

The installation and setup checklist is given below.

Table A–2: Installation and setup checklist (for JP1/AJS3 - Agent)

Classification	Work contents	Base	AJS3	Check
Installation	Installing JP1/Base	R	--	
	Installing JP1/AJS3 - Agent	--	R	
Setting user information	Registering JP1 users	O#	--	
	Setting JP1 permission levels	O#	--	
	Setting user mapping information	O#	--	
Setting up the service account	Setting up the JP1/AJS3 service account	--	O#	
Setting up the job execution environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the event service environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the queueless job execution environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the user environment	Extending the trace log file	--	O	

Legend:

- Base: Work performed in JP1/Base
- AJS3: Work performed in JP1/AJS3
- R: Required work
- O: Optional work
- : Not applicable

#

This work is not necessary when you intend to use all of the default values as is. Perform this work only if you need to change one of the default values.

(3) Checklist for JP1/AJS3 - View

The installation and setup checklist is given below.

Table A–3: Installation and setup checklist (for JP1/AJS3 - View)

Classification	Work contents	Base	AJS3	Check
Installation	Installing JP1/AJS3 - View	--	R	
Setting up the JP1/AJS3 - View environment	Setting up a definition in the Environment Settings dialog box	--	O [#]	

Legend:

Base: Work performed in JP1/Base

AJS3: Work performed in JP1/AJS3

R: Required work

O: Optional work

--: Not applicable

#

This work is not necessary when you intend to use all of the default values as is. Perform this work only if you need to change one of the default values.

A.2 Installation and setup checklists (UNIX host)

This section provides the checklists for the installation and setup of JP1/AJS3.

(1) Checklist for JP1/AJS3 - Manager

The installation and setup checklist is given below.

Table A–4: Installation and setup checklist (for JP1/AJS3 - Manager)

Classification	Work contents	Base	AJS3	Check
Installation	Installing JP1/Base	R	--	
	Installing JP1/AJS3 - Manager	--	R	
Setting user information	Setting up authentication servers	O [#]	--	
	Registering JP1 users	O [#]	--	
	Setting JP1 permission levels	O [#]	--	
	Setting user mapping information	O [#]	--	
Setting up the scheduler service environment	Specifying the necessary environment setting parameters	--	O [#]	
Setting up the job execution environment	Specifying the necessary environment setting parameters	--	O [#]	
Setting up the event service environment	Specifying the necessary environment setting parameters	--	O [#]	
Setting up the queueless job execution environment	Specifying the necessary environment setting parameters	--	O [#]	
Setting up the system environment	Setting the language environment	--	O	

Classification	Work contents	Base	AJS3	Check
Setting up the user environment	Setting the search paths of commands and libraries	--	O	
	Changing the login scripts	--	O	
	Adjusting the kernel parameters	--	O	
	Extending the trace log file	--	O	
Setting up other environments	Setting up the concurrent start of scheduler services	--	O	
	Setting up automatic start and termination of the JP1/AJS3 service	--	O	
	Setting up the automatic reconfiguration function for ISAM files	--	O	
	Limiting the JP1/AJS3 - Manager operation for registering and manipulating submit jobs	--	O	
	Setting up the suspend function	--	O	

Legend:

- Base: Work performed in JP1/Base
- AJS3: Work performed in JP1/AJS3
- R: Required work
- O: Optional work
- : Not applicable

#

This work is not necessary when you intend to use all of the default values as is. Perform this work only if you need to change one of the default values.

(2) Checklist for JP1/AJS3 - Agent

The installation and setup checklist is given below.

Table A–5: Installation and setup checklist (for JP1/AJS3 - Agent)

Classification	Work contents	Base	AJS3	Check
Installation	Installing JP1/Base	R	--	
	Installing JP1/AJS3 - Agent	--	R	
Setting user information	Registering JP1 users	O#	--	
	Setting JP1 permission levels	O#	--	
	Setting user mapping information	O#	--	
Setting up the job execution environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the event service environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the queueless job execution environment	Specifying the necessary environment setting parameters	--	O#	
Setting up the system environment	Setting the language environment	--	O	

Classification	Work contents	Base	AJS3	Check
Setting up the user environment	Setting the search paths of commands and libraries	--	O	
	Changing the login scripts	--	O	
	Adjusting the kernel parameters	--	O	
	Extending the trace log file	--	O	

Legend:

Base: Work performed in JP1/Base

AJS3: Work performed in JP1/AJS3

R: Required work

O: Optional work

--: Not applicable

#

This work is not necessary when you intend to use all of the default values as is. Perform this work only if you need to change one of the default values.

B. Recovery Procedure Used When an Incorrect Environment Settings Parameter is Set

The following explains the recovery procedure if you define the environment settings parameter incorrectly.

B.1 For Windows

If you have set the environment settings parameter incorrectly, use the following recovery procedure:

The following shows an example of an environment settings parameter that has been set incorrectly, and then shows a correct environment settings parameter:

Incorrect environment settings parameter

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"USSER-ENVIRONMENT1"="ENVIRONMENT-VALUE1"
```

Correct environment settings parameter

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"USER-ENVIRONMENT1"="ENVIRONMENT-VALUE1"
```

To delete an environment settings parameter that has been set incorrectly, as indicated above, and to set a correct environment settings parameter:

1. Execute the following commands to save the definition information:

- For a physical host

```
jbsgetcnf > backup-file-name
```

- For a logical host

```
jbsgetcnf -h logical-host-name > backup-file-name
```

The path of the `jbsgetcnf` command is *JP1/Base-installation-folder\bin\jbsgetcnf*. For details on this command, see the *JP1/Base User's Guide*.

2. Execute the following command to delete the `Variable` subkey:

- For a physical host:

```
jbsunsetcnf -h JP1_DEFAULT -c JP1NBQAGENT -n Variable
```

- For a logical host:

```
jbsunsetcnf -h logical-host-name -c JP1NBQAGENT -n Variable
```

The path of the `jbsunsetcnf` command is *JP1/Base-installation-folder\bin\jbsunsetcnf*. For details on this command, see the *JP1/Base User's Guide*.

3. Edit the backup file saved in step 1:

Before the change

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"JP1AJS2_JPOEXEPATH"="C:\Program Files\HITACHI\JP1AJS2\bin"
"JP1AJS2_JPQNOP"="C:\Program Files\HITACHI\JP1AJS2\bin\jppqnop.exe"
"JP1AJS2_JPWDEXEPATH"="C:\Program Files\HITACHI\JP1PowerMonitor\bin"
"USSER-ENVIRONMENT1"="ENVIRONMENT-VALUE1 "
```

After the change

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"JP1AJS2_JPOEXEPATH"="C:\Program Files\HITACHI\JP1AJS2\bin"
"JP1AJS2_JPQNOP"="C:\Program Files\HITACHI\JP1AJS2\bin\jppqnop.exe"
"JP1AJS2_JPWDEXEPATH"="C:\Program Files\HITACHI\JP1PowerMonitor\bin"
```

Note:

Delete the incorrectly added portions, taking care not to delete any existing environment setting parameters.

To change the logical host environment, specify JP1_DEFAULT in the logical host name.

4. Save the file and execute the following command to recover the definition:

```
jbssetcnf name-of-the-backup-file-created-in-step-1
```

The path of the jbssetcnf command is *JP1/Base-installation-folder\bin\jbssetcnf*. For details on this command, see the *JP1/Base User's Guide*.

This returns you to the state in which the environment settings parameter was added.

5. Use a text editor such as Windows Notepad to create a configuration file that contains the following definition:

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"USER-ENVIRONMENT1"="ENVIRONMENT-VALUE1 "
```

6. Save the file and execute the following command:

```
jbssetcnf configuration-file-name
```

7. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

B.2 For UNIX

If you have set the environment setting parameter incorrectly, use the following recovery procedure.

The following shows an example of an environment setting parameter that has been set incorrectly, and then shows a correct environment setting parameter:

Incorrect environment settings parameter

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"USSER-ENVIRONMENT1"="ENVIRONMENT-VALUE1 "
```

Correct environment setting parameter

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"USER-ENVIRONMENT1"="ENVIRONMENT-VALUE1 "
```

To delete an environment setting parameter that has been set incorrectly, as indicated above, and to set a correct environment setting parameter:

1. Execute the following command to save the definition.

- For a physical host:

```
jbsgetcnf > backup-file-name
```

- For a logical host:

```
jbsgetcnf -h logical-host-name > backup-file-name
```

The path of the `jbsgetcnf` command is `/opt/jplbase/bin/jbsgetcnf`. For details on this command, see the *JPI/Base User's Guide*.

2. Execute the following command to delete the Variable subkey:

- For a physical host:

```
jbsunsetcnf -h JP1_DEFAULT -c JP1NBQAGENT -n Variable
```

- For a logical host:

```
jbsunsetcnf -h logical-host-name -c JP1NBQAGENT -n Variable
```

The path of the `jbsunsetcnf` command is `/opt/jplbase/bin/jbsunsetcnf`. For details on this command, see the *JPI/Base User's Guide*.

3. Edit the backup file saved in step 1:

Before the change

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"JP1AJS2_JPOEXEPATH"="/opt/jplajs2/bin"
"JP1AJS2_JPQNOP"="/opt/jplajs2/bin/jpqnop"
"JP1AJS2_JPWDEXEPATH"="/usr/bin/jp1_aom"
"USSER-ENVIRONMENT1"="ENVIRONMENT-VALUE1"
```

After the change

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"JP1AJS2_JPOEXEPATH"="/opt/jplajs2/bin"
"JP1AJS2_JPQNOP"="/opt/jplajs2/bin/jpqnop"
"JP1AJS2_JPWDEXEPATH"="/usr/bin/jp1_aom"
```

Note:

Delete the incorrectly added portions, taking care not to delete any existing environment setting parameters.

To change the logical host environment, specify `JP1_DEFAULT` in the logical host name.

4. Save the file and execute the following command to recover the definition:

```
jbssetcnf name-of-the-backup-file-created-in-step-1
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *JPI/Base User's Guide*.

This returns you to the state that existed before the environment configuration parameter was added.

5. Using a text editor such as `vi`, create a configuration file that contains the following definition:

```
[JP1_DEFAULT\JP1NBQAGENT\Variable]
"USER-ENVIRONMENT1"="ENVIRONMENT-VALUE1"
```

6. Save the file and execute the following command:

```
jbssetcnf configuration-file-name
```

7. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

C. Values Recommended for the Environment Settings Set in JP1/AJS3

In JP1/AJS3, in a new installation and setup, the recommended values are automatically specified for the environment settings (environment setting parameters). Note, however, that defaults of parameters will not necessarily be recommended values.

When JP1/AJS3 is upgraded, the new version inherits the settings of the old version. Therefore, values other than recommended values might be inherited. To use the recommended values, you must manually set them.

For details on the setup procedure, see [3. Setup](#) for Windows. For UNIX, see [13. Setup](#).

C.1 Environment setting parameters for which recommended values were updated in version 08-00

This section describes the environment setting parameters for which recommended values were updated in version 08-00.

(1) Environment settings related to the scheduler service

The following table lists the environment setting parameters related to the scheduler service, their default values, and the recommended values.

Table C–1: Environment setting parameters related to the scheduler service

Environment setting parameters	Default value	Recommended value set in JP1/AJS3
"VRSHIFT_INTRERUN"	v6	v5
"MONSYSLOG"	none	All
"LOGSIZE"	dword:00001400	dword:00002800
"RDBCHECKINTERVAL"	dword:00000000	dword:0000012C
"LOGINFOALL"	no	Yes
"LOGHEADER"	none	PID
"INFOLOG"	none	All
"UNITDEFINERELoad"	no	Yes
"AJSPRINTNETSCHPRF"	yes	No
"BACKGROUNDLEAVE"	no	Yes
"NONRELOADHOLDING"	no	Yes

(2) Environment settings related to the job execution environment

The following table lists the environment setting parameters related to the job execution environment, their default values, and the recommended values.

Table C–2: Environment setting parameters related to the job execution environment

Environment setting parameters	Default value	Recommended value set in JP1/AJS3
"PreserveTerm"	dword:00000007	dword:00000001
"DeleteFlashOption"	1	0
"StartupDelete"	1	0
"IsSigchldDefault"	dword:00000000	dword:00000001

(3) Environment settings related to the event job startup

The following table lists the environment setting parameters related to event job startup, their default values, and the recommended values.

Table C–3: Environment setting parameters related to event job startup

Environment setting parameters	Default value	Recommended value set in JP1/AJS3
"ClientConnectTimeout" (Setting in the event/action control manager)	In Windows: dword:00007530 In UNIX: dword:000003E8	In Windows: None In UNIX: dword:00002710
"MacVarDQuotation"	N	Y
"LogSize_jpomanager"	dword:000A0000	dword:00200000
"LogSize_jpomgrsub"	dword:000A0000	dword:00100000
"LogNumFiles_jpomanager"	dword:00000008	dword:0000000D
"LogNumFiles_jpomgrsub"	dword:00000006	dword:00000008
"FilewatchinfContinue"	N	Y
"EVProcessHA"	N	Y
"LogSize_jpoagent"	dword:00060000	dword:00100000
"LogSize_jpoagtsub"	dword:00060000	dword:00100000
"LogSize_jpocwftlMain"	dword:00140000	dword:00200000
"LogSize_jpoeventwatch"	dword:000A0000	dword:00100000
"LogSize_jpocwttmMain"	dword:00020000	dword:00040000
"LogNumFiles_jpoagtsub"	dword:00000008	dword:00000010
"LogNumFiles_jpocwftlMain"	dword:00000006	dword:0000000D
"LogNumFiles_jpoeventwatch"	dword:00000004	dword:00000008
"LogNumFiles_jpocwttmMain"	dword:00000002	dword:00000006

C.2 Environment setting parameters whose defaults were changed to recommended values in version 11-00

This section describes the environment setting parameters for which defaults were changed to recommended values in JP1/AJS3 version 11-00.

The table below describes the actions to be taken and the conditions to be applied due to the use of the defaults (recommended values) in version 11-00 or later. Using the information as criteria, determine whether to use defaults for operation, and change parameter settings as needed.

(1) Environment settings related to the scheduler service

The table below describes the environment setting parameters (among those related to the scheduler service) for which defaults were changed to recommended values in JP1/AJS3 version 11-00.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 10-50 or earlier to JP1/AJS3 version 11-00 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. If, however, a scheduler service is added, the defaults (recommended values) in version 11-00 or earlier are applied only to the new scheduler service. When you use JP1/AJS3 version 11-00 or later and add a scheduler service, review the parameter settings if you want to apply the settings provided by version 10-50 or earlier.

Table C-4: Environment setting parameters related to the scheduler service

No.	Definition key	Environment setting parameter	Default in version 10-50 or earlier	Default in version 11-00 or later	Operation and conditions of using the defaults in version 11-00 or later
1	JP1_DEFAULT\JP1AJS MANAGER\ <i>scheduler-service-name</i>	"UNITDEFDI VIDEUPDATE "	no	yes	When units are operated, data writing to the database is performed in a split manner. This can avoid errors resulting from a shortage of exclusive resources. When no is specified for this parameter in an environment of version 10-50 or earlier, no problem will occur even by using the old setting.
2		"AJSPRINTS ORTUNITINF "	no	yes	The relation line information output by using the <code>ajsprint</code> command is sorted. This function is convenient for comparing output results with each other. If you want to use the output format applied in version 10-50 or earlier, specify no. for this parameter.

(2) Environment settings related to the job execution environment

The table below lists the environment setting parameters (among those related to the job execution environment) for which defaults were changed to recommended values in JP1/AJS3 version 11-00.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 10-50 or earlier to JP1/AJS3 version 11-00 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. In addition, regarding the defaults of the environment setting parameters that were added in version 11-00, the defaults will be set so that the product behaves in the same way as it did prior to the upgrade. Review the settings to change them to recommended values.

Table C–5: Environment setting parameters related to the job execution environment

No.	Definition key	Environment setting parameter	Default in version 10-50 or earlier	Default in version 11-00 or later	Operation and conditions of using the defaults in version 11-00 or later
1	<ul style="list-style-type: none"> JP1_DEFAULT\JP1AJS2\SCHEDULER\QUEUE\MANAGER\Job JP1_DEFAULT\JP1NBQMANAGER\Job 	"ReceiveFileSizeStatus"	0	3	<p>If the size of received files reaches the upper limit, file reception processing is stopped.</p> <p>You do not need to change the setting from the default when the size of the files received at job execution does not exceed 5 megabytes^{#1} during operation. Use the default as is.</p> <p>If the size of the files received at job execution exceeds 5 megabytes^{#1}, the data exceeding the upper-limit size might be discarded or not received. Also, if a passing information setting job is executed by using a standard output file over 5 megabytes^{#1}, information might not be inherited correctly. See 6.2.7 Placing restrictions on file reception (in Windows) and 15.2.7 Placing restrictions on file reception (in UNIX), and change the setting as needed.</p>
2	JP1_DEFAULT\JP1NBQAGENT\Job	"LoadUserProfile"#2	0	1	<p>The user profile information about the OS user who executes a job is read when the job is executed.</p> <p>Specify 1 for operation to avoid the abnormal end of a job that requires a user profile.</p>
3		"IsAccessTokenCache"#2	0	2	<p>Access tokens are reused during job execution. A desktop heap area is allocated for each OS user.</p> <p>Specify 1 or 2 for this parameter when the value of the LoadUserProfile environment setting parameter is 1.</p>
4		"MergeEnvMode"#2	0	1	<p>If the setting of a system environment variable overlaps the setting of an environment variable in the job definition, the environment variable in the job definition is ignored.</p> <p>Specify 0 for this parameter when you have specified environment variables for the job and want to operate the job in the same way as the job in the old environment or on other hosts in the system.</p>
5	JP1_DEFAULT\JP1NBQAGENT\Network	"NotifyJobStateCount"	288	2	<p>This parameter specifies the number of retries of job result file transmission.</p> <p>Use the default to prevent job execution from being delayed by the load of communication retries that could last for a long time.</p>
6	JP1_DEFAULT\JP1NBQCLIENT\Process	"PassingInfoUsePreRec"	1	0	<p>When a passing information setting job is used, this parameter is used to set the return value of the passing information setting job itself, regardless of the return value of the preceding job.</p> <p>Specify 1 for this parameter when you use a passing information setting job and want to operate the job in the same way as the job in the old environment or on other hosts in the system.</p>
7	JP1_DEFAULT\JP1NBQAGENT\Job	"SendFileSizeStatus"	__#3	3	<p>If the size of transmitted files reaches the upper limit, file transmission processing is stopped. You do not need to change the setting from the default when the size of the files transmitted at job execution does not exceed 3 megabytes^{#4} during operation. Use the default as is. If the size of the files transmitted at job execution exceeds 3 megabytes^{#4}, the data exceeding the upper-limit size might be discarded or not transmitted. Also, if a passing information setting job is executed by using a standard output file over 3 megabytes^{#4},</p>

No.	Definition key	Environment setting parameter	Default in version 10-50 or earlier	Default in version 11-00 or later	Operation and conditions of using the defaults in version 11-00 or later
7	JP1_DEFAULT\JP1NBQAGENT\Job	"SendFileSizeStatus"	..#3	3	information might not be inherited correctly. See 6.2.27 Placing restrictions on file transmission (in Windows) and 15.2.24 Placing restrictions on file transmission (in UNIX), and change the setting as needed.

#1

You can set the upper limit of the size of received files in the `LimitReceiveFileSize` environment setting parameter. The default is 5 (megabytes). If the parameter setting has been changed from the default, replace the default (5 megabytes) with the new value in the description herein.

#2

Only for Windows

#3

Because the environment setting parameter was added in version 11-00, no value is set, but the product behaves as if 0 is set.

#4

You can set the upper limit of the size of received files in the `LimitSendFileSize` environment setting parameter. The default is 3 (megabytes). If the parameter setting has been changed from the default, replace the default (3 megabytes) with the new value in the description herein.

(3) Environment settings related to event/action control

The table below lists the environment setting parameters (among those related to event/action control) for which defaults were changed to recommended values in JP1/AJS3 version 11-00.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 10-50 or earlier to JP1/AJS3 version 11-00 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C-6: Environment setting parameters related to event/action control

No.	Definition key	Environment setting parameter	Default in version 10-50 or earlier	Default in version 11-00 or later	Operation and conditions of using the defaults in version 11-00 or later
1	<ul style="list-style-type: none"> JP1_DEFAULT\JP1AJS2\SCHEDULER\EV\MANAGER JP1_DEFAULT\JP1AOMMANAGER JP1_DEFAULT\JP1AOMAGENT 	"FileWrite Mode"	nosync	sync	<ul style="list-style-type: none"> Synchronized writing is executed whenever a file is updated. This method of writing increases reliability but lowers system performance. This setting is appropriate for the operations in which priority is given to reliability, such as in the case of cluster operations. The setting of this parameter must be unified in the system (in the manager and all agents).
2		"ResolveAgentInfo"	host	exec	<ul style="list-style-type: none"> With this setting of this parameter, you can omit the operation on the manager host required when the IP address of an agent host is changed. You do not need to restart the JP1/AJS3 service in the manager host. The setting of this parameter must be unified in the system (in the manager and all agents).

No.	Definition key	Environment setting parameter	Default in version 10-50 or earlier	Default in version 11-00 or later	Operation and conditions of using the defaults in version 11-00 or later
3	JP1_DEFAULT\JP1AOMAGENT	"RetryAgtStartNotification"	N	Y	If transmission of a startup notification fails, it is retried. Always specify Y (enabling) for this parameter because this function serves to automatically recover the system from an error.

C.3 Environment setting parameters whose defaults were changed to recommended values in version 11-50

This section describes the environment setting parameters for which defaults were changed to recommended values in JP1/AJS3 version 11-50.

The table below describes the actions to be taken and the conditions to be applied due to the use of the defaults (recommended values) in version 11-50 or later. Using the information as criteria, determine whether to use defaults for operation, and change parameter settings as needed.

(1) Environment settings related to communication control

The table below lists the environment setting parameters (among those related to communication control) for which defaults were changed to recommended values in JP1/AJS3 version 11-50.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 11-10 or earlier to JP1/AJS3 version 11-50 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C-7: Environment setting parameters related to communication control

No.	Definition key	Environment setting parameter	Default in version 11-10 or earlier	Default in version 11-50 or later	Operation and conditions of using the defaults in version 11-50 or later
1	JP1_DEFAULT\JP1AJS2\HOST	"REDUCEUSEPORT"	..#	yes	You can reduce the number of ports that are used for internal communications by the scheduler service at job execution. You do not need to change the setting from the default. Use the default as is. For details about the number of ports, see <i>3.1.1(5) OS tuning in the JP1/Automatic Job Management System 3 System Design (Configuration) Guide</i> .

#

Because the environment setting parameter was added in version 11-50, no value is set, but the product behaves as if no is set.

C.4 Environment setting parameters whose defaults were changed to recommended values in version 12-00

This section describes the environment setting parameters for which defaults were changed to recommended values in JP1/AJS3 version 12-00.

The table below describes the actions to be taken and the conditions to be applied due to the use of the defaults (recommended values) in version 12-00 or later. Using the information as criteria, determine whether to use defaults for operation, and change parameter settings as needed.

(1) Environment settings related to the system management

The table below describes the environment setting parameters (among those related to the system management) for which defaults were changed to recommended values in JP1/AJS3 version 12-00.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 11-50 or earlier to JP1/AJS3 version 12-00 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C–8: Environment setting parameters related to the system management

No	Definition key	Environment setting parameter	Default in version 11-50 or earlier	Default in version 12-00 or later	Operation and conditions of using the defaults in version 12-00 or later
1	JP1_DEFAULT\ JP1AJS2\HOST	"AGENTLIMITEXTEND"	dword:00 000001 (1,024)	dword:00 000002 (2,048)	The maximum number of execution agents that can be registered in a manager host is set to 2,048. To change the maximum number of execution agents to 1,024, you must re-create the database. For details, see 6.2.28 Setting to increase the maximum number of execution agents that can be registered in a manager host for Windows. For UNIX, see 15.2.25 Setting to increase the maximum number of execution agents that can be registered in a manager host .

(2) Environment settings related to the scheduler service

The table below describes the environment setting parameters (among those related to the scheduler service) for which defaults were changed to recommended values in JP1/AJS3 version 12-00.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 11-50 or earlier to JP1/AJS3 version 12-00 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C–9: Environment setting parameters related to the scheduler service

No	Definition key	Environment setting parameter	Default in version 11-50 or earlier	Default in version 12-00 or later	Operation and conditions of using the defaults in version 12-00 or later
1	JP1_DEFAULT\ JP1AJSMANAGER\ <i>scheduler-service-name</i>	"RERUNSUBORDINATE"	no	yes	The subordinate units can be rerun.

No	Definition key	Environment setting parameter	Default in version 11-50 or earlier	Default in version 12-00 or later	Operation and conditions of using the defaults in version 12-00 or later
2	JP1_DEFAULT\ JP1AJSMANAGE R\ <i>scheduler- service-name</i>	"NETCOMMEN TEVENT"	none	all	For JP1 events that have extended attributes (common information) whose object types are JOBNET, regardless of the priority of the extended attributes, comments on units are output for the extended attributes (program-specific or user-specific information) of all JP1 events.
3		"JOBCOMMEN TEVENT"	none	all	For JP1 events that have extended attributes (common information) whose object types are JOB, regardless of the priority of the extended attributes, comments on units are output for the extended attributes (program-specific or user-specific information) of all JP1 events.

(3) Environment settings related to the job execution environment

The table below describes the environment setting parameters (among those related to the job execution environment) for which defaults were changed to recommended values in JP1/AJS3 version 12-00.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 11-50 or earlier to JP1/AJS3 version 12-00 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C–10: Environment setting parameters related to the job execution environment

No	Definition key	Environment setting parameter	Default in version 11-50 or earlier	Default in version 12-00 or later	Operation and conditions of using the defaults in version 12-00 or later
1	<ul style="list-style-type: none"> JP1_DEFAULT\ JP1AJSMANAGER\ SCHEDULER\ QUEUE\ MANAGER\ Job JP1_DEFAULT\ JP1INBQ MANAGER\ Job 	"MaximumExecJobLogOption"	0	1	A message confirming that the maximum number of concurrently executable jobs has been reached, is output.

(4) Environment settings related to JP1/AJS3 shared information

The table below describes the environment setting parameters (among those related to JP1/AJS3 shared information) for which defaults were changed to recommended values in JP1/AJS3 version 12-00.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 11-50 or earlier to JP1/AJS3 version 12-00 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C–11: Environment setting parameters related to JP1/AJS3 shared information

No	Definition key	Environment setting parameter	Default in version 11-50 or earlier	Default in version 12-00 or later	Operation and conditions of using the defaults in version 12-00 or later
1	JP1_DEFAULT\ JP1AJS2COMM ON	"LARGEFILE USE"	no	yes [#]	The <i>Monitoring Files</i> job can be used to monitor files whose size is 2 GB or larger.

#

The value specified for this environment setting parameter applies only if the OS is Windows. If JP1/AJS3 version 11-10 or later is installed on a host whose OS is UNIX, the system assumes that *yes* is specified regardless of the setting for this environment setting parameter.

C.5 Environment setting parameters whose defaults were changed to recommended values in version 12-50

This section describes the environment setting parameters for which defaults were changed to recommended values in JP1/AJS3 version 12-50.

The table below describes the actions to be taken and the conditions to be applied due to the use of the defaults (recommended values) in version 12-50 or later. Using the information as criteria, determine whether to use defaults for operation, and change parameter settings as needed.

(1) Environment settings related to the job execution environment

The table below describes the environment setting parameters (among those related to the job execution environment) for which defaults were changed to recommended values in JP1/AJS3 version 12-50.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 12-10 or earlier to JP1/AJS3 version 12-50 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C–12: Environment setting parameters related to the job execution environment

No	Definition key	Environment setting parameter	Default in version 12-10 or earlier	Default in version 12-50 or later	Operation and conditions of using the defaults in version 12-50 or later
1	JP1_DEFAULT\ JP1NBQAGENT\ Log	"TraceLogF ileSize"	dword:00 000200	dword:00 000600	The sizes of the following job execution internal log files are set to 1,536 KB: <ul style="list-style-type: none"> jpqagt_{00 01 02 03 04 05 06 07}.log jpqmon_{00 01 02 03 04 05 06 07}.log jpqnjpagt_{00 01 02 03 04 05 06 07}.log
2	JP1_DEFAULT\ JP1NBQCLIENT \Log	"TraceLogF ileSize"	dword:00 000400	dword:00 000C00	The sizes of the following job execution internal log files are set to 3,072 KB: <ul style="list-style-type: none"> jqclient_{00 01 02 03 04 05 06 07 08 09}.log jqclientnjp_{00 01 02 03 04 05 06 07 08 09}.log

No	Definition key	Environment setting parameter	Default in version 12-10 or earlier	Default in version 12-50 or later	Operation and conditions of using the defaults in version 12-50 or later
3	<ul style="list-style-type: none"> JP1_DEFAULT\JP1AJS2\SCHEDULER\QUEUE\MANAGER\Log JP1_DEFAULT\JP1AJS MANAGER\sc heduler-service-name\QUEUE\MANAGER\Log JP1_DEFAULT\JP1NBQ MANAGER\Log 	"TraceLogFileSize"	dword:0000200	dword:0000600	<p>The sizes of the following job execution internal log files are set to 1,536 KB:</p> <ul style="list-style-type: none"> jpqman_{00 01 02 03}.log jpqmandb_{00 01 02 03}.log jpqmannjp_{00 01 02 03}.log
4	<ul style="list-style-type: none"> JP1_DEFAULT\JP1AJS2\SCHEDULER\QUEUE\NOTIFY\Log JP1_DEFAULT\JP1AJS MANAGER\sc heduler-service-name\QUEUE\NOTIFY\Log 	"TraceLogFileSize"	dword:0000200	dword:0000600	<p>The sizes of the following job execution internal log files are set to 1,536 KB:</p> <ul style="list-style-type: none"> jpqnotify_{00 01}.log jpqnotifynjp_{00 01}.log

(2) Environment settings related to event/action control

The table below lists the environment setting parameters (among those related to event/action control) for which defaults were changed to recommended values in JP1/AJS3 version 12-50.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 12-10 or earlier to JP1/AJS3 version 12-50 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C–13: Environment setting parameters related to event/action control

No	Definition key	Environment setting parameter	Default in version 12-10 or earlier	Default in version 12-50 or later	Operation and conditions of using the defaults in version 12-50 or later
1	JP1_DEFAULT\JP1AJS2\SCHEDULER\EV\MANAGER\LOG	"LogSize_jpomanager"	dword:00200000	dword:00400000	<p>The sizes of the following event/action control manager log files are set to 4,096 KB:</p> <ul style="list-style-type: none"> For all scheduler services

No	Definition key	Environment setting parameter	Default in version 12-10 or earlier	Default in version 12-50 or later	Operation and conditions of using the defaults in version 12-50 or later
1	JP1_DEFAULT\ JP1AJS2\SCHE DULER\EV\MAN AGER\LOG	"LogSize_j pomanager"	dword:00 200000	dword:00 400000	jpomanager{1 2 3 4 5 6 7 8 9 10 11 12 13}.log
2		"LogSize_j pomgrsub"	dword:00 100000	dword:00 300000	The sizes of the following event/action control manager log files are set to 3,072 KB: <ul style="list-style-type: none"> For all scheduler services jpomgrsub{1 2 3 4 5 6 7 8}.log
3	JP1_DEFAULT\ JP1AOMAGENT\ LOG	"LogSize_j poagent"	dword:00 100000	dword:00 300000	The sizes of the following event/action control agent log files are set to 3,072 KB: jpoagent{1 2 3 4 5 6 7 8}.log
4		"LogSize_j poagtsub"	dword:00 100000	dword:00 200000	The sizes of the following event/action control agent log files are set to 2,048 KB: jpoagtsub{1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16}.log
5		"LogSize_j poeventwat ch"	dword:00 100000	dword:00 900000	The sizes of the following event monitoring log files are set to 9,216 KB: jpoeventwatch{1 2 3 4 5 6 7 8}.log

C.6 Environment setting parameters whose defaults were changed to recommended values in version 13-00

This section describes the environment setting parameters for which defaults were changed to recommended values in JP1/AJS3 version 13-00.

The table below describes the actions to be taken and the conditions to be applied due to the use of the defaults (recommended values) in version 13-00 or later. Using the information as criteria, determine whether to use defaults for operation, and change parameter settings as needed.

(1) Environment settings related to the scheduler service

The table below describes the environment setting parameters (among those related to the scheduler service) for which defaults were changed to recommended values in JP1/AJS3 version 13-00.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 12-60 or earlier to JP1/AJS3 version 13-00 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C-14: Environment setting parameters related to the scheduler service

No	Definition key	Environment setting parameter	Default in version 12-60 or earlier	Default in version 13-00 or later	Operation and conditions of using the defaults in version 13-00 or later
1	JP1_DEFAULT\ JP1AJSMANAGE R\scheduler- service-name	"LOGSIZE"	dword:00 02800	dword:00 00A000	The sizes of the scheduler log files for each scheduler service are set to 40,960 KB.

C.7 Environment setting parameters whose defaults were changed to recommended values in version 13-10

This section describes the environment setting parameters for which defaults were changed to recommended values in JP1/AJS3 version 13-10.

The table below describes the actions to be taken and the conditions to be applied due to the use of the defaults (recommended values) in version 13-10 or later. Using the information as criteria, determine whether to use defaults for operation, and change parameter settings as needed.

(1) Environment settings related to event/action control

The table below lists the environment setting parameters (among those related to event/action control) for which defaults were changed to recommended values in JP1/AJS3 version 13-10.

Cautionary note:

In the case of performing an upgrade installation to upgrade JP1/AJS3 version 13-00 or earlier to JP1/AJS3 version 13-10 or later, the defaults of the environment setting parameters of the old version are inherited by the new version. Review the settings to change them to recommended values.

Table C–15: Environment setting parameters related to event/action control

No	Definition key	Environment setting parameter	Default in version 13-00 or earlier	Default in version 13-10 or later	Operation and conditions of using the defaults in version 13-10 or later
1	JP1_DEFAULT\ JP1AOMAGENT	"ClientConnectTimeout"	In Windows: None In UNIX: None	In Windows: None In UNIX: dword:00002710	The maximum time during which the agent host can wait until connection to the manager host succeeds when operating an event job in a UNIX environment is set to 10,000 milliseconds (10 seconds). For details, see 20.6.2(25) ClientConnectTimeout (event/action control) .
2	JP1_DEFAULT\ JP1AOMAGENT	"NotificationAlarmCount"	..#	In Windows: dword:00000013 In UNIX: dword:0000001D	When an agent host attempts to communicate with the manager host for operating an event job, if the attempt fails for the specified number of times in succession, the KAVT0669-E message is output. For details, see 20.6.2(27) NotificationAlarmCount .

#

Because the environment setting parameter was added in version 13-10, no value is set, but the product behaves as if `dword:00000000` is set.

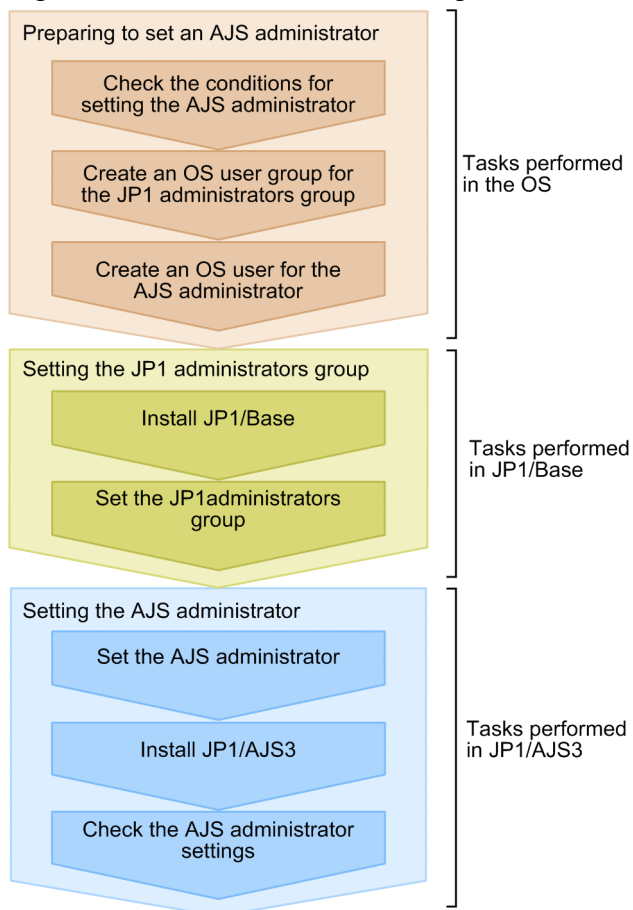
D. Installation and Setup for Operation by AJS Administrators (UNIX only)

This appendix describes the required preparation and method for setting up a JP1 administrators group and an AJS administrator.

D.1 Workflow for setting an AJS administrator

You can set an AJS administrator according to the following workflow.

Figure D–1: Workflow for setting an AJS administrator



D.2 Preparing to set an AJS administrator

To set an AJS administrator, you need to complete the following before installing JP1/AJS3:

- Check the conditions for setting the AJS administrator
All conditions for setting the AJS administrator must be satisfied. See *E.2 Conditions for setting an AJS administrator account* in the *JP1/Automatic Job Management System 3 System Design (Configuration) Guide* and confirm that all conditions are satisfied.
- Create an OS user group for the JP1 administrators group
In your OS, create an OS user group to be specified as a JP1 administrators group. Ensure that this OS user group need not be changed throughout operation. To change the JP1 administrators group, you must delete JP1/AJS3 and

then install it again. Therefore, do not specify an OS user group linked with a specific group or person as a JP1 administrators group.

- Create an OS user for the AJS administrator

In your OS, create an OS user to be specified as an AJS administrator. This OS user must satisfy the following conditions:

- The OS user need not be changed throughout operation.
- The OS user name can contain a maximum of eight alphanumeric characters beginning with an alphabetic character. Note, however, that you cannot use the following character strings:
 - AJS2
 - ALL
 - HiRDB
 - MASTER
 - PUBLIC
 - ROOT

The OS user name is not case sensitive. Therefore, you cannot use lowercase representations of the above character strings, such as `all`.

- For the primary group of the OS user, specify the OS user group created for the JP1 administrators group.

Cautionary notes:

- If you use the system in a cluster configuration, make sure that the name and group ID of the OS user group for the JP1 administrators group are the same for the primary node and the secondary node. Also make sure that the name and user ID of the OS user for the AJS administrator is the same for the primary node and the secondary node.
- If you use a disaster recovery operation, make sure that the name and group ID of the OS user group for the JP1 administrators group are the same for the main site and the remote site. Also make sure that the name and user ID of the OS user for the AJS administrator are the same for the main site and the remote site.

D.3 Setting the JP1 administrators group

To set the JP1 administrators group on JP1/Base:

1. Install JP1/Base.

When you set the AJS administrator, do not install JP1/Base and JP1/AJS3 at the same time.

2. Execute the `jbssetadmingrp` command to set the JP1 administrators group.

Execute the `jbssetadmingrp` command to set the OS user group you created for the JP1 administrators group as the JP1 administrators group.

For details, see the *JP1/Base User's Guide*.

D.4 Setting the AJS administrator

To set the AJS administrator:

1. Specify the OS user you created for the AJS administrator for the `JP1AJS3_ADMINUSR_NAME` environment variable.

2. Install JP1/AJS3.

For details about the installation procedure, see *12.2 Installing JP1/AJS3 series programs*.

3. Execute the `jajsshowadminusr` command and confirm that the AJS administrator was set correctly.

For example, execute the `jajsshowadminusr` command as follows:

```
# /opt/jplajs2/bin/jajsshowadminusr
```

For details about the `jajsshowadminusr` command, see *jajsshowadminusr (UNIX only)* in *3. Commands Used for Normal Operations* in the manual *JP1/Automatic Job Management System 3 Command Reference*.

4. If you use the system in a cluster configuration or use a disaster recovery operation, make sure that the following values are the same for the primary node and the secondary node, and for the main site and the remote site:

- Name of the OS user group for the JP1 administrators group
- Group ID of the OS user group for the JP1 administrators group
- Name of the OS user for the AJS administrator
- User ID of the OS user for the AJS administrator

D.5 Access Permissions for Directories and Files Specified in Environment Setting Parameters Required for AJS Administrators to Perform Operations

An AJS administrator who operates JP1/AJS3 might require access permissions for the directories or files specified in the environment setting parameters. When the AJS administrator sets up an environment, appropriate access permissions must have already been set.

The following table lists the directories and files specified in the environment setting parameters, and the access permissions required for the AJS administrator.

Table D–1: Access permissions required for the AJS administrator to operate JP1/AJS3

No.	Key	Parameter	Directory or file for which access permission is required	Permission required for the AJS administrator
1	[{JP1_DEFAULT logical-host-name} \JP1AJS2\HOST]	AJSSYS DIR	System folder of a host	Rwx
2		HOSTLOGFILE1	Scheduler log file 1 for a host	Rwx
3		HOSTLOGFILE2	Scheduler log file 2 for a host	Rwx
4	[{JP1_DEFAULT logical-host-name} \JP1AJSMANAGER\scheduler-service-name]	AJSLOGFILE1	Scheduler log file 1	Rwx
5		AJSLOGFILE2	Scheduler log file 2	Rwx
6		AJSSYS DIR	System folder of each scheduler service	Rwx
7	[{JP1_DEFAULT logical-host-name} \JP1NBQMANAGER\Process]	WorkPath	Work directory when a manager process is executed	Rwx
8	[{JP1_DEFAULT logical-host-name}]	DatabasePath	Directory used to store the database	Rwx

No.	Key	Parameter	Directory or file for which access permission is required	Permission required for the AJS administrator
8	\JP1NBQMANAGER\Databas e]	DatabasePath	Directory used to store the database	Rwx
9	[{JP1_DEFAULT <i>logical-host- name</i> } \JP1NBQAGENT\Process]	WorkPath	Work directory when an agent process is executed	Rwx
10	[{JP1_DEFAULT <i>logical-host- name</i> }\JP1AOMMANAGER]	WaitInfFileOutD ir	Directory to which the wait information file (settings for the manager process) is output	rwx
11	[{JP1_DEFAULT <i>logical-host- name</i> }\JP1AOMAGENT]	WaitInfFileOutD ir	Directory to which the wait information file (settings for the agent process) is output	Rwx
12		EvjobInfFile	Directory in which inherited event job information or custom event job information is saved	Rwx
13	[JP1_DEFAULT\JP1AJS2\C HECK]	AJSCHK_CHECKFIL E	File that contains the definition pre-check results	Rwx
14		AJSCHK_LOGDIR	Definition check log directory	Rwx
15		AJSCHK_TRACELOG FILE	Trace log file for the definition pre-check function	Rwx
16	[JP1_DEFAULT\JP1QLAGEN T]	AJSQL_TRACELOGF ILE	Trace log file	Rwx
17		AJSQL_EXECLOG_F TPPATH	Directory used to store the internal log of queueless job execution output by the queueless file transfer service	Rwx
18	[{JP1_DEFAULT <i>logical-host- name</i> }\JP1QLAGENT]	AJSQL_LOGFILE	Log folder	Rwx
19		AJSQL_STATFILE	Status file	Rwx
20		AJSQL_EXECLOG_A GTPATH	Directory used to store the internal log of queueless job execution output by the queueless agent service	Rwx
21		AJSQL_AGTWORKPA TH	Workpath used in a queueless job, and the directory for temporary files	Rwx

E. Commands to Obtain Certificates for SSL Communication

E.1 Creating a private key

The following describes the command provided by JP1/AJS3 - Web Console to create a private key.

Format

To create an RSA certificate:

In Windows:

```
openssl.bat genrsa -rand name-of-the-file-to-be-used-for-random-number-generation -out path-to-private-key-file bit-length-of-private-key [bit-length-of-the-private-key]
```

The path of the `openssl.bat` is *JP1/AJS3-Web-Console-installation-folder*\uCP SB\httpsd\sbin\openssl.bat.

For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

In Linux:

```
openssl.sh genrsa -rand name-of-the-file-to-be-used-for-random-number-generation -out path-to-private-key-file it-length-of-private-key [bit-length-of-the-private-key]
```

The path of the `openssl.sh` is `opt/jp1ajs3web/uCP SB/httpsd/sbin/openssl.sh`.

For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

To create an ECDSA certificate:

In Windows:

```
openssl.bat eparam -genkey -noout -rand name-of-the-file-to-be-used-for-random-number-generation -name elliptic-curve-name -out path-to-private-key-file
```

The path of the `openssl.bat` is *JP1/AJS3-Web-Console-installation-folder*\uCP SB\httpsd\sbin\openssl.bat.

For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

In Linux:

```
openssl.sh eparam -genkey -noout -rand name-of-the-file-to-be-used-for-random-number-generation[:name-of-the-file-to-be-used-for-random-number-generation ...] -name elliptic-curve-name -out path-to-private-key-file
```

The path of the `openssl.sh` is `opt/jp1ajs3web/uCP SB/httpsd/sbin/openssl.sh`.

For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

Parameters

`-rand` *file-name-to-be-used-for-random-number-generation*

Specify any file to be used for random number generation. You must specify an appropriate file whose size is large enough for the random number generation (for example, `C:\Windows\system32\notepad.exe`).

`-out key-file`

Specify the file to which the private key is output.

bit-length-of-the-private-key

For the `openssl.bat genrsa` command or the `openssl.sh genrsa` command, specify the bit length of the private key to be created. Specifiable bit lengths are as follows:

- 512
- 1024
- 2048
- 4096

If this argument is omitted, specification of 2048 is assumed.

`-name elliptic-curve-name`

Specify the name of the elliptic curve to be used for generating a private key. You can specify one of the following names:

- `secp384r1`
- `secp521r1`
- `prime256v1`
- `P-256`
- `P-384`
- `P-521`

Usage example 1

To create a private key (`httpsdkey.pem`) by using the `openssl.bat genrsa` command:

```
openssl.bat genrsa -rand C:\Windows\system32\notepad.exe -out httpsdkey.pem 2048
```

Usage example 2

To create a ECDSA certificate by using the `openssl.bat ecparam` command:

```
openssl.bat ecparam -genkey -noout -rand C:\Windows\system32\notepad.exe -name P-256 -out httpsdkey.pem
```

E.2 Converting the private key format (when using an ECDSA certificate)

The following describes the command that you use to convert the private key format when using an ECDSA certificate.

Format

In Windows:

```
openssl.bat pkcs8 -topk8 -in conversion-source-private-key-file -out conversion-destination-private-key-file -nocrypt
```

The path of the `openssl.bat` is `JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat`.

For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

In Linux:

```
openssl.sh pkcs8 -topk8 -in conversion-source-private-key-file -out conversion-destination-private-key-file -nocrypt
```

The path of the `openssl.sh` is `opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`.

For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

Parameters

`-in conversion-source-private-key-file`

Specify the name of the private key file to be converted.

`-out conversion-destination-private-key-file`

Specify the name that will be assigned to the converted private key file.

`-nocrypt`

Specify this if you do not want to encrypt the converted private key.

Usage example

In the following example, the command converts the `httpsdkey.pem` private key in PKCS#1 format to the `httpsdkey2.pem` private key in PKCS#8 format.

```
openssl.bat pkcs8 -topk8 -in httpsdkey.pem -out httpsdkey2.pem -nocrypt
```

E.3 Creating a Certificate Signing Request (CSR)

The following describes the command provided by JP1/AJS3 - Web Console to create a Certificate Signing Request (CSR). The created CSR file is submitted to the Certification Authority (CA), which then issues the signed certificate. The CSR is created in the format conforming to PKCS #10.

Format

In Windows:

```
openssl.bat req -new [signature-algorithm] -key key-file -out CSR-file
```

The path of the `openssl.bat` is `JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat`.

For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

In Linux:

```
openssl.sh req -new [signature-algorithm] -key key-file -out CSR-file
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`.

For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

Parameters

signature-algorithm

For the `openssl.bat req` command or the `openssl.sh req` command, specify the signature algorithm to be used to create the CSR. Available signature algorithms are as follows:

- `-md5`
`md5WithRSAEncryption` is used.

- `-sha1`
sha1WithRSAEncryption is used.
- `-sha224`
sha224WithRSAEncryption is used.
- `-sha256`
sha256WithRSAEncryption is used.
- `-sha384`
sha384WithRSAEncryption is used.
- `-sha512`
sha512WithRSAEncryption is used.

If this argument is omitted, specification of `-sha256` is assumed.

`-key` *key-file*

Specify the path of the private key file that was created in the procedure described in [E.1 Creating a private key](#).

`-out` *CSR-file*

Specify the file to which the created CSR is output.

Usage example

The following example shows how to use the `openssl.bat req` command to create a CSR (`httpsd.csr`) by using a private key (`httpsdkey.pem`):

```
openssl.bat req -new -sha256 -key httpsdkey.pem -out httpsd.csr
```

For the items to be set, follow the instructions given by the CA to which you want to send the CSR.

E.4 Displaying the contents of a Certificate Signing Request (CSR)

The following describes the command for displaying the content of the certificate signing request (CSR) provided by JP1/AJS3 - Web Console.

Format

In Windows:

```
openssl.bat req -in CSR-file -text
```

The path of the `openssl.bat` is `JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat`.

For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

In Linux:

```
openssl.sh req -in CSR-file -text
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`.

For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

Parameters

`-in` *CSR-file*

Specify the CSR file to be displayed.

Usage example

To display the content of a CSR (`httpsd.csr`) by using the `openssl.bat req` command:

```
openssl.bat req -in httpsd.csr -text
```

E.5 Displaying certificate contents

The following describes the command for displaying the contents of a certificate file provided by JP1/AJS3 - Web Console.

Format

In Windows:

```
openssl.bat x509 -in certificate-file -text
```

The path of the `openssl.bat` is `JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat`.

For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

In Linux:

```
openssl.sh x509 -in certificate-file -text
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`.

For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

Parameters

`-in certificate-file`

Specify the certificate file to be displayed.

Usage example

To display the contents of a certificate file (`httpsd.pem`) by using the `openssl.bat x509` command:

```
openssl.bat x509 -in httpsd.pem -text
```

E.6 Converting the certificate format

The following describes the command for converting the content of the certificate format provided by JP1/AJS3 - Web Console.

Format

In Windows:

```
openssl.bat x509 -inform input-format -outform output-format -in input-file -out output-file
```

The path of the `openssl.bat` is `JP1/AJS3-Web-Console-installation-folder\uCPSB\httpsd\sbin\openssl.bat`.

For details about execution permission required for the `openssl.bat`, see the official website of OpenSSL.

In Linux:

```
openssl.sh x509 -inform input-format -outform output-format -in input-file -out output-file
```

The path of the `openssl.sh` is `/opt/jp1ajs3web/uCPSB/httpsd/sbin/openssl.sh`.

For details about execution permission required for the `openssl.sh`, see the official website of OpenSSL.

Parameters

`-inform input-format`

Specify the input format of the certificate file before conversion. Specifiable input formats are as follows:

- DER
- PEM

`-outform output-format`

Specify the outform format of the certificate file after conversion. Specifiable output formats are as follows:

- DER
- PEM

`-in input-file`

Specify the certificate file before conversion.

`-out output-file`

Specify the certificate file after conversion.

Usage example

The following example shows how to use the `openssl.bat x509` command to convert a certificate (`httpsd.pem`) from the DER format to the PEM format:

```
openssl.bat x509 -inform DER -outform PEM -in httpsd.der -out httpsd.pem
```

F. Version Revisions

For details on the version revisions, see *B. Version Revisions* in the manual *JP1/Automatic Job Management System 3 Overview*.

G. Reference Material for This Manual

For details on reference information that would be helpful in reading this manual, see *C. Reference Material for This Manual* in the manual *JP1/Automatic Job Management System 3 Overview*.

H. Glossary

For the glossary, see *D. Glossary* in the manual *JP1/Automatic Job Management System 3 Overview*.

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