

Job Management Partner 1 Version 10

**Job Management Partner 1/Automatic Job
Management System 3 Configuration Guide 1**

3021-3-321-20(E)

Notices

■ Relevant program products

For details about the applicable OS versions, and the service packs and patches required for Job Management Partner 1/Automatic Job Management System 3, see the *Release Notes*.

Job Management Partner 1/Automatic Job Management System 3 - Manager (For Windows):

P-2W12-3KAL Job Management Partner 1/Automatic Job Management System 3 - Manager version 10-50

The above product includes the following:

P-CC2A12-3KAL Job Management Partner 1/Automatic Job Management System 3 - Manager: version 10-50 (For Windows Server 2012 and Windows Server 2008)

P-CC2412-3KAL Job Management Partner 1/Automatic Job Management System 3 - Manager version 10-50 (For Windows Server 2003 and Windows Server 2003(x64))

Job Management Partner 1/Automatic Job Management System 3 - Manager (For UNIX):

P-1J12-27AL Job Management Partner 1/Automatic Job Management System 3 - Manager version 10-50 (For HP-UX(IPF))

P-9312-27AL Job Management Partner 1/Automatic Job Management System 3 - Manager version 10-50 (For Solaris 11 (SPARC) and Solaris 10 (SPARC))

P-1M12-27AL Job Management Partner 1/Automatic Job Management System 3 - Manager version 10-50 (For AIX)

P-8112-27AL Job Management Partner 1/Automatic Job Management System 3 - Manager version 10-50 (For Linux 6.1 (x86) or later, Linux 6.1 (x64) or later, Linux 5.1 (x86) or later, and Linux 5.1 (AMD/Intel 64) or later)

Job Management Partner 1/Automatic Job Management System 3 - Agent (For Windows):

P-2W12-33AL Job Management Partner 1/Automatic Job Management System 3 - Agent version 10-50

The above product includes the following:

P-CC2A12-33AL Job Management Partner 1/Automatic Job Management System 3 - Agent version 10-50 (For Windows Server 2012 and Windows Server 2008)

P-CC2412-33AL Job Management Partner 1/Automatic Job Management System 3 - Agent version 10-50 (For Windows Server 2003 and Windows Server 2003(x64))

Job Management Partner 1/Automatic Job Management System 3 - Agent (For UNIX):

P-1J12-29AL Job Management Partner 1/Automatic Job Management System 3 - Agent version 10-50 (For HP-UX(IPF))

P-9312-29AL Job Management Partner 1/Automatic Job Management System 3 - Agent version 10-50 (For Solaris 11 (SPARC) and Solaris 10 (SPARC))

P-1M12-29AL Job Management Partner 1/Automatic Job Management System 3 - Agent version 10-50 (For AIX)

P-8112-29AL Job Management Partner 1/Automatic Job Management System 3 - Agent version 10-50 (For Linux 6.1 (x86) or later, Linux 6.1 (x64) or later, Linux 5.1 (x86) or later, and Linux 5.1 (AMD/Intel 64) or later)

Job Management Partner 1/Automatic Job Management System 3 - View (For Windows):

P-2W12-34AL Job Management Partner 1/Automatic Job Management System 3 - View version 10-50

The above product includes the following:

P-CC2A12-34AL Job Management Partner 1/Automatic Job Management System 3 - View version 10-50 (For Windows 8.1, Windows 8, Windows Server 2012, Windows 7, Windows Server 2008 and Windows Vista)

P-CC2412-34AL Job Management Partner 1/Automatic Job Management System 3 - View version 10-50 (For Windows Server 2003, Windows Server 2003(x64), and Windows XP Professional)

Job Management Partner 1/Base# (For Windows):

P-2W2C-6LAL Job Management Partner 1/Base# version 10-50

The above product includes the following:

P-CC2A2C-6LAL Job Management Partner 1/Base# version 10-50 (For Windows Server 2012 and Windows Server 2008)

P-CC242C-6LAL Job Management Partner 1/Base# version 10-50 (For Windows Server 2003 and Windows Server 2003(x64))

Job Management Partner 1/Base# (For UNIX):

P-1J2C-6LAL Job Management Partner 1/Base# version 10-50 (For HP-UX(IPF))

P-9D2C-6LAL Job Management Partner 1/Base# version 10-50 (For Solaris 11 (SPARC) and Solaris 10 (SPARC))

P-1M2C-6LAL Job Management Partner 1/Base# version 10-50 (For AIX)

P-812C-6LAL Job Management Partner 1/Base# version 10-50 (For Linux 6.1 (x86) or later, Linux 6.1 (x64) or later, Linux 5.1 (x86) or later, and Linux 5.1 (AMD/Intel 64) or later)

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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
IE	Internet Explorer	Microsoft(R) Internet Explorer(R)
		Windows(R) Internet Explorer(R)
Microsoft Mail		Microsoft(R) Mail
Microsoft SQL Server		Microsoft(R) SQL Server
		Microsoft(R) SQL Server Enterprise Edition
MSCS		Microsoft(R) Cluster Server
MSMQ		Microsoft(R) Message Queue Server
Outlook	Outlook 2003	Microsoft(R) Outlook(R) 2003
	Outlook 2007	Microsoft(R) Outlook(R) 2007
	Outlook 2010	Microsoft(R) Outlook(R) 2010
Outlook Express		Microsoft(R) Outlook(R) Express
Windows 7		Microsoft(R) Windows(R) 7 Enterprise
		Microsoft(R) Windows(R) 7 Professional
		Microsoft(R) Windows(R) 7 Ultimate
Windows 8		Windows(R) 8 Enterprise
		Windows(R) 8 Pro
Windows 8.1		Windows(R) 8.1 Enterprise
		Windows(R) 8.1 Pro
Windows Server 2003	Windows Server 2003	Microsoft(R) Windows Server(R) 2003, Enterprise Edition
		Microsoft(R) Windows Server(R) 2003, Standard Edition
	Windows Server 2003 R2	Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition
		Microsoft(R) Windows Server(R) 2003 R2, Standard Edition
	Windows Server 2003 (x64)	Microsoft(R) Windows Server(R) 2003, Enterprise x64 Edition
		Microsoft(R) Windows Server(R) 2003, Standard x64 Edition

Abbreviation		Full name or meaning
Windows Server 2003	Windows Server 2003 R2 (x64)	Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
		Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition
Windows Server 2008	Windows Server 2008	Microsoft(R) Windows Server(R) 2008 Datacenter
		Microsoft(R) Windows Server(R) 2008 Enterprise
		Microsoft(R) Windows Server(R) 2008 Standard
	Windows Server 2008 R2	Microsoft(R) Windows Server(R) 2008 R2 Datacenter
		Microsoft(R) Windows Server(R) 2008 R2 Enterprise
		Microsoft(R) Windows Server(R) 2008 R2 Standard
Windows Server 2012	Windows Server 2012	Microsoft(R) Windows Server(R) 2012 Datacenter
		Microsoft(R) Windows Server(R) 2012 Standard
	Windows Server 2012 R2	Microsoft(R) Windows Server(R) 2012 R2 Datacenter
		Microsoft(R) Windows Server(R) 2012 R2 Standard
Windows Vista		Microsoft(R) Windows Vista(R) Business
		Microsoft(R) Windows Vista(R) Enterprise
		Microsoft(R) Windows Vista(R) Ultimate
Windows XP Professional		Microsoft(R) Windows(R) XP Professional Operating System

Windows is sometimes used generically, referring to Windows 8.1, Windows 8, Windows Server 2012, Windows 7, Windows Server 2008, Windows Vista, Windows Server 2003, and Windows XP Professional.

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Summary of amendments

The following table lists changes in the manuals (3021-3-318-20(E), 3021-3-319-20(E), 3021-3-320-20(E), 3021-3-321-20(E), 3021-3-322-20(E), 3021-3-323-20(E), 3021-3-324-20(E), 3021-3-325-20(E), 3021-3-326-20(E), 3021-3-327-20(E), 3021-3-328-20(E), 3021-3-329-20(E), and 3021-3-330-20(E)) and product changes related to these manuals.

Changes	Location
A virtual machine on which JP1/AJS3 has been installed and configured can now be duplicated.	System Design (Configuration) Guide: <i>F</i> Configuration Guide 1: <i>2.2, 3.1, 3.2, 12.2, 13.1, 13.2, H</i> Troubleshooting: <i>2.14</i> Messages 2: <i>KFPS00615-W, KFPU00219-E</i>
Functionality was expanded so that a disaster recovery environment can be set up with the main and remote hosts whose logical host names are the same.	Configuration Guide 1: <i>9.1, 9.2.1, 9.2.2, 9.2.3, 9.3, 18.1, 18.2.1, 18.2.2, 18.2.3, 18.3</i> Administration Guide: <i>12.1.2, 12.1.3, 12.1.4, 12.2.1, 12.2.2, 12.2.3, 12.3.1, 12.4.1, 12.4.2</i> Command Reference 2: <i>2. jajs_rpenvexport, 2. jajs_rpenvimport, 2. jajs_rpsite</i> Messages 1: <i>1.3.3, 1.3.9, 1.4.1, KAVS3702-E, KAVS3710-I, KAVS3711-E, KAVS3754-E</i> Messages 2: <i>KNAD3994-E</i>
A setting for shifting the start day by a number of days (counting both open and closed days) was added.	Overview: <i>3.3.2</i> System Design (Work Tasks) Guide: <i>3.5.5</i> Operator's Guide: <i>15.3.17</i> Command Reference 1: <i>2. ajschgnet, 2. ajsprint</i> Command Reference 2: <i>4.2.4</i> Messages 1: <i>KAVS0188-E</i> Messages 2: <i>KAVV455-E</i>
A function that holds jobnet execution during immediate execution registration was added.	Overview: <i>3.4.2, 4.1.1</i>

Changes	Location
A function that holds jobnet execution during immediate execution registration was added.	System Design (Work Tasks) Guide: <i>2.2.3</i> Operator's Guide: <i>15.3.1, 15.3.22, 15.3.38, 15.3.47, 15.10.1</i> Command Reference 1: <i>2. ajsentry</i>
A function that can execute some commands from JP1/AJS3 - View to JP1/AJS3 - Manager was added.	System Design (Configuration) Guide: <i>4.5.4</i> Configuration Guide 1: <i>C.1</i> Administration Guide: <i>2.2.2, 2.2.4, 2.3.5, 13.1, 13.1.8</i> Troubleshooting: <i>A.1, A.3</i> Operator's Guide: <i>10.4, 11.1.1, 11.3.9, 11.3.18, 15.3.2, 15.3.3, 15.3.52, 15.3.53, 15.3.54, 15.4.2, 15.4.3, 15.7.2, 15.7.3, 15.8.2, 15.8.3, 15.9.2, 15.9.3, 15.10.2, 15.10.3</i> Command Reference 1: <i>2. ajslogprint, 2. ajsprint, 2. ajsshow, 2. ajsstatus</i> Command Reference 2: <i>2. jajs_setup_cluster</i> Messages 1: <i>1.3.3, KAVS0901-E, KAVS0538-I, KAVS0539-I</i> Messages 2: <i>KAVV263-E, KAVV269-E, KAVV385-E, KAVV418-E, KAVV419-E, KAVV2507-E, KAVV3900-Q to KAVV3910-E, KAVV3912-E to KAVV3919-E, KAVV3922-E to KAVV3929-E, KAVV3931-E, KAVV3932-E, KAVV3934-E to KAVV3936-Q</i>
The files <code>jajs_log.bat</code> and <code>jajs_log</code> , which have the same functionality as the data collection tool (<code>_04.bat</code> and <code>_04</code>), are now available. In addition, an option was added to the Windows version of the data collection tools that allows you to specify the location to which data is output.	System Design (Configuration) Guide: <i>5.1.1, 9.4</i> Configuration Guide 1: <i>2.2.1, 2.2.2, 7.1.1, 7.1.2, 12.2.1, 16.1.1, 16.1.2</i> Administration Guide: <i>2.2.5, 2.3.6</i> Troubleshooting: <i>1.4.1, 1.4.2, 2.7.2</i> Command Reference 1: <i>1.5.8, 1.6, 2. jajs_log or _04 (UNIX only), 2. jajs_log.bat or _04.bat (Windows only)</i> Command Reference 2: <i>1.5.8, 1.6</i> Messages 2: <i>KAVU5287-E, KAVU5501-E</i>

Changes	Location
An option was added to the <code>ajsprint</code> command so that relation line information can be output in order of the unit name.	Configuration Guide 2: <i>2.2.1, 2.2.2</i> Administration Guide: <i>13.1, 13.1.8</i> Command Reference 1: <i>2. ajsprint</i>
The procedure for changing the IP address of an agent host was changed.	Configuration Guide 1: <i>6.3.19, 15.3.19</i> Configuration Guide 2: <i>2.4.1, 2.4.2</i> Administration Guide: <i>8.9.2</i> Messages 1: <i>1.3.4, KAVT0198-E, KAVT0199-E, KAVT0528-E, KAVT0658-E to KAVT0661-E, KAVT0664-E</i>
UTF-8 was added to the list of character encodings that can be used in AIX, HP-UX, and Solaris 10.	Overview: <i>10.1.1</i> System Design (Configuration) Guide: <i>2.4.3, 7.2.2, 8.2.2</i> Configuration Guide 1: <i>13.4.1, 15.1.9, C.2, D.2</i> Configuration Guide 2: <i>2.2.2, 2.7.1, 2.8.2</i> Administration Guide: <i>4.4.2</i> Operator's Guide: <i>15.3.6</i> Command Reference 1: <i>1.4.1</i> Command Reference 2: <i>1.4.1, 2. ajsembdbsetup, 2. jajs_setup, 2. jajs_setup_cluster</i> Messages 2: <i>KAVV179-E, KAVV503-E, KAVV601-E, KAVV882-E, KAVV883-E, KAVV1503-E, KAVV2119-E</i>
The number of characters that can be used when specifying a logical host name for the command <code>jajs_killall.cluster</code> was increased.	Administration Guide: <i>11.6.1</i> Command Reference 1: <i>2. jajs_killall.cluster</i>

Legend:

Overview: *Job Management Partner 1/Automatic Job Management System 3 Overview*

System Design (Configuration) Guide: *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*

System Design (Work Tasks) Guide: *Job Management Partner 1/Automatic Job Management System 3 System Design (Work Tasks) Guide*

Configuration Guide 1: *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 1*

Configuration Guide 2: *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

Administration Guide: *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*
Troubleshooting: *Job Management Partner 1/Automatic Job Management System 3 Troubleshooting*
Operator's Guide: *Job Management Partner 1/Automatic Job Management System 3 Operator's Guide*
Command Reference 1: *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*
Command Reference 2: *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*
Linkage Guide: *Job Management Partner 1/Automatic Job Management System 3 Linkage Guide*
Messages 1: *Job Management Partner 1/Automatic Job Management System 3 Messages 1*
Messages 2: *Job Management Partner 1/Automatic Job Management System 3 Messages 2*

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

Preface

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

■ Intended readers

This manual is intended for:

- Those who wish to operate an automatic job execution system with JP1/AJS3 and those who design automatic job execution systems.
- Those who operate an automatic job execution system with JP1/AJS3.

■ Organization of this manual

This manual is organized into the following parts:

PART 1: Windows Host

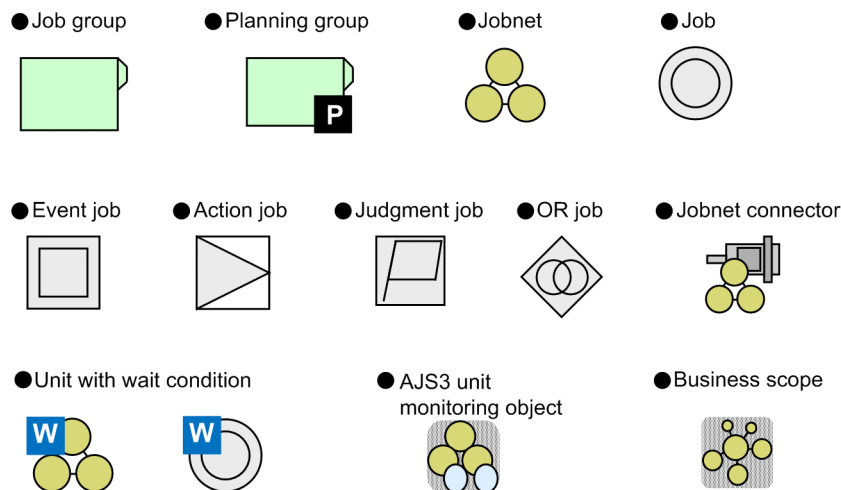
PART 1 describes installation and setup of JP1/AJS3 on a Windows host.

PART 2: UNIX Host

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

■ Conventions: Diagrams

This manual uses the following conventions in diagrams:



■ Conventions: Fonts and symbols

The following table explains the text formatting conventions used in this manual:

Text formatting	Convention
Bold	<p>Bold characters indicate text in a window, other than the window title. Such text includes menus, menu options, buttons, radio box options, or explanatory labels. For example:</p> <ul style="list-style-type: none"> • From the File menu, choose Open. • Click the Cancel button. • In the Enter name entry box, type your name.
<i>Italic</i>	<p>Italic characters indicate a placeholder for some actual text to be provided by the user or system. For example:</p> <ul style="list-style-type: none"> • Write the command as follows: <code>copy source-file target-file</code> • The following message appears: A file was not found. (file = <i>file-name</i>) <p>Italic characters are also used for emphasis. For example:</p> <ul style="list-style-type: none"> • Do <i>not</i> delete the configuration file.
Monospace	<p>Monospace characters indicate text that the user enters without change, or text (such as messages) output by the system. For example:</p> <ul style="list-style-type: none"> • At the prompt, enter <code>dir</code>. • Use the <code>send</code> command to send mail. • The following message is displayed: <code>The password is incorrect.</code>

The following table explains the symbols used in this manual:

Symbol	Convention
	<p>In syntax explanations, a vertical bar separates multiple items, and has the meaning of OR. For example: <code>A B C</code> means A, or B, or C.</p>
{ }	<p>In syntax explanations, curly brackets indicate that only one of the enclosed items is to be selected. For example: <code>{ A B C }</code> means only one of A, or B, or C.</p>
[]	<p>In syntax explanations, square brackets indicate that the enclosed item or items are optional. For example: <code>[A]</code> means that you can specify A or nothing. <code>[B C]</code> means that you can specify B, or C, or nothing.</p>
...	<p>In coding, an ellipsis (...) indicates that one or more lines of coding have been omitted. In syntax explanations, an ellipsis indicates that the immediately preceding item can be repeated as many times as necessary. For example: <code>A, B, B, ...</code> means that, after you specify A, B, you can specify B as many times as necessary.</p>
x	Multiplication sign
/	Division sign
↑ ↑	<p>The calculation result is rounded up to the next whole number. Example: The result of <code>↑ 34 / 3 ↑</code> is 12.</p>
~ (tilde)	<p>The item shown before this symbol must be specified in accordance with the conventions shown for angle brackets, double parentheses, and double angle brackets (below).</p>

Symbol	Convention
< > (angle brackets)	<p>Indicates the characters and lexical elements that can be specified.</p> <p><characters> One or more Kanji characters, katakana characters, upper-case alphabetic characters, lower-case alphabetic characters, or numeric characters</p> <p><numeric> 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9</p> <p><alphabetic character> A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, \, #, or @</p> <p><alphanumeric character> Alphabetic or numeric character</p> <p><symbolic name> No more than eight alphanumeric characters beginning with an alphabetic character</p> <p><unsigned integer> One or more numeric characters</p> <p><hexadecimal character> 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, or F</p> <p><file name> A system-determined name assigned to a file</p> <p><path> The directories contained in the path, with each name separated by a forward slash (/) or backslash (\). The path notation is OS-dependent.</p>
(()) (double parentheses)	Indicates the range of specifiable values.
<< >> (double angle brackets)	<p>Indicates the default assumed by the system when a value is unspecified.</p> <p>Example: If you do not specify <i>days-to-keep-form</i> ~<numeric> ((0 to 365)) <<365>>, 365 is assumed as the number of days to keep the form.</p>
MAX	<p>Choose the largest of the calculation results.</p> <p>Example: The result of MAX (3 x 6, 4 + 7) is 18.</p>

■ Conventions: Version numbers

The version numbers of Hitachi program products are usually written as two sets of two digits each, separated by a hyphen. For example:

- Version 1.00 (or 1.0) is written as 01-00.
- Version 2.05 is written as 02-05.
- Version 2.50 (or 2.5) is written as 02-50.
- Version 12.25 is written as 12-25.

The version number might be shown on the spine of a manual as *Ver. 2.00*, but the same version number would be written in the program as *02-00*.

■ JP1 program reorganization in version 8

The following are the major changes that have been made to the JP1 product suite in version 8:

- JP1/AJS2 - Advanced Manager was eliminated, and the database provided by JP1/AJS2 - Advanced Manager was integrated into JP1/AJS2 - Manager in JP1 Version 8.
- JP1/AJS2 - Client Toolkit was eliminated.
- JP1/AJS2 - View products for platforms other than Windows were eliminated.

■ Organization of JP1/AJS3 manuals and choosing the right manuals

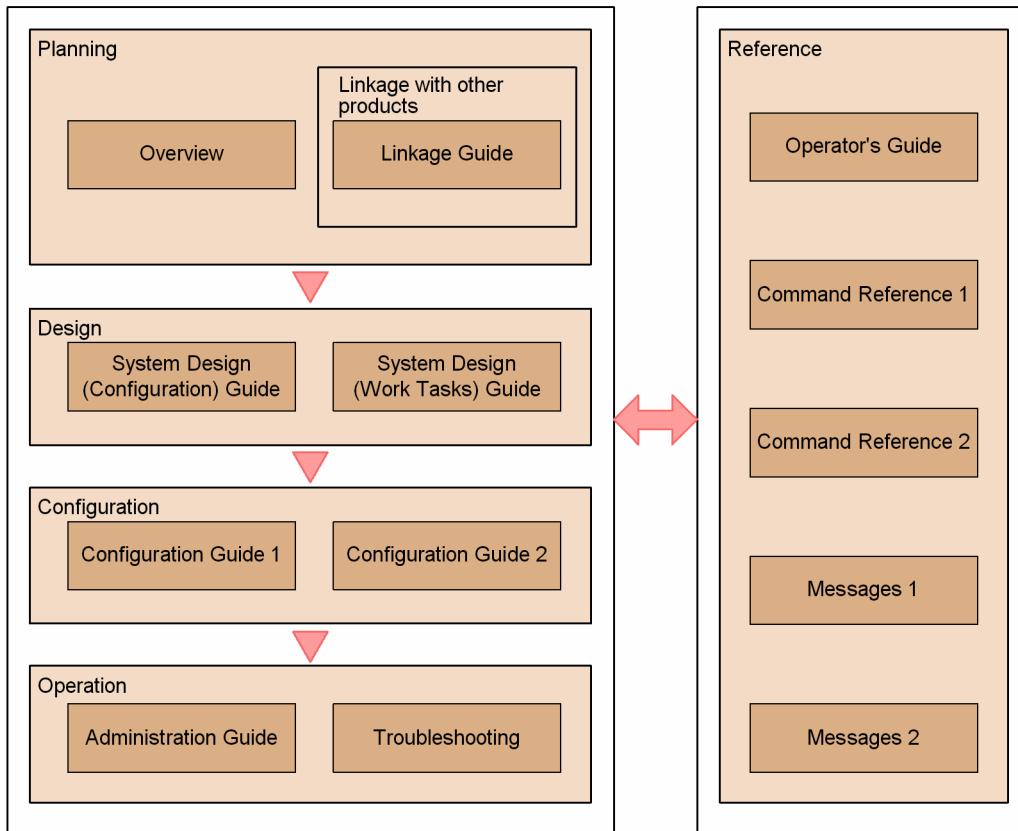
There are 13 JP1/AJS3 manuals. The following table summarizes their contents.

Note that *Job Management Partner 1/Automatic Job Management System 3* has been omitted from the manual titles in the table.

No.	Manual	Contents
1	<i>Overview</i> (3021-3-318(E))	<ul style="list-style-type: none"> • JP1/AJS3 features • Description of functions
2	<i>System Design (Configuration) Guide</i> (3021-3-319(E))	<ul style="list-style-type: none"> • Information that must be considered when designing a system • Cautionary notes on designing a system
3	<i>System Design (Work Tasks) Guide</i> (3021-3-320(E))	<ul style="list-style-type: none"> • Information that must be considered when constructing jobs and jobnets • Cautionary notes on designing jobs and jobnets
4	<i>Configuration Guide 1</i> (3021-3-321(E))	<ul style="list-style-type: none"> • Installation and setup procedures • Environment setup procedure by operation type
5	<i>Configuration Guide 2</i> (3021-3-322(E))	<ul style="list-style-type: none"> • Description of environment setting parameters • Description of operation profiles
6	<i>Administration Guide</i> (3021-3-323(E))	<ul style="list-style-type: none"> • Information required to operate a system • Know-how useful for JP1/AJS3 operation
7	<i>Troubleshooting</i> (3021-3-324(E))	<ul style="list-style-type: none"> • How to troubleshoot errors • Data required when an error occurs
8	<i>Operator's Guide</i> (3021-3-325(E))	<ul style="list-style-type: none"> • How to operate JP1/AJS3 - View • How to operate JP1/AJS3 Console View • Description of windows and dialog boxes
9	<i>Command Reference 1</i> (3021-3-326(E))	<ul style="list-style-type: none"> • Command syntax
10	<i>Command Reference 2</i> (3021-3-327(E))	<ul style="list-style-type: none"> • Syntax of commands used for setup and special operations • Syntax and coding examples of information definition files
11	<i>Linkage Guide</i> (3021-3-328(E))	<ul style="list-style-type: none"> • Description of functions that can be used when linked with other products and the setup method
12	<i>Messages 1</i> (3021-3-329(E))	<ul style="list-style-type: none"> • Messages output by JP1/AJS3 (messages beginning with KAJS to KAVT)
13	<i>Messages 2</i> (3021-3-330(E))	<ul style="list-style-type: none"> • Messages output by JP1/AJS3 (messages beginning with KAVU to KNAD)

Use the following illustration and table as a guide to determine the manuals you need to read.

Organization of JP1/AJS3 manuals



Purpose	Required reading	Read as necessary
To learn about JP1/AJS3's functionalities	<ul style="list-style-type: none"> • <i>Overview</i> (3021-3-318(E)) 	<ul style="list-style-type: none"> • <i>Linkage Guide</i> (3021-3-328(E))
To configure a system (including installation and setup) that automatically runs jobs	<ul style="list-style-type: none"> • <i>System Design (Configuration) Guide</i> (3021-3-319(E)) • <i>Configuration Guide 1</i> (3021-3-321(E)) 	<ul style="list-style-type: none"> • <i>Configuration Guide 2</i> (3021-3-322(E)) • <i>Linkage Guide</i> (3021-3-328(E))
To design work tasks that will be automated (including job definitions and schedule definitions)	<ul style="list-style-type: none"> • <i>System Design (Work Tasks) Guide</i> (3021-3-320(E)) 	<ul style="list-style-type: none"> • <i>Operator's Guide</i> (3021-3-325(E))
To learn about monitoring and maintaining a running system	<ul style="list-style-type: none"> • <i>Administration Guide</i> (3021-3-323(E)) 	<ul style="list-style-type: none"> • <i>Troubleshooting</i> (3021-3-324(E)) • <i>Messages 1</i> (3021-3-329(E)) • <i>Messages 2</i> (3021-3-330(E))
To learn about what action you need to take for problems that occur during operation	<ul style="list-style-type: none"> • <i>Troubleshooting</i> (3021-3-324(E)) 	<ul style="list-style-type: none"> • <i>Messages 1</i> (3021-3-329(E)) • <i>Messages 2</i>

Purpose	Required reading	Read as necessary
To learn about what action you need to take for problems that occur during operation	<ul style="list-style-type: none"> • <i>Troubleshooting</i> (3021-3-324(E)) 	(3021-3-330(E))
To learn about operating JP1/AJS3	<ul style="list-style-type: none"> • <i>Operator's Guide</i> (3021-3-325(E)) 	<ul style="list-style-type: none"> • <i>Command Reference 1</i> (3021-3-326(E)) • <i>Command Reference 2</i> (3021-3-327(E))

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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.

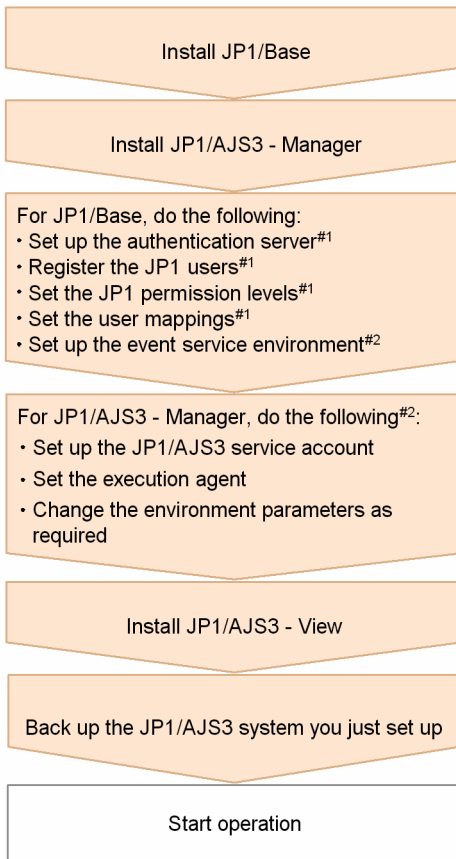
For details about JP1/AJS3 series programs and the prerequisites for setting up a JP1/AJS3 system, see *2.1 Checking the operating environment in the Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

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.

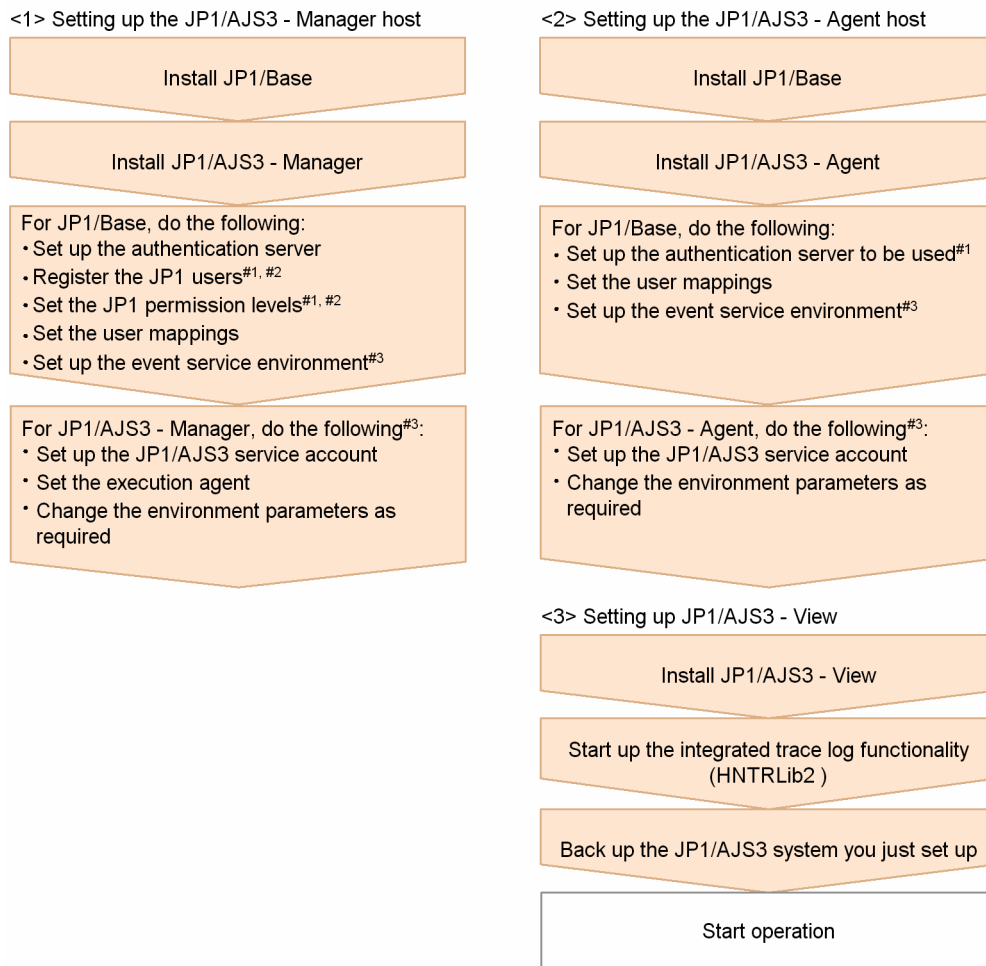
#2: Change settings as needed for your operating requirements.

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 note

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 does 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: `jp1admin`
- JP1 user's password: `jp1admin`
- 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 authentication server and JP1 user settings are 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 *Job Management Partner 1/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, and JP1/AJS3 - View).

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 *Job Management Partner 1/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 *F. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *H. Procedure for Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up*.

2.2.1 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.

(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:

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

For JP1/AJS3 - Agent:

- `JP1/AJS3-installation-folder\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/AJS3 - Manager or JP1/AJS3 - Agent is installed, the JP1/AJS2 service and the JP1/AJS2 Monitor service are deleted, and are combined as 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 *Job Management Partner 1/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) 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 Administrator's Guide Volume 1* (For Windows Systems) or *Job Management Partner 1/Software Distribution 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 Setup after upgrading from JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *Job Management Partner 1/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 Setup after upgrading from JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

2.2.2 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:

1. Log in as a member of the Administrators group 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.
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.

For JP1/AJS3 - Manager, you must also specify the JP1/AJS3 Console installation folder.

Note that when JP1/AJS3 - View is installed, the integrated trace log function (HNTRLlib2) is also installed in the *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** in the list box of the Windows **Services** administrative tool.

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.

#

For 64-bit versions of Windows, replace Program Files with Program Files (x86).

5. When installation has finished, restart the host.

If the OS is Windows Server 2003 or Windows XP Professional, restart the host.

If the OS is other than Windows Server 2003 or Windows XP Professional, restart the host when a restart is requested.

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 **Program** or **All Programs** from the Windows **Start** menu.

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 member of the Administrators group to the host on which you want to install a JP1/AJS3 series program.
2. Close all programs.
If existing JP1 series programs are running, make sure that you stop all of them. If the Windows Event Viewer window is open, close it.
3. Set the JP1/AJS3 series program installation media, and start installation.
If the OS is Windows Server 2003 or Windows XP Professional, a confirmation dialog box asking you whether an overwrite installation can be performed appears.
If the OS is other than Windows Server 2003 or Windows XP Professional, the overwrite or upgrade installation start window appears.
4. Perform installation.

If the OS is Windows Server 2003 or Windows XP Professional, respond to the confirmation dialog box to start installation.

If the OS is other than Windows Server 2003 or Windows XP Professional, perform the necessary installation operations as directed in the installer window.

Note that when JP1/AJS3 - View is installed, the integrated trace log function (HNTRLlib2) is also installed in the `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** service from the list box of the Windows **Services** administrative tool.

Note that when JP1/AJS3 - View is installed, the integrated trace log function (HNTRLlib2) is also installed in the `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** in the list box of the Windows **Services** administrative tool.

#

For 64-bit versions of Windows, replace Program Files with Program Files (x86).

Important note

- If you perform an upgrade installation from JP1/AJS2 - View 06-71 or earlier to JP1/AJS2 - View 07-00 or later, or to JP1/AJS3 - View, HNTRLlib2 will be installed but HNTRLlib will also remain. If no programs will use HNTRLlib, select and deactivate the **Hitachi Network Objectplaza Trace Monitor** service from the list box of the Windows **Services** administrative tool. Alternatively, delete the service by using the **Add/Remove Programs** tool in Windows Control Panel.
 - An upgrade installation updates the following files. If these files have been customized, 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\tool` folder[#]
 - For JP1/AJS3 - Manager, files with the `.model` extension in the `JP1/AJS3-Console-installation-folder\conf`
- #: If the version of JP1/AJS3 is 10-50 or later, the data collection tool `jajs_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 `jajs_log.bat` already exists, it is overwritten by the data collection tool. For this reason, if the file `jajs_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.

If the OS is Windows Server 2003 or Windows XP Professional, restart the host.

If the OS is other than Windows Server 2003 or Windows XP Professional, restart the host when a restart is requested.

Important note

- 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 Setup after upgrading from JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *Job Management Partner 1/ 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.

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.

In the procedures that follow, the node where the logical host normally operates is called the *primary node*, and the other node 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, JP1/AJS3 - View, JP1/AJS2 - Agent, or JP1/AJS2 - View:

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 note

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 note

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.
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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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\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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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\HITACHI\JP1AJS2\embdb\_JF1\dbarea" -mh LHOST  
-eh hostA -p 22221 -i "C:\Program Files\HITACHI\JP1AJS2\embdb\_JF1"  
-id _JF1
```

For details about the `ajsembdbbuild` command, see *ajsembdbbuild* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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\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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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\HITACHI\JP1AJS2\embdb\_JF1\dbarea"
```

```
-mh LHOST -eh hostA -p 22221  
-i "C:\Program Files\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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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)

This subsection describes how to upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager in a compatible ISAM configuration.

If multiple logical hosts have been set up, perform step 5 in the procedure for all of the logical hosts.

To upgrade JP1/AJS2 - Manager:

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 *Job Management Partner 1/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. Confirm that the shared disk and logical IP address are available to the primary node.

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

Also, use the `ping` or `jp1ping` command to confirm that the logical IP address is available. For details about the `jp1ping` command, see the *Job Management Partner 1/Base User's Guide*.

5. On the primary node, execute the `jajs_convert_to_spm` command to convert the startup process definition file for system management.

For example, execute the command as follows:

```
cd c:\Program Files\HITACHI\JP1AJS2\tools
jajs_convert_to_spm -h LHOST -c ISAM
```

Because the `jajs_convert_to_spm` command is a migration tool, it is located in the *JP1/AJS3-Manager-installation-folder\tools* folder.

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

For details about installing JP1/Base, see the *Job Management Partner 1/Base User's Guide*.

7. 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*.

8. 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

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 *F. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *H. Procedure for 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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/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 **Programs, 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 note

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).

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 note

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
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

Operation	JP1_AJS_Admin	JP1_AJS_Manager	JP1_AJS_Editor	JP1_AJS_Operator	JP1_AJS_Guest
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 2.9.2(4) *ADMACLIMIT* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 8.2.1 Unit owner permission in the manual Job Management Partner 1/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	--	--
Changing the description of an execution agent	Y	--	--

Operation	JP1_JPQ_Admin	JP1_JPQ_Operator	JP1_JPQ_User
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 belong to the Administrators group of the OS can perform all operations, regardless of the granted JP1 permission level.

Important note

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 note

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. Before you set up JP1/AJS3 - Manager, make sure that you have logged on as a member of the Administrators group.

Also 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	4.3
Procedure for restricting connections to JP1/AJS3	4.4
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
Other settings	6.6
Settings for logging	7
Setting up a cluster system	8
Setup for disaster recovery operations	9

(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 *Job Management Partner 1/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*.

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 *F. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *H. Procedure for 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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/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 note

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. Before you set up JP1/AJS3 - Agent, make sure that you have logged on as a member of the Administrators group.

After you have set up JP1/Base, make sure that JP1/AJS3 - Manager to which you want to connect JP1/AJS3 - Agent is operating normally before attempting 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	4.4
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 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)	6.3.17
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 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 *Job Management Partner 1/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 `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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*. For details on the `jbssetcnf` command, see the *Job Management Partner 1/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.

Before you start using JP1/AJS3 - View, start the integrated trace log function (HNTRLib2) by selecting **Hitachi Network Objectplaza Trace Monitor 2** in the Windows **Services** administrative tool, so that execution and error log data can be collected.

You need to manually start the integrated trace log function only when JP1/AJS3 - View is installed on a separate host from other JP1/AJS3 products, such as JP1/AJS3 - Manager and JP1/AJS3 - Agent. You do not need to start the function manually when JP1/AJS3 - Manager or JP1/AJS3 - Agent is also installed on the host.

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

3.4 Required setup for JP1/AJS3 Console

Before JP1/AJS3 Console can be used, JP1/AJS3 Console Manager, JP1/AJS3 Console Agent, and JP1/AJS3 Console View must be set up.

3.4.1 Setting up JP1/AJS3 Console Manager

Before JP1/AJS3 Console Manager can be used, JP1/AJS3 Console Manager must be set up on the host on which JP1/AJS3 - Manager has been installed.

You set up JP1/AJS3 Console Manager by executing `ajscmsetup.exe`, which is in the *JP1/AJS3-Console-installation-folder\bin* folder. Executing this command creates the JP1/AJS3 Console Manager service. For details about the `ajscmsetup` command, see *ajscmsetup (Windows only)* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

Supplementary note:

For details about how to start and terminate the JP1/AJS3 Console Manager service, see 7.1 *Starting or stopping JP1/AJS3 services* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

There is only one instance of the JP1/AJS3 Console Manager service on the machine for accepting connections to physical hosts and all logical hosts.

For details about changing the configuration definition of JP1/AJS3 Console Manager, see 2.8 *Setting up the JP1/AJS3 Console environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

3.4.2 Setting up JP1/AJS3 Console Agent

Before JP1/AJS3 Console Agent can be used, JP1/AJS3 Console Agent must be set up on the host on which JP1/AJS3 - Manager has been installed.

You set up JP1/AJS3 Console Agent by executing `ajscasetup.exe`, which is in the *JP1/AJS3-installation-folder\bin* folder. Executing this command creates the JP1/AJS3 Console Agent service. For details about the `ajscasetup` command, see *ajscasetup (Windows only)* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

Supplementary note:

For details about how to start and terminate the JP1/AJS3 Console Agent service, see 7.1 *Starting or stopping JP1/AJS3 services* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

There is only one instance of the JP1/AJS3 Console Agent service on the machine for accepting connections to physical hosts and all logical hosts.

For details about changing the configuration definition of JP1/AJS3 Console Agent, see 2.8 *Setting up the JP1/AJS3 Console environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

3.4.3 Setting up JP1/AJS3 Console View

Before JP1/AJS3 Console View can be used, JP1/AJS3 Console View must be set up on the host on which JP1/AJS3 - View has been installed. If you attempt to start JP1/AJS3 Console View before JP1/AJS3 Console View is set up, an error occurs.

You set up JP1/AJS3 Console View by executing `ajscvsetup.exe`, which is in the *JP1/AJS3-View-installation-folder\bin* folder. For details about the `ajscvsetup` command, see *ajscvsetup* in *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

When setup has been completed, **Application monitoring** is added to the **JP1_Automatic Job Management System 3 - View** program folder in the Windows **Start** menu as a menu item for starting JP1/AJS3 Console View.

Supplementary note:

If JP1/AJS3 Console View is set up after JP1/IM - View has been installed, **Application monitoring** is added to **Job system operation** under **Integrated management** in the tree area of the Tool Launcher window of JP1/IM - View. If you install JP1/IM - View after JP1/AJS3 Console View has been set up, re-execute the setup command after JP1/IM - View has been installed.

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
- JP1/AJS3 Console trace log file

(1) Extending the JP1/AJS3 trace log file

The initial settings for the JP1/AJS3 trace log file are as follows:

- File name

For Windows Server 2012 or Windows Server 2008, if the installation folder is in the default folder or 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) (for 64-bit Windows)

For Windows Server 2012 or Windows Server 2008 in which an installation folder other than the above is used:

```
JP1/AJS3-installation-folder\log\tracelog
```

For Windows Server 2003:

```
JP1/AJS3-installation-folder\log\tracelog
```

- Size

20 MB (20,480 KB), which is the size of a file in which trace log data about the execution of approximately 2,000 jobs can be saved

Because an adequate trace log file size differs considerably depending on the jobnet structure, number of connected JP1/AJS3 - View instances, and operations performed, the trace log file must be extended whenever necessary after an appropriate trace log file size has been estimated.

For details about how to estimate an appropriate trace log file size, see *3.4.2 Estimating the size of the trace log file* in the *Job Management Partner 1/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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(2) Extending the queueless trace log file

The initial settings for the queueless trace log file are as follows:

- File name

For Windows Server 2012 or Windows Server 2008, if the installation folder is in the default folder or a folder protected by the system:

```
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog.q1
```

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)` (for 64-bit Windows)

For Windows Server 2012 or Windows Server 2008 in which an installation folder other than the above is used:

```
JP1/AJS3-installation-folder\log\tracelog.q1
```

For Windows Server 2003:

```
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 *Job Management Partner 1/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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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

For Windows Server 2012 or Windows Server 2008, if the installation folder is in the default folder or a folder protected by the system:

```
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\ajsqlexeclog#1
```

```
%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\ajsqlexeclog_ftp#2
```

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)` (for 64-bit Windows)

For Windows Server 2012 or Windows Server 2008 in which an installation folder other than the above is used:

`JP1/AJS3-installation-folder\log\ajsqlxeclog#1`

`JP1/AJS3-installation-folder\log\ajsqlxeclog_ftp#2`

For Windows Server 2003:

`JP1/AJS3-installation-folder\log\ajsqlxeclog#1`

`JP1/AJS3-installation-folder\log\ajsqlxeclog_ftp#2`

#1:

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

`JP1/AJS3-installation-folder\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 *Job Management Partner 1/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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(4) Extending the JP1/AJS3 Console trace log file

Extension of the JP1/AJS3 Console trace log file must be set separately for JP1/AJS3 Console Manager and JP1/AJS3 Console Agent. The initial settings for the JP1/AJS3 Console trace log file are as follows:

- File name

For Windows Server 2012 or Windows Server 2008, if the installation folder is in the default folder or a folder protected by the system:

For JP1/AJS3 Console Manager:

`%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2CM\log\tracelog.cm`

For JP1/AJS3 Console Agent:

`%ALLUSERSPROFILE%\Hitachi\JP1\JP1_DEFAULT\JP1AJS2\log\tracelog.ca`

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) (for 64-bit Windows)

For Windows Server 2012 or Windows Server 2008 in which an installation folder other than the above is used:

For JP1/AJS3 Console Manager:

JP1/AJS3-Console-installation-folder\log\tracelog.cm

For JP1/AJS3 Console Agent:

JP1/AJS3-Manager-installation-folder\log\tracelog.ca

For Windows Server 2003:

For JP1/AJS3 Console Manager:

JP1/AJS3-Console-installation-folder\log\tracelog.cm

For JP1/AJS3 Console Agent:

JP1/AJS3-Manager-installation-folder\log\tracelog.ca

- Size

For JP1/AJS3 Console Manager: 3,072 KB

For JP1/AJS3 Console Agent: 3,072 KB

Because an adequate trace log file size differs considerably depending on the status of monitoring during operation and other factors, 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 trace log file size, see *3.4.2 Estimating the size of the trace log file* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

If the trace log file must be extended, use the `ajscmtrsetsz` or `ajscatrsetsz` command to resize the file. For details about these commands, see the appropriate manual below.

For JP1/AJS3 Console Manager:

`ajscmtrsetsz` in *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*

For JP1/AJS3 Console Agent:

`ajscatrsetsz` in *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*

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:

- *2.3.7(3) Notes on operation in a DNS environment* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*
- *2.3.5 Example of configurations that include a firewall, and their communications settings* in the *Job Management Partner 1/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 2012 and Windows Server 2008 R2 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 *Job Management Partner 1/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 *2.3.4 Example configurations with multiple LANs and their communications settings* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about the settings for ANY binding addresses, see the *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 2.2.2(4) *Backing up the unit definition* in the *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 2.3.3(8) *Recovering the unit definition* in the *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *2.2.2(4) Backing up the unit definition* in the *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

12. On the executing host, in Windows Control Panel, open the **Services** administrative tool, and start the following service:

- 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 *2.3.3(8) Recovering the unit definition* in the *Job Management Partner 1/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 3-4: 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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.

- 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</i> \conf \jplajs_dbmd.conf For a logical host: <i>shared-folder</i> \jplajs2\conf \jplajs_dbmd.conf	<i>JP1/AJS3-Manager-installation-folder</i> \conf \jplajs_dbmd.conf.model
JP1/AJS3 extended startup process definition file (database management)	For a physical host: <i>JP1/AJS3-Manager-installation-folder</i> \conf \jplajs_dbmd_0700.conf For a logical host: <i>shared-folder</i> \jplajs2\conf \jplajs_dbmd_0700.conf	<i>JP1/AJS3-Manager-installation-folder</i> \conf \jplajs_dbmd_0700.conf.model

- 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 such as difficulty in changing the created environment, you can use the embedded database in its status before the upgrade. In such cases, you can use JP1/AJS3 - Manager after an upgrade installation without making any changes. However, if you use the `ajsembdbinstl` command to install an embedded database or create or re-create a logical host, you need to perform the following.

(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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details about the embedded databases that are automatically created by JP1/AJS3, see 2.6.4 *Database settings that are set up in JP1/AJS3* in the *Job Management Partner 1/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 2.2.2(2) *Backing up the execution agent information* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide* and 2.2.2(4) *Backing up the unit definition* in the *Job Management Partner 1/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 and JP1/AJS3 Console Agent 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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-phsical-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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 2.3.3(7) *Recovering the execution agent information* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide* and 2.3.3(8) *Recovering the unit definition* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

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 `jpqagtadd`, `jpqqueadd`, 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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about each command, see 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 `ajsagtal` 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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1* and *ajsagtprint* in *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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)

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. For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

- `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. For details about the `jbssetcnf` command, see the *Job Management Partner 1/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 [E. 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 2. *Environment Setting Parameters* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 Δ -k Δ definition-key Δ "parameter-name-1"=value-1 Δ  
["parameter-name-2"=value-2] ...
```

Legend:

Δ : One-byte space

Example:

```
jajs_config -k [JP1_DEFAULT\JP1AJSMANAGER\AJROOT1] "LOGSIZE"=dword:  
00002800 "AJSLOG"="all"
```


3. Restart JP1/AJS3.

The changes in the common definition information are applied to JP1/AJS3.

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"

To specify the above settings, create a configuration file as follows:

```
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]
"LOGSIZE"=dword:00002800
"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.

4.3 Operation profile settings

This section describes the procedure for configuring operation profiles.

For details about how to change the operation profile settings, see *8.10 Changing an operation profile* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

Cautionary note:

The view permission for the account that starts the JP1/AJS3 service[#] needs to be set for the operation profiles so that unrelated users cannot edit or delete the operation profile.

#

The default is SYSTEM.

4.3.1 Procedure for setting up an execution agent profile

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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

To set up 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:

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`

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 such as Notepad to edit the file.

Specify the necessary settings in the execution agent profile.

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 from the list output by the `ajsagtshow` command
See *(1) Copying from the list output by the ajsagtshow command*.
- Copy from the results of a search in JP1/AJS3 - View
See *(2) Copying from the results of a search in JP1/AJS3 - View*.

For details about the execution agent profile, see *3.2.1 Execution agent profile* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(1) 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.

(2) 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.

4.3.2 Procedure for setting up a unit-attribute profile

In a unit-attribute profile, specify the upper-level unit-attribute inheritance function and the execution-user fixing function. 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 *Job Management Partner 1/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 *Job Management Partner 1/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:

Model file

```
JP1/AJS3-Manager-installation-folder\conf\ajsprof_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\jp1ajs2\conf
```

2. Rename the copy of the file to the predetermined name.

Rename the file to:

```
ajsprof_scheduler-service-name_unit.conf
```

3. Use a text editor such as Notepad to edit the file.

Specify the necessary settings in the unit-attribute profile.

For details about the unit-attribute profile, see *3.2.2 Unit-attribute profile* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

4.4 Settings for 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 *2.3.8 Restricting access to JP1/AJS3* in the *Job Management Partner 1/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 *8.11.1 Enabling and disabling restricting connection sources* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

4.4.1 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 such as Notepad to edit the file.
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 *4.4.2 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. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
 - JP1/AJS3 Queueless Agent service[#]

On the logical host, stop the JP1/AJS3 Queueless Agent service or detach the logical host.

#:

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.

6. Execute the following command to set the environment setting parameters described in *(2) Environment setting parameter* below:

```
jaajs_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 4-1: 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 2.9.2(5) CONNECTIONRESTRICTION in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 4-2: 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} \JP1AJS2COMMON]#	"CONRESTRICTLOG"=	Setting for whether connection restriction log data is to be output to the scheduler log
	"CONRESTRICTSYSLOG"=	Setting for whether connection restriction log data is to be output to the Windows event 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 these environment setting parameters, see the following:

- 2.2.2(20) CONRESTRICTLOG in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.2.2(21) CONRESTRICTSYSLOG in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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:

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\jp1ajs2\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 4-3: 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	<i>JP1/AJS3 - Manager-installation-folder\conf\permitted_host_manager.conf.model</i>	<i>JP1/AJS3 - Manager-installation-folder\conf\permitted_host_agent.conf.model</i>
JP1/AJS3 - Agent	--	<i>JP1/AJS3 - Agent-installation-folder\conf\permitted_host_agent.conf.model</i>

Legend:

-- : Not applicable

4.4.2 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.

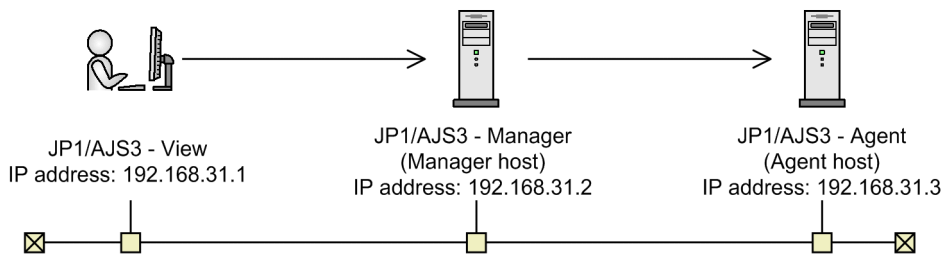
For details about IPv6 addresses, see *2.3.3 Communication using IPv6 addresses* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about how to specify IPv6 addresses, see *1.1.5 Specifying an IPv6 address* in the *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(4) An example of coding

Suppose that you enable restricting connection sources in the following environment.

Figure 4-1: 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#, or the `jaajs_pmtcon` command is executed with the `-u` option specified.

Applies only to the agent 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.

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 *Job Management Partner 1/Automatic Job Management System 3 Operator's Guide*. For the items that can be set in the dialog boxes that are displayed, see *15. Windows and Dialog Boxes* in the *Job Management Partner 1/Automatic Job Management System 3 Operator's Guide*.

To change the JP1/AJS3 - View environment settings:

1. From the Windows **Start** menu, choose **Programs, 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 *15.3.42 Preferences dialog box* in the *Job Management Partner 1/Automatic Job Management System 3 Operator's Guide*.

5.2 Procedure for changing the JP1/AJS3 Console View environment settings

This section describes how to change the JP1/AJS3 Console View environment settings.

For the JP1/AJS3 Console View environment settings that can be specified, see *14. Customizing JP1/AJS3 Console Screens* in the *Job Management Partner 1/Automatic Job Management System 3 Operator's Guide*. For the items that can be set in the dialog boxes that are displayed, see *16. JP1/AJS3 Console Screens* in the *Job Management Partner 1/Automatic Job Management System 3 Operator's Guide*.

1. From the Windows **Start** menu, choose **Programs, JP1_Automatic Job Management System 3 - View**, and then **Application monitoring**.

The Login screen appears.

2. After entering the JP1 user name and password, and the name of the JP1/AJS3 Console Manager host to which you want to connect, click the **OK** button.

The Main Scope window of JP1/AJS3 Console 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 Console View environment settings while you are using JP1/AJS3 Console View.

For details about when the new settings take effect, see *16.3.10 Preferences dialog box* in the *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *8.2.7 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 service:
 - JP1/AJS3 service

Important note

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}]
 |-S]
```

Example of adding a scheduler service named AJSROOT2:

```
jajs_setup -a -F AJSROOT2
-p jp1ajs2report2
-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
```

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *C. Advanced Setup of an Embedded Database*.

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 note

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.

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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

8. Stop the embedded database.

Stop the JP1/AJS3 Database `_JFn` service for the embedded database you started in Step 1.

9. 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) 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.

Important note

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 `jajs_setup` command to delete the scheduler service.

```
jajs_setup -e -F scheduler-service-name
```

Example of deleting the AJSROOT2 scheduler service:

```
jajs_setup -e -F AJSROOT2
```

For details about the `jajs_setup` command, see `jajs_setup` in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

3. 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

4. Stop the embedded database.

Stop the JP1/AJS3 Database `_JFn` services for all embedded databases.

5. 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details about the `jajs_setup_cluster` command, see *jajs_setup_cluster* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 `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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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
	"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. Start the JP1/AJS3 services.

8. 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
- AJSDBDIRECOTRY
- AJSLOGFILE1
- AJSLOGFILE2

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.

To change the AJSDBDIRECOTRY environment setting parameter, you need to set the suspend function again after changing the environment setting parameters.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details about the parameters, see 2.2 *Setting up the scheduler service environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 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 2.2.2(56) *HNTRLOGLEVEL* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 <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 2.2.2(79) *AJSPRINTNETSCHPRF* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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:

For Windows Server 2012 or Windows Server 2008, if the installation folder is in the default folder or 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) (for 64-bit Windows)

For Windows Server 2012 or Windows Server 2008 in which an installation folder other than the above is used:

```
JP1/AJS3-Manager-installation-folder\log\tracelog
```

For Windows Server 2003:

```
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 2.2.2(3) *TRACELOGFILE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.1.5 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. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

3. Restart the JP1/AJS3 service.

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 *Job Management Partner 1/Automatic Job Management System 3 Overview*.

6.1.6 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:

```
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"="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. 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:

```
jaajs_spmd -n jaajs_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:

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"="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:

```
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:

```
jajs_spmd -n jajs_schd -F scheduler-service
```

Example:

When the scheduler service is AJSROOT1, execute the command as follows:

```
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. 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"="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. 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
```

6.1.7 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 PREWAITTEXTEND 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"=value
```

3. Execute the following command to start the scheduler service:

```
jajs_spmd -n jajs_schd -F scheduler-service
```

(2) Environment setting parameter

Table 6-5: 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.
	"PREWAITTEXTEND"=	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:

- 2.2.2(95) PREWAITUSE in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

- 2.2.2(96) *PREWAITEXTEND* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

6.1.8 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 6–6: 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 2.2.2(102) *SAVEPLANINFO* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.1.9 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 6-7: 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 2.2.2(22) HIDEOTHERSERVICE in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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.

6.1.10 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 2.2.2(105) `SERVICEMAXSESSION` in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 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 2.2.2(105) `SERVICEMAXSESSION` in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 `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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details on the `jbssetcnf` command, see the *Job Management Partner 1/Base User's Guide*.

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, UNIX, 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 6-9: 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 6-10: 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 2.3.2(72) *variable-name* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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:

```
jaajs_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 6-11: 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 <i>logical-host</i> } \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:

- 2.3.2(73) *All Users* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(74) *JP1-user-name* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 6–12: 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]#	All execution agents	<ul style="list-style-type: none"> • PC job • Unix job • Action job
2	[{JP1_DEFAULT logical-host}\JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Agent]#	Execution agent for the scheduler service specified by the definition key	<ul style="list-style-type: none"> • PC job • Unix job • Action job

No.	Definition key	Object	Job type
3	[{JP1_DEFAULT logical-host} \JP1NBQMANAGER\Agent]#	All agents and default queue	• Submit 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.

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 6-13: 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} \JP1AJS2\MANAGER\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 and a compatible ISAM configuration [{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 and a compatible ISAM configuration

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:

- 2.3.2(30) *AutoCreateExecJobs* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(31) *AutoCreateMaxJobs* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(32) *AutoCreateWarnJobs* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(33) *AutoCreatePriority* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 and Unix jobs
Specify the same file name in both the **Standard output** and **Standard error** text boxes in the Define Details - [PC Job] dialog box or the Define Details - [UNIX Job] dialog box.

Cautionary notes:

- If you specify the same file name for both the **Standard output** and **Standard error** text boxes, make sure that the same option is also selected for their **Append** check boxes. 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:

```
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 6-14: 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:

- 2.3.2(65) *NotifyJobStateInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

- 2.3.2(66) *NotifyJobStateCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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 6-15: 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 	"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 and a compatible ISAM configuration <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 2.3.2(16) *ReceiveFileOption* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.2.7 Placing restrictions on file reception

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.

#:

No files are transferred when the job is a queue job, event job, or queueless job.

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 6–16: 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.

File type	Category	Value of the ReceiveFileSizeStatus environment setting parameter			
		0	1	2	3
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:

```
jaajs_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 6–17: 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 and a compatible ISAM configuration [{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:

- 2.3.2(14) *ReceiveFileSizeStatus* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(15) *LimitReceiveFileSize* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 6-18: 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: 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

- 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 6-19: End status and return code when the size of received transfer files exceeds the maximum

Actual job status	Category	Value of the <code>ReceiveFileSizeStatus</code> 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.

6.2.8 Changing the interval and number of retry attempts when a TCP/IP connection error occurs

As job execution control, TCP/IP is used to pass information between the processes for registering and delivering jobs, reporting and checking the job status, and checking the agent host status. 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 processing that registers or delivers a job, reports or checks the job status, or checks the agent host status, detection of the error might be delayed. 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.

For details about changing the settings for delivering jobs to agent hosts, checking the job status, and checking the agent host status on the manager side, see *2.6 Setting up the communication control environment in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 *Job Management Partner 1/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.

- In Windows Server 2003
The environment setting parameters (for communication control) listed in *Table 6-21* and *2.6 Setting up the communication control environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2* do not apply in the event of a communication error related to insufficient socket ports. Consequently, you cannot change the retry interval or the number of retry attempts for such an error. The system attempts 48 retries at 20-second intervals (a total of 960 seconds) to check whether socket ports have become available.
- In operating systems other than Windows Server 2003
The environment setting parameters (for communication control) listed in *Table 6-21* and *2.6 Setting up the communication control environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2* apply when a communication error related to insufficient socket ports occurs.

The following table lists the definition keys for which values are to be changed, and their purpose.

Table 6-20: Definition keys for which values are to be changed

Definition key	Purpose
<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 and a compatible ISAM configuration JP1NBQMANAGER\Network 	Reporting the job status
JP1NBQAGENT\Network	Reporting the job status
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 and a compatible ISAM configuration JP1NBQNOTIFY\Network 	Checking the job status on another system (such as JP1/NQSEXEC or JP1/OJE) and reporting the status

The following describes how to set the connection timeout value, retry interval, and number of retry attempts in job execution control.

Note that the procedure described below is not necessary if the queueless job execution facility is used.

(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

Table 6–21: Environment setting parameters for job execution control

No.	Definition key	Environment setting parameter	Explanation
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 attempted by the job execution control manager.
2	<ul style="list-style-type: none"> For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\ <i>scheduler-service</i> \QUEUE \MANAGER \Network]# 	"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the job execution control manager.
3	<ul style="list-style-type: none"> For submit jobs and a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQMANAGER\Network]# 	"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the job execution control manager.
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.
5		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the job execution control agent.
6		"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the job execution control agent.
7	[{JP1_DEFAULT <i>logical-host</i> } \JP1NBQCLIENT\Network]#	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection attempted by job execution commands and the scheduler.
8		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by job execution commands and the scheduler.
9		"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by job execution commands and the scheduler.
10	<ul style="list-style-type: none"> For all scheduler services 	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection

No.	Definition key	Environment setting parameter	Explanation
10	[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE \NOTIFY\Network]#	"ConnectTimeout"=	attempted by the process that reports the job execution control status.
11	<ul style="list-style-type: none"> For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service\QUEUE\NOTIFY \Network]# 	"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the process that reports the job execution control status.
12	<ul style="list-style-type: none"> For submit jobs and a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQNOTIFY\Network]# 	"CommunicateRetryInterval"=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the process that reports the job execution control 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 the following:

1. 2.3.2(24) *ConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
2. 2.3.2(25) *CommunicateRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
3. 2.3.2(26) *CommunicateRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
4. 2.3.2(67) *ConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
5. 2.3.2(68) *CommunicateRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
6. 2.3.2(69) *CommunicateRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
7. 2.3.2(75) *ConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
8. 2.3.2(76) *CommunicateRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
9. 2.3.2(77) *CommunicateRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
10. 2.3.2(82) *ConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
11. 2.3.2(83) *CommunicateRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
12. 2.3.2(84) *CommunicateRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

6.2.9 Setting the method for determining the agent host to which a job will be delivered

When a job (PC job, UNIX job, action job, or custom job other than a queueless 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.

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:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 6–22: 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\<i>scheduler-service</i>\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 2.3.2(34) *LeastRecentlyUsed* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 6-23: 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 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 2.9.2(3) *MACROCHANGEFAIL* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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. For details about macro variables, see 2.2.6 *Considerations regarding the use of macro variables* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For examples of defining macro variables in event jobs, 2.4.4(6) *Passing information received by an event job* in the *Job Management Partner 1/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:

- 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 6–24: 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> }\JP1NBQCLIENT\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 2.3.2(79) *MacroOptionReplaceMode* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 (a PC or Unix job other than a queueless job, or a queue, action, or custom job running on JP1/AJS3) 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.

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 6–25: 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\ <i>scheduler-service</i> \QUEUE\MANAGER\Job]# For submit jobs and a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQMANAGER\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:

- 2.3.2(17) *QueuingJobRecoveryTime* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(18) *ExecutingJobRecoveryTime* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

6.2.13 Outputting a message that reports that the maximum number of concurrently executable jobs has been reached

If the number of jobs (Unix jobs, PC jobs, action jobs, and custom jobs other than queueless jobs) that are being executed concurrently on an agent host has reached the maximum, the succeeding jobs might remain queued, delaying their execution.

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
(agent-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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 (CUREXCHGNUM).

For details about the `jpgagtshow` command, see *jpgagtshow* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

2. In the settings for queues (including the default queue), the job exit is closed.

Use the `jpgqqueshow` command to check the job exit status (EXITSTATUS).

For details about the `jpgqqueshow` command, see *jpgqqueshow* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 `jpgresshow` command to check for jobs whose status is EXECUTING.

For details about the `jpgresshow` command, see *jpgresshow* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/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 6–26: 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 <i>logical-host</i> } \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 <i>logical-host</i> } \JP1AJSMANAGER\ <i>scheduler-service</i> \QUEUE\MANAGER\Job]# For submit jobs and a compatible ISAM configuration [{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:

- 2.3.2(19) *MaximumExecJobLogOption* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(20) *MaximumExecJobLogInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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 (j p q xxx)

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 `jpgendjobshow` command, which lists information about terminated jobs.
For details about the `jpgendjobshow` command, see *jpgendjobshow* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.
- Many jobs are listed by the `jpgjobshow` command, which lists information about jobs that have not terminated yet.
For details about the `jpgjobshow` command, see *jpgjobshow* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 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 `jpgxxx` 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 6-27: 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 2.3.2(78) *CommunicateTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 `jpqj obsub` 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 6–28: Environment setting parameter used to execute a job under a long file name

Definition key	Environment setting parameter	Explanation
<code>[{JP1_DEFAULT logical-host} \JP1NBQAGENT\Job]#</code>	<code>"IsExecFindExecutable"=</code>	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 2.3.2(38) *IsExecFindExecutable* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(3) How to specify executable file names

- If you specify an executable file name whose extension is .exe, .bat, .cmd, .com, or .pif, use an absolute path name that includes a drive name (A: to Z:).
- 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 jpqjbsub 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 jpqjbsub command when the executable file name is C:\Program Files\test.exe.

```
jqjbsub -ah logical-host -sc "\"C:\Program Files\test.exe\""
```

- You cannot specify any arguments after an executable file name.

(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, .com, or .pif 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 note

If you want to disable this setting, you must restart the OS after changing the parameter value.

(2) Environment setting parameter

Table 6-29: 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 [2.3.2\(39\) LoadUserProfile](#) in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 *Job Management Partner 1/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 6-30: 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 *2.3.2(40) IsAccessTokenCache* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 *Job Management Partner 1/Base User's Guide*.

- 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 *Job Management Partner 1/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. Use the following method to set the environment setting parameters described in (2) below:

- For environment setting parameters in the definition key [`{JP1_DEFAULT|logical-host}\JP1NBQAGENT\Job`]:

Execute the following command:

```
jajs_config -k definition-key "parameter-name"=value
```

- For environment setting parameters in the definition key [`JP1_DEFAULT\JP1QLAGENT`]:

In a text editor such as Notepad, create a configuration file that defines the environment setting parameters, and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameters

Table 6-31: Environment setting parameters used to enable execution of an executable file with an extension longer than three bytes

Definition key	Environment setting parameter	Explanation
<code>{JP1_DEFAULT logical-host}\JP1NBQAGENT\Job</code> #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.
<code>JP1_DEFAULT\JP1QLAGENT</code> #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:

- 2.3.2(42) `ENABLE_LONG_EXT` in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(13) `ENABLE_LONG_EXT` in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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:

In Windows Server 2012 or Windows Server 2008:

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.

In Windows Server 2003 or earlier:

1. In Windows Control Panel, double-click **Folder Options**. In the displayed dialog box, click the **File Types** tab.
2. After selecting the extension that you want to set, click the **Advanced** button to open the Edit File Type dialog box. Then, in the **Actions** list box, select **Open**, and register the application that you want to associate with the extension.
3. Restart the OS.

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, action jobs, custom jobs, queue jobs executed on the Windows version of JP1/AJS3, and submit jobs executed by the `jpqjobs` 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"=value
```

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameters

Table 6–32: Environment setting parameters used to retry acquisition of an access token when a job is executed

Definition key	Environment setting parameter	Explanation
[{ JP1_DEFAULT <i>logical-host</i> } \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:

- 2.3.2(70) *LogonUserRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(71) *LogonUserRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 and Unix jobs that are not queueless jobs, and queue, action, and custom jobs executed on JP1/AJS3).

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 6-33: 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	"ExecutingJobChangeStatus"=	Specifies that all running jobs are placed in an end status when a communication error occurs.

Definition key	Environment setting parameter	Explanation
<pre>[{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER \QUEUE\MANAGER\Job]#</pre> <ul style="list-style-type: none"> For a specific scheduler service <pre>[{JP1_DEFAULT logical-host} \JP1AJSMANAGER \scheduler-service\QUEUE\MANAGER\Job]#</pre> For submit jobs and a compatible ISAM configuration <pre>[{JP1_DEFAULT logical-host} \JP1NBQMANAGER\Job]#</pre> 	"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 2.3.2(23) *ExecutingJobChangeStatus* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 jpqj obsub 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 jpqj obsub 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 jpqj obsub command.

The following table describes the relationship between the presence of lower-case alphabetic characters and the environment variables that take effect.

Table 6-34: 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	<pre>Aa=www AB=yyy</pre>	<pre>AA=xxx AB=zzz</pre>	<pre>AA=xxx AB=yyy</pre>
Example when there are no lower-case alphabetic characters	<pre>AA=www AB=yyy</pre>	<pre>AA=xxx AB=zzz</pre>	<pre>AA=www AB=yyy</pre>

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. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-35: 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 2.3.2(86) *MergeEnvMode* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 `jpqjobsub` 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 6-36: 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 or	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 or	OS user who is the same as the service account's OS user	N	Y

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
Queueless Agent specified	OS user who is a member of the Administrator group	User other than the built-in Administrator or	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 notes:

- 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.

- This setting has no effect in Windows Server 2003.

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

- 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.

- 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.

- In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.

4. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

5. 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 6–37: 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
[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:

- 2.3.2(87) *UACAdministratorsExec* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(17) *UACAdministratorsExec* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(3) Note

The `UACAdministratorsExec` parameter setting has no effect in Windows Server 2003.

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 *Job Management Partner 1/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 6-38: 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 2.2.2(104) RERUNSUBORDINATE in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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. Use the following method to set the environment setting parameters described in (2) below:

- For environment setting parameters in the definition key [{JP1_DEFAULT | *logical-host-name* } \JP1NBQAGENT\Job]:

Execute the following command:

```
jaajs_config -k definition-key "parameter-name"=value
```

- For environment setting parameters in the definition key [JP1_DEFAULT\JP1QLAGENT]:

In a text editor such as Notepad, create a configuration file that defines the environment setting parameters, and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the jbssetcnf command is *JP1/Base-installation-folder\bin\jbssetcnf*. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

3. Restart the services that you stopped in step 1.

The new settings are applied.

(2) Environment setting parameters

Table 6-39: The environment setting parameter for operation settings when the transfer of job result files fail

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \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
[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:

- 2.3.2(90) *IgnoreResultFileError* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(20) *IgnoreResultFileError* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 7.8.1 *Notes on the standard output file and standard error output file* in the *Job Management Partner 1/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 2.4.10 *Automatic retry for abnormally ending jobs* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

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 6–40: 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 2.3.2(81) *PassingInfoUsePreRc* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 a warning or end abnormally. If you do not want the passing information setting job to end with a 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, action job, custom job, QUEUE job executed in JP1/AJS3, submit job, or passing information setting job, and does not mean an 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 *Job Management Partner 1/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:

```
jaajs_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 6-41: 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 *2.3.2(91) PreventResultFileLack* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(3) Notes

The following notes apply when the `PreventResultFileLock` 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.

6.3 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details on the `jbssetcnf` command, see the *Job Management Partner 1/Base User's Guide*.

6.3.1 Changing the settings related to the size of the log for event jobs to match operational requirements

This subsection describes how to change the settings related to the size of the log for 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* in the *Job Management Partner 1/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.

(1) Definition procedure

(a) For a standard configuration

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* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

3. Restart JP1/AJS3.
The new settings are applied.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameters.

For the environment setting parameters to be set, see 3.4.3 *Estimating the size of the log information output by event jobs* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

6.3.2 Setting the event order option

When an 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 this option must be set on all agent hosts on which event jobs will be executed.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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

- JP1/AJS3 service

2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. 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 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 2.4.2(21) *EventSequential* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 *Job Management Partner 1/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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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

- JP1/AJS3 service

2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-43: 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 2.4.2(18) *FilewatchinfContinue* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.4 Passing event data containing double quotation marks

Data containing double quotation marks (") can be passed as is to an event job. For details, see 4.3.7(4) *Passing event data containing double quotation marks* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The option that enables the passing of data containing double quotation marks (") as is to an event job is set by executing the `jajs_config` command.

The following describes how to set the option that enables the passing of data containing double quotation marks (").

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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

- JP1/AJS3 service

2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is *JP1/Base-installation-folder\bin\jbssetcnf*. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–44: Environment setting parameter used to enable passing of data containing double quotation marks to an event job

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 compatible ISAM configuration [{JP1_DEFAULT logical-host} \JP1AOMMANAGER]#	"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 2.4.2(4) *MacVarDQuotation* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.5 Using fully qualified domain names (FQDN) when using event jobs during DNS operation

This subsection describes how to specify the settings for using domain names in FQDN format when using 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 are used. Standard, action, and custom jobs are already supported.

If you want to change environment settings during operation, see 8.9.5 *Changing to FQDN host names for event jobs in a DNS environment* in the *Job Management Partner 1/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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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

- JP1/AJS3 service

2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-45: Environment setting parameter used to enable the use of fully qualified domain names (FQDN) when 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]# • For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]# 	"DNSEstablish"=	Specifies whether to enable the use of domain names in FQDN format when 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 2.4.2(5) *DNSEstablish* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.6 Resuming event jobs that stopped when the JP1/AJS3 service stopped

For event jobs, JP1/AJS3 provides an option that enables 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 9.2.1 *Continuing the execution of event jobs if the JP1/AJS3 service stops* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is *JP1/Base-installation-folder*\bin\jbssetcnf. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.
The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–46: Environment setting parameter used to enable 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]# For a compatible ISAM configuration [{ JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]# 	"EvJobExecContinue"=	Specifies whether to enable the execution of stopped 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 2.4.2(7) *EvJobExecContinue* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.7 Retrying startup notification of the event/action control agent

When an 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 (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 (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 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 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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 or a jobnet with start conditions executed from another manager as well as the detection of events.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.
The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-47: 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 2.4.2(22) *RetryAgtStartNotification* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.8 Setting the agent host name resolution option

Resolution of agent host names might fail on the manager host if, for example, the host names are not correctly set in the `hosts` file or DNS. If an attempt is made to start or stop the JP1/AJS3 service on the manager host or an agent host when agent host names cannot be resolved, the following problems could occur:

- The status of an event job registered for execution takes a long time to change to *Now running*.
- Detection of an event monitored by an event job or start conditions is delayed.
- The status of an event job or a jobnet with start conditions takes a long time to change when, for example, the job or jobnet is forcibly terminated.
- The JP1/AJS3 service on the manager takes a long time to stop.
- The JP1/AJS3 service on the manager takes a long time to start.

You can prevent these problems from occurring by setting the agent host name resolution option.

Note that you do not need to enable this option in an environment in which all agent host names can be resolved.

This option is effective only for a compatible ISAM configuration.

The following describes how to enable the option.

(1) Definition procedure

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is *JPI/Base-installation-folder\bin\jbssetcnf*. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.
The new settings are applied.

(2) Environment setting parameter

Table 6–48: Environment setting parameter used to enable the agent host name resolution option

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AOMMANAGER]#	"_AgentStartStopResolveMode"=	Specifies whether to enable the agent host name resolution option.

#:
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 2.4.2(2) *_AgentStartStopResolveMode* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.9 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 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-49: 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 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 2.4.2(28) *RecvTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.10 Setting the period of time for monitoring event jobs in the blocked status

An 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 changes.

If 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 or jobnets with start conditions.

To prevent an accumulation of information, JP1/AJS3 checks for 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 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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

- JP1/AJS3 service

2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-50: Environment setting parameter used to set the period of time for monitoring 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]# • For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]# 	"BlockadeTimeoutInterval"=	Specifies the period of time for monitoring 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 2.4.2(8) *BlockadeTimeoutInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.11 Setting the binding method applied to the outgoing communication used in the execution of 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 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, 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 already 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. Note that the procedure must be performed on the manager host and all agent hosts on which event jobs will be executed.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-51: 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]# For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]# 	"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 2.4.2(12) *ClientBindFlag* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.12 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 [6.3.14 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 [6.3.15 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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

- JP1/AJS3 service

2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JPI/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6–52: 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]# For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]# 	"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 2.4.2(9) *NotificationConstantRetry* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.13 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 is satisfied, including 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 [6.3.12 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.
The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-53: 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 [{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]# For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]# 	"NotificationRetryInterval" "="	Interval for retrying the sending of unreported information
Communication from the agent host to the manager host: [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#	"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:

- 2.4.2(10) *NotificationRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.4.2(11) *NotificationRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

For details about defining the environment setting parameters for communication from the agent host to the manager host, see the following:

- 2.4.2(24) *NotificationRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.4.2(25) *NotificationRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

6.3.14 Setting the connection timeout for communication between the event/action control manager and agent

When an 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 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 6-54: 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:

- 2.6.2(1) *ClientConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

For details about defining the environment setting parameters for the event/action control agent, see the following:

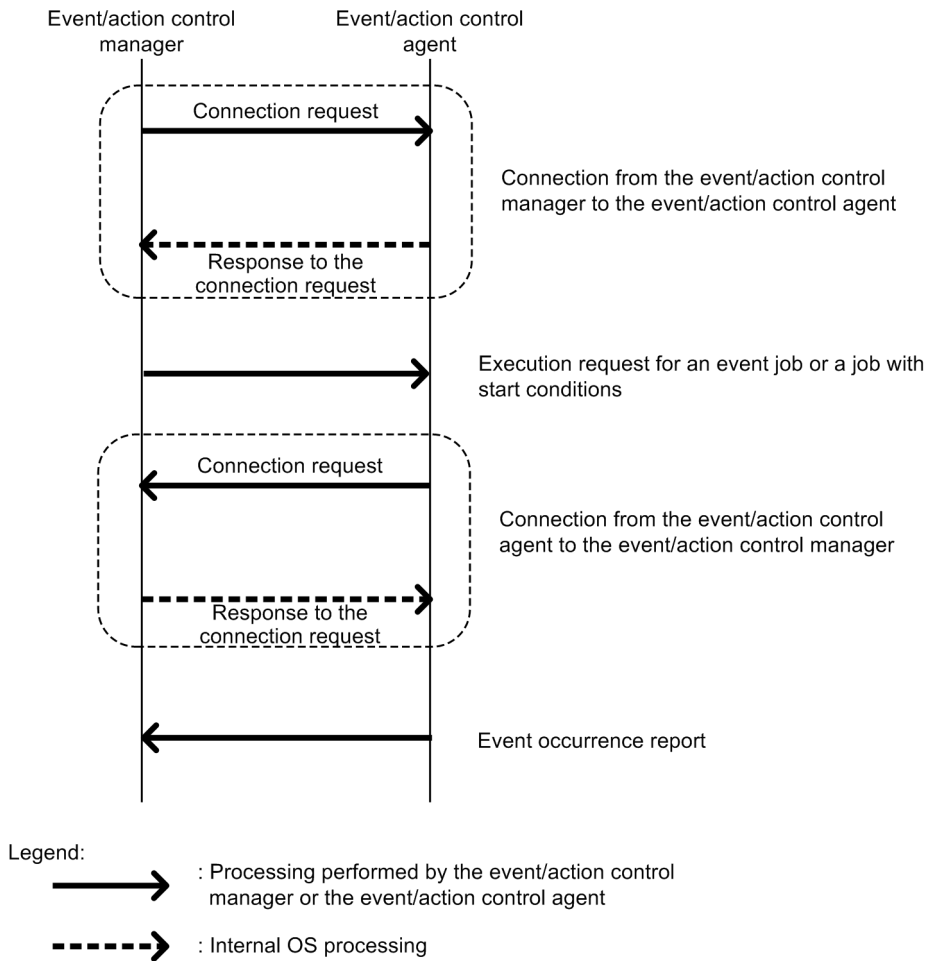
- 2.4.2(23) *ClientConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

6.3.15 Environment setting parameters related to communication for event/action control

When an 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 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 or a jobnet with start conditions is executed.

Figure 6-1: Communication when an 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 6–55: Environment setting parameters related to communication retries for event/action control.

Definition key	Environment setting parameter	Explanation
<p>For the manager host:</p> <pre>[{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service \NETWORK\EVMANAGER]#</pre> <p>For the agent host:</p> <pre>[{JP1_DEFAULT logical-host} \JP1AOMAGENT]#</pre>	"ClientConnectTimeout"=	Connection timeout period
<ul style="list-style-type: none"> For all scheduler services <pre>[{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\EV\MANAGER]#</pre> For a specific scheduler service <pre>[{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\EV \MANAGER]#</pre> For a compatible ISAM configuration <pre>[{JP1_DEFAULT logical-host} \JP1AOMMANAGER]#</pre> 	"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 <pre>[{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\EV \MANAGER]#</pre> For a specific scheduler service <pre>[{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\EV \MANAGER]#</pre> For a compatible ISAM configuration <pre>[{JP1_DEFAULT logical-host} \JP1AOMMANAGER]#</pre> <p>For the agent host:</p> <pre>[{JP1_DEFAULT logical-host} \JP1AOMAGENT]#</pre>	"NotificationRetryInterval"=	Interval for retrying to send unreported information
	"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.

The following describes the relationship between the environment setting parameters, and provides examples of setting these parameters.

(1) About ClientConnectTimeout

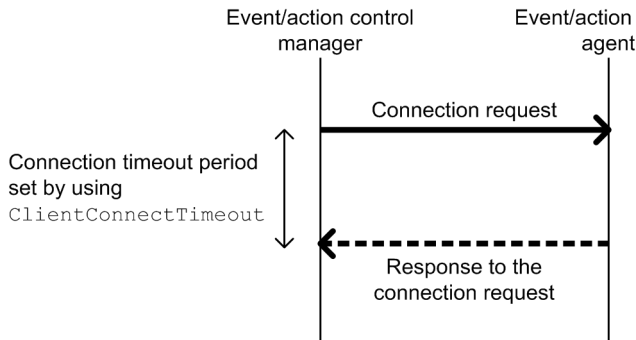
When the event/action control manager sends a connection request to the event/action control agent, or when the event/action control agent sends a connection request to the event/action control manager, the sender waits for a response. If no response is returned within a predefined time, the wait times 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.

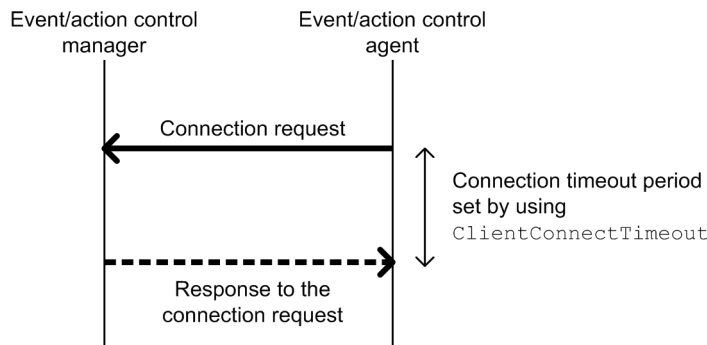
The following figure shows the connection timeout period set by using the `ClientConnectTimeout` environment setting parameter.

Figure 6-2: 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.

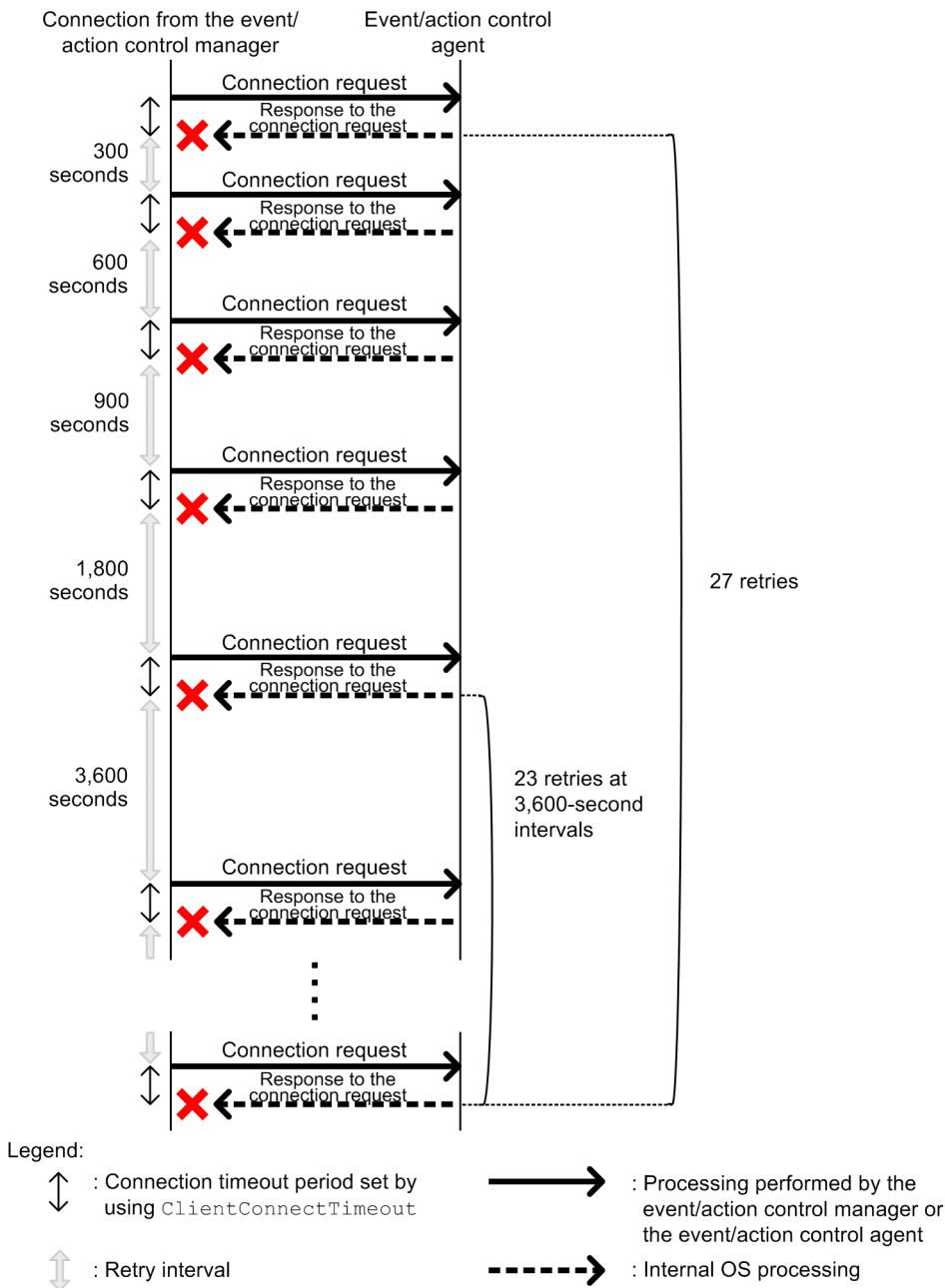
However, if no response has been sent from a connection request for a long time because of a network device failure or similar reason, the time that elapses before the timeout also increases. Accordingly, the time during which neither an execution registration or kill request for an event job or jobnet 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 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

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 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. Specifically, each retry is performed at successive intervals of 300 seconds, 600 seconds, 900 seconds, 1,800 seconds, and 3,600 seconds (3,600 seconds is the interval thereafter), until a total of 27 retries (over 24 hours) have been performed.

The following figure shows the communication between the event/action control manager and the event/action control agent when a connection timeout occurs.

Figure 6-3: Communication between the event/action control manager and 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 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*.

(3) About NotificationRetryInterval and NotificationRetryCount

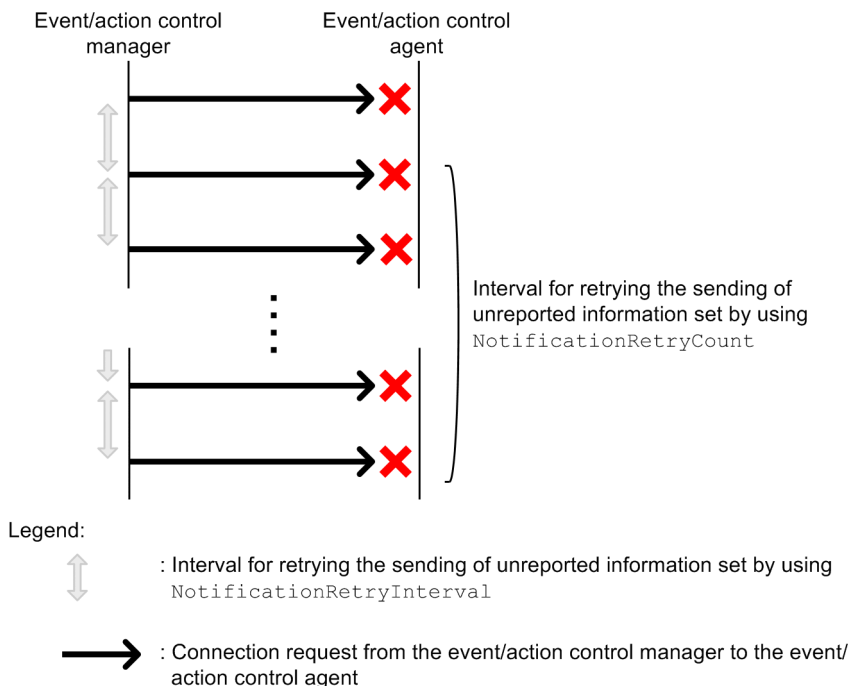
In addition to a connection timeout, a communication error might also be caused by the following problems:

- 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 6-4: 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) 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 6–56: Guidelines for environment setting parameter settings

		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 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

		Environment setting parameters requiring adjustment				Cautionary note
		"ClientConnectTimeout" (in milliseconds)	"NotificationConstantRetry"	"NotificationRetryInterval" (in seconds)	"NotificationRetryCount"	
Most important consideration	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	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 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.

For details about the definition of each environment setting parameter, see the following documentation:

- *2.4.2(9) NotificationConstantRetry* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- *2.6.2(1) ClientConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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:

- *2.4.2(10) NotificationRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- *2.4.2(11) NotificationRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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:

- *2.4.2(24) NotificationRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

- *2.4.2(25) NotificationRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

6.3.16 Settings for ensuring that a fixed manager host name is used when event jobs are executed

When an 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 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 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 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 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 or 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 or 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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.
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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3 in cold-start mode.
The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-57: 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]#• For a compatible ISAM configuration [{JP1_DEFAULT logical-host}\JP1AOMMANAGER]#	"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 2.4.2(6) *FixedHostnameForAgent* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.17 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 and judging a large file by using a judgment job.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.
The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-58: 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 2.9.2(1) *LARGEFILEUSE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.18 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

1. In Windows Control Panel, open the **Services** administrative tool, and stop the following service:
 - JP1/AJS3 service
2. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 6-59: 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 2.4.2(26) *EventServerName* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6.3.19 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 nor 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 and event jobs that are currently running.
3. Execute the following command to stop all scheduler services with which event jobs were executed:

```
jaajs_spmd_stop [-h logical-host] -n jaajs_schd [-F scheduler-service]
```

4. Execute the following command for each of the agent hosts on which 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:

```
jaajs_config -k [{JP1_DEFAULT|logical-host}\JP1AOMMANAGER]  
"ResolveAgentInfo"=value  
jaajs_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:

```
jaajs_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 6-60: 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]	"ResolveAgentInfo"=	Option for changing the agent host information used for name resolution

Definition key	Environment setting parameter	Explanation
<pre>[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\EV\MANAGER] For the agent host: [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]</pre>	"ResolveAgentInfo"=	Option for changing the agent host information used for name resolution

For details about the definition of this environment setting parameter, see 2.4.2(13) *ResolveAgentInfo* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 `jbssetcnf` command.

For details about the `jbssetcnf` command, see the *Job Management Partner 1/Base User's Guide*.

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. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
The configuration file can be given any name.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart the service that you stopped in step 1.
The new settings are applied.

(2) Environment setting parameters

Table 6-61: 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:

- 2.7.2(32) *AJSQL_CJOBMAX* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(33) *AJSQL_CJOBWAITMAX* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(3) Definition example

- Definition in **Exec-agent** for a job

```
agent1!class1
```

- Class definition on the job execution host (agent1)

```
[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. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
The configuration file can be given any name.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `JP1/Base-installation-folder\bin\jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart the service that you stopped in step 1.
The new settings are applied.

(2) Environment setting parameter

Table 6-62: 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 2.7.2(28) *AJSQL_LOADUSERPROFILE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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. In a text editor such as Notepad, create a configuration file that defines the environment setting parameter described in (2) below.
The configuration file can be given any name.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the *jbssetcnf* command is *JP1/Base-installation-folder\bin\jbssetcnf*. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart the service that you stopped in step 1.
The new settings are applied.

(2) Environment setting parameter

Table 6-63: 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 2.7.2(14)

AJSQL_CREATEWINDOWSTATION in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 6-64: 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. 2.5.2(1) *AJSCHK_CHECKFILE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
2. 2.5.2(2) *AJSCHK_LOGDIR* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
3. 2.5.2(3) *AJSCHK_LOGSIZE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
4. 2.5.2(4) *AJSCHK_TRACELOGFILE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
5. 2.5.2(5) *AJSCHK_CHARCODE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

6.6 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

6.6.1 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 *Job Management Partner 1/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 Server 2012 or Windows Server 2008, 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.

6.6.2 Disabling file system redirection when jobs are executed in a WOW64 environment

The information in this subsection applies when you are using JP1/AJS3 for x86 in the WOW64 environment of Windows Server 2003 x64 Editions, and you want to execute PC jobs, Windows queue jobs, or the `jp1exec` command. To do this, you can temporarily disable file system redirection so that you can start 64-bit applications under `%systemroot%\system32`.

The procedure for disabling redirection is described below. Use this procedure on the host on which the jobs will be executed.

For details, see *9.5.1 Notes when using JP1/AJS3 for x86 in a WOW64 environment* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

Cautionary note:

In Windows Server 2012 and the 64-bit version of Windows Server 2008, file system redirection is not disabled if this setting is specified.

If you want to use a 64-bit application under `%systemroot%\system32` in the Windows Server 2012 and 64-bit version of Windows Server 2008, make sure that you access the executable file in `%systemroot%\sysnative` instead of `%systemroot%\system32`.

Example:

Before the setting is changed: `%systemroot%\system32\executable-file`

After the setting is changed: `%systemroot%\sysnative\executable-file`

(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
- When **Queueless Agent** is specified for **Exec. Service** of the job
JP1/AJS3 Queueless Agent service

Note:

In a cluster system, check the cluster settings, and also stop the JP1/AJS3 service on each logical host.

2. Use the following method to set the environment setting parameters described in (2) below:

- For environment setting parameters in the definition key `[{JP1_DEFAULT | logical-host-name} \JP1NBQAGENT\Job]`:

Execute the following command:

```
jaajs_config -k definition-key "parameter-name"=value
```

- For environment setting parameters in the definition key `[JP1_DEFAULT\JP1QLAGENT]`:

In a text editor such as Notepad, create a configuration file that defines the environment setting parameters, and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is *JP1/Base-installation-folder\bin\jbssetcnf*. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6-65: Environment setting parameters used to disable file system redirection when jobs are executed in a WOW64 environment

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Job]#1	"DISABLE_FS_REDIRECTION"=	This parameter applies when Standard is specified for Exec. Service of the job. The parameter disables file system redirection when jobs are executed in a WOW64 environment.
[JP1_DEFAULT\JP1QLAGENT]#2	"DISABLE_FS_REDIRECTION"=	This parameter applies when Queueless Agent is specified for Exec. Service of the job. The parameter disables file system redirection when jobs are executed in a WOW64 environment.

#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:

- 2.3.2(41) *DISABLE_FS_REDIRECTION* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(12) *DISABLE_FS_REDIRECTION* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(3) Note

The setting that disables file system redirection when jobs are executed in a WOW64 environment is valid only Windows Server 2003 x64 Editions Service Pack 1 or later.

If you set the `DISABLE_FS_REDIRECTION` option in an operating system other than Windows Server 2003 x64 Editions Service Pack 1 or later, one or the other of the following messages is output to the integrated trace log. In addition, startup of the JP1/AJS2 service and the JP1/AJS2 Queueless Agent service fails. Accordingly, do not set the `DISABLE_FS_REDIRECTION` option in an operating system other than Windows Server 2003 x64 Editions Service Pack 1 or later.

- When **Standard** is specified for **Exec. Service** of the job

```
KAVU3549-E A system call (GetProcAddress(Wow64DisableWow64FsRedirection))
error occurred in a job execution. (127)
```

- When **Queueless Agent** is specified for **Exec. Service** of the job

```
KAVS1829-E A system call (GetProcAddress(Wow64DisableWow64FsRedirection))
error occurred in the Queueless Agent Service: xxxxxxxx 127.
```

If you specify redirection, one or the other of the following messages is output to the integrated trace log, and the status of the jobs changes to *Failed to start*.

- (a) When **Standard** is specified for **Exec. Service** of the job

```
KAVU3549-E A system call (Wow64DisableWow64FsRedirection) error occurred in
a job execution. (0x00000001)
```

- (b) When **Queueless Agent** is specified for **Exec. Service** of the job

```
KAVS0904-E Unexpected error occurred in JP1/AJS2.: xxxxxxxx 1
```

6.6.3 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 `jp1ajs_hstd.conf` file in the service configuration file storage folder.

- If you updated the `jp1ajs_hstd.conf` file during configuration of a queueless job execution environment or during configuration of scheduler status monitoring:

Back up the `jp1ajs_hstd.conf` file, and then delete the following line from the `jp1ajs_hstd.conf` file:

```
submitqueue|jppqman.exe|||1800|
```

- For any other cases:

Back up the `jp1ajs_hstd.conf` file, and then delete it. Next, copy the `jp1ajs_hstd.conf.isamless.model` file, and then rename the copy to `jp1ajs_hstd.conf`. In addition, assign read permissions to the JP1/AJS3 service account.

To return the database configuration to the standard configuration, overwrite the `jp1ajs_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\jp1ajs2\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 *Job Management Partner 1/ Automatic Job Management System 3 Overview*.

6.6.4 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:

```
jajs_config -k definition-key "parameter-name"=value
```

3. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameters

Table 6-66: The environment setting parameter for permitting changing JP1 user passwords in JP1/AJS3 - View

Definition key	Environment setting parameter	Explanation
[{ JP1_DEFAULT logical-host } \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:

- 2.2.2(23) *CHANGEPASSWORD* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.2.2(24) *CHANGEPWDLOG* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/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, and JP1/AJS3 - View 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.

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.

Important note

If you are using JP1/AJS3 Console, there are two cases where you do not need to specify the settings for using a data collection tool in JP1/AJS3 Console Agent, or where JP1/AJS3 Console View is not necessary. One case is if you are using the data collection tool of JP1/AJS3 - Manager or JP1/AJS3 - View (*jajs_log.bat*), and the other case is if you specified the environment settings for the data collection tool (*_04.bat*).

If you have not set up the environment for a data collection tool (*_04.bat*), use the following procedure.

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_HNTRLlib=%PROGRAMFILES_DIR%\hitachi\HNTRLlib
2	HNTRLlib2 installation folder	@set INST_DIR_HNTRLlib2=%PROGRAMFILES_DIR%\hitachi\HNTRLlib2
3	JP1/AJS3 database storage folder ^{#1}	@set INST_DIR_DATABASE=%INST_DIR_MANAGER%\hitachi\JP1AJS2\database
4	JP1/AJS3 Console Manager data folder	@set LOG_DIR_AJS2CONSOLE_DATABASE=%INST_DIR_AJS2CONSOLE%\database
5	Folder for storing JP1/AJS3 temporary files	@set LOG_DIR_AJSPDDIR=%INST_DIR_MANAGER%\tmp\schedule
6	JP1/AJS3 job error information folder	@set LOG_DIR_JOBINF=%INST_DIR_MANAGER%\jobinf
7	Log file path for the Dr. Watson Diagnostic Tool ^{#2}	@set LOG_DIR_DRWTSN=%ALLUSERSPROFILE%\Documents\DrWatson
8	Memory dump file path ^{#2}	@set LOG_DIR_USERDUMP=%systemroot%*.dmp
9	Crash dump file path ^{#2}	@set LOG_DIR_WTSNDUMP=%LOG_DIR_DRWTSN%*.dmp
10	Folder in which data collected by the data collection tool will be saved ^{#3}	@set DIR_BACKLOG=%TEMP%\jplajs2\backlog
11	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 ^{#4, #5} 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:

This data is not collected in Windows 8.1, Windows 8, Windows Server 2012, Windows 7, Windows Server 2008 or Windows Vista.

#3:

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 (").

#4:

For details about the log file storage folders initially specified in the data collection tool, see *1.2.4 List of log files and directories* in the manual *Job Management Partner 1/Automatic Job Management System 3 Troubleshooting* and the list of files or folders in the appendix of the *Job Management Partner 1/Base User's Guide*.

#5:

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	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 log file 1	AJSLOGFILE1
	Scheduler log file 2	AJSLOGFILE2
	Job error information directory	JOBINFDIR
	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_FTPTPATH
	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
JP1/AJS3 Console	Data directory path	DATADIRECTORY
	Trace log file	TRACELOGFILE

7.1.2 Notes on the data collection tool (_04.bat)

- The following table summarizes the differences between the data collection tool (_04.bat) in JP1/AJS2 07-10 and later versions, and the data collection tool (_04.bat) in JP1/AJS2 versions earlier than 07-10.

Table 7-3: Differences in the data collection tool (_04.bat) versions

Functionality	Version 07-10 or later	Version earlier than 07-10
Collection of the following types of data: <ul style="list-style-type: none"> Windows registry information Windows event log data Computer configuration information List of programs for which services have started 	Data is collected.	Data is not collected.

Functionality	Version 07-10 or later	Version earlier than 07-10
<ul style="list-style-type: none"> • File list information for the database folder • JP1/Base file list information • Information required for core analysis 	Data is collected.	Data is not collected.
Specification of the logical host	The logical host name is specified when the data collection tool (<code>_04.bat</code>) is executed.	The folder for storing data is set for each logical host in the environment settings of the data collection tool (<code>_04.bat</code>).
Isolation of initial investigation files	Initial investigation files are stored in a special directory.	The files required for initial investigation are output to separate locations.
Collection of log data while the JP1/AJS3 service is running	Collection is possible if the <code>-s</code> option is specified when the data collection tool (<code>_04.bat</code>) is executed.	Collection is not possible.

2. If you have customized the data collection tool (`_04.bat`) of a JP1/AJS2 version earlier than 07-10 so that the tool (`_04.bat`) also collects non-standard data items, the customization is lost when the JP1/AJS2 version is upgraded to 07-10 or later.
3. 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_AJS2CONSOLE=%REG_KEYNAME%\JP1AJS2CM
@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_AJS2CONSOLE=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2CM
@set REG_NAME_WOA=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2WOA
@set REG_NAME_DA=HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1AJS2DA
```

7.1.3 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 *Job Management Partner 1/Automatic Job Management System 3 Troubleshooting*.

(1) In Windows Vista or later

If the OS is Windows 8.1, Windows 8, Windows Server 2012, Windows 7, Windows Server 2008, Windows Server 2008 R2, or Windows Vista, use the following procedure to specify the settings for outputting dump files.

Setting for outputting a memory dump:

1. In Control Panel, click **System**.
The System dialog box opens.
2. Click **Advanced**.

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.

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.

Setting for outputting a user-mode process dump:

In JP1/AJS3 - View and JP1/AJS3 Console View, specify the settings for outputting user mode process dumps. For details about the setting method, see the JP1/AJS3 - View *Release Notes*.

(2) In Windows Server 2003 or Windows XP Professional

If the OS is Windows Server 2003 or Windows XP Professional, use the following procedure to specify the settings for outputting dump files.

Setting for outputting a memory dump:

1. In Control Panel, double-click **System**.

The System Properties dialog box opens.

2. On the **Advanced** page, in **Start and Recovery**, click the **Settings** button.

The Startup and Recovery dialog box opens.

3. 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 notes:

- 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.
- If you change the destination file `%systemroot%\file-name (*.dmp)`, change the setting for *Memory dump file path* in [Table 7-1](#) to allow the data collection tool to collect the memory dump.

Setting for outputting a crash dump:

1. From the Windows **Start** menu, choose **Run**.
The Run dialog box appears.
2. In the text box, enter `drwtsn32`, and then click the **OK** button.
The Dr. Watson dialog box appears.
3. Select the **Create Crash Dump File** check box, and then specify the output file in **Crash Dump**.
4. Specify **Full** for **Crash Dump Type**.
5. Click the **OK** button.

Cautionary notes:

- Because the information output in a crash dump includes not only the JP1 information, but also problem information for other application programs, a large amount of disk space might be required. Therefore, if you set that a crash dump is to be output, ensure that there is sufficient free space on the disk.
- If you change the destination file `%ALLUSERSPROFILE%\Documents\DrWatson\file-name` (* .dmp), change the setting for *Crash dump file path* in [Table 7-1](#) to allow the data collection tool to collect the crash dump.

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 *11.1 Overview of cluster systems* in the *Job Management Partner 1/ 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 note

Do not install JP1/AJS3 on a shared disk.

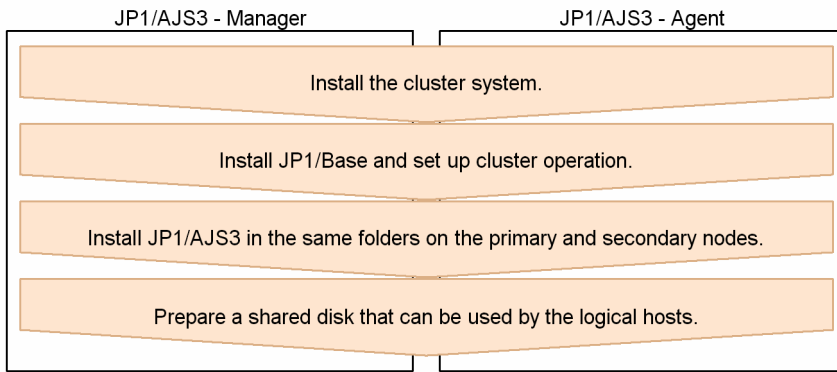
8.1.2 Setup required for cluster system operation

This subsection describes the procedure for setting up a Windows host when you are constructing a system that uses JP1/AJS3 for cluster operation.

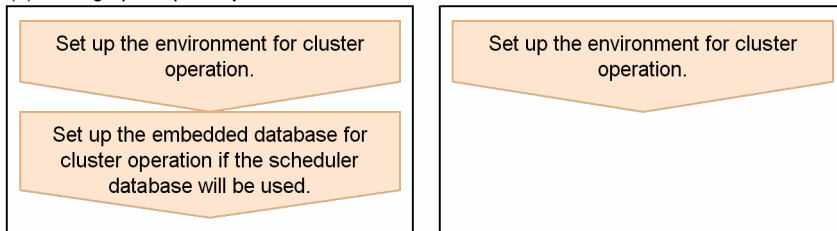
The following figure shows the setup procedure for enabling cluster operation.

Figure 8-1: Setup procedure for enabling cluster operation

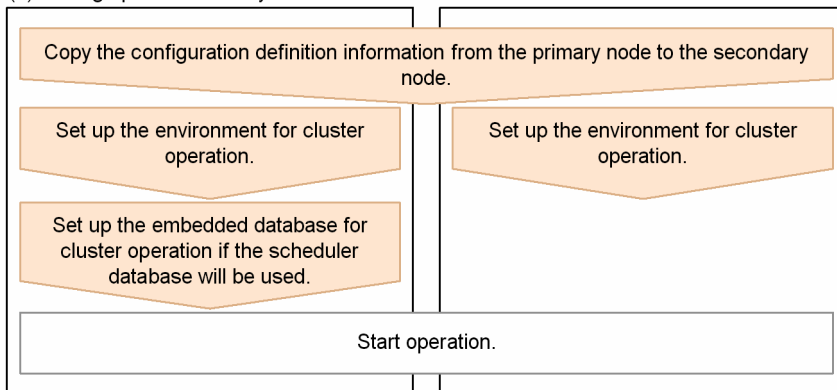
(1) Preparing to set up a cluster system in JP1/AJS3



(2) Setting up the primary node



(3) Setting up the secondary node



Ensure that the locations of JP1 series programs installed on the primary node and the locations of those programs installed on secondary nodes are the same. For details about the setup of the JP1/Base and JP1/AJS3 series programs shown in the figure, see 3. *Setup*. For details about the setup of a cluster system, see the documentation for the cluster system being used.

The following describes the items that must be set to implement cluster operation. For details about the commands mentioned here, see 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1* and 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

Before you set up a cluster system for JP1/AJS3, set up a cluster system for JP1/Base.

In addition, if implementing cluster operation, verify compatibility with the cluster software to be used before starting setup and operation.

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.

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 [8.2.2 Procedure for setting up the environment for a cluster system](#).

(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. These folders are automatically created under the shared folder specified in the `-d` option when the `jajs_setup_cluster` command is executed.

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
Environment settings file	<i>shared-folder-name</i> \jplajs2\conf
Job execution environment file	<i>shared-folder-name</i> \jplajs2\database
Job information file	<i>shared-folder-name</i> \jplajs2\jobinf
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
Backup file	<i>shared-folder-name</i> \jplajs2\backup
JP1/AJS3 Console Manager data file	<i>shared-folder-name</i> \jplajs2cm\database ^{#1}
Embedded database data area file	<i>shared-folder-name</i> \jplajs2\embdb ^{#2}

#1:

This folder is not automatically created when the `jajs_setup_cluster` command is executed. Manually create the folder when using JP1/AJS3 Console Manager in a cluster system.

#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

Information created in the shared folders	Folder name
Work file	<i>shared-folder-name\jplajs2\tmp</i>

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\jplajs2cm\database
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 the environment for a cluster system*, 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 *Job Management Partner 1/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

Use the following names to register services corresponding to the logical hosts:

Display name: `JP1/AJS3_<logical-host-name>`

Service name: JP1_AJS2_logical-host-name

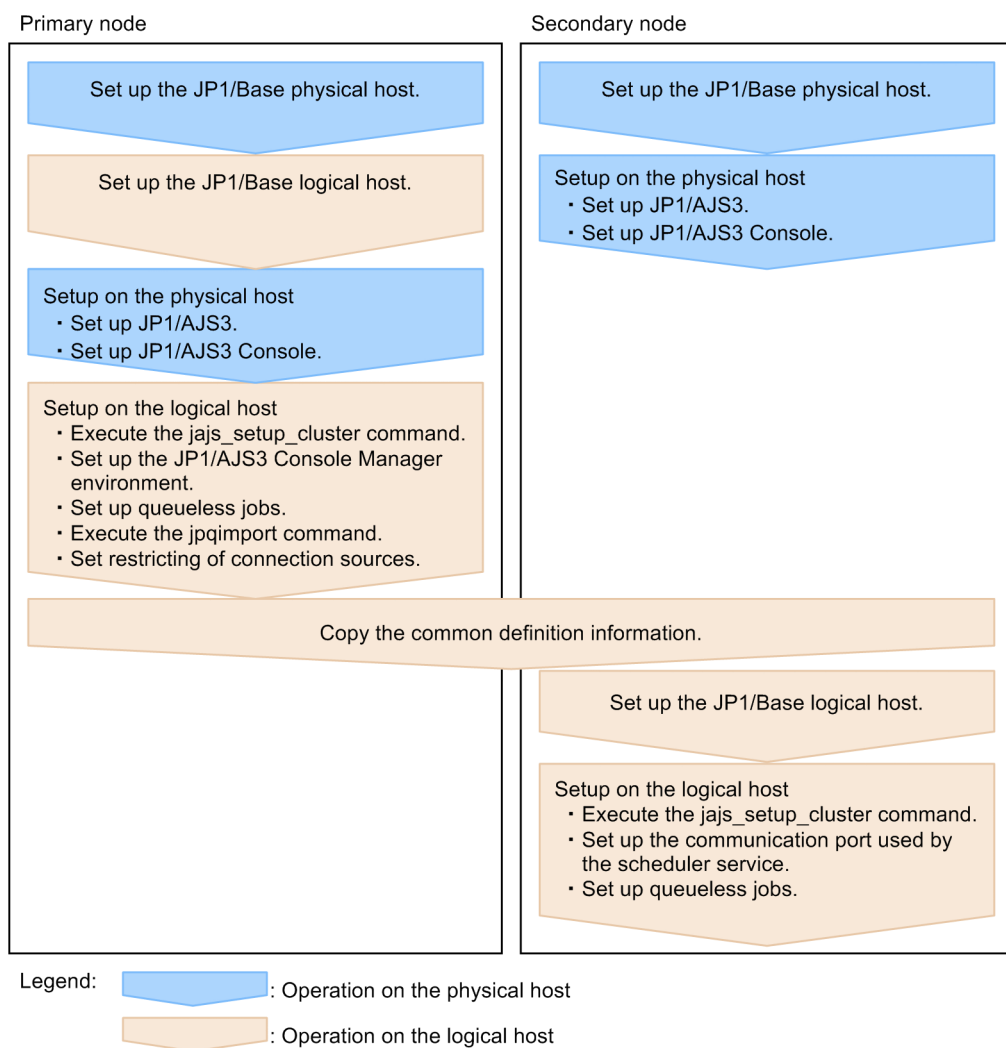
8.2.2 Procedure for setting up the environment for a cluster system

Use commands to define the items described in *8.2.1 Environment setup items for a cluster system*. Do this on both the primary and secondary nodes.

This subsection describes the tasks related to the environment setting commands that must be performed on both the primary and secondary nodes. Stop all the JP1 services and then set up the environment in JP1/AJS3 - Manager or JP1/AJS3 - Agent.

The following figure provides an overview of setting up the environment.

Figure 8-2: Overview of setting up the environment



(1) Tasks required on the primary node (JP1/AJS3 - Manager)

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 *Job Management Partner 1/Base User's Guide*.

If you activate both the physical and logical hosts concurrently, make sure that the IP address of the physical host is set as the `jp1hosts` or `jp1hosts2` information on both hosts. 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 *Job Management Partner 1/Base User's Guide*.

2. To use JP1/AJS3 Console, set up the physical host.

To use JP1/AJS3 Console Manager and JP1/AJS3 Console Agent, execute the following commands:

```
JP1/AJS3-Console-installation-folder\bin\ajscmsetup.exe
```

```
JP1/AJS3-installation-folder\bin\ajscasetup.exe
```

You do not have to execute the above commands if the physical host has been set up. However, make sure that the start method for the JP1/AJS3 Console service is set to **Automatic**.

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}] |
-S
}
```

For details about the `jaajs_setup_cluster` command, see `jaajs_setup_cluster` in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

- 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-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\jp1ajs2\embdb\value-specified-for-the-I-option\dbarea*
- Work area directory: *JP1/AJS3-installation-folder\embdb\value-specified-for-the-I-option\dbarea*
- Embedded database practical directory: *JP1/AJS3-installation-folder\embdb\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 `-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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 [D. Advanced Setup for the Embedded Database \(in a Cluster Configuration\)](#).

6. Specify the JP1/AJS3 Console Manager environment settings.

If JP1/AJS3 Console Manager is being used, the JP1/AJS3 Console Manager environment must be set up for a cluster system.

Note that you do not need to set up the JP1/AJS3 Console Agent environment for a cluster system because setup is performed during setup of the JP1/AJS3 Manager environment for cluster operation.

Execute the following command to set the `DATADIRECTORY` environment setting parameter to the path to the data directory on the logical host:

```
jaqs_config -k [logical-host-name\JP1AJS2CONSOLEMANAGER]
"DATADIRECTORY"="path-to-the-data-directory-on-the-logical-host"
```

For example, if the logical host name is `node0` and the logical host shared folder is `e:\shdisk\node0`, the command you execute is as follows:

```
jaqs_config -k [node0\JP1AJS2CONSOLEMANAGER] "DATADIRECTORY"="e:\shdisk
\node0\jp1ajs2cm\database"
```

7. To use queueless jobs, perform the necessary setup, as described below.

Execute the following command:

```
ajsqsetup -h logical-host-name -F scheduler-service-name
```

For details about the `ajsqlsetup` command, see *ajsqlsetup* in *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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.

8. 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 *4.4 Settings for restricting connections to JP1/AJS3*.

9. 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.

10. 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.

11. 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 *6.3.18 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 `jajs_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 *8.2.7(1) Adding scheduler services on a logical host*.
- When the `jajs_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 (JP1/AJS3 - Manager)

To set up a cluster system environment for JP1/AJS3 - Manager on the secondary node:

1. To use JP1/AJS3 Console, set up the physical host.

To use JP1/AJS3 Console Manager and JP1/AJS3 Console Agent, execute the following commands:

```
JP1/AJS3-Console-installation-folder\bin\ajscmsetup.exe  
JP1/AJS3-installation-folder\bin\ajscasetup.exe
```

You do not have to execute the above commands if the physical host has been set up. However, make sure that the start method for the JP1/AJS3 Console service is set to **Automatic**.

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 *Job Management Partner 1/Base User's Guide*.

If you want to activate both the physical and logical hosts, make sure that the IP address of the physical host is set as the `jplhosts` or `jplhosts2` 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]  
-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 `jajs_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 `jajs_setup_cluster` command, on the standby host, create the following directories specified when the `ajsembdbinst1` 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 *D. 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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *8.2.7(1) Adding scheduler services on a logical host*.

(3) Tasks required on the primary node (JP1/AJS3 - Agent)

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 *Job Management Partner 1/Base User's Guide*.

If you activate both the physical and logical hosts concurrently, make sure that the IP address of the physical host is set as the `jplhosts` or `jplhosts2` information on both hosts. Note that you might also need to set the `jplhosts` or `jplhosts2` 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 `jplhosts` or `jplhosts2` information in the *Job Management Partner 1/Base User's Guide*.

2. 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.
3. 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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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.

4. 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 [4.4 Settings for restricting connections to JP1/AJS3](#).

5. 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 [6.3.18 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.

(4) Tasks required on the secondary node (JP1/AJS3 - Agent)

To set up a cluster system environment for JP1/AJS3 - Agent on the secondary node:

1. 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
```

2. Perform the JP1/Base tasks required on the secondary node.

For details about the JP1/Base tasks, see the *Job Management Partner 1/Base User's Guide*.

If you want to activate both the physical and logical hosts, make sure that the IP address of the physical host is set as the `jp1hosts` or `jp1hosts2` information on the physical host.

3. 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.

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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

This completes the tasks required on the secondary node.

Cautionary note:

Setup must be performed on each logical host.

8.2.3 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:
 - jppregguestuser
 - jppreguser
- When JP1/AJS3 is set up by using any of the following JP1/AJS3 commands:
 - jajs_setup
 - jajs_config
 - jajs_setup_cluster
 - ajsembdbsetup
 - ajscasetup
 - ajscmsetup
- 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.)

8.2.4 Registering the JP1/AJS3 service in the cluster software

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 *2.2 Setting up the scheduler service environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

Cautionary notes:

- If you use JP1/AJS3 Console, you do not need to register the JP1/AJS3 Console service in the cluster software.

- If you use queueless jobs, see [8.2.5 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.

8.2.5 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 [2.2.2 Installing a JPI/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 the environment for a cluster system](#).

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 [2.2.2 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 [3. Commands Used for Special Operation](#) in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 the environment for a cluster system](#).

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 [3. Commands Used for Special Operation](#) in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 `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_ql.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.

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 *2.7 Setting up the queueless job execution environment in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.
- 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 *2.7 Setting up the queueless job execution environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

- 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.

8.2.6 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.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/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 JP1/AJS3 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
jbsunsetcnf -i -h logical-host-name -c JP1AJS2CONSOLEMANAGER
```

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.

Stop all JP1/AJS3 services on the physical host and all logical hosts.

2. Delete the logical hosts for JP1/Base.

For details about how to delete the logical hosts, see the *Job Management Partner 1/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 JP1/AJS3 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 8-3: 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 *2.3 Setting up the job execution environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

8.2.7 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 note

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}]
 |-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
```

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *D. Advanced Setup for the Embedded Database (in a Cluster Configuration)*.

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 note

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 `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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For example, if the setup identifier is `_JF3` and the embedded database settings file is placed in `C:\tmp\ajsembddb_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\ajsembddb_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 note

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.

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. Stop the JP1/AJS3 services.

Stop all the JP1/AJS3 services on the physical and logical hosts.

Important note

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 note

Do not delete the logical host shared folder specified in the `-D` option.

4. Stop the embedded databases.

Stop the JP1/AJS3 Database `_JFn` services for all embedded databases.

5. 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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 `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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 8-4: 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. Start the JP1/AJS3 services.

8. 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

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.

To change the AJSDBDIRECTORY environment setting parameter, you need to use the `ajssetup` command to set the suspend function again after changing the environment setting parameter. Execute this command on either the primary node or the secondary node that can access the shared disk.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details about the parameters, see 2.2 *Setting up the scheduler service environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

8.3 Notes on cluster operation

For notes that apply during cluster operation, see *11.6 Cautionary notes on using a cluster system* in the *Job Management Partner 1/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.

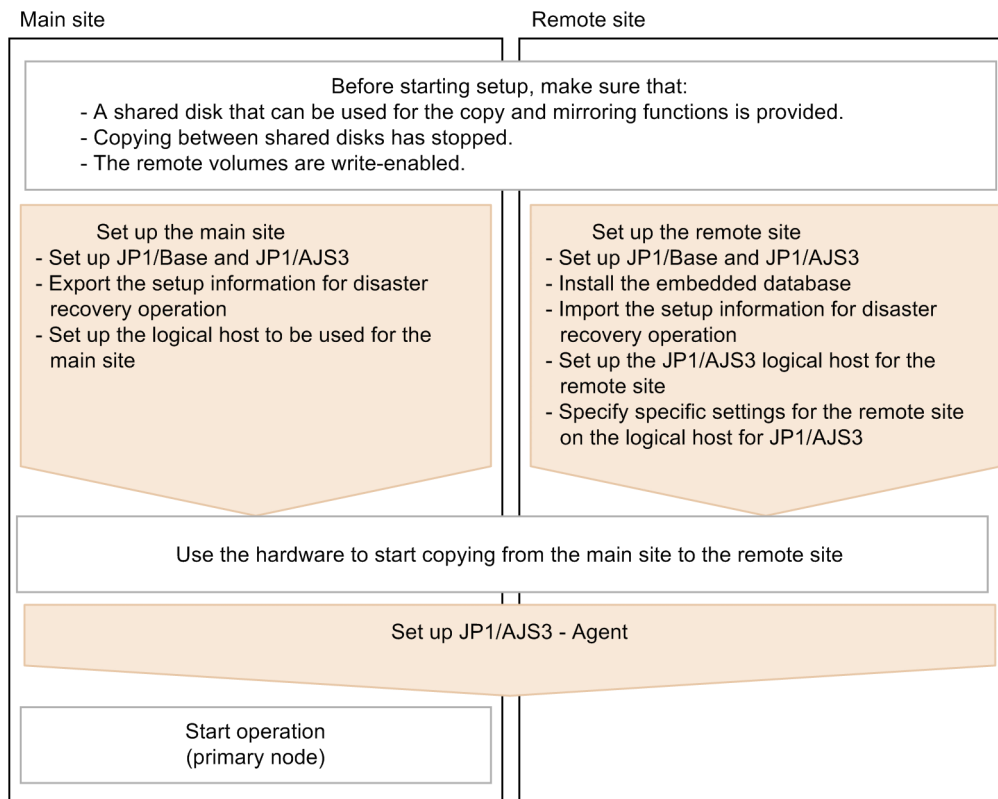
The setup procedure varies depending on whether you use the same names for the main-site and remote-site logical hosts.

For an overview of disaster recovery operation, see *12.1 Disaster recovery in JP1/AJS3* in the *Job Management Partner 1/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:

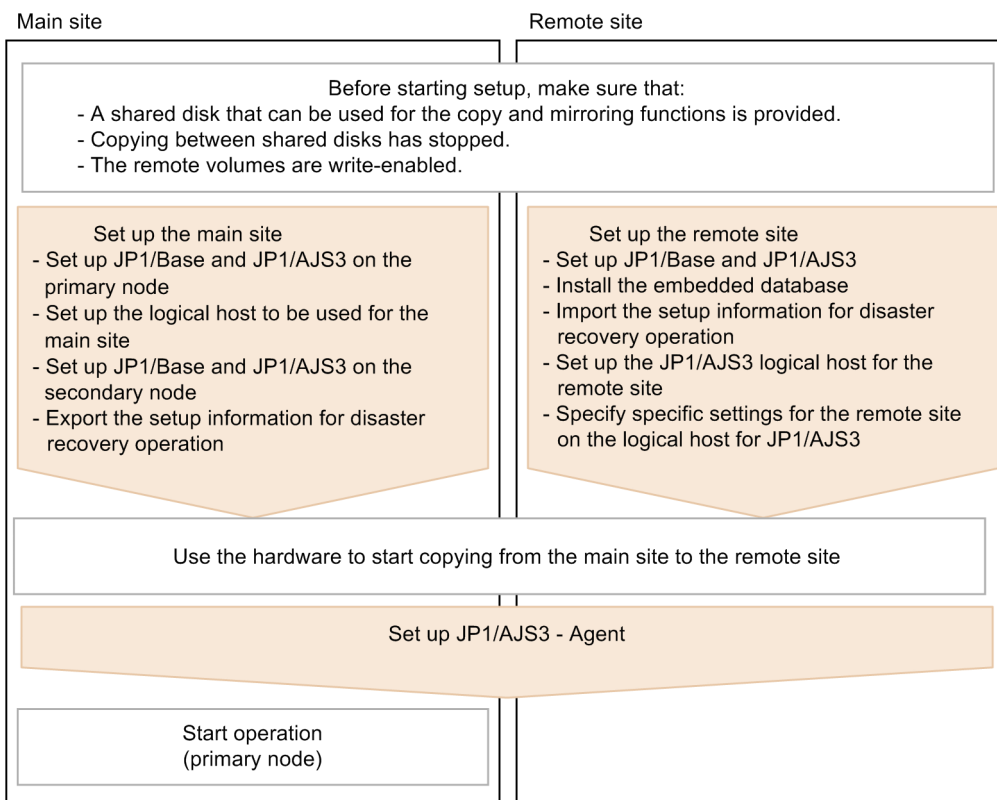
- To set up the main site:
9.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts
- To set up the remote site:
9.2.3 Setting up the remote site

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

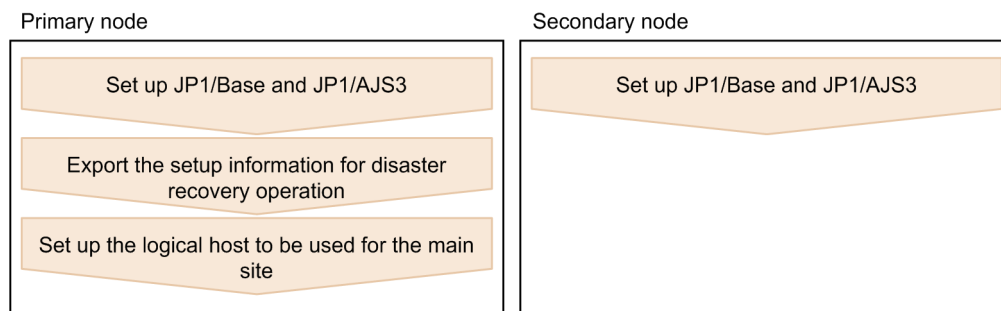
This subsection describes the procedure for setting up the main site when using different names for the main-site and remote-site logical hosts.

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 note

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 `jqimport` 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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 4.4 *Settings for 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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

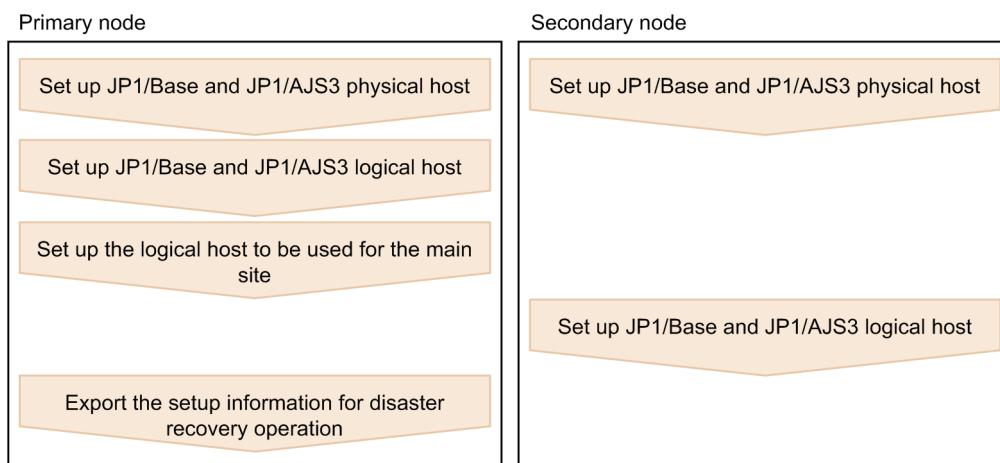
This subsection describes the procedure for setting up the main site when using the same name for the main-site and remote-site logical hosts.

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:
`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 [12.3.2 Changing the settings of a disaster recovery environment](#) in the *Job Management Partner 1/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 \(JP1/AJS3 - Manager\)](#).

Important note

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 [4.4 Settings for 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 \(JP1/AJS3 - Manager\)](#).

6. On the primary node, export the disaster recovery operation setup information.

Execute the following command:

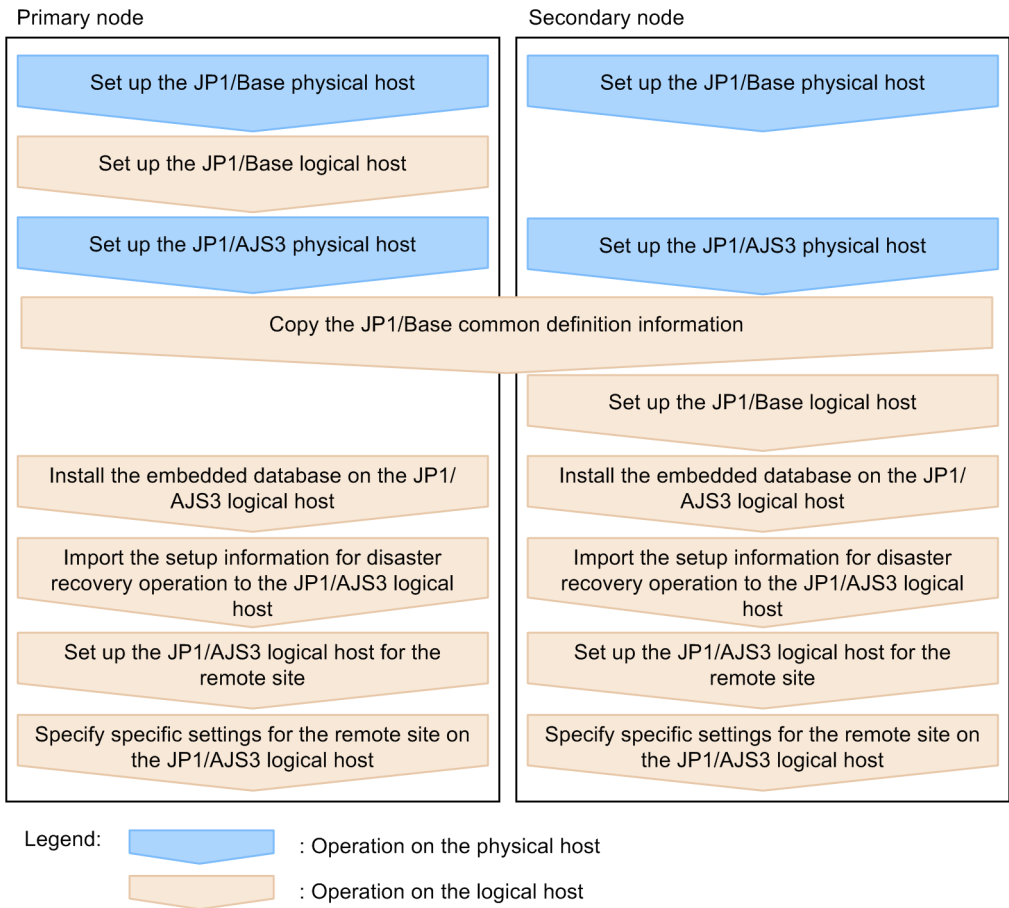
```
jajs_rpenvexport -h logical-host-name -d output-directory-name
```

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



(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](#).

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *12.2.2 Rebuilding the main site* in the *Job Management Partner 1/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"> • [<i>logical-host-name</i>\JP1AJS2] • [<i>logical-host-name</i>\JP1AJSMANAGER] #1 • [<i>logical-host-name</i>\JP1AOMMANAGER] • [<i>logical-host-name</i>\JP1AOMAGENT] • [<i>logical-host-name</i>\JP1NBQAGENT] • [<i>logical-host-name</i>\JP1NBQMANAGER] • [<i>logical-host-name</i>\JP1NBQCLIENT] • [<i>logical-host-name</i>\JP1NBQNOTIFY] • [<i>logical-host-name</i>\JP1QLAGENT] #2 • [<i>logical-host-name</i>\JP1AJS2CONSOLEMANAGER] #2
2	Embedded database definition file

#1

If this definition key does not exist, information will not be exported because the system assumes that no logical host has been created.

#2

This definition key is used by optional functions and might not exist.

(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.
2		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 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 • Trace log file for JP1/AJS3 Console Manager or JP1/AJS3 Console Agent
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.

No.	Type of information	Information that is not set	Required settings
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 Console	JP1/AJS3 Console settings	Either set up or remove the setup of the JP1/AJS3 Console function.
14	JP1/AJS3 - View	Function for disabling specific menus in JP1/AJS3 - View	Allocate the settings file on the manager host.
15	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.
16		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 *2.3.5 Example of configurations that include a firewall, and their communications settings* in the *Job Management Partner 1/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 *Job Management Partner 1/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
- Trace log file[#] for JP1/AJS3 Console Manager or JP1/AJS3 Console Agent[#]

Not required unless JP1/AJS3 Console is used at the main site and the remote site.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

To change the trace log file size for the queueless job function, use the `ajsqltrsetsz` and `ajsqlxecsetsz` commands. For details about these commands, see 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

To change the trace log file size for JP1/AJS3 Console Manager or JP1/AJS3 Console Agent, use the `ajscmtrsetsz` or `ajscatrsetsz` command. For details about these commands, see 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 6.6.1 *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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(h) 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 *8.6 Defining a local date and time for the scheduler service in the Job Management Partner 1/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 Job Management Partner 1/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 3. Commands Used for Special Operation in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

Note that if you change the queueless job setting, you need to restart the queueless agent service on the physical host:

(m) JP1/AJS3 Console setting

Set up JP1/AJS3 Console if it has been set up at the other site. Use the `ajscmsetup` command to set up JP1/AJS3 Console Manager. Use the `ajscasetup` command to set up JP1/AJS3 Console Agent.

For details, see *3.4 Required setup for JP1/AJS3 Console*.

If you change the JP1/AJS3 Console setting, you need to restart the following services on the physical host:

- JP1/AJS3 Console Manager service
- JP1/AJS3 Console Agent service

(n) 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 *Job Management Partner 1/Automatic Job Management System 3 Operator's Guide*.

(o) 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.

(p) 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 *Job Management Partner 1/Automatic Job Management System 3 Linkage Guide*
- *B. Events Reported to HP NNM* in the *Job Management Partner 1/Automatic Job Management System 3 Linkage Guide*
- *C. Commands Used When Linking with HP NNM* in the *Job Management Partner 1/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 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 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 *Job Management Partner 1/Base User's Guide*.

Important note

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.

10.2 Uninstalling JP1/AJS3 series programs

This section describes how to uninstall JP1/AJS3.

Important note

- 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.
- If you uninstall JP1/Base before uninstalling JP1/AJS3, you will no longer be able to uninstall JP1/AJS3. Always make sure that JP1/Base is installed before you uninstall JP1/AJS3.
- In a cluster system, use JP1/Base to delete logical hosts before you uninstall JP1/AJS3. For details about deleting logical hosts, see [8.2.6 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 [12.4 Exiting disaster recovery mode](#) in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

To uninstall JP1/AJS3 series programs from a Windows host:

1. Log in as a member of the Administrators group 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.

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.

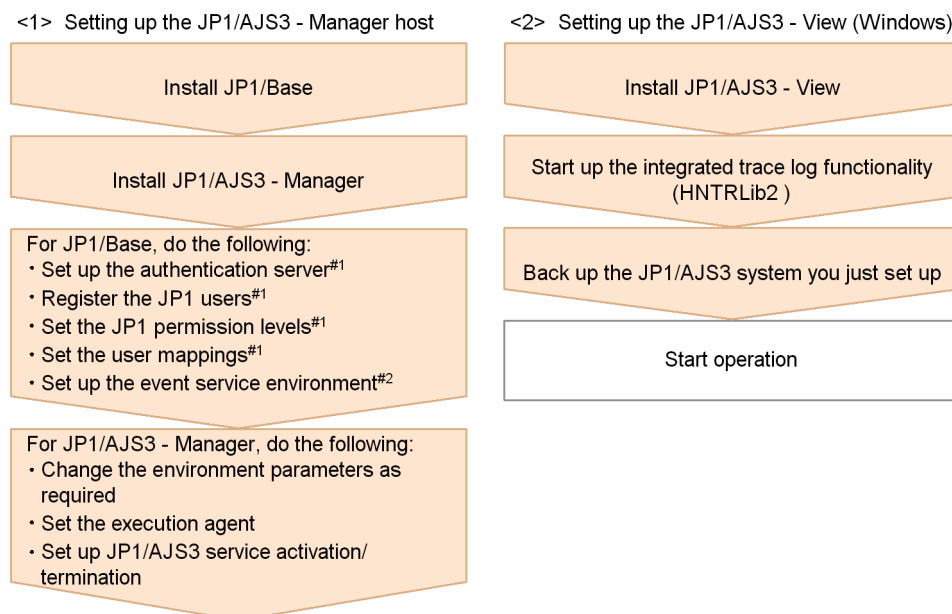
For details about JP1/AJS3 series programs and the prerequisites for setting up a JP1/AJS3 system, see *2.1 Checking the operating environment in the Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

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.

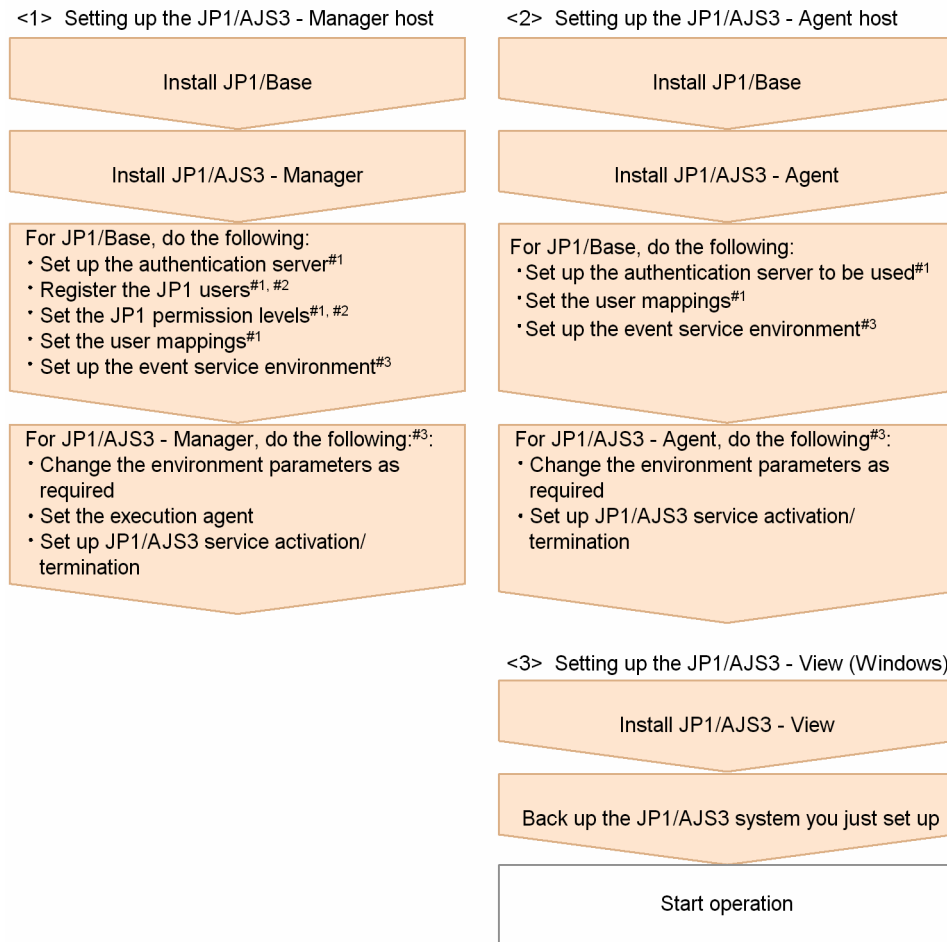
^{#2} Change settings as needed for your operating requirements.

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 note

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: `jp1admin`
- JP1 user's password: `jp1admin`
- OS user mapped to the JP1 user: `root`
- 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 authentication server and JP1 user settings are 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 *Job Management Partner 1/Base User's Guide*.

12.2 Installing JP1/AJS3 series programs

This section describes how to install JP1/AJS3 series programs (JP1/AJS3 - Manager and JP1/AJS3 - Agent) for each OS of the target host.

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 *Job Management Partner 1/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 *F. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *H. Procedure for Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up*.

12.2.1 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.

(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 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:

- `/etc/opt/jp1ajs2`
- `/etc/opt/jp1ajs2/conf`
- `/etc/opt/jp1ajs2cm`
- `/etc/opt/jp1ajs2cm/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 `jaajs_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 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

- 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 *Job Management Partner 1/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 [12.2.6 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 the shared memory used by job execution control (for upgrade installation from 06-71-G1 or an earlier version)

The job execution control agent process uses shared memory to send or receive information. Normally, this information is deleted when the JP1/AJS3 service stops. However, if the agent process terminates abnormally or the service is forcibly stopped by using the `jajs_killall.cluster` command, the information might remain. If the abnormal termination or the forced stop, followed by a restart, is repeated, the number of shared memory segments increases, possibly affecting the system.

You can prevent the number of shared memory segments from increasing by using the `jpgshmake` command. If you perform an upgrade installation from JP1/AJS2 06-71-G1 or earlier, execute the command once after you set up the system. You do not need to execute the command if you install JP1/AJS3 or JP1/AJS2 version 06-71-H or later as a new installation. For details about the `jpgshmake` command, see *jpgshmake (UNIX only)* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 Setup after upgrading from JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *Job Management Partner 1/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 *Setup after upgrading from JP1/AJS2 - Manager to JP1/AJS3 - Manager* in the *Job Management Partner 1/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 *G. Installation and Setup for Operation by AJS Administrators (UNIX only)*.

12.2.2 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 *12.2.1(2)(b) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent*.
3. Insert the media containing the JP1/AJS3 series program you want to install.
4. 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.

5. 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`.

6. On the initial screen, enter `I`.
A list of programs that can be installed is displayed.
7. 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.
8. 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.

When the JP1/AJS3 series program has been installed, user information (the authentication server and JP1 user) and database settings have been specified. 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](#).

12.2.3 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 [12.2.1\(2\)\(b\) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent](#).
3. Insert the media containing the JP1/AJS3 series program you want to install.
4. 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`.

5. On the initial screen, enter `I`.
A list of programs that can be installed is displayed.
6. 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.

7. 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.

When the JP1/AJS3 series program has been installed, user information (the authentication server and JP1 user) and database settings have been specified. 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 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 [12.2.1\(2\)\(b\) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent](#).
3. Insert the media containing the JP1/AJS3 series program you want to install.
4. 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.

5. 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`.

6. On the initial screen, enter `I`.
A list of programs that can be installed is displayed.
7. 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.
8. 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.

When the JP1/AJS3 series program has been installed, user information (the authentication server and JP1 user) and database settings have been specified. 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](#).

12.2.5 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 [12.2.1\(2\)\(b\) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent](#).
3. Insert the media containing the JP1/AJS3 series program you want to install.
4. Mount the installation media.
Mount the mount directory as `/mnt/dvdrom`. For details about commands for mounting, see the documentation for your OS.
5. Execute the following command to start Hitachi Program Product Installer:

```
/mnt/dvdrom/linux/setup /mnt/dvdrom#
```

Hitachi Program Product Installer starts, and the initial screen appears.

#:

This example assumes that the mount point directory is `/mnt/dvdrom`.

6. On the initial screen, enter **I**.
A list of programs that can be installed is displayed.
7. 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.
8. 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.

When the JP1/AJS3 series program has been installed, user information (the authentication server and JP1 user) and database settings have been specified. 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](#).

12.2.6 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.

In the procedures that follow, the node where the logical host normally operates is called the *primary node*, and the other node 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 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.
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.

Important note

- 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 note

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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.

- In HP-UX

```
SHLIB_PATH=installation-directory-of-embedded-database-before-migration/client/lib
```

- In Solaris or Linux

```
LD_LIBRARY_PATH=installation-directory-of-embedded-database-before-migration/client/lib
```

- In AIX

```
LIBPATH=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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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/jp1ajs2/embdb/_JF1  
-ld /var/opt/jp1ajs2/embdb/_JF1/dbarea -mh LHOST -eh hostA  
-p 22221 -i /opt/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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)

This subsection describes how to upgrade JP1/AJS2 - Manager to JP1/AJS3 - Manager in a compatible ISAM configuration.

If multiple logical hosts have been set up, perform step 5 in the procedure for all of the logical hosts.

To upgrade JP1/AJS2 - Manager:

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 *Job Management Partner 1/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 [12.2.1\(2\)\(b\) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent](#).

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

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

Also, use the `ping` or `jp1ping` command to confirm that the logical IP address is available. For details about the `jp1ping` command, see the *Job Management Partner 1/Base User's Guide*.

5. On the primary node, execute the `jaajs_convert_to_spmd` command to convert the startup process definition file for system management.

For example, execute the command as follows:

```
/opt/jp1ajs2/tools/jaajs_convert_to_spmd -h LHOST -c ISAM
```

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

For details about installing JP1/Base, see the *Job Management Partner 1/Base User's Guide*.

7. 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 [12.2.1\(2\)\(b\) About upgrade installations of JP1/AJS3 - Manager and JP1/AJS3 - Agent](#).

8. 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.

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 *F. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *H. Procedure for 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 *Job Management Partner 1/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 *Job Management Partner 1/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 note

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/jplbase/conf  
  
cp -p jplbs_spm�.conf.session.model jplbs_spm�.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/jplbase/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 "jp1 user1" 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 "jp1 user2" is granted permission to reference jobnets (JP1_AJS_Guest) in resource group "UNIT1".
JP1 user "jp1 user2" cannot manipulate queues and agents, or register submitted jobs.
 - JP1 user "jp1 user3" 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 "jp1 admin" as is.

<File contents>

```
jp1admin:*=JP1_AJS_Admin,JP1_Console_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_spmd_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/jplbase/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	--	--
Deleting a unit	Y	Y	Y	--	--

Operation	JP1_AJS_Admin	JP1_AJS_Manager	JP1_AJS_Editor	JP1_AJS_Operator	JP1_AJS_Guest
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 2.9.2(4) *ADMACLIMIT* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 8.2.1 *Unit owner permission* in the manual *Job Management Partner 1/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 note

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 note

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 `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`.

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	14.3
Procedure for restricting connections to JP1/AJS3	14.4
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
Settings common to all control processes	15.6

Topic	Reference
Other settings	15.7
Settings for logging	16
Setting up a cluster system	17
Setup for disaster recovery operations	18

(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 `jbsetcnf` 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 [15.7.1 Setting automatic startup and termination of the JP1/AJS3 service](#).

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 *F. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*. For details about how to replicate a virtual machine, see *H. Procedure for 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 *Job Management Partner 1/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 *Job Management Partner 1/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.

After you have set up JP1/Base, make sure that JP1/AJS3 - Manager to which you want to connect JP1/AJS3 - Agent is operating normally before attempting 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	14.4
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 to match operational requirements	15.3.1
Setting the status passing option for the file monitoring job	15.3.3
Settings for monitoring a large file (file whose size is 2 GB or larger)	15.3.12
Settings for automatic startup and termination of the JP1/AJS3 service	15.7.1
Settings for the JP1/AJS3 definition pre-check function	15.5.1
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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*. For details on the `jbssetcnf` command, see the *Job Management Partner 1/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 *15.7.1 Setting automatic startup and termination of the JP1/AJS3 service*.

JP1/AJS3 - Agent setup is complete.

13.3 Required setup for JP1/AJS3 Console

Before JP1/AJS3 Console can be used, JP1/AJS3 Console Manager and JP1/AJS3 Console Agent must be set up.

13.3.1 Setting up JP1/AJS3 Console Manager

Before JP1/AJS3 Console Manager can be used, JP1/AJS3 Console Manager must be set up on the host on which JP1/AJS3 - Manager has been installed.

To set up JP1/AJS3 Console Manager:

1. Execute the `jp1ajs2cmsetup` command.
2. If necessary, set the method for automatic startup and termination of the JP1/AJS3 Console Manager service.

For details about setting the method for automatic startup and termination of the JP1/AJS3 Console Manager service, see *15.7.1(4) Setting automatic startup and termination of the JP1/AJS3 Console services*.

13.3.2 Setting up JP1/AJS3 Console Agent

Before JP1/AJS3 Console Agent can be used, JP1/AJS3 Console Agent must be set up on the host on which JP1/AJS3 - Manager has been installed.

To set up JP1/AJS3 Console Agent:

1. Execute the `jp1ajs2casetup` command.
2. If necessary, set the method for automatic startup and termination of the JP1/AJS3 Console Agent service.

For details about setting the method for automatic startup and termination of the JP1/AJS3 Console Agent service, see *15.7.1(4) Setting automatic startup and termination of the JP1/AJS3 Console services*.

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 2.4.3 *Language type of the system* in the *Job Management Partner 1/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.

The following table shows the default character encoding for each operating system.

Table 13-6: System default character encodings

No.	OS	System default character encodings
1	Linux	UTF-8
2	Solaris	EUC
3	AIX	SJIS
4	HP-UX	SJIS

Note that if the name of a unit that is running in JP1/AJS3 contains a kana character or a two-byte character, you must redefine the unit after changing the character encoding.

To change the character encoding:

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 *Job Management Partner 1/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/jp1ajs2/conf/jp1ajs_env.conf`
 - For logical host
`shared-directory/jp1ajs2/conf/jp1ajs_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 of the job execution environment and unit definition environment, change the environment setting parameter.
Execute the following command:

```
jaajs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJSMANAGER\scheduler-  
service-name]" "AJSCHARCODE"="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 2.2 *Setting up the scheduler service environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

6. 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
```

Important note

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`.

7. If you use JP1/AJS3 Console, change the environment setting parameter to change the character encoding of information that will be stored in the user definition data.

Execute the following command:

```
jaajs_config -k "[JP1_DEFAULT\JP1AJS2CONSOLEMANAGER\]" "CHARCODE"="EUC"
```

For details about the `CHARCODE` environment setting parameter, see 2.8 *Setting up the JP1/AJS3 Console environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

8. If you use JP1/AJS3 Console, change the environment setting parameter to change the character encoding type of the messages that will be output to syslog by JP1/AJS3 Console Manager or JP1/AJS3 Console Agent.

Execute the following command:

- For JP1/AJS3 Console Manager

```
jaajs_config -k "[JP1_DEFAULT\JP1AJS2CONSOLEMANAGER]" "SYSLOGCODE"="C"
```
- For JP1/AJS3 Console Agent

```
jaajs_config -k "[JP1_DEFAULT\JP1AJS2CONSOLEAGENT]" "SYSLOGCODE"="C"
```

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 JP1/AJS3 Console Manager or JP1/AJS3 Console Agent service starts. If necessary, change the `LANG` environment variable value of the environment in which you want the JP1/AJS3 Console Manager or JP1/AJS3 Console Agent service to start.

```
LANG="ja_JP.SJIS"  
export LANG
```

Important note

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`.

9. If you use JP1/AJS3 Console, change the messages that will be output by the JP1/AJS3 Console Manager or JP1/AJS3 Console Agent service.

Change the `LANG` environment variable value of the environment in which you want the JP1/AJS3 Console Manager or JP1/AJS3 Console Agent service to start.

```
LANG="ja_JP.SJIS"  
export LANG
```

13.4.2 Changing the login scripts

In JP1/AJS3, before a Unix job is executed, login scripts are executed based on the shell as follows:

- `sh` and `ksh`

```
/etc/profile  
$HOME/.profile
```

- `csh`

```
/etc/csh.login  
$HOME/.cshrc  
$HOME/.login
```

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` and `ksh`, 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 note

The above setting is valid only for `sh` and `ksh` (`.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.

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
- JP1/AJS3 Console trace log file

(1) Extending the JP1/AJS3 trace log file

The initial settings for the JP1/AJS3 trace log file are as follows:

- File name
`/var/opt/jp1ajs2/log/tracelog`
- Size
20 MB (20,480 KB), which is the size of a file in which trace log data about the execution of approximately 2,000 jobs can be saved

An adequate trace log file size differs considerably depending on the jobnet configuration, the number of connected JP1/AJS3 - View instances, and operation types. Therefore, the trace log file will need to be extended whenever necessary after an appropriate file size has been determined.

For details about how to estimate an appropriate trace log file size, see *3.4.2 Estimating the size of the trace log file* in the *Job Management Partner 1/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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(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.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 *Job Management Partner 1/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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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/ajsqlexeclog#1`
`/var/opt/jp1ajs2/log/ajsqlexeclog_ftp#2`

#1:

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

```
/var/opt/jp1ajs2/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 *Job Management Partner 1/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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(4) Extending the JP1/AJS3 Console trace log file

Extension of the JP1/AJS3 Console trace log file must be set separately for JP1/AJS3 Console Manager and JP1/AJS3 Console Agent. The initial settings for the JP1/AJS3 Console trace log file are as follows:

- File name

For JP1/AJS3 Console Manager: `/var/opt/jp1ajs2cm/log/tracelog.cm`

For JP1/AJS3 Console Agent: `/var/opt/jp1ajs2/log/tracelog.ca`

- Size

For JP1/AJS3 Console Manager: 3,072 KB

For JP1/AJS3 Console Agent: 3,072 KB

Because an adequate trace log file size differs considerably depending on the status of monitoring during operation and other factors, 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 trace log file size, see 3.4.2 *Estimating the size of the trace log file* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

If the trace log file must be extended, use the `ajscmtrsetsz` or `ajscatrsetsz` command to resize the file. For details about these commands, see the appropriate manual below.

For JP1/AJS3 Console Manager:

ajscmrsetsz in *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*

For JP1/AJS3 Console Agent:

ajscatrsetsz in *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*

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:

- *2.3.7(3) Notes on operation in a DNS environment* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*
- *2.3.5 Example of configurations that include a firewall, and their communications settings* in the *Job Management Partner 1/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 *Job Management Partner 1/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 *2.3.4 Example configurations with multiple LANs and their communications settings* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about the settings for ANY binding addresses, see the *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *2.2.2(4) Backing up the unit definition* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

3. Execute the `jajs_spm_d_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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

6. Execute the `ajsembdbsetup` command to set up the embedded database.

For example, execute the `ajsembdbsetup` command as follows:

```
# /opt/jp1ajs2/tools/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

7. Execute the `jajs_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 2.3.3(8) *Recovering the unit definition* in the *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 2.2.2(4) *Backing up the unit definition* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

3. On the executing host, execute the `jajs_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/jp1ajs2/tools/ajsembdbunset -e -id _JFA
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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/jp1ajs2/tools/ajsembdbunset -e -id _JFA
```

For details about the `ajsembdbunset` command, see *ajsembdbunset* in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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
AJS1 -id _JFA -ru s
```

For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

12. On the executing host, execute the `jajs_spmc` 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 *2.3.3(8) Recovering the unit definition* in the *Job Management Partner 1/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 13-7: 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.
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 can use the embedded database in its status before the upgrade. In such cases, you can use JP1/AJS3 - Manager after an upgrade installation without making any changes. However, if you use the `ajsembdbinstl` command to install an embedded database or create or re-create a logical host, you need to perform the following.

(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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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.v9standard.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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details about the embedded databases that are automatically created by JP1/AJS3, see 2.6.4 *Database settings that are set up in JP1/AJS3* in the *Job Management Partner 1/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 2.2.2(2) *Backing up the execution agent information* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide* and 2.2.2(4) *Backing up the unit definition* in the *Job Management Partner 1/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 and JP1/AJS3 Console Agent 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 `TABLERNAMEPREFIX` 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 2.3.3(7) *Recovering the execution agent information* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide* and 2.3.3(8) *Recovering the unit definition* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

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 `jpqagtadd`, `jpqqueadd`, 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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about each command, see 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 `ajsagtal` 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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1* and *ajsagtprint* in *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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)

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. For details about the `jajs_config` command, see *jajs_config* in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

- `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. For details about the `jbssetcnf` command, see the *Job Management Partner 1/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 [E. 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 2. *Environment Setting Parameters* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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/jplajs2/jajs_stop#1
# /opt/jplajs2/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:

```
jajs_config Δ -k Δ definition-key Δ "parameter-name-1"=value-1 Δ
["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.

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/jajs_stop#1  
# /opt/jplajs2/bin/jajs_spmc_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"

To specify the above settings, create a configuration file as follows:

```
[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]  
"LOGSIZE"=dword:00002800  
"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/jplbase/bin/jbssetcnf` directory.

5. Restart JP1/AJS3.

The changes in the common definition information are applied to JP1/AJS3.

14.3 Operation profile settings

This section describes the procedure for configuring operation profiles.

For details about how to change the operation profile settings, see *8.10 Changing an operation profile* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

Cautionary note:

To prevent unintended users from editing or deleting an operation profile, set the reference authority of the operation profile to the root user.

14.3.1 Procedure for setting up an execution agent profile

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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

To set up an execution agent profile:

1. Copy the model file to the environment-settings file storage directory.

The model file and the environment-settings file storage directory are as follows:

Model file

```
/etc/opt/jplajs2/conf/ajsprof_AJSROOT1_agent.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:

```
ajsprof_scheduler-service-name_agent.conf
```

3. Use an editor such as vi to edit the file.

Specify the necessary settings in the execution agent profile.

You can also copy execution agent names or execution agent group names from the defined names output by using the `ajsagtshow` command. For details about this procedure, see *(1) Copying from the list output by the ajsagtshow command*.

For details about the execution agent profile, see *3.2.1 Execution agent profile* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(1) 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.

14.3.2 Procedure for setting up a unit-attribute profile

In a unit-attribute profile, specify the upper-level unit-attribute inheritance function and the execution-user fixing function. 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 *Job Management Partner 1/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 *Job Management Partner 1/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 directory.

The model file and the environment-settings file storage directory are as follows:

Model file

```
/etc/opt/jplajs2/conf/ajsprof_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:

```
ajsprof_scheduler-service-name_unit.conf
```

3. Use an editor such as vi to edit the file.

Specify the necessary settings in the unit-attribute profile.

For details about the unit-attribute profile, see 3.2.2 *Unit-attribute profile* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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, are 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, are enabled.

For details about the `ajsprofalter` command, see *ajsprofalter* in *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

14.4 Settings for 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 *2.3.8 Restricting access to JP1/AJS3* in the *Job Management Partner 1/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 *8.11.1 Enabling and disabling restricting connection sources* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

14.4.1 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 directory.
For details about the model file and the environment settings file storage directory, 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 an editor such as vi to edit the file.
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 *14.4.2 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 directory. 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 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
# /opt/jplajs2/bin/ajsqlstop#
# /opt/jplajs2/bin/ajsqlstatus#
```

#:

This command 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 without stopping the Service.

6. Execute the following command to set the environment setting parameters described in *(2) Environment setting parameter* 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 14-1: 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 2.9.2(5) *CONNECTIONRESTRICTION* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 14-2: 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} \JP1AJS2COMMON]#	"CONRESTRICTLOG"=	Setting for whether connection restriction log data is to be output to the scheduler log
	"CONRESTRICTSYSLOG"=	Setting for whether connection restriction log data is to be output to the 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 these environment setting parameters, see the following:

- 2.2.2(20) *CONRESTRICTLOG* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.2.2(21) *CONRESTRICTSYSLOG* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(3) The connection permission configuration file

The following describes directories and files related to the connection permission configuration file.

(a) The environment settings file storage directory

Store the connection permission configuration file in the following environment settings file storage directory:

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 14-3: 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	<code>/etc/opt/jplajs2/conf/permitted_host_manager.conf.model</code>	<code>/etc/opt/jplajs2/conf/permitted_host_agent.conf.model</code>
JP1/AJS3 - Agent	--	<code>/etc/opt/jplajs2/conf/permitted_host_agent.conf.model</code>

Legend:

-- : Not applicable

14.4.2 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.

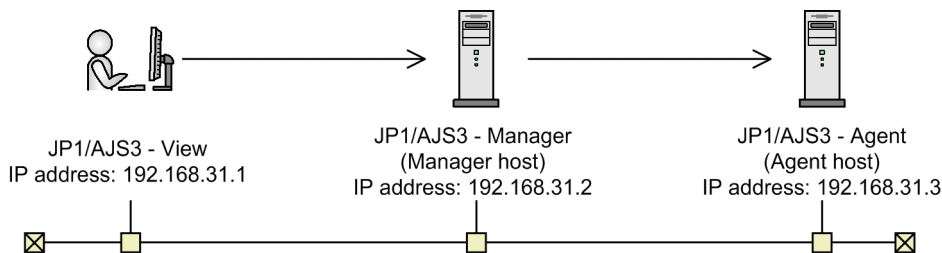
For details about IPv6 addresses, see 2.3.3 *Communication using IPv6 addresses* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

For details about how to specify IPv6 addresses, see 1.1.5 *Specifying an IPv6 address* in the *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(4) An example of coding

Suppose that you enable restricting connection sources in the following environment.

Figure 14-1: 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[#], or the `jaajs_pmtcon` command is executed with the `-u` option specified.

Applies only to the agent 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.

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 `jaajs_config` command.

For details about the `jaajs_config` command, see *jaajs_config* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *17.2.7 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/jp1ajs2/jajs_stop
# /opt/jp1ajs2/bin/jajs_spmd_status
```

Important note

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 `jaajs_setup` command to add the scheduler service.

```
jaajs_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}]
|-S]
```

Example of adding a scheduler service named AJSROOT2:

```
jaajs_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 `jaajs_setup` command, see `jaajs_setup` in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *C. 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. Make sure that you do not specify an existing port number.

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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

7. 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) Deleting a scheduler service that has been added

To delete a scheduler service that has been added:

1. Execute the `jajs_spmc_stop` command to stop the JP1/AJS3 services.

Stop all JP1/AJS3 services, including the JP1/AJS3 - Manager services, on logical hosts.

Important note

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/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 following `jajs_setup` command to delete the scheduler service.

```
jajs_setup -e -F scheduler-service-name
```

Example of deleting the AJSROOT2 scheduler service:

```
jajs_setup -e -F AJSROOT2
```

For details about the `jajs_setup` command, see *jajs_setup* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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. Start the JP1/AJS3 services.

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 `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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 `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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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. 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
- AJSDBDIRECTOR
- AJSLOGFILE1
- AJSLOGFILE2

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.

To change the AJSDBDIRECTOR environment setting parameter, you need to set the suspend function again after changing the environment setting parameters.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details about the parameters, see 2.2 *Setting up the scheduler service environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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/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"=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 2.2.2(56) *HNTRLOGLEVEL* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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_spmdd_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 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 2.2.2(79) *AJSPRINTNETSCHPRF* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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/trace.log`. 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 2.2.2(3) *TRACELOGFILE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.1.5 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. 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 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

3. Restart the JP1/AJS3 service.

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 *Job Management Partner 1/Automatic Job Management System 3 Overview*.

15.1.6 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:

```
# /etc/opt/jplajs2/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:

```
# /etc/opt/jplajs2/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:

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:

```
# /etc/opt/jplajs2/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:

```
# /etc/opt/jplajs2/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:

```
# /etc/opt/jplajs2/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:

```
# /etc/opt/jplajs2/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
```

15.1.7 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"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15-5: Environment setting parameter for specifying whether to use wait conditions

Definition key	Environment setting parameter	Explanation
{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\ <i>scheduler-service</i>]#	"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:

- 2.2.2(95) PREWAITUSE in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.2.2(96) PREWAITEXTEND in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

15.1.8 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/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"=value
```

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameter

Table 15-6: 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\ <i>scheduler-service</i>]#	"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 2.2.2(102) *SAVEPLANINFO* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.1.9 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, HP-UX, or Solaris 10, 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.
- 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 or JP1/AJS3 Console View, 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-service-name]" "AJSCHARCODE"="UTF-8"
```

The following is an example of executing the command:

```
jajs_config -k "[JP1_DEFAULT\JP1AJSMANAGER\AJSROOT1]" "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 AJSROOT1 -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 `ajsdefine` 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 `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. 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 the environment for a cluster system](#).

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 csh

```
/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.

```
jajs_config -k "[{JP1_DEFAULT|logical-host-name}\JP1AJSMANAGER\scheduler-service-name]" "AJSCHARCODE"="UTF-8"
```

The following is an example of executing the command:

```
jajs_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 `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`

(b) 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 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 localhost -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-service-name]" "AJSCHARCODE"="UTF-8"
```

The following is an example of executing the command:

```
jajs_config -k "[localhost\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.

```
ajsembddbsetup -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:

```
ajsembddbsetup -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 `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`

(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 *17.2.7 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*.

15.1.10 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. 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:

```
jaajs_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: 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 2.2.2(22) HIDEOTHERSERVICE in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2.

(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 jaajs_setup command to specify a backup information directory for scheduler services.

15.1.11 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 2.2.2(105) SERVICEMAXSESSION in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2.

(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 15-8: 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\ <i>scheduler-service</i>]#	"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 2.2.2(105) *SERVICEMAXSESSION* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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, UNIX, 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 15-9: 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_spmc_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 15–10: 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 2.3.2(72) *variable-name* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 note

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 jpqjbsub 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 15–11: 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 <i>logical-host</i> } \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:

- 2.3.2(73) *All Users* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(74) *JP1-user-name* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 15–12: 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]#	All execution agents	<ul style="list-style-type: none"> • PC job • Unix job • Action job
2	[{JP1_DEFAULT <i>logical-host</i> }\JP1AJSMANAGER\scheduler-service\QUEUE\MANAGER\Agent]#	Execution agent for the scheduler service specified by the definition key	<ul style="list-style-type: none"> • PC job • Unix job • Action job
3	[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQMANAGER\Agent]#	All agents and default queue	<ul style="list-style-type: none"> • Submit 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.

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. 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_spmc_status
```

#1:

Confirm that automatic termination has been set.

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 the JP1/AJS3 service.

The new settings are applied.

(2) Environment setting parameters

Table 15–13: 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 	"AutoCreateExecJobs"=	C, S	Specifies the maximum number of concurrently executable jobs

Definition key	Environment setting parameter	Applicable manager	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \JP1AJS2\SCHEDULER\QUEUE \MANAGER\Agent]#	"AutoCreateExecJobs"=	C, S	set by the automatic agent definition function.
• For a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\scheduler-service \QUEUE\MANAGER\Agent]#	"AutoCreateMaxJobs"=	C	Specifies the maximum number of jobs set by the automatic agent definition function.
• For submit jobs and a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \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 and a compatible ISAM configuration

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:

- 2.3.2(30) *AutoCreateExecJobs* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(31) *AutoCreateMaxJobs* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(32) *AutoCreateWarnJobs* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(33) *AutoCreatePriority* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 and Unix jobs

Specify the same file name in both the **Standard output** and **Standard error** text boxes in the Define Details - [PC Job] dialog box or the Define Details - [UNIX Job] dialog box.

Cautionary notes:

- If you specify the same file name for both the **Standard output** and **Standard error** text boxes, make sure that the same option is also selected for their **Append** check boxes. 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 15-14: 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:

- 2.3.2(65) *NotifyJobStateInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(66) *NotifyJobStateCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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– 15: 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 [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER\<i>scheduler-service</i> \QUEUE\MANAGER\Job]# • For submit jobs and a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \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 2.3.2(16) *ReceiveFileOption* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.2.7 Placing restrictions on file reception

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.

#:

No files are transferred when the job is a queue job, event job, or queueless job.

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 15–16: 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 15–17: 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> } \JP1AJS2\MANAGER\<scheduler-service> \QUEUE\MANAGER\Job]# For submit jobs and a compatible ISAM configuration [{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:

- 2.3.2(14) *ReceiveFileSizeStatus* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(15) *LimitReceiveFileSize* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 15–18: 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#

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: 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

- 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 15–19: 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.

15.2.8 Changing the interval and number of retry attempts when a TCP/IP connection error occurs

As job execution control, TCP/IP is used to pass information between the processes for registering and delivering jobs, reporting and checking the job status, and checking the agent host status. 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 processing that registers or delivers a job, reports or checks the job status, or checks the agent host status, detection of the error might be delayed. 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.

For details about changing the settings for delivering jobs to agent hosts, checking the job status, and checking the agent host status on the manager side, see *2.6 Setting up the communication control environment in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

The following table lists the definition keys for which values are to be changed, and their purpose.

Table 15–20: Definition keys for which values are to be changed

Definition key	Purpose
<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 and a compatible ISAM configuration JP1NBQMANAGER\Network 	Reporting the job status
JP1NBQAGENT\Network	Reporting the job status
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 and a compatible ISAM configuration JP1NBQNOTIFY\Network 	Checking the job status on another system (such as JP1/NQSEXEC or JP1/OJE) and reporting the status

The following describes how to set the connection timeout value, retry interval, and number of retry attempts in job execution control.

Note that the procedure described below is not necessary if the queueless job execution facility is used.

(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]
```

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

Table 15-21: Environment setting parameters for job execution control

No.	Definition key	Environment setting parameter	Explanation
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 attempted by the job execution control manager.
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 attempted by the job execution control manager.
3	<ul style="list-style-type: none"> For submit jobs and a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1NBQMANAGER\Network]# 	"CommunicateRetryInterval" "=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the job execution control manager.
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.
5		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the job execution control agent.
6		"CommunicateRetryInterval" "=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the job execution control agent.

No.	Definition key	Environment setting parameter	Explanation
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.
8		"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by job execution commands and the scheduler.
9		"CommunicateRetryInterval" "=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by job execution commands and the scheduler.
10	<ul style="list-style-type: none"> For all scheduler services [{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\QUEUE \NOTIFY\Network]# 	"ConnectTimeout"=	Defines the timeout value (in milliseconds) for a TCP/IP connection attempted by the process that reports the job execution control status.
11	<ul style="list-style-type: none"> For a specific scheduler service [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler- service\QUEUE\NOTIFY \Network]# 	"CommunicateRetryCount"=	Defines the maximum number of retry attempts for a TCP/IP connection attempted by the process that reports the job execution control status.
12	<ul style="list-style-type: none"> For submit jobs and a compatible ISAM configuration [{JP1_DEFAULT logical-host} \JP1NBQNOTIFY\Network]# 	"CommunicateRetryInterval" "=	Defines the retry interval (in seconds) for a TCP/IP connection attempted by the process that reports the job execution control 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 the following:

1. 2.3.2(24) *ConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
2. 2.3.2(25) *CommunicateRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
3. 2.3.2(26) *CommunicateRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
4. 2.3.2(67) *ConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
5. 2.3.2(68) *CommunicateRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
6. 2.3.2(69) *CommunicateRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
7. 2.3.2(75) *ConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
8. 2.3.2(76) *CommunicateRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
9. 2.3.2(77) *CommunicateRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

- 10. 2.3.2(82) *ConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 11. 2.3.2(83) *CommunicateRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 12. 2.3.2(84) *CommunicateRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

15.2.9 Setting the method for determining the agent host to which a job will be delivered

When a job (a PC, UNIX, action, or custom job other than a queueless 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.

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/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 15–22: 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\<i>scheduler-service</i>\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 2.3.2(34) *LeastRecentlyUsed* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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/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 15-23: 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
<code>[{JP1_DEFAULT logical-host} \JP1AJS2COMMON]#</code>	<code>"MACROCHANGEFAIL"=</code>	Defines the action to be taken if the value of a macro variable specified in an 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 2.9.2(3) *MACROCHANGEFAIL* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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. For details about macro variables, see 2.2.6 *Considerations regarding the use of macro variables* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Work Tasks) Guide*. For examples of defining macro variables in event jobs, 2.4.4(6) *Passing information received by an event job* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

You can define the event information received by an 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* in the *Job Management Partner 1/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:

- 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 15-24: 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> } \JP1NBQCLIENT\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 2.3.2(79) *MacroOptionReplaceMode* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 (a PC or Unix job other than a queueless job, or a queue, action, or custom job running on JP1/AJS3) 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.

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/jp1ajs2/jajs_stop#1
# /opt/jp1ajs2/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 15–25: 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\<i>scheduler-service</i> \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 and a compatible ISAM configuration [{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:

- 2.3.2(17) *QueuingJobRecoveryTime* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(18) *ExecutingJobRecoveryTime* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

15.2.13 Outputting a message that reports that the maximum number of concurrently executable jobs has been reached

If the number of jobs (Unix jobs, PC jobs, action jobs, and custom jobs other than queueless jobs) that are being executed concurrently on an agent host has reached the maximum, the succeeding jobs might remain queued, delaying their execution.

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 (agent-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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 `jpqagtshow` command to check the maximum number of concurrently executable jobs (CUREXEGHNUM).

For details about the `jpqagtshow` command, see *jpqagtshow* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

2. In the settings for queues (including the default queue), the job exit is closed.

Use the `jpqqqueshow` command to check the job exit status (EXITSTATUS).

For details about the `jpqqqueshow` command, see *jpqqqueshow* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/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/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 15–26: 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 <i>logical-host</i> } \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 <i>logical-host</i> } \JP1AJSMANAGER\ <i>scheduler-service</i> \QUEUE\MANAGER\Job]# For submit jobs and a compatible ISAM configuration [{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:

- 2.3.2(19) *MaximumExecJobLogOption* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(20) *MaximumExecJobLogInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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 (*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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.
- Many jobs are listed by the *jpqjobshow* command, which lists information about jobs that have not terminated yet.

For details about the `jpgqjobshow` command, see `jpgqjobshow` in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 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 `jpgqxxx` 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_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.

(2) Environment setting parameter

Table 15-27: 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 2.3.2(78) *CommunicateTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 15-28: Environment setting parameter used to change the timeout value for pipe communication of the agent

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> } \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 2.3.2(59) *PipeComTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 that is not a queueless job, Unix job, queue job executed on JP1/AJS3, action 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:

```
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 15–29: 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 2.3.2(60) *AfterForkPipeTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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, csh, ksh (csh for Linux) 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 15-30: Environment setting parameter used to apply SIG_DFL to child processes started from JP1/AJS3

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \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 2.3.2(63) *IsSigchldDefault* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(3) Child-process signals set by JP1/AJS3

Table 15-31: 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

Signal name	Initial setting	Behavior
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
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. Note that this function is valid only for Unix jobs.

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/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 15-32: Environment setting parameter used to change the settings for checking file access permissions during job execution

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1NBQAGENT\Job]#	"FileAccessPermissionMode"=	Specifies the method for checking file access permissions during the execution of Unix 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 2.3.2(64) *FileAccessPermissionMode* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 and Unix jobs that are not queueless jobs, and queue, action, and custom jobs executed on JP1/AJS3).

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. 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 15–33: 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 and a compatible ISAM configuration [{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 2.3.2(23) *ExecutingJobChangeStatus* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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, 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/jplajs2/jajs_stop#1
# /opt/jplajs2/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/jplajs2/bin/ajsqlstop
# /opt/jplajs2/bin/ajsqlftpstop#1
# /opt/jplajs2/bin/ajsqlstatus
```

#1:

This command must be executed only on JP1/AJS3 - Manager.

2. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the jbssetcnf command is /opt/jplbase/bin/jbssetcnf. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15-34: Environment setting parameters used to change the retry setting for acquiring agent host user information

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \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 logical-host} \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

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host}\JP1QLAGENT]#	"AJSQL_GETPASSWD_AGTRETRYINTERVAL"=	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 15–35: 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_FGTRETRYINTERVAL"=	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:

- 2.3.2(88) *GetPasswd_RetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.3.2(89) *GetPasswd_RetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(29) *AJSQL_GETPASSWD_AGTRETRYCOUNT* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(30) *AJSQL_GETPASSWD_AGTRETRYINTERVAL* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(18) *AJSQL_GETPASSWD_FTPRETRYCOUNT* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(19) *AJSQL_GETPASSWD_FGTRETRYINTERVAL* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 *Job Management Partner 1/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 15–36: 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 2.2.2(104) *RERUNSUBORDINATE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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/jplajs2/jajs_stop#1
# /opt/jplajs2/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/jplajs2/bin/ajsqlstop
# /opt/jplajs2/bin/ajsqlftpstop#1
# /opt/jplajs2/bin/ajsqlstatus
```

#1:

This command must be executed only on JP1/AJS3 - Manager.

2. Use the following method to set the environment setting parameters described in (2) below:

- For environment setting parameters in the definition key `[{JP1_DEFAULT|logical-host-name} \JP1NBQAGENT\Job]`:

Execute the following command:

```
jajs_config -k definition-key "parameter-name"=value
```

- For environment setting parameters in the definition key `[JP1_DEFAULT\JP1QLAGENT]`:

In an editor such as vi, create a configuration file that defines the environment setting parameters, and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

3. Restart JP1/AJS3.

The new settings are applied to the configuration definition.

(2) Environment setting parameters

Table 15–37: The 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:

- 2.3.2(90) *IgnoreResultFileError* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(20) *IgnoreResultFileError* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 7.8.1 *Notes on the standard output file and standard error output file* in the *Job Management Partner 1/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 2.4.10 *Automatic retry for abnormally ending jobs* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

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#  
# /opt/jplajs2/bin/jajs_spmd_status
```

#:

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 15–38: 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 2.3.2(81) *PassingInfoUsePreRc* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

(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 a warning or end abnormally. If you do not want the passing information setting job to end with a 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.

15.3 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details on the `jbssetcnf` command, see the *Job Management Partner 1/Base User's Guide*.

15.3.1 Changing the settings related to the size of the log for event jobs to match operational requirements

This subsection describes how to change the settings related to the size of the log for 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* in the *Job Management Partner 1/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.

(1) Definition procedure

(a) For a standard configuration

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* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

3. Restart JP1/AJS3.

The new settings are applied.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameters.

For the environment setting parameters to be set, see 3.4.3 *Estimating the size of the log information output by event jobs* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

15.3.2 Setting the event order option

When an 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 this option must be set on all agent hosts on which event jobs will be executed.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jp1base/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15–39: 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 2.4.2(21) *EventSequential* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 *Job Management Partner 1/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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jp1base/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15–40: Environment setting parameter used to set the status passing option for the file monitoring job

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\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 2.4.2(18) *FilewatchinfContinue* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.4 Passing event data containing double quotation marks

Data containing double quotation marks (") can be passed as is to an event job. For details, see 4.3.7(4) *Passing event data containing double quotation marks* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The option that enables the passing of data containing double quotation marks (") as is to an event job is set by executing the `jaajs_config` command.

The following describes how to set the option that enables the passing of data containing double quotation marks (").

(1) Definition procedure

(a) For a standard configuration

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. 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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the jbssetcnf command is /opt/jplbase/bin/jbssetcnf. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15–41: Environment setting parameter used to enable passing of data containing double quotation marks to an event job

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 compatible ISAM configuration [{JP1_DEFAULT logical-host} \JP1AOMMANAGER]# 	"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 2.4.2(4) *MacVarDQuotation* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.5 Using fully qualified domain names (FQDN) when using event jobs during DNS operation

This subsection describes how to specify the settings for using domain names in FQDN format when using 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 are used. Standard, action, and custom jobs are already supported.

If you want to change environment settings during operation, see 8.9.5 *Changing to FQDN host names for event jobs in a DNS environment* in the *Job Management Partner 1/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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15-42: Environment setting parameter used to enable the use of fully qualified domain names (FQDN) when 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]#For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]#	"DNSEstablish"=	Specifies whether to enable the use of domain names in FQDN format when 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 2.4.2(5) *DNSEstablish* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.6 Resuming event jobs that stopped when the JP1/AJS3 service stopped

For event jobs, JP1/AJS3 provides an option that enables 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 9.2.1 *Continuing the execution of event jobs if the JP1/AJS3 service stops* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15-43: Environment setting parameter used to enable 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\<i>scheduler-service</i> \EV\MANAGER]#• For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]#	"EvJobExecContinue"=	Specifies whether to enable the execution of stopped 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 2.4.2(7) *EvJobExecContinue* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.7 Retrying startup notification of the event/action control agent

When an 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 (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 (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 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 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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 or a jobnet with start conditions executed from another manager as well as the detection of events.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.
3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15-44: 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 2.4.2(22) *RetryAgtStartNotification* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.8 Setting the agent host name resolution option

Resolution of agent host names might fail on the manager host if, for example, the host names are not correctly set in the `hosts` file or DNS. If an attempt is made to start or stop the JP1/AJS3 service on the manager host or an agent host when agent host names cannot be resolved, the following problems could occur:

- The status of an event job registered for execution takes a long time to change to *Now running*.
- Detection of an event monitored by an event job or start conditions is delayed.
- The status of an event job or a jobnet with start conditions takes a long time to change when, for example, the job or jobnet is forcibly terminated.

- The JP1/AJS3 service on the manager takes a long time to stop.
- The JP1/AJS3 service on the manager takes a long time to start.

You can prevent these problems from occurring by setting the agent host name resolution option.

Note that you do not need to enable this option in an environment in which all agent host names can be resolved.

This option is effective only for a compatible ISAM configuration.

The following describes how to enable the 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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jp1base/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15-45: Environment setting parameter used to enable the agent host name resolution option

Definition key	Environment setting parameter	Explanation
[JP1_DEFAULT\JP1AOMMANAGER]#	"_AgentStartStopResolveMode"=	Specifies whether to enable the agent host name resolution option.

#:
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 2.4.2(2) *_AgentStartStopResolveMode* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.9 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 or start condition is not detected.
- The scheduler service does not stop when the `jajs_spmd_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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as `vi`, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15-46: 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 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 2.4.2(28) *RecvTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.10 Setting the period of time for monitoring event jobs in the blocked status

An 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 changes.

If 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 or jobnets with start conditions.

To prevent an accumulation of information, JP1/AJS3 checks for 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 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the jbssetcnf command is /opt/jplbase/bin/jbssetcnf. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15-47: Environment setting parameter used to set the period of time for monitoring 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 [{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service \EV\MANAGER]# For a compatible ISAM configuration 	"BlockadeTimeoutInterval"=	Specifies the period of time for monitoring event jobs in the blocked status.

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT <i>logical-host</i> }\JP1AOMMANAGER]#	"BlockadeTimeoutInterval"=	Specifies the period of time for monitoring 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 2.4.2(8) *BlockadeTimeoutInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.11 Setting the binding method applied to the outgoing communication used in the execution of 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 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, 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 already 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. Note that the procedure must be performed on the manager host and all agent hosts on which event jobs will be executed.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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_spmc_status
```

#1:

Confirm that automatic termination has been set.

2. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the jbssetcnf command is /opt/jp1base/bin/jbssetcnf. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15-48: 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 logical-host} \JP1AJS2\SCHEDULER\EV \MANAGER]# For an event/action control agent [{JP1_DEFAULT logical-host} \JP1AOMAGENT]# For a compatible ISAM configuration [{JP1_DEFAULT logical-host} \JP1AOMMANAGER]# 	"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 2.4.2(12) *ClientBindFlag* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.12 Enabling monitoring of a large file

This subsection describes how to enable large file (2 GB or larger) monitoring that uses a file monitoring job, and large-file evaluation that uses a judgment job.

(1) Definition procedure

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15–49: Environment setting parameter used for large-file monitoring and evaluation

Definition key	Environment setting parameter	Explanation
[{JP1_DEFAULT logical-host} \JP1AJS2COMMON]#	"LARGEFILEUSE"=	Specifies whether to support large 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 *2.9.2(1) LARGEFILEUSE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.13 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 *15.3.15 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 *15.3.16 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15–50: 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]#	"NotificationConstantRetry" =	Option 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 a specific scheduler service [{JP1_DEFAULT <i>logical-host</i> } \JP1AJSMANAGER \scheduler-service \EV\MANAGER]# For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]# 	"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 2.4.2(9) *NotificationConstantRetry* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.14 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 is satisfied, including 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 *15.3.13 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jp1base/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15–51: 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 [{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]# For a compatible ISAM configuration [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMMANAGER]# 	"NotificationRetryInterval" "="	Interval for retrying the sending of unreported information
Communication from the agent host to the manager host: [{JP1_DEFAULT <i>logical-host</i> } \JP1AOMAGENT]#	"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:

- 2.4.2(10) *NotificationRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.4.2(11) *NotificationRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

For details about defining the environment setting parameters for communication from the agent host to the manager host, see the following:

- 2.4.2(24) *NotificationRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.4.2(25) *NotificationRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

15.3.15 Setting the connection timeout for communication between the event/action control manager and agent

When an 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 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 15–52: 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]# 	"ClientConnectTimeout" =	Connection timeout between the event/action control manager and agent
Event action control agent [{JP1_DEFAULT <i>logical-host</i> } \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:

- 2.6.2(1) *ClientConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

For details about defining the environment setting parameters for the event/action control agent, see the following:

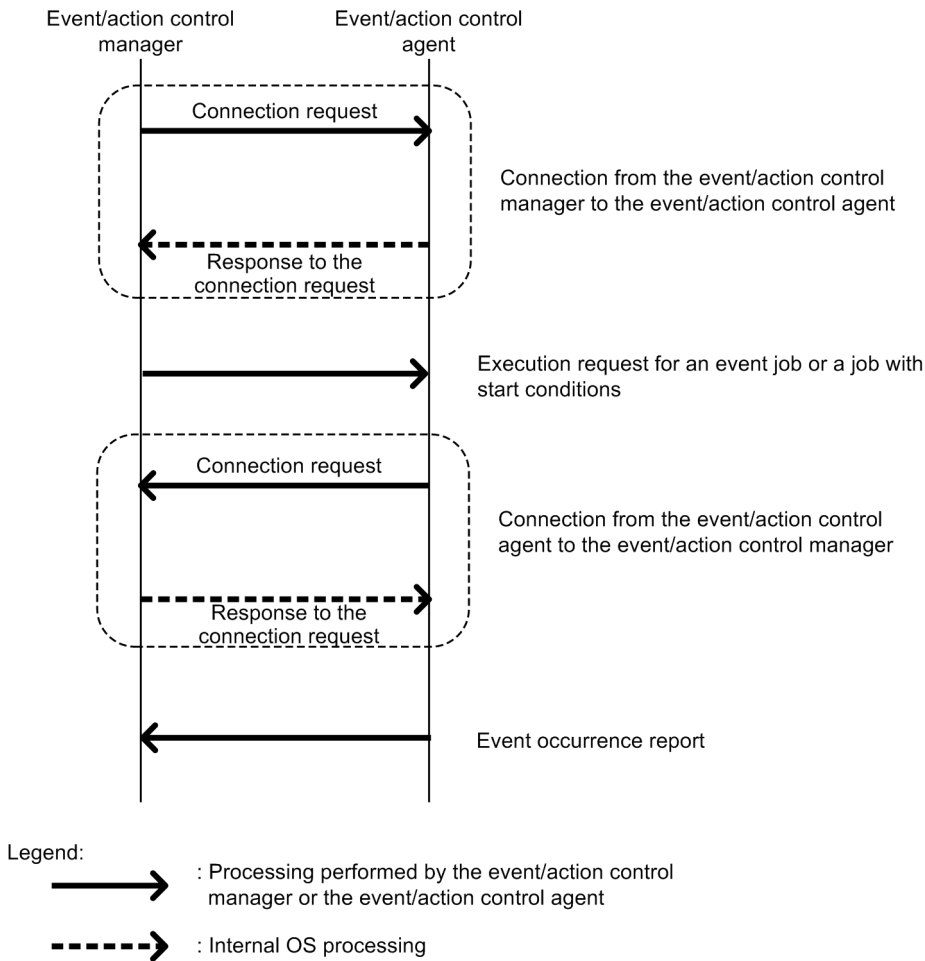
- 2.4.2(23) *ClientConnectTimeout* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

15.3.16 Environment setting parameters related to communication for event/action control

When an 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 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 or a jobnet with start conditions is executed.

Figure 15-1: Communication when an 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 15–53: Environment setting parameters related to communication retries for event/action control

Definition key	Environment setting parameter	Explanation
<p>For the manager host:</p> <pre>[{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service \NETWORK\EVMANAGER]#</pre> <p>For the agent host:</p> <pre>[{JP1_DEFAULT logical-host} \JP1AOMAGENT]#</pre>	"ClientConnectTimeout"=	Connection timeout period
<ul style="list-style-type: none"> • For all scheduler services <pre>[{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\EV\MANAGER]#</pre> • For a specific scheduler service <pre>[{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\EV \MANAGER]#</pre> • For a compatible ISAM configuration <pre>[{JP1_DEFAULT logical-host} \JP1AOMMANAGER]#</pre> 	"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 <pre>[{JP1_DEFAULT logical-host} \JP1AJS2\SCHEDULER\EV \MANAGER]#</pre> • For a specific scheduler service <pre>[{JP1_DEFAULT logical-host} \JP1AJSMANAGER\scheduler-service\EV \MANAGER]#</pre> • For a compatible ISAM configuration <pre>[{JP1_DEFAULT logical-host} \JP1AOMMANAGER]#</pre> <p>For the agent host:</p> <pre>[{JP1_DEFAULT logical-host} \JP1AOMAGENT]#</pre>	"NotificationRetryInterval"=	Interval for retrying to send unreported information
	"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.

The following describes the relationship between the environment setting parameters, and provides examples of setting these parameters.

(1) About ClientConnectTimeout

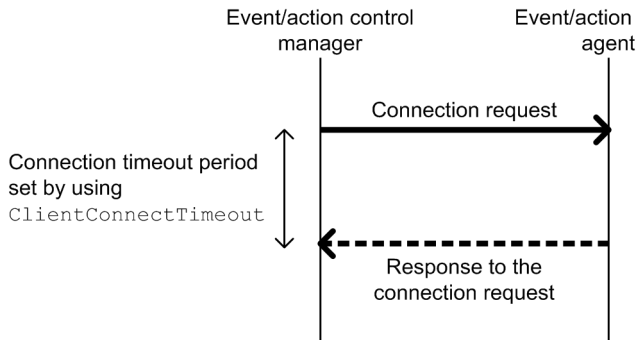
When the event/action control manager sends a connection request to the event/action control agent, or when the event/action control agent sends a connection request to the event/action control manager, the sender waits for a response. If no response is returned within a predefined time, the wait times 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.

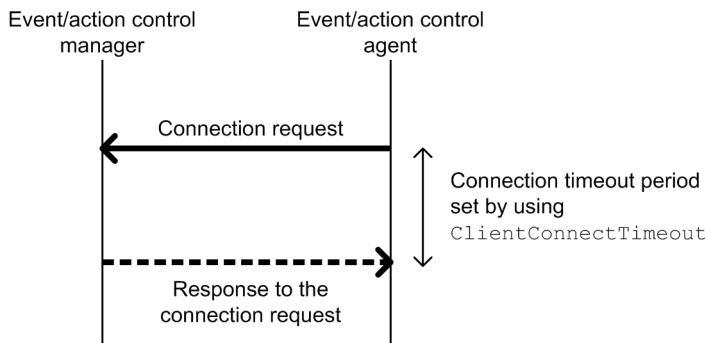
The following figure shows the connection timeout period set by using the `ClientConnectTimeout` environment setting parameter.

Figure 15-2: 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.

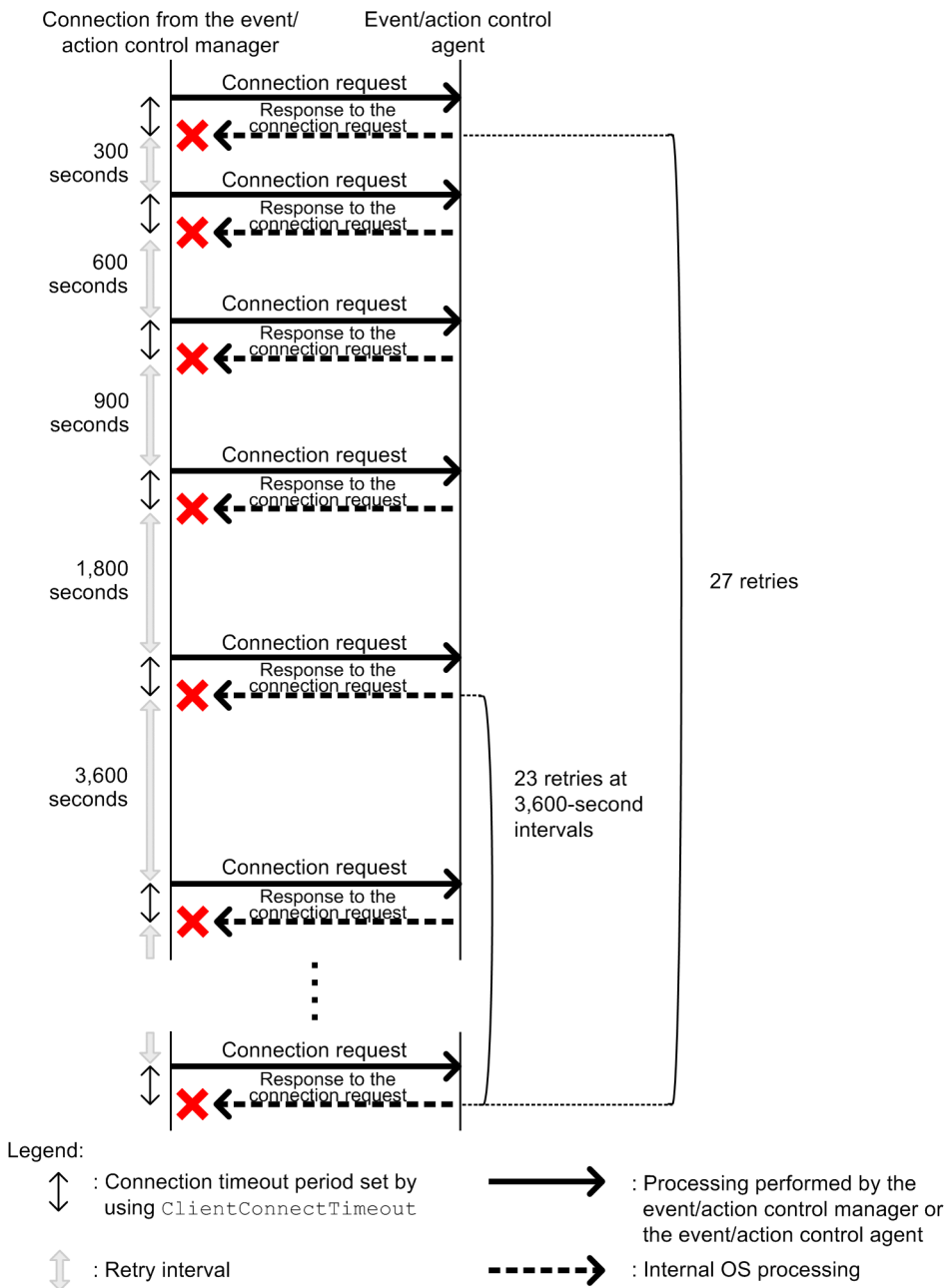
However, if no response has been sent from a connection request for a long time because of a network device failure or similar reason, the time that elapses before the timeout also increases. Accordingly, the time during which neither an execution registration or kill request for an event job or jobnet 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 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

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 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. Specifically, each retry is performed at successive intervals of 300 seconds, 600 seconds, 900 seconds, 1,800 seconds, and 3,600 seconds (3,600 seconds is the interval thereafter), until a total of 27 retries (over 24 hours) have been performed.

The following figure shows the communication between the event/action control manager and the event/action control agent when a connection timeout occurs.

Figure 15-3: Communication between the event/action control manager and 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 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*.

(3) About NotificationRetryInterval and NotificationRetryCount

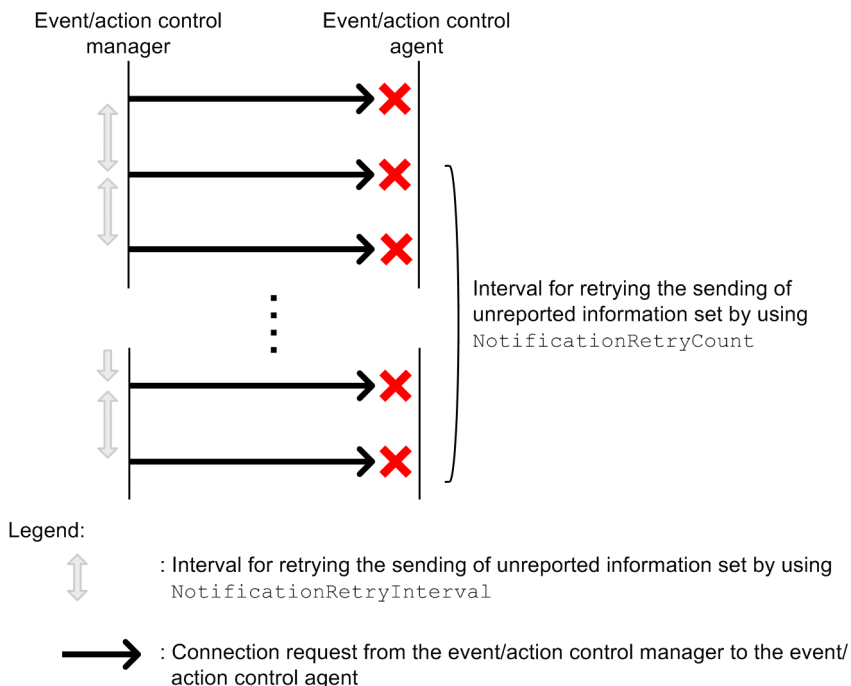
In addition to a connection timeout, a communication error might also be caused by the following problems:

- 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 15-4: 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) 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 15–54: Guidelines for environment setting parameter settings

		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 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

		Environment setting parameters requiring adjustment				Cautionary note
		"ClientConnectTimeout" (in milliseconds)	"NotificationConstantRetry"	"NotificationRetryInterval" (in seconds)	"NotificationRetryCount"	
Most important consideration	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	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 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.

For details about the definition of each environment setting parameter, see the following documentation:

- *2.4.2(9) NotificationConstantRetry in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- *2.6.2(1) ClientConnectTimeout in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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:

- *2.4.2(10) NotificationRetryInterval in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- *2.4.2(11) NotificationRetryCount in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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:

- *2.4.2(24) NotificationRetryInterval* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- *2.4.2(25) NotificationRetryCount* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

15.3.17 Settings for ensuring that a fixed manager host name is used when event jobs are executed

When an 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 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 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 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 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 or 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 or 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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.
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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jplbase/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The contents of the configuration file are applied to the system.

(2) Environment setting parameter

Table 15-55: 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	"FixedHostnameForAgent"=	Option for using a fixed manager host name

Definition key	Environment setting parameter	Explanation
<pre>[{JP1_DEFAULT logical-host}\JP1AJS2\SCHEDULER \EV\MANAGER]#</pre> <ul style="list-style-type: none"> For a compatible ISAM configuration <pre>[{JP1_DEFAULT logical-host}\JP1AOMMANAGER]#</pre>	"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 2.4.2(6) *FixedHostnameForAgent* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.18 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

(a) For a standard configuration

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.

(b) For a compatible ISAM configuration

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the jbssetcnf command is /opt/jp1base/bin/jbssetcnf. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. Restart JP1/AJS3.

The new settings are applied.

(2) Environment setting parameter

Table 15-56: 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 parameters, see 2.4.2(26) *EventServerName* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.3.19 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 nor 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 and event jobs that are currently running.
3. Execute the following command to stop all scheduler services with which 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 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/jp1ajs2/jajs_stop#  
# /opt/jp1ajs2/bin/jajs_spmd_status
```

#:

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#
# /opt/jp1ajs2/bin/jajs_spmd_status

```

#:

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 15-57: 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 2.4.2(13) *ResolveAgentInfo* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

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 `jbssetcnf` command.

For details about the `jbssetcnf` command, see the *Job Management Partner 1/Base User's Guide*.

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. In an editor such as vi, create a configuration file that defines the environment setting parameter described in (2) below.

3. Save the file and then execute the following command:

```
jbssetcnf configuration-file-name
```

The path of the `jbssetcnf` command is `/opt/jp1base/bin/jbssetcnf`. For details on this command, see the *Job Management Partner 1/Base User's Guide*.

4. 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 15-58: 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:

- 2.7.2(32) *AJSQL_CJOBMAX* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.7.2(33) *AJSQL_CJOBWAITMAX* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(3) Definition example

- Definition in **Exec-agent** for a job

```
agent1!class1
```

- Class definition on the job execution host (agent1)

```
[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 `jaajs_config` command.

For details about the `jaajs_config` command, see *jaajs_config* in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 15-59: 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:

- 2.5.2(1) *AJSCHK_CHECKFILE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.5.2(2) *AJSCHK_LOGDIR* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.5.2(3) *AJSCHK_LOGSIZE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

4. 2.5.2(4) *AJSCHK_TRACELOGFILE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
5. 2.5.2(5) *AJSCHK_CHARCODE* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 15–60: 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 2.9.2(2) *SYSLOGJOBMSG* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

15.7 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

15.7.1 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/jajs_start
```

2. In the file (automatic start shell script), delete the shaded part shown below.

```
: #/opt/jp1ajs2/bin/jajs_spmc >/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 `jajs_start.model` file to the `jajs_start` file. If the `jajs_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](#).

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 [2.2.2\(51\) RDBCONNECTWAITTIME](#) in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

Important note

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 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.

Enable or disable `WAIT_READY=YES` according to the desired manner of operation. The following table describes the JP1/AJS3 operation and effect for each setting of the comment.

Table 15-61: 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>2.12 Troubleshooting problems related to invalid ISAM files</i> in the manual <i>Job Management Partner 1/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.

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_spmd >/dev/null 2>/dev/null
```

If you choose to delete the comment symbol, review beforehand operation of the script after the deletion.
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.

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_spmd_stop  
: # RC=$?
```

When you delete the shaded part, take note of the following.

Cautionary note:

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.

Enable or disable WAIT_READY=YES according to the desired manner of operation.

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/ajsqstart >/dev/null 2>/dev/null
```

3. 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 Console services

The JP1/AJS3 Console services 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 do this.

The JP1/AJS3 Console services include the JP1/AJS3 Console Manager service and the JP1/AJS3 Console Agent service. The script must be set for each of these services.

(a) Setting automatic startup and termination of the JP1/AJS3 Console Manager service

The following describes how to set automatic startup and termination of the JP1/AJS3 Console Manager service.

■ Setting automatic startup of the JP1/AJS3 Console Manager service

To ensure that the JP1/AJS3 Console Manager service is started automatically when the system starts, you must set the automatic start script.

To set automatic start of the JP1/AJS3 Console Manager service in the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2cm/jajscm_start
```

2. In the file, delete the shaded part shown below.

```
#!/etc/opt/jp1ajs2cm/ajscminetd_startstop start >/dev/null 2>/dev/null
```

3. Close the file.

■ Setting automatic termination of the JP1/AJS3 Console Manager service

To set automatic termination of the JP1/AJS3 Console Manager service in the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2cm/jajscm_stop
```

2. In the file, delete the shaded part shown below.

```
#!/etc/opt/jp1ajs2cm/ajscminetd_startstop stop
```

3. Close the file.

(b) Setting automatic startup and termination of the JP1/AJS3 Console Agent service

The following describes how to set automatic startup and termination of the JP1/AJS3 Console Agent service.

■ Setting automatic startup of the JP1/AJS3 Console Agent service

To ensure that the JP1/AJS3 Console Agent service is started automatically when the system starts, you must set the automatic start script.

To set automatic startup of the JP1/AJS3 Console Agent service in the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajsca_start
```

2. In the file, delete the shaded part shown below.

```
#!/etc/opt/jp1ajs2/ajscainetd_startstop start >/dev/null 2>/dev/null
```

3. Close the file.

■ Setting automatic termination of the JP1/AJS3 Console Agent service

To set automatic termination of the JP1/AJS3 Console Agent service in the automatic start script:

1. Open the following file with a text editor such as vi:

```
/etc/opt/jp1ajs2/jajsca_stop
```

2. In the file, delete the shaded part shown below.

```
#!/etc/opt/jp1ajs2/ajscainetd_startstop stop
```

3. Close the file.

(5) 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 -ef|awk '/\opt\jp1ajs2\bin\ajschkmand / {print $2}'`
if [ "$pids" = "" ]; then
trap "" 1 2 3
#!/opt/jp1ajs2/bin/ajschkstart -m >/dev/null 2>/dev/null &
fi
fi
if [ -x /opt/jp1ajs2/bin/ajschkagtd ]; then
pids=`ps -ef|awk '/\opt\jp1ajs2\bin\ajschkagtd / {print $2}'`
if [ "$pids" = "" ]; then
trap "" 1 2 3
#!/opt/jp1ajs2/bin/ajschkstart -a >/dev/null 2>/dev/null &
fi
fi
```

3. 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.

(6) 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/jp1ajs2/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.

(7) 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](#).

(8) 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.

15.7.2 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 *Job Management Partner 1/Automatic Job Management System 3 Overview*.

15.7.3 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/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 parameters

Table 15-62: 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:

- 2.2.2(23) *CHANGEPASSWORD* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*
- 2.2.2(24) *CHANGEPWDLOG* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*

(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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/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 and JP1/AJS3 - Agent 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.

After installing JP1/AJS3 - Manager or JP1/AJS3 - Agent, copy the data collection tool (*_04*) to another folder and use it from that folder.

Important note

If you are using JP1/AJS3 Console, there are two cases where you do not need to specify the settings for using a data collection tool in JP1/AJS3 Console Agent, or where JP1/AJS3 Console View is not necessary. One case is if you are using the data collection tool of JP1/AJS3 - Manager or JP1/AJS3 - View (*jajs_log*), and the other case is if you specified the environment settings for the data collection tool (*_04*).

If you have not set up the environment for a data collection tool (*_04*), use the following procedure.

To set up the environment needed to use the data collection tool (*_04*):

1. Copy the data collection tool (*_04*) to any folder.

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/HNTRLlib/spool" HNTR2LOG="/var/opt/hitachi/HNTRLlib2/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" 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[sq]*"
6	Job error information directory ^{#3, #5}	JOBINF="./var/opt/jplajs2/jobinf"
7	JP1/AJS3 Console Manager data directory ^{#3, #6}	JP1AJS2CMDDB="/var/opt/jplajs2cm/database"
8	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 change the output directory of a logical host in a cluster system from its default value • If you want to change a log file destination^{#7} from its default value^{#8} • 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: ADDFILE="/new-shared-directory/jplajs2" ADDFILE="\$ADDFILE /new-shared-directory/jplbase/log /new-shared-directory/jplbase/conf"

#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 ./addir/database2"

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 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:

If the data directory of JP1/AJS3 Console Manager on the physical host has been changed, modify the directory specification to reflect the change. Specify each data directory of the logical host for ADDFILE.

#7:

For details about the default storage directories for the log files specified in the data collection tool, see *1.2.4 List of log files and directories* in the manual *Job Management Partner 1/Automatic Job Management System 3 Troubleshooting* and the list of files and directory in the appendix of the *Job Management Partner 1/Base User's Guide*.

#8:

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	AJSSYS DIR
	Log directory	AJSLOG DIR
	Host-based scheduler log file 1	HOSTLOG FILE1
	Host-based scheduler log file 2	HOSTLOG FILE2
Scheduler service	Scheduler trace log file	TRACELOG FILE
	Scheduler log file 1	AJSLOG FILE1
	Scheduler log file 2	AJSLOG FILE2
	Job error information directory	JOBINF DIR
	Database directory	AJSDBD IRECTORY
	System directory	AJSSYS DIR
	Log directory	AJSLOG DIR
JP1/AJS3 definition pre-check function	Definition check log directory	AJSCHK_ LOG DIR
	Trace log file	AJSCHK_ TRACELOG FILE
Queueless job execution environment	Trace log file	AJSQL_ TRACELOG FILE
	Storage directory for internal log data output by the queueless file transfer service	AJSQL_ EXECLOG_ FT PPA TH
	Storage directory for internal log data output by the queueless agent service	AJSQL_ EXECLOG_ AG TPA TH
	Work path for queueless jobs or directory for temporary files	AJSQL_ AG TWORK PATH
JP1/AJS3 Console	Data directory path	DATAD IRECTORY
	Trace log file	TRACELOG FILE

16.1.2 Notes on the data collection tool (_04)

1. The following table summarizes the differences between the data collection tool (_04) in JP1/AJS2 07-10 and later versions, and the data collection tool (_04) in JP1/AJS2 versions earlier than 07-10.

Table 16-3: Differences in the data collection tool (_04) versions

Functionality	Version 07-10 or later	Version earlier than 07-10
Collection of the following types of data: <ul style="list-style-type: none"> • Error log information^{#1} • Information about the <code>/etc/environment</code> file^{#1} • File list information for the database directory • Information required for core analysis^{#2} 	Data is collected.	Data is not collected.
Specification of the logical host	The logical host name is specified when the data collection tool (_04) is executed.	The directory for storing data is set for each logical host in the environment settings of the data collection tool (_04).
Isolation of initial investigation files	Initial investigation files are stored in a special directory.	The files required for initial investigation are output to separate locations.

#1:

This type of information is collected in AIX only.

#2:

In Linux, note the following:

Because the maximum size of a core file at output might be set to 0 by default in Linux, outputting core dumps might not be possible.

For this reason, the following setting is specified by default for the `jajs_start` and `jajs_start.cluster` commands to ensure that core dumps are available in Linux:

```
if [ 'uname' = Linux ]; then
  ulimit -c unlimited
fi
```

If this setting violates the security policy of the host being used, comment out the settings of these files as shown below.

If you comment out the settings, core dumps might not be output and you might not be able to investigate the cause of a problem if a core dump is output, such as a segmentation error or bus error that occurs in a JP1/AJS3 process.

```
#if [ 'uname' = Linux ]; then
# ulimit -c unlimited
#fi
```

2. If you have customized the data collection tool (_04) of a JP1/AJS2 version earlier than 07-10 so that the tool also collects non-standard data items, the customization is lost when the JP1/AJS2 version is upgraded to 07-10 or later.

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 *11.1 Overview of cluster systems* in the *Job Management Partner 1/ 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 note

Do not install JP1/AJS3 on a shared disk.

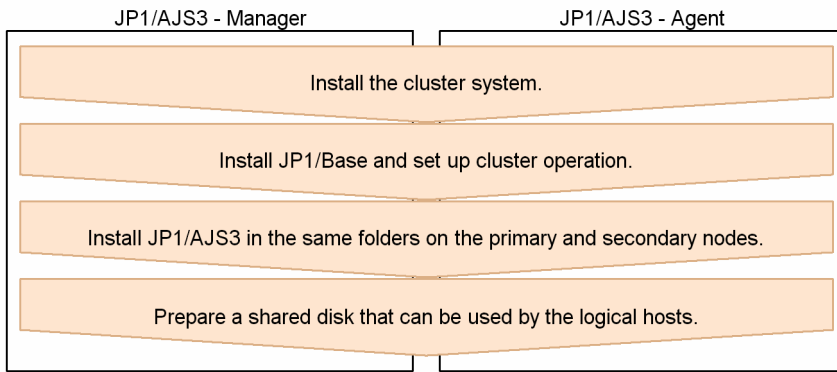
17.1.2 Setup required for cluster system operation

This subsection describes the procedure for setting up a UNIX host when you are constructing a system that uses JP1/AJS3 for cluster operation.

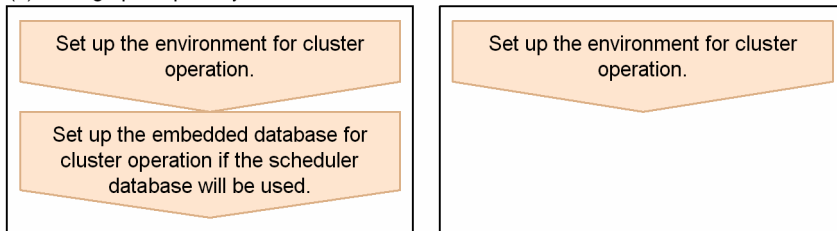
The following figure shows the setup procedure for enabling cluster operation.

Figure 17-1: Setup procedure for enabling cluster operation

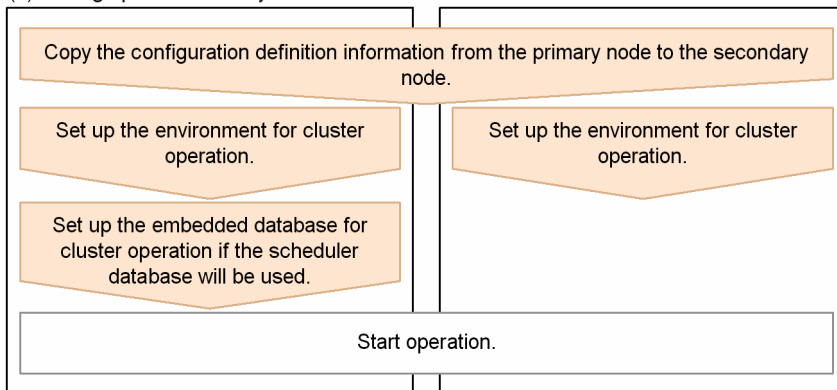
(1) Preparing to set up a cluster system in JP1/AJS3



(2) Setting up the primary node



(3) Setting up the secondary node



Ensure that the locations of JP1 series programs installed on the primary node and the locations of those programs installed on secondary nodes are the same. For details about the setup of the JP1/Base and JP1/AJS3 series programs shown in the figure, see [13. Setup](#). For details about the setup of a cluster system, see the documentation for the cluster system being used.

The following describes the items that must be set to implement cluster operation. For details about the commands mentioned here, see [2. Commands](#) in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1* and [2. Commands Used during Setup](#) in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

Before you set up a cluster system for JP1/AJS3, set up a cluster system for JP1/Base.

In addition, if implementing cluster operation, verify compatibility with the cluster software to be used before starting setup and 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.

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 *17.2.2 Procedure for setting up the environment for a cluster system*.

(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. These directories are automatically created under the shared directory specified in the `-d` option when the `jajs_setup_cluster` command is executed.

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
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
JP1/AJS3 Console Manager data file	<i>shared-directory-name</i> /jplajs2cm/database ^{#1}
Embedded database data area file	<i>shared-directory-name</i> /jplajs2/emddb ^{#2}

#1:

This directory is not automatically created when the `jajs_setup_cluster` command is executed. Manually create the folder when using JP1/AJS3 Console Manager in a cluster system.

#2:

This folder 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

Information created in the shared directorys	Directory name
Work file	<i>shared-directory-name</i> /jplajs2/tmp

As the shared directory, specify one of the folders 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/jplajs2cm/database
/shdsk/node0/jplajs2/emdbdb

```

(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 the environment for a cluster system*, 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.

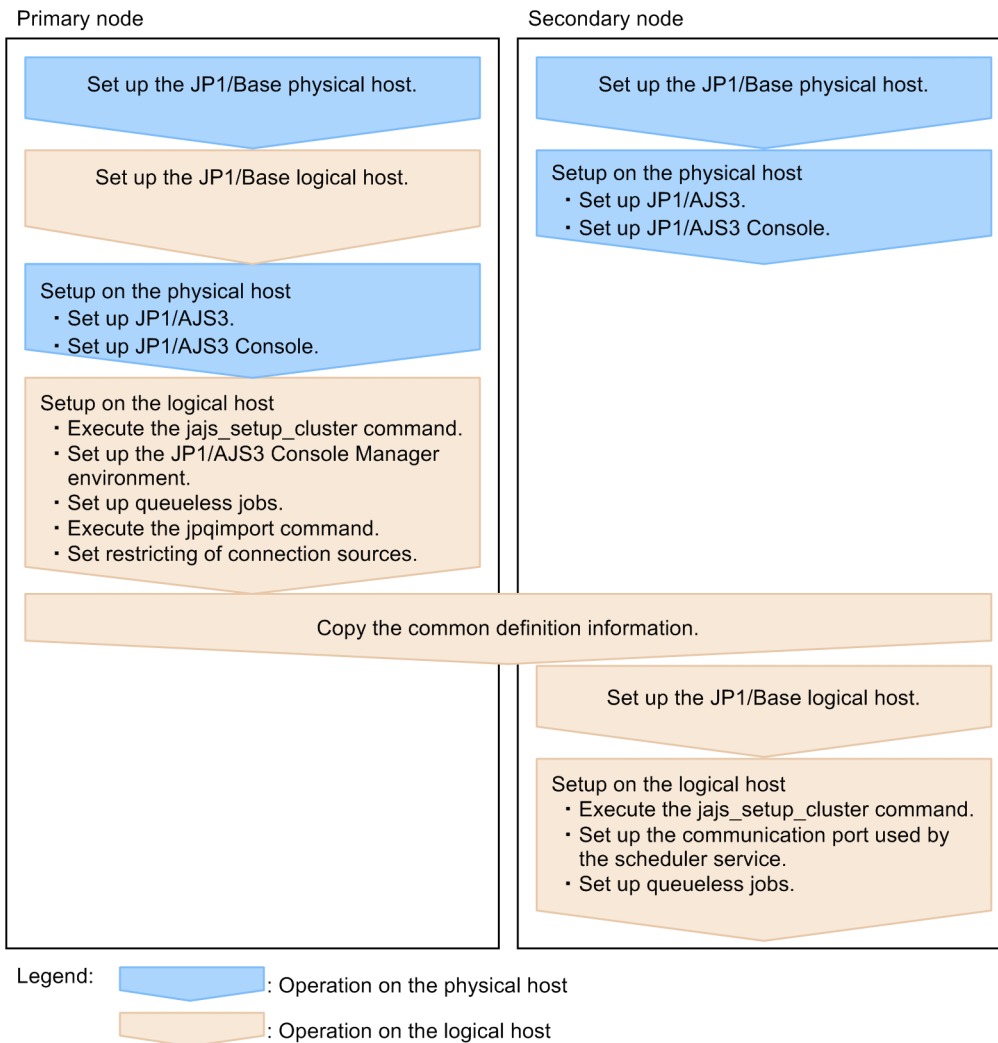
17.2.2 Procedure for setting up the environment for a cluster system

Use commands to define the items described in *17.2.1 Environment setup items for a cluster system*. Do this on both the primary and secondary nodes.

This subsection describes the tasks related to the environment setting commands that must be performed on both the primary and secondary nodes. Stop all the JP1 services and then set up the environment in JP1/AJS3 - Manager or JP1/AJS3 - Agent.

The following figure provides an overview of setting up the environment.

Figure 17-2: Overview of setting up the environment



(1) Tasks required on the primary node (JP1/AJS3 - Manager)

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 *Job Management Partner 1/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 *Job Management Partner 1/Base User's Guide*.

2. 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}]
-S
}

```

For details about the `jajs_setup_cluster` command, see *jajs_setup_cluster* in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

- 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: 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 `-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.

3. Execute the following command to create the environment for executing jobs:

```

jppqimport -dt isam -ci execution-environment-configuration-definition-
file-for-queue-and-submit-jobs [-mh logical-host-name]

```

For details about the `jppqimport` command, see *jppqimport* in 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

4. Perform advanced setup for the embedded database.

If you specified the `-S` option in step 2, perform advanced setup for the embedded database.

For details about advanced setup for the embedded database, see *D. Advanced Setup for the Embedded Database (in a Cluster Configuration)*.

5. Specify the JP1/AJS3 Console Manager environment settings.

If JP1/AJS3 Console Manager is being used, the JP1/AJS3 Console Manager environment must be set up for a cluster system.

Note that you do not need to set up the JP1/AJS3 Console Agent environment for a cluster system because setup is performed during setup of the JP1/AJS3 Manager environment for cluster operation.

Execute the following command to set the `DATADIRECTORY` environment setting parameter to the path to the data directory on the logical host:

```
jaajs_config -k "[logical-host-name\JP1AJS2CONSOLEMANAGER]"  
"DATADIRECTORY"="path-to-the-data-directory-on-the-logical-host"
```

For example, if the logical host name is `node0` and the logical host shared directory is `/shdsk/node0`, the command you execute is as follows:

```
jaajs_config -k "[node0\JP1AJS2CONSOLEMANAGER]" "DATADIRECTORY"="/shdsk/  
node0/jp1ajs2cm/database"
```

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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *14.4 Settings for restricting connections to JP1/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 *15.3.18 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 [17.2.7\(1\) 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 (JP1/AJS3 - Manager)

To set up a cluster system environment for JP1/AJS3 - Manager on the secondary node:

1. 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
```

2. Perform the JP1/Base tasks required on the secondary node.

For details about the JP1/Base tasks, see the *Job Management Partner 1/Base User's Guide*.

3. 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 `jajs_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.

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 *D. Advanced Setup for the Embedded Database (in a Cluster Configuration)*.

5. 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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *17.2.7(1) Adding scheduler services on a logical host*.

(3) Tasks required on the primary node (JP1/AJS3 - Agent)

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 *Job Management Partner 1/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 *Job Management Partner 1/Base User's Guide*.

2. 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.
3. 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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

4. 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 *14.4 Settings for restricting connections to JP1/AJS3*.
5. 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 *15.3.18 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.

(4) Tasks required on the secondary node (JP1/AJS3 - Agent)

To set up a cluster system environment for JP1/AJS3 - Agent on the secondary node:

1. 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
```
2. Perform the JP1/Base tasks required on the secondary node.

For details about the JP1/Base tasks, see the *Job Management Partner 1/Base User's Guide*.

3. 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.

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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

This completes the tasks required on the secondary node.

Cautionary note:

Setup must be performed on each logical host.

17.2.3 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:
 - `jpgregguestuser`
 - `jpgreguser`
- 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
- jplajs2casetup
- jplajs2cmsetup

- 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.)

17.2.4 Registering the JP1/AJS3 service in the cluster software

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.
- If you use JP1/AJS3 Console, you do not need to register the JP1/AJS3 Console service in the cluster software.

The following table describes the information that needs to be registered in the cluster software.

Table 17-3: 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>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 2. <i>Commands</i> in the manual <i>Job Management Partner 1/Automatic Job Management System 3 Command Reference 1</i>.</p>
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>

Function to be registered	Explanation
Stop	<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 <i>jajs_stop.cluster (UNIX only)</i> in 2. <i>Commands</i> in the manual <i>Job Management Partner 1/Automatic Job Management System 3 Command Reference 1</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) JP1/AJS3 is operating normally.</p> <p>Return value = 1 (error) An irrecoverable error has occurred. Assume that an error has occurred.</p> <p>Return value = 4 (partial stop) Some JP1/AJS3 processes have stopped for some reason. Assume that an error has occurred.</p> <p>Return value = 8 (all stop) All JP1/AJS3 processes have stopped for some reason. Assume that an error has occurred.</p> <p>Return value = 12 (status confirmation error) 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 <i>jajs_spm�_status</i> in 2. <i>Commands</i> in the manual <i>Job Management Partner 1/Automatic Job Management System 3 Command Reference 1</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 <i>jajs_killall.cluster (UNIX only)</i> in 2. <i>Commands</i> in the manual <i>Job Management Partner 1/Automatic Job Management System 3 Command Reference 1</i> and 11.4.1 <i>Script for forcibly stopping JP1/AJS3 (jajs_killall.cluster)</i> in the <i>Job Management Partner 1/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 *2.2 Setting up the scheduler service environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

For details about how to set up a scheduler service environment, see *14.2 Environment setting parameter settings* and *17.2.3 Changing the common definition information*.

17.2.5 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_spmd_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
fi
:
if [ $RC -ne 0 ]; then
: # exit 1 . . . (1)
fi
:
/opt/jp1ajs2/bin/jajs_spmc_status -h $JP1_HOSTNAME
: # /opt/jp1ajs2/bin/ajsqldetach -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
      :
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 *2.7 Setting up the queueless job execution environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

- 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.

17.2.6 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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

2. Execute the `ajsshmdel` command to delete the information about the shared memory.

The `ajsshmdel` command is located in `/opt/jp1ajs2/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

The command is executed in the following format:

```
ajsembdbuninstl -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 *Job Management Partner 1/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
jbsunsetcnf -i -h logical-host-name -c JP1AJS2CONSOLEMANAGER
```

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) 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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 *Job Management Partner 1/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) 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 17-4: 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 2.3 *Setting up the job execution environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

17.2.7 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_spmdd_stop -h logical-host-name
jajs_spmdd_status -h logical-host-name
```

Important note

All embedded databases configured on the target logical host must be operating. Execute the `ajsembddbstatus` 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}]
|-S]
```

Example of adding a scheduler service named AJSROOT3 to the logical host node0 whose shared directory is /shdsk/node0:

```
jajs_setup -a -h node0
-F AJSROOT3
-p jplajs2report3
-d "/shdsk/node0/jplajs2/database/schedule/AJSROOT3"
-t "/shdsk/node0/jplajs2/tmp/schedule3"
-j "/shdsk/node0/jplajs2/jobinf3"
-b "/shdsk/node0/jplajs2/backup/schedule3"
-n 3
-D "/shdsk/node0"
-I JF3
-P 22222
```

For details about the `jajs_setup` command, see `jajs_setup` in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *D. 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. Make sure that you do not specify an existing 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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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`:

```
ajsembdbinstl
-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
```

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 `jajs_spmdd_stop` command to stop JP1/AJS3 services.

Stop all JP1/AJS3 services, including JP1/AJS3 - Manager on the physical host.

Important note

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 `jajs_setup` command to delete the scheduler service.

```
jajs_setup -e -F scheduler-service
```

Example of the command executed when the scheduler service to be deleted is AJSROOT3:

```
jajs_setup -e -F AJSROOT3
```

For details about the `jajs_setup` command, see `jajs_setup` in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

On the secondary node, use the `jbsunsetcnf` command instead of the `jajs_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 note

Do not delete the logical host shared folder specified in the `-D` option.

5. 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 `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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 `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 `ajslcaldate` 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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 17-5: 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"
```

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

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.

To change the AJSDBDIRECTORY environment setting parameter, you need to use the `ajssetup` command to set the suspend function again after changing the environment setting parameter. Execute this command on either the primary node or the secondary node that can access the shared disk.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details about the parameters, see 2.2 *Setting up the scheduler service environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

17.2.8 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 [17.2.5 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/jplajs2/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
pids=$(PS|awk '/opt/jp1ajs2/bin/ajschkagtd / {print $2}')
if [ "$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. 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) 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_spmd_status -h $JP1_HOSTNAME #
Display the running processes

```

3. Close the file.

(4) 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 `jajs_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/jp1ajs2/jajs_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 `jajs_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/jp1ajs2/jajs_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.

17.3 Notes on cluster operation

For notes that apply during cluster operation, see *11.6 Cautionary notes on using a cluster system* in the *Job Management Partner 1/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.

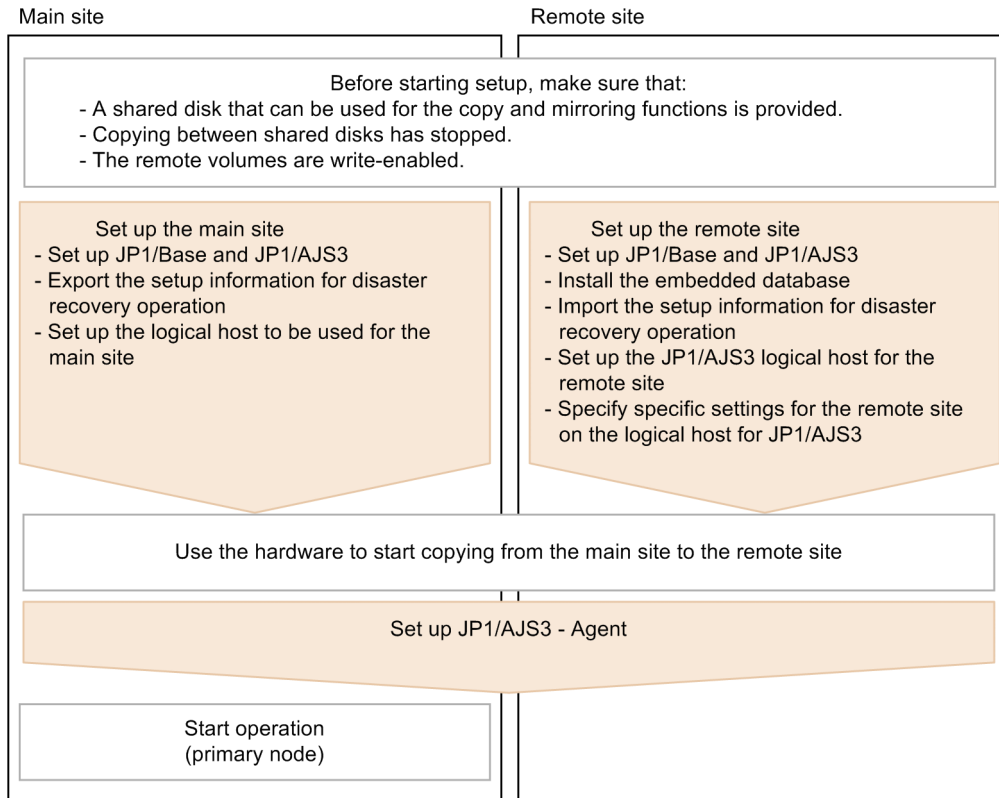
The setup procedure varies depending on whether you use the same names for the main-site and remote-site logical hosts.

For an overview of disaster recovery operation, see *12.1 Disaster recovery in JP1/AJS3* in the *Job Management Partner 1/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:

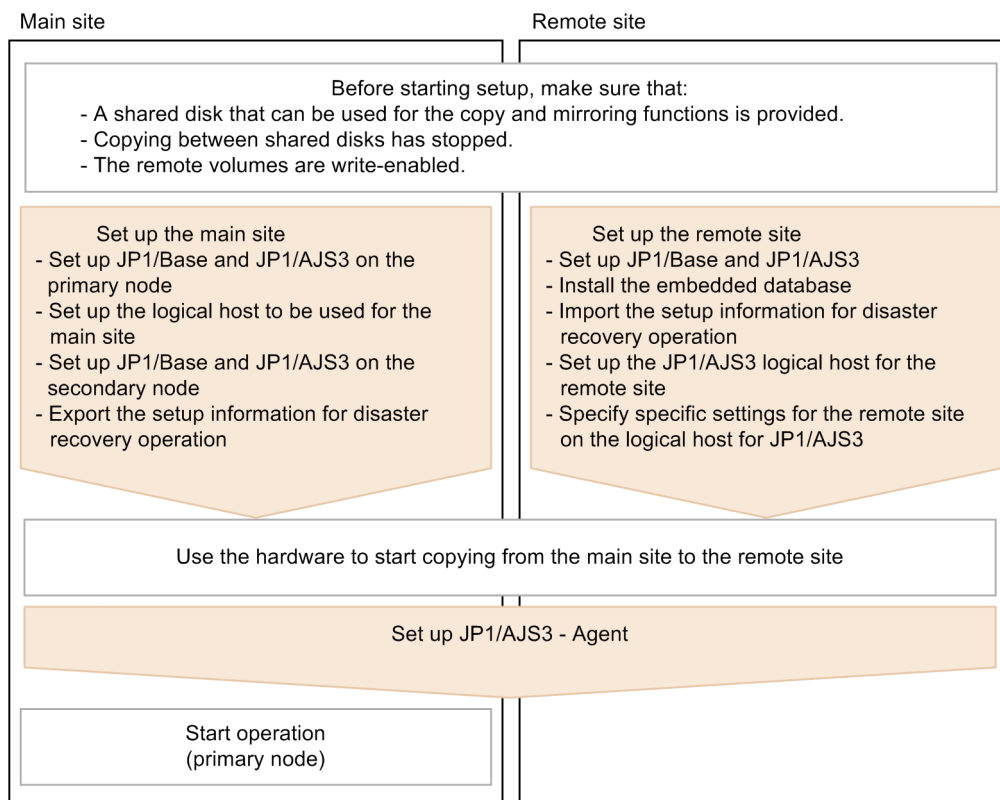
- To set up the main site:
18.2.1 Setting up the main site when using different names for the main-site and remote-site logical hosts
- To set up the remote site:
18.2.3 Setting up the remote site

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

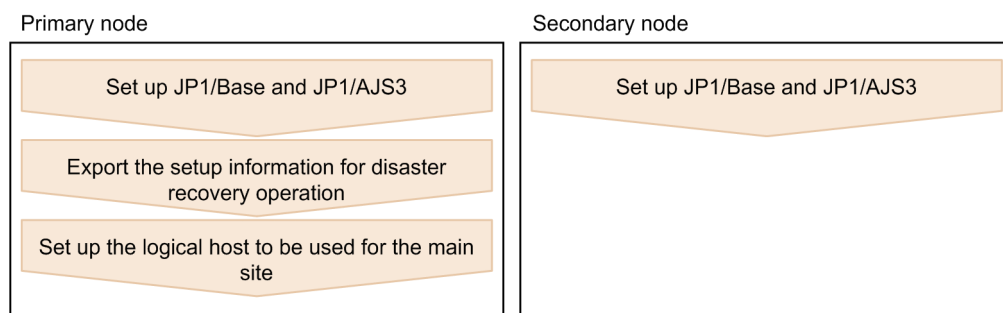
This subsection describes the procedure for setting up the main site when using different names for the main-site and remote-site logical hosts.

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 note

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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 [14.4 Settings for 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:

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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

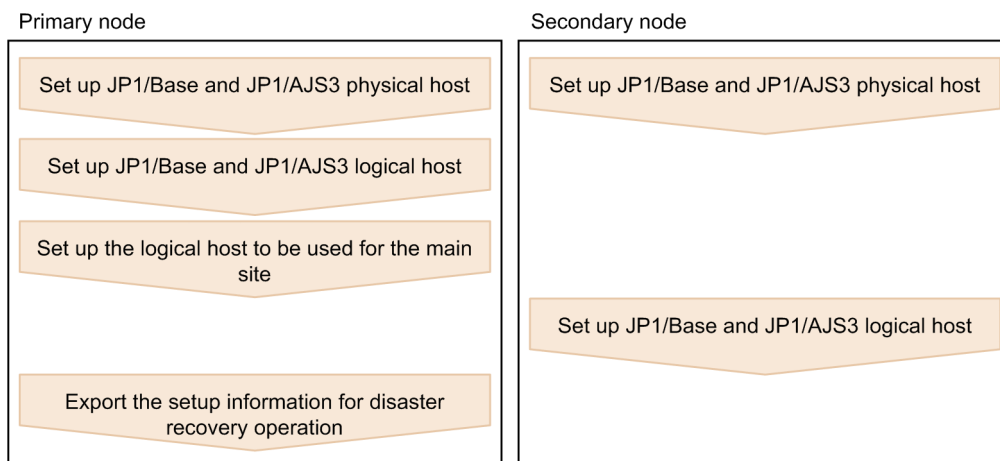
This subsection describes the procedure for setting up the main site when using the same name for the main-site and remote-site logical hosts.

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 *12.3.2 Changing the settings of a disaster recovery environment* in the *Job Management Partner 1/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 (JP1/AJS3 - Manager)*.

Important note

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 [14.4 Settings for 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 \(JP1/AJS3 - Manager\)](#).

6. On the primary node, export the disaster recovery operation setup information.

Execute the following command:

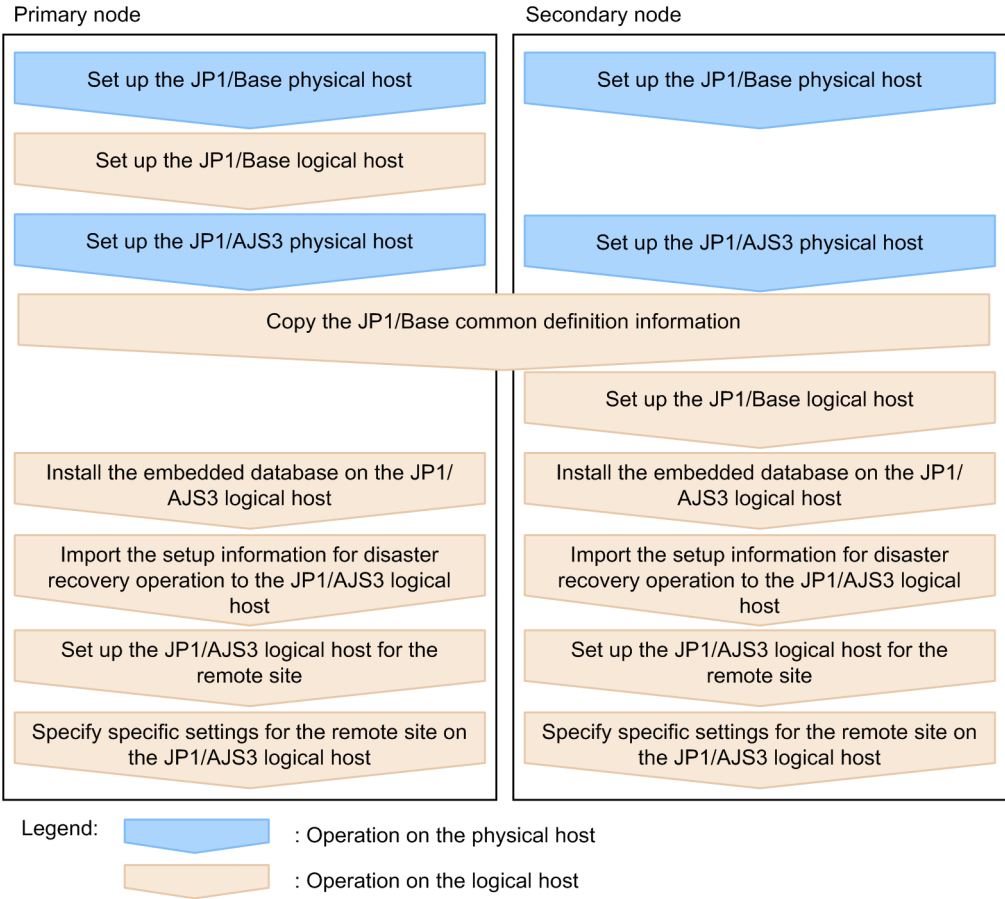
```
jajs_rpenvexport -h logical-host-name -d output-directory-name
```

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](#).

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *12.2.2 Rebuilding the main site in the Job Management Partner 1/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 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"> [<i>logical-host-name</i>\JP1AJS2] [<i>logical-host-name</i>\JP1AJS2MANAGER] #1 [<i>logical-host-name</i>\JP1AOMMANAGER] [<i>logical-host-name</i>\JP1AOMAGENT] [<i>logical-host-name</i>\JP1NBQAGENT] [<i>logical-host-name</i>\JP1NBQMANAGER] [<i>logical-host-name</i>\JP1NBQCLIENT] [<i>logical-host-name</i>\JP1NBQNOTIFY] [<i>logical-host-name</i>\JP1QLAGENT] #2 [<i>logical-host-name</i>\JP1AJS2CONSOLEMANAGER] #2
2	Embedded database definition file

#1

If this definition key does not exist, information will not be exported because the system assumes that no logical host has been created.

#2

This definition key is used by optional functions and might not exist.

(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 Trace log file for JP1/AJS3 Console Manager or JP1/AJS3 Console Agent
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.

No.	Type of information	Information that is not set	Required settings
7	Scheduler	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 Console	JP1/AJS3 Console settings	Either set up or remove the setup of the JP1/AJS3 Console 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 *2.3.5 Example of configurations that include a firewall, and their communications settings* in the *Job Management Partner 1/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
- Trace log file[#] for JP1/AJS3 Console Manager or JP1/AJS3 Console Agent[#]

[#]
Not required unless JP1/AJS3 Console is used at the main site and the remote site.

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 *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

To change the trace log file size for the queueless job function, use the `ajsqltrsetsz` and `ajsqlxecsetsz` commands. For details about these commands, see 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

To change the trace log file size for JP1/AJS3 Console Manager or JP1/AJS3 Console Agent, use the `ajscmtrsetsz` or `ajscatrsetsz` command. For details about these commands, see 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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>11.4.1 Script for forcibly stopping JP1/AJS3 (jajs_killall.cluster) in the Job Management Partner 1/Automatic Job Management System 3 Administration Guide or jajs_killall.cluster (UNIX only) in 2. Commands in the manual Job Management Partner 1/Automatic Job Management System 3 Command Reference 1</i>
2	<code>jajs_start</code>	<i>15.7.1 Setting automatic startup and termination of the JP1/AJS3 service</i>
3	<code>jajs_stop</code>	
4	<code>jajs_start.cluster</code>	<i>17.2.5 Setting up the queueless job execution environment</i>
5	<code>jajs_stop.cluster</code>	
6	<code>jajscm_start#</code>	<i>15.7.1(4) Setting automatic startup and termination of the JP1/AJS3 Console services</i>
7	<code>jajscm_stop#</code>	
8	<code>jajsca_start#</code>	
9	<code>jajsca_stop#</code>	

Not required if JP1/AJS3 Console is not used at the main site and the remote site.

(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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 `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 *8.6 Defining a local date and time for the scheduler service* in the *Job Management Partner 1/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 *Job Management Partner 1/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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

Note that if you change the queueless job setting, you need to restart the queueless agent service on the physical host:

(l) JP1/AJS3 Console setting

Set up JP1/AJS3 Console if it has been set up at the other site. Use the `jp1ajs2cmsetup` command to set up JP1/AJS3 Console Manager. Use the `jp1ajs2casetup` command to set up JP1/AJS3 Console Agent.

For details, see *13.3 Required setup for JP1/AJS3 Console*.

If you change the JP1/AJS3 Console setting, you need to restart the following services on the physical host:

- JP1/AJS3 Console Manager service

- JP1/AJS3 Console Agent service

(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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 Linkage Guide*
- *B. Events Reported to HP NNM* in the *Job Management Partner 1/Automatic Job Management System 3 Linkage Guide*
- *C. Commands Used When Linking with HP NNM* in the *Job Management Partner 1/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 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 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 *Job Management Partner 1/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.

19.2 Uninstalling JP1/AJS3 series programs

This section describes how to uninstall JP1/AJS3 series programs (JP1/AJS3 - Manager and JP1/AJS3 - Agent) for each OS of the hosts from which JP1/AJS3 series programs are to be uninstalled.

Important note

- 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 [17.2.6 Deleting logical hosts](#).
- If you uninstall JP1/Base before uninstalling JP1/AJS3, you will no longer be able to uninstall JP1/AJS3. Always make sure that JP1/Base is installed before you uninstall JP1/AJS3.
- In a cluster system, use JP1/Base to delete logical hosts before you uninstall JP1/AJS3. For details about deleting logical hosts, see [17.2.6 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 [12.4 Exiting disaster recovery mode](#) in the *Job Management Partner 1/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, /etc/opt/jp1ajs2cm, /opt/jp1ajs2cm, /var/opt/jp1ajs2cm`
- JP1/AJS3 - Agent
`/etc/opt/jp1ajs2, /opt/jp1ajs2, /var/opt/jp1ajs2`

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.

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 JP1/AJS3 Console environment	Setting up and changing the contents of the JP1/AJS3 Console Manager environment settings file (<code>ajs2cm.conf</code>)	--	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	
Starting the integrated trace log functionality	Starting the integrated trace log functionality (HNTRLib2)	--	O ^{#1}	
Setting up the JP1/AJS3 - View environment	Setting up a definition in the Environment Settings dialog box	--	O ^{#2}	

Legend:

Base: Work performed in JP1/Base

AJS3: Work performed in JP1/AJS3

R: Required work

O: Optional work

--: Not applicable

#1

This work is required if only JP1/AJS3 - View is installed on one host and you use the host as a JP1/AJS3 - View host.

#2

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 [#]	

Classification	Work contents	Base	AJS3	Check
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 JP1/AJS3 Console environment	Setting up and changing the JP1/AJS3 Console Manager environment setup file (<code>ajs2cm.conf</code>)	--	O [#]	
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 [#]	

Classification	Work contents	Base	AJS3	Check
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	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. Scheduler Database Estimates

B.1 Estimating the amount of required database area

In JP1/AJS3, a database can be created as a large-scale, medium-scale, or small-scale database. When JP1/AJS3 is installed as a new installation, an embedded database is set up as a small-scale database with the database auto-increment function already configured. Use the following values as guidelines for the disk space requirements of the small-scale model.

- Total number of units: 5,000 (If you execute the `ajsembddbsetup` command with the `-e sjis` option specified to set up the database for the scheduler service, 4,000)
This includes 4,000 jobs (PC jobs, Unix jobs, and QUEUE jobs). (If you execute the `ajsembddbsetup` command with the `-e sjis` option specified to set up the database for the scheduler service, 3,200)
- Number of logs to keep: 5 (If you execute the `ajsembddbsetup` command with the `-e sjis` option specified to set up the database for the scheduler service, 4)

You can change the scale of a database by performing an advanced setup of the embedded database. To change the scale, you need to remove the setup of the embedded database, and then perform an 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 B-1: Database models that can be specified during setup of the embedded-database environment

Scale	Purpose
Large	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 (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
Medium	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 (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

Scale	Purpose
Small	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 (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 + 0.1 x (total number of units - 5,000) MB

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: Total number of units
- b: Total number of waits defined in all units with wait conditions
- c:

If the environment setting parameter SAVEGENTYPE is set to TOTAL:

Number of units executed per day x (number of generations to be saved + number of scheduled generations that registered a jobnet for fixed execution + 1)

If the environment setting parameter SAVEGENTYPE is set to LEGACY:

Total number of root jobnets and subsequent units x (number of generations to be saved + 1 + number of generations to be saved x number of generations to be saved)

#

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 after configuration. For details about the data area extension, see *ajsembdbaddarea* in 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*. Note that if you use the *ajsembdbaddarea* command to extend the data area, extend the table area and the index area 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.

- Unload log operation: *Data-area* x 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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

The following is an example estimate for the database model in an embedded database environment.

Example:

The following case serves as an example:

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

$(0.0045 \times 200,000) + (0.001 \times 1,000) + (10,000 \times (5 + 10 + 1) \times 0.0065)$

$= 900 + 1 + 1,040$

$= 1,941 \text{ (MB)}$

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 B-2: 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	Total number of units: About 38,400 to 192,000 Number of units executed per day: 24,000 to 96,000 Disk space guideline: About 20,700MB (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 $20,700 + 0.125 \times (\text{total number of units} - 192,000)$ MB
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 (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 $4,200 + 0.125 \times (\text{total number of units} - 38,400)$ 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 (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 $520 + 0.125 \times (\text{total number of units} - 4,000)$ MB

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: Total number of units
- b: Total number of waits defined in all units with wait conditions
- c:

If the environment setting parameter `SAVEGENTYPE` is set to `TOTAL`:

Number of units executed per day \times (number of generations to be saved + number of scheduled generations that registered a jobnet for fixed execution + 1)

If the environment setting parameter `SAVEGENTYPE` is set to `LEGACY`:

Total number of root jobnets and subsequent units \times (number of generations to be saved + 1 + number of generations to be saved \times number of generations to be saved)

#

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 after configuration. For details about the data area extension, see *ajsembdbaddarea* in 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*. Note that when you use the *ajsembdbaddarea* command to extend the data area, extend the table area and the index area 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.

- 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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

The following is an example estimate for the database model in an embedded database environment.

Example:

The following case serves as an example:

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

$$((0.0045 \times 100,000) + (0.001 \times 1,000) + (10,000 \times (5 + 10 + 1) \times 0.0065)) \times 1.25$$

$$= (450 + 1 + 1,040) \times 1.25$$

$$= 1863.75 \text{ (MB)}$$

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 B-3: 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

You can create the data area and system area for the embedded database in RAW files. For this purpose, the following two or three partitions are required:

- Data area partition (ajssys01)
- System area partition 1 (ajssys11)
- System area partition 2 (ajssys17)[#]

The following table shows the partition sizes required for each scale. The database models in *Table B-1* also apply to this table.

Table B-4: Required partition sizes

Scale	Purpose
Large	ajssys01: About 6,700 MB ajssys11: About 14,000 MB ajssys17: About 14,000 MB [#]
Medium	ajssys01: About 1,400 MB ajssys11: About 2,800 MB ajssys17: About 2,800 MB [#]
Small	ajssys01: About 200 MB ajssys11: About 320 MB ajssys17: About 320 MB [#]

#:

This partition is required only if the system area for the embedded database is duplexed.

About the database auto-increment function:

If you use the database auto-increment function, the amount of allocated data area is automatically increased a little bit each time it becomes insufficient. The function can expand the data area to the maximum extent possible on the disk on which the data area is located. The files that can be expanded by this function are as follows:

- The `ajssys041` and `ajssys042` files in the data area storage directory
- The files created under the directory specified for the `-d` option in the `ajsembdbaddarea` command

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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

Supplementary notes

- For details about the required disk space when system files are duplicated, see [Table C-3 Disk space required for the embedded database operating environment](#) in *C.1 Preparation for using an embedded database*.
- 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 [5.4.1\(1\) Restoring the scheduler database from unload log files](#) in the *Job Management Partner 1/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 [8.5.1\(7\) Estimating the disk space requirements after migration from a version 8 embedded database](#) in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

C. Advanced Setup of an Embedded Database

This appendix describes how to perform advanced setup of the embedded database when you use an embedded database as the scheduler database.

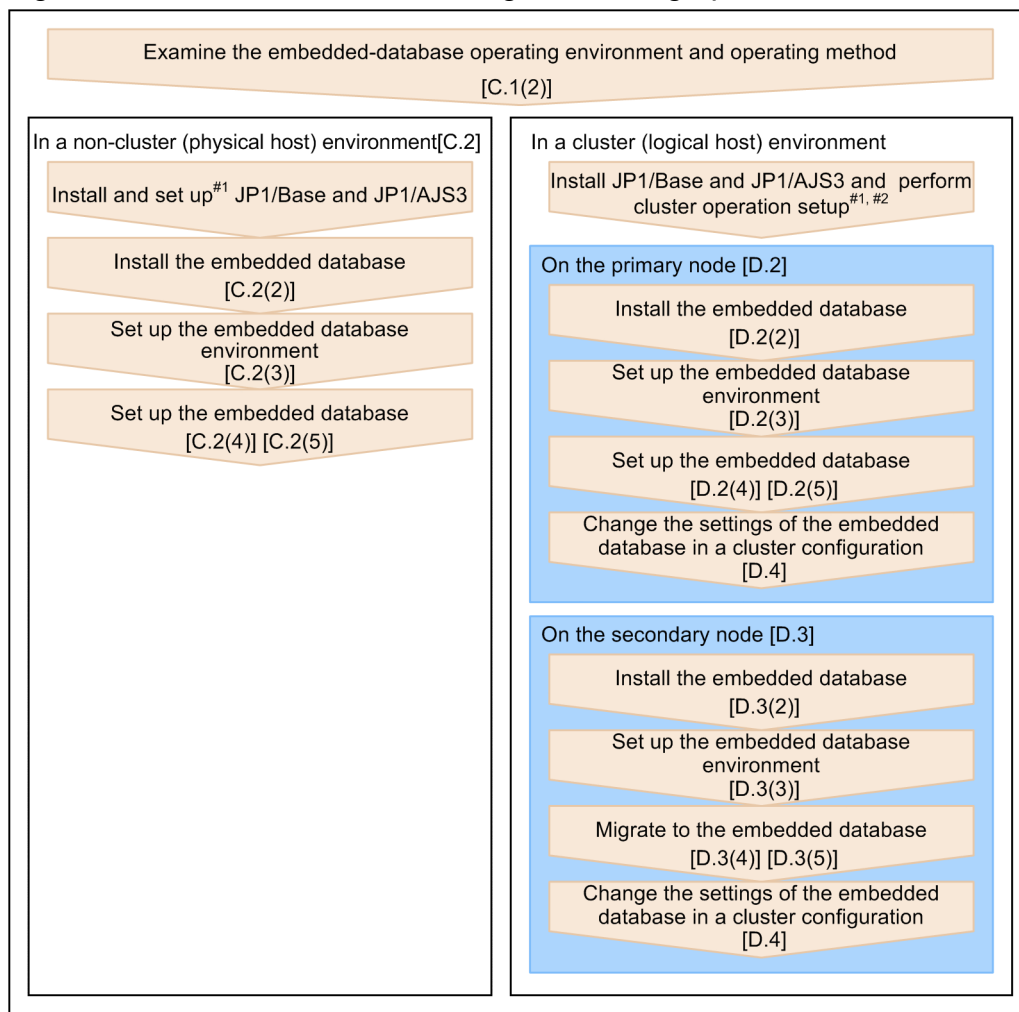
C.1 Preparation for using an embedded database

This appendix describes the preparation for using an embedded database as the JP1/AJS3 - Manager scheduler database.

(1) Procedure for installing and setting up an embedded database

The following figure shows the procedure for installing and setting up an embedded database.

Figure C-1: Procedure for installing and setting up an embedded database



Legend: [] indicates the section providing detailed information.

#1: For installation details, see 2. *Installation (Windows)* or 12. *Installation (UNIX)*.

For setup details, see 3. *Setup (Windows)* or 13. *Setup (UNIX)*.

#2: For setup details for cluster operation, see 8. *Setup for Operation in a Cluster System (Windows)* or 17. *Setup for Operation in a Cluster System (UNIX)*.

(2) Examining the embedded-database operating environment and operating method

(a) Operating environment

Carefully consider the following environment conditions related to operation of the embedded database:

- System configuration
- Environment scale
- System file area
- Operating environment

■ 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.

■ 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.

Table C-1: Guideline for selecting the scale of the embedded database environment to be set up

Scale	Number of units	Number of jobs and jobnets executed per day	Number of logs to keep
Small	5,000 or less	5,000 or less	5 or less
Medium	5,000 to 48,000	5,000 to 30,000	5 or less
Large	48,000 to 240,000	30,000 to 120,000	5 or less

Note:
If you execute the `ajsembdbsetup` command with the `-e sjis` option specified to set up the database for the scheduler service, use the guideline in the following table to determine the scale.

Table C-2: Guideline for selecting the scale of the embedded database environment to be set up (when the `-e sjis` option is specified for the `ajsembdbsetup` command)

Scale	Number of units	Number of jobs and jobnets executed per day	Number of logs to keep
Small	4,000 or less	4,000 or less	4 or less
Medium	4,000 to 38,400	4,000 to 24,000	4 or less
Large	38,400 to 192,000	24,000 to 96,000	4 or less

If the scale of the operation is larger than the large scale in the table, create the embedded database environment as large scale, and then expand the environment.

For details about how to expand an embedded database environment, see *ajsembdbaddarea* in 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

■ System file area

Decide whether it is necessary to duplicate the system files used for the embedded database. If you choose to duplicate the system files, although the required disk space will increase, you will be able to restore the embedded database to the point of a disk failure if one occurs.

The following table shows the required disk space for each type of embedded database operating environment. Select one of the possibilities.

Table C-3: Disk space required for the embedded database operating environment

No.	Operating environment				Required disk space (in megabytes)				
	System configuration	Environment scale	Using RAW files#1	System files duplicated	System area#2	Data area	System file area	Work area	Total#3
1	Non-cluster	Small	No	No	170#4	200	320	--	520
2				Yes					840
3			Yes	No			40	560	
4				Yes				880	
5		Medium	No	No		1,400	2,800	--	4,200
6				Yes					7,000
7			Yes	No			40	4,240	
8				Yes				7,040	
9		Large	No	No		6,700	14,000	--	20,700
10				Yes					34,700
11			Yes	No			40	20,740	
12				Yes				34,740	
13	Cluster	Small	No	No	170#4, #5	200	320	40 x 2#6	600
14				Yes					920
15			Yes	No			40 x 2#6	600	
16				Yes				920	
17		Medium	No	No		1,400	2,800	--	4,280
18				Yes					7,080
19			Yes	No			40 x 2#6	4,280	
20				Yes				7,080	
21		Large	No	No		6,700	14,000	--	20,780
22				Yes					34,780
23			Yes	No			40 x 2#6	20,780	
24				Yes				34,780	

Legend

--: The work area is not necessary

#1
Applicable in UNIX only

#2
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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

#3
This value does not include the system area amount.

#4
This value varies according to the OS.

OS	Size (MB)
Windows	170
HP-UX (IPF)	400
Solaris	260
AIX	200
Linux	210

#5
In a cluster system, the embedded database must be installed on both the primary and secondary nodes.

#6
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.

■ 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

Note that if the embedded database is used in JP1/AJS3, normally you do not need to change the system definition for the embedded database. Therefore, change the system definition settings only if a problem occurs.

• 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 note

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>
5	<code>putenv TZ <i>timezone</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). In JP1/AJS3, the default value of this operand is 128.

Cautionary note:

- 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
Execution of a command that performs an operation on a unit	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

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.

- 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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(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
- `ajsembdborg` 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* x 2 x 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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(5) TZ *timezone*

~ *character-string*

Specify the time zone of the date and time information for messages about embedded databases (messages beginning with KFP). The default is JST-9.

For this operand, specify the same value as the time zone of the OS.

• **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 note

To ensure correct JP1/AJS3 operation, do not change the values of any operands that are not described here.

No.	Format
1	set pd_lck_pool_size = <i>size-of-pool-used-for-locking</i>

(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 or JP1/AJS3 - View, 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.

If the above problems occur, the memory area for locking might be insufficient. Check the following items:

1. The total number of top-level units and their subordinate units in the unit definition that is created by using the command `ajsdefine` or that is deleted by using the command `ajsdelete` or JP1/AJS3 - View
2. The number of units (including subordinate units) specified as the copy sources for unit copy operations performed with the `ajscopy` command or JP1/AJS3 - View
3. The number of units (including subordinate units) to be restored by restore operations performed with the `ajsrestore` command or JP1/AJS3 - View
4. The total number of root jobnets (including subordinate units) specified as the release sources for release operations performed with the `ajsrelease` command or JP1/AJS3 - View
5. The number of root jobnets (including subordinate units) specified, or the number of root jobnets (including subordinate units) defined under the job group specified, for execution registration operations performed with the `ajsentry` command or JP1/AJS3 - View
6. The number of jobnets (including subordinate units) specified for re-execution operations performed with the `ajsrerun` command or JP1/AJS3 - View
7. The number of units added to the root jobnet, the suspend status of which was released with the `ajssuspend` command or JP1/AJS3 - View

Compare the value specified for `pd_lck_pool_size` with the value obtained with the applicable expression below. If the value of `pd_lck_pool_size` is smaller, change the value to the obtained value.

If the obtained value is smaller, because the amount of memory required for JP1/AJS3 might be insufficient, you need to re-estimate the amount of required memory. For details about how to estimate the amount of required memory, see 3. *Estimates* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

- In cases 1, 2, 3, or 4 above
 $(a + b + c + d) / 4 \times 1.2$
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*
- In cases 5, 6, or 7
 $e / 4 \times 1.2$
e: *total-number-of-jobs-and-jobnets x 3*

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.

Cautionary note:

- 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 *B.1 Estimating the amount of required 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 note

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.

(b) 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

■ 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.

■ 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)

In this case, it is not necessary to stop JP1/AJS3 when you back up the embedded database. However, the unload log file that has been output by the embedded database, together with the data you backed up, is necessary for restoration.

■ 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.

■ Methods for restoring the embedded database from a backup

This subsection 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 C-4: 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		Not used	While the JP1/AJS3 service is stopped	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				
	B-3	While the JP1/AJS3 service is running			

The following table shows the advantages and disadvantages of each method of operation. Study this table before you select a method from *Table C-4*.

Table C-5: Advantages and disadvantages of each method of operation

No.#		Advantages and disadvantages	
		Advantages	Disadvantages
A		Monitoring the status of the system log file is not required.	<ul style="list-style-type: none"> The embedded database can be restored only up to the time when it was backed up. The JP1/AJS3 service must be stopped during the backup.
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. 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 C-4*.

For details about the backup and how to restore the database from the backup data only, see the following:

- *5.4.1(1) Restoring the scheduler database from unload log files* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*
- *5.4.1(2) Restoring the scheduler database without using the system log* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*

When using a method you have selected in *Table C-4*, 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)
- `ajsembdbbackup` command (backs up the embedded database)
- `ajsembdbbrstr` command (restores the embedded database from the backup data only)

The following table shows the options required when you execute these commands.

Table C-6: Specifiable command options

No.#	Duplicating system files	Options related to the restoration method and use of system log data		
		ajsembdbbbuild (-bs, -br, -bl)	ajsembdbbackup (-s)	ajsembdbbrstr (-ld, -l)
A	Not available	Not available	Not available	Not available
B		-bs -bl	Not available	Not available
B-1				-ld or -l
B-2				
B-3			-s	-ld or -l
A	Available	--	--	--
B		-br -bl	Not available	Not available
B-1				-ld or -l
B-2				
B-3			-s	-ld or -l

Legend

--: Not applicable.

#:

The numbers in this table correspond to the numbers in *Table C-4*.

For details about the `ajsembdbbbuild` command, see *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details about the `ajsembdbbackup` and `ajsembdbbrstr` commands, see *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

(c) Setting a scheduler service environment

The advanced setup of an embedded database requires that you set the environment setting parameters associated with the scheduler service. To set the required environment setting parameter for a scheduler service to be added, 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

For details on the environment setting parameters, see *2.2 Setting up the scheduler service environment* in the *Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

For example, execute the command as follows to set an environment for scheduler service AJSROOT2:

```
jajs_setup -F AJSROOT2 -a -n 2 -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 -S
```

C.2 Setting up an embedded database

This appendix describes the procedures for installing an embedded database, setting up the environment for operating the embedded database, and setting up the embedded database.

(1) Tasks required before installing the embedded database

This subsection describes the work that is required before you install the embedded database.

Note on the embedded database:

External client software cannot connect to the embedded database.

(a) For Windows

■ Checking free space on the target disk

Check whether the free space on the target disk is sufficient before you install the embedded database. The embedded database requires about 240 MB of free disk space.

■ Checking the size of virtual memory

To check the size of virtual memory:

1. In the Windows **Start** menu, choose **Control Panel**, and then double-click **System**.
The System Properties dialog box appears.
2. Click the **Advanced** tab.
3. Click the **Settings** button of **Performance**.
The Performance Options window appears.
4. Click the **Advanced** tab.
5. Click the **Change** button of **Virtual memory**.

The following shows the required virtual memory size. 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.

Paging file size = 130 MB

Cautionary note:

- The size may increase depending on the number of JP1/AJS3 - Views that are connected or the number of scheduler services that are set.
- Set the required value for the initial size of contiguous area on the same drive that can be used for virtual memory. If a contiguous area cannot be used for virtual memory, the embedded database might terminate abnormally because memory is insufficient.

■ Checking the file system

If you install the embedded database on an NTFS file system, do not compress the files under the embedded database practical directory. If you compress this directory, the embedded database will not operate correctly.

(b) For UNIX

■ Checking and changing kernel parameters

You need to estimate the required size for the message queue and semaphores used by the embedded database, and change the kernel parameters accordingly. For details about estimating operating system parameters, see 3.2.5 *Estimating the values for kernel parameters* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

Notes on installation:

- Before you execute the `ajsembdbinstl` command, make sure that you are a member of the Administrators group. If a user who is not a member of the Administrators group 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).

(3) 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, and JP1/AJS3 Console Agent services 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 `ajsembddbbuild` command to set up the embedded database environment.

When executed, the `ajsembddbbuild` 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 `ajsembddbbuild` command, see *ajsembddbbuild* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

The following shows examples of specifying the `ajsembddbbuild` command when a large-scale embedded database environment is set up. The examples also provide the combination of item numbers shown in *Table C-3* and *Table C-4*.

Supplementary note:

If the system files are duplicated and the system log is not used (combination 2-A, 4-A, 6-A, 8-A, 10-A or 12-A in *Table C-3* and *Table C-4*), 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.
- The maximum size of the name of the host on which the embedded database can operate is 32 bytes. Therefore, specify the name of the physical host on which the embedded database can be set up in the range from 1 to 32 bytes.

(a) For Windows

The specification examples in this subsection assume that the following values are set. Create the following directories before executing the `ajsembddbbuild` 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#\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 (combination 9-A in *Table C-3* and *Table C-4*):

```
ajsembddbbuild -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 9-B in *Table C-3* and *Table C-4*):


```
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 10-B in *Table C-3* and *Table C-4*):

```
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
```

#:

For 64-bit versions of Windows, replace Program Files with Program Files (x86).

(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`

The following table shows the data area creation directory and system file area creation directory that are used in the specification example.

Type of area	Type of file	
	Normal file	RAW file
Data area creation directory	<code>/RDArea_JF3</code>	<code>/dev/rdb_JF3</code>
System file area creation directory 1	<code>/SYSArea1_JF3</code>	<code>/dev/rsys1_JF3</code>
System file area creation directory 2	<code>/SYSArea2_JF3</code>	<code>/dev/rsys2_JF3</code>

- If the system files are not duplicated and the system log is not used

Creating the data area and system file area in a normal file (combination 9-A in *Table C-3* and *Table C-4*):

```
ajsembdbbuild -l -d "/RDArea_JF3,/SYSArea1_JF3"
-i /opt/jp1ajs2/embdb/_JF3 -id _JF3 -p 22223
```

Creating the data area and system file area in a RAW file (combination 11-A in *Table C-3* and *Table C-4*):

```
ajsembdbbuild -l
-a "ajssys01=/dev/rdb_JF3,ajssys11=/dev/rsys1_JF3"
-d /WorkArea_JF3
-i /opt/jp1ajs2/embdb/_JF3 -id _JF3 -p 22223
```

- If the system files are not duplicated and unloading is used

Creating the data area and system file area in a normal file (combination 9-B in *Table C-3* and *Table C-4*):

```
ajsembddbbuild -l
-d "/RDArea_JF3,/SYSArea1_JF3" -bs -bl /Unload_Log_JF3
-i opt/jplajs2/embdb/_JF3 -id _JF3 -p 22223
```

Creating the data area and system file area in a RAW file (combination 11-B in [Table C-3](#) and [Table C-4](#)):

```
ajsembddbbuild -l
-a "ajssys01=/dev/rdb_JF3,ajssys11=/dev/rsys1_JF3"
-d /WorkArea_JF3
-bs -bl /Unload_Log_JF3 -i /opt/jplajs2/embdb/_JF3
-id _JF3 -p 22223
```

- If the system files are duplicated and unloading is used

Creating the data area and system file area in a normal file (combination 10-B in [Table C-3](#) and [Table C-4](#)):

```
ajsembddbbuild -l
-d "/RDArea_JF3,/SYSArea1_JF3,/SYSArea2_JF3"
-br -bl /Unload_Log_JF3 -i /opt/jplajs2/embdb/_JF3
-id _JF3 -p 22223
```

Creating the data area and system file area in a RAW file (combination 12-B in [Table C-3](#) and [Table C-4](#)):

```
ajsembddbbuild -l
-a "ajssys01=/dev/rdb_JF3,ajssys11=/dev/rsys1_JF3,
ajssys17=/dev/rsys2_JF3" -d /WorkArea_JF3
-br -bl /Unload_Log_JF3 -i /opt/jplajs2/embdb/_JF3
-id _JF3 -p 22223
```

(4) 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, you need to specify `sjis` for the `-e` option of the `ajsembddbsetup` command. In Solaris, if you execute the `jajs_setup` command or the `jajs_setup_cluster` command with the `-S` option specified, EUC is set as the `AJSCHARCODE` environment setting parameter. Therefore, before executing the `ajsembddbsetup` command, change the environment setting parameter value to UTF-8. In AIX or HP-UX, if the command `jajs_setup` or `jajs_setup_cluster` is executed with the `-S` option specified, the environment setting parameter `AJSCHARCODE` is set to `SJIS`. For this reason, before executing the command `ajsembddbsetup`, change the value of the 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).

(5) 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 `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: AJSROOT2
- Port number of the embedded database: 22223
- Embedded database setup identifier: `_JF3`

```
ajsembdbsetup -F AJSROOT2 -ru -l -id _JF3 -p 22223
```

Supplementary note:

When the `ajsembdbsetup` 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 *2.2 Setting up the scheduler service environment in the Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2*.

Table C-7: 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
TABLERNAMEPREFIX	Table name prefix	Either of the following: <ul style="list-style-type: none"> • <code>-tp</code> option specification value • AJS1
TABLERNAMEPOSTFIX	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	One of the following: <ul style="list-style-type: none"> • Physical host name • <code>-mh</code> option specification value • Setting of the <code>JP1_HOSTNAME</code> environment variable.
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

Environment setting parameter	Definition	Setting specified by the ajsembdbsetup command ^{#1}
RDBRECVMEMSIZE	Receive-data memory size for RDB interprocess memory communication	<ul style="list-style-type: none"> • 1600
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

#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.

(6) 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 [C.2\(3\) Setting up the embedded database environment](#) and [C.2\(4\) 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/embdb/_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/embdb/_JF5 -id _JF5
```

Specification of the ajsembdbbuild command:

```
ajsembdbbuild -l
-d "/RDArea_JF5,/SYSArea1_JF5,/SYSArea2_JF5"
```

```
-br -bl /Unload_Log_JF5 -i :/opt/jp1ajs2/embeddb/_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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 `ajsembdbbackup` command to back up just one scheduler database. The `ajsembdbbackup` command can only back up all the scheduler databases set up in an embedded database environment. If a backup created by using the `ajsembdbbackup` command is used for restoration, all the scheduler databases are restored. Therefore, when you use the `ajsembdbbackup` 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 `ajsembdbbackup` 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*.

(7) 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 *2.2.2 Backing up the JP1/AJS3 - Manager setup information in the Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.
2. Stop all the services that access the scheduler database. Such services include the JP1/AJS3, and JP1/AJS3 Console Agent services 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 *2.3.3 Recovering the JP1/AJS3 - Manager setup information in the Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.
10. Register the required jobnet for execution.

For details about commands used in the above procedure, see *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1* and *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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.

(8) 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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>
JP1/AJS3 extended startup process definition file (database management)	<code>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd_0700.conf</code>	<code>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd_0700.conf.v9standard.model</code>

In UNIX:

File type	File name	Model file
JP1/AJS3 startup process definition file (database management)	<code>/etc/opt/jplajs2/conf/jplajs_dbmd.conf</code>	<code>/etc/opt/jplajs2/conf/jplajs_dbmd.conf.v9standard.model</code>
JP1/AJS3 extended startup process definition file (database management)	<code>/etc/opt/jplajs2/conf/jplajs_dbmd_0700.conf</code>	<code>/etc/opt/jplajs2/conf/jplajs_dbmd_0700.conf.v9standard.model</code>

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

```
jaajs_dbmd|jaajs_dbmd.exe||0|3|3|21600|0|2||1|||||
```

In UNIX:

JP1/AJS3 extended startup process definition file (system management)

```
/etc/opt/jp1ajs2/conf/jp1ajs_service_0700.conf
```

Before the change

```
jaajs_dbmd|jaajs_dbmd||1|3|3|21600|0|2||1|||||
```

After the change

```
jaajs_dbmd|jaajs_dbmd||0|3|3|21600|0|2||1|||||
```

(9) Uninstalling an embedded database

For details about uninstalling an embedded database, see [6.1.1\(3\) Uninstalling an unnecessary database environment](#).

D. Advanced Setup for the Embedded Database (in a Cluster Configuration)

This appendix describes how to perform advanced setup for an embedded database when the embedded database is used as the scheduler database in a cluster configuration.

D.1 Preparation for using an embedded database

For details about the preparation for using an embedded database, see [C.1 Preparation for using an embedded database](#).

D.2 Setting up an embedded database (on the primary node)

This section 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) Tasks required before installing the embedded database

Review the tasks required before installing the embedded database. For details about these tasks, see [C.2\(1\) Tasks required before installing the embedded database](#).

(2) Installing an embedded database

To install an embedded database, you must perform the procedure described in [C.2\(2\) 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 [C.2\(2\) Installing an embedded database](#).

(3) 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, and JP1/AJS3 Console Agent services 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 `ajsembddbbuild` command to set up the embedded database environment.

When executed, the `ajsembddbbuild` 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 `ajsembddbbuild` command. Specify an area on the local disk for the embedded database work area specified in the `-ld` option.

For details about the `ajsembddbbuild` command, see *ajsembddbbuild* in 2. *Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 C-3* and *Table C-4* is 14-A, 16-A, 18-A, 20-A, 22-A, or 24-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.
- The maximum length of the name of a host on which an embedded database can operate is 32 bytes. Therefore, make sure that the name of a primary node physical or logical host on which an embedded database is set up is 1 to 32 bytes.

Examples of executing the command `ajsembddbbuild` 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 C-3* and *Table C-4*.

(a) For Windows

The specification examples in this subsection assume that the following values are set. Create the following directories before executing the `ajsembddbbuild` 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#\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 (combination 21-A in *Table C-3* and *Table C-4*):

```
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 21-B in *Table C-3* and *Table C-4*):

```
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 22-B in *Table C-3* and *Table C-4*):

```
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
```

#:

For 64-bit versions of Windows, replace Program Files with Program Files (x86).

(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`

The following table shows the data area creation directory and system file area creation directory that are used in the specification example.

Type of area	Type of file	
	Normal file	RAW file
Data area creation directory	<code>/share1/RDArea_JFA</code>	<code>/dev/vgshare1/rdb_JFA</code>

Type of area	Type of file	
	Normal file	RAW file
System file area creation directory 1	/share2/SYSArea_JFA	/dev/vgshare2/rsys_JFA
System file area creation directory 2	/share3/SYSArea_JFA	/dev/vgshare3/rsys_JFA

- If the system files are not duplicated and the system log is not used

Creating the data area and system file area in a normal file (combination 21-A in [Table C-3](#) and [Table C-4](#)):

```
ajsembdbbuild -l
-d "/share1/RDArea_JFA,/share2/SYSArea_JFA"
-ld /WorkArea_JFA -i /opt/jplajs2/embdb/_JFA -p 22230
-id _JFA -r -mh logical_host -eh physical_host
```

Creating the data area and system file area in a RAW file (combination 23-A in [Table C-3](#) and [Table C-4](#)):

```
ajsembdbbuild -l
-a "ajssys01=/dev/vgshare1/rdb_JFA,
ajssys11=/dev/vgshare2/rsys_JFA"
-ld /WorkArea_JFA -i /opt/jplajs2/embdb/_JFA -p 22230
-id _JFA -r -mh logical_host -eh physical_host
```

- If the system files are not duplicated and unloading is used

Creating the data area and system file area in a normal file (combination 21-B in [Table C-3](#) and [Table C-4](#)):

```
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
```

Creating the data area and system file area in a RAW file (combination 23-B in [Table C-3](#) and [Table C-4](#)):

```
ajsembdbbuild -l
-a "ajssys01=/dev/vgshare1/rdb_JFA,
ajssys11=/dev/vgshare2/rsys_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

Creating the data area and system file area in a normal file (combination 22-B in [Table C-3](#) and [Table C-4](#)):

```
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
```

Creating the data area and system file area in a RAW file (combination 24-B in [Table C-3](#) and [Table C-4](#)):

```
ajsembdbbuild -l
-a "ajssys01=/dev/vgshare1/rdb_JFA,
ajssys11=/dev/vgshare2/rsys_JFA,
ajssys17=/dev/vgshare3/rsys_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
```

(4) Environment setting parameter settings

When you change the number of characters that can be specified for such as unit name in a UTF-8 environment in UNIX, you need to specify `sjis` for the `-e` option of the `ajsembdbsetup` command. In Solaris, if you execute the `jajs_setup` command or the `jajs_setup_cluster` command with the `-S` option specified, EUC is set as the `AJSCHARCODE` environment setting parameter. Therefore, before executing the `ajsembdbsetup` command, change the environment setting parameter value to UTF-8. In AIX or HP-UX, if the command `jajs_setup` or `jajs_setup_cluster` is executed with the `-S` option specified, the environment setting parameter `AJSCHARCODE` is set to `SJIS`. For this reason, before executing the command `ajsembdbsetup`, change the value of the 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).

(5) 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
```

Supplementary note:

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

Table D-1: 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"> -tp 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	Either of the following: <ul style="list-style-type: none"> -mh option specification value Setting of the <code>JP1_HOSTNAME</code> environment variable.
RDBPORT	RDB connection port number	Either of the following: <ul style="list-style-type: none"> -p 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"> -s option specification value 100
RDBRECVMEMSIZE	Receive-data memory size for RDB interprocess memory communication	Either of the following: <ul style="list-style-type: none"> -r option specification value 1600
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 -e sjis sjis For -e byte byte

#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.

(6) 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 *D.2(3) Setting up the embedded database environment* and *D.2(4) 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
-bl /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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(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 1  
-id _JFA -mh logical_host -p 22230
```

For details about the `ajsembdbsetup` command, see *ajsembdbsetup* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 `ajsembdbbackup` command to back up only one scheduler database. The `ajsembdbbackup` command can only back up all the scheduler databases set up in an embedded database environment. If a backup created by using the `ajsembdbbackup` command is used for restoration, all the scheduler databases are restored. Therefore, when you use the `ajsembdbbackup` 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 `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 `ajsembdbbackup` 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.

(7) Setting up an embedded database again

For details about setting up the embedded database again, see *C.2(7) 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 [8.2.4 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.

(8) 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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)	<code>shared-folder\jplajs2\conf\jplajs_dbmd.conf</code>	<code>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd.conf.v9standard.model</code>
JP1/AJS3 extended startup process definition file (database management)	<code>shared-folder\jplajs2\conf\jplajs_dbmd_0700.conf</code>	<code>JP1/AJS3-Manager-installation-folder\conf\jplajs_dbmd_0700.conf.v9standard.cluster.model</code>

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

```
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)

shared-directory/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|||||
```

(9) Uninstalling an embedded database

For details about uninstalling an embedded database, see [6.1.1\(3\) Uninstalling an unnecessary database environment](#).

D.3 Setting up an embedded database (on the secondary node)

This section 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) Tasks required before installing the embedded database

Review the tasks required before installing the embedded database. For details about these tasks, see [C.2\(1\) Tasks required before installing the embedded database](#).

(2) Installing an embedded database

To install an embedded database, you must perform the procedure described in [C.2\(2\) 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 *C.2(2) Installing an embedded database*.

(3) 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, and JP1/AJS3 Console Agent services 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\ajsdbst\ajsembddbsetup-identifier.conf

- In UNIX:

embedded-database-practical-directory/conf/ajsdbst/ajsembddbsetup-identifier.conf

4. Execute a command to set up the embedded database environment.

Use the `ajsembddbbuild` command to set up the embedded database.

When executed, the `ajsembddbbuild` command performs the following operations:

- Creates the definition information of the embedded database.
- Creates the embedded database work area.

When you execute the `ajsembddbbuild` 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 `ajsembddbbuild` command, see *ajsembddbbuild* in *2. Commands Used during Setup* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 C-3* and *Table C-4* is 14-A, 16-A, 18-A, 20-A, 22-A, or 24-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 `jplhosts` or `jplhosts2` 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.
- The maximum length of the name of a host on which an embedded database can operate is 32 bytes. Therefore, make sure that the name of a primary node physical or logical host on which an embedded database is set up is 1 to 32 bytes.

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 the item numbers indicated in *Table C-3* and *Table C-4*.

(a) For Windows

■ 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 (3) *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 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 (combination 21-A in [Table C-3](#) and [Table C-4](#)):

```
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 21-B in [Table C-3](#) and [Table C-4](#)):

```
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 22-B in [Table C-3](#) and [Table C-4](#)):

```
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.

(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 [\(3\) 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 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:

- 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`

#:

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.

The following table shows the data area creation directory and system file area creation directory that are used in the specification example.

Type of area	Type of file	
	Normal file	RAW file
Data area creation directory	<code>/share1/RDArea_JFA</code>	<code>/dev/vgshare1/rdb_JFA</code>
System file area creation directory 1	<code>/share2/SYSArea_JFA</code>	<code>/dev/vgshare2/rsys_JFA</code>
System file area creation directory 2	<code>/share3/SYSArea_JFA</code>	<code>/dev/vgshare3/rsys_JFA</code>

- If the system files are not duplicated and the system log is not used

Creating the data area and system file area in a normal file (combination 21-A in [Table C-3](#) and [Table C-4](#)):

```
ajsembdbbuild -l
-d "/share1/RDArea_JFA,/share2/SYSArea_JFA"
-ld /WorkArea_JFA -i /opt/jp1ajs2/embdb/_JFA -p 22230
-id _JFA -f -mh logical_host -eh physical_host
```

Creating the data area and system file area in a RAW file (combination 23-A in [Table C-3](#) and [Table C-4](#)):

```
ajsembdbbuild -l
-a "ajssys01=/dev/vgshare1/rdb_JFA,
ajssys11=/dev/vgshare2/rsys_JFA"
-ld /WorkArea_JFA -i /opt/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

Creating the data area and system file area in a normal file (combination 21-B in [Table C-3](#) and [Table C-4](#)):

```
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
-f -mh logical_host -eh physical_host
```

Creating the data area and system file area in a RAW file (combination 23-B in *Table C-3* and *Table C-4*):

```
ajsembdbbuild -l
-a "ajssys01=/dev/vgshare1/rdb_JFA,
ajssys11=/dev/vgshare2/rsys_JFA "
-lld /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

Creating the data area and system file area in a normal file (combination 22-B in *Table C-3* and *Table C-4*):

```
ajsembdbbuild -l
-d "/share1/RDArea_JFA, /share2/SYSArea_JFA,
/share3/SYSArea_JFA"
-lld /WorkArea_JFA -br -bl /Unload_Log_JFA
-i /opt/jplajs2/embdb/_JFA -p 22230 -id _JFA -f
-mh logical_host -eh physical_host
```

Creating the data area and system file area in a RAW file (combination 24-B in *Table C-3* and *Table C-4*):

```
ajsembdbbuild -l
-a "ajssys01=/dev/vgshare1/rdb_JFA,
ajssys11=/dev/vgshare2/rsys_JFA,
ajssys17=/dev/vgshare3/rsys_JFA" -lld /WorkArea_JFA
-br -bl /Unload_Log_JFA -i /opt/jplajs2/embdb/_JFA
-p 22230 -id _JFA -f -mh logical_host -eh physical_host
```

(4) 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 the environment for a cluster system*
- *8.2.7 Setting startup of multiple scheduler services on a logical host*

In UNIX:

- *17.2.2 Procedure for setting up the environment for a cluster system*
- *17.2.7 Setting startup of multiple scheduler services on a logical host*

(5) Setting up the scheduler database in an embedded database environment

No tasks are required for the standby host.

(6) 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 *D.3(3) Setting up the embedded database environment* and *D.3(4) 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 *D.3(5) 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 -bl /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 *D.3(5) 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

(b) Setting up multiple scheduler databases in one embedded database environment

For details, see *D.3(5) Setting up the scheduler database in an embedded database environment*.

(7) 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*. For details about the `jbsgetcnf` and `jbssetcnf` commands, see the *Job Management Partner 1/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 *8.2.4 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.

(8) 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 *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.
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.

(9) Uninstalling an embedded database

For details about uninstalling an embedded database, see [6.1.1\(3\) Uninstalling an unnecessary database environment](#).

D.4 Changing the settings of an embedded database in a cluster configuration

This section 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 `ajsembddbbuild` command, so edit this file after you execute the `ajsembddbbuild` 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 `ajsembddbbuild` 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.

E. 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.

E.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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/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.

E.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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/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.

F. 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. In an upgrade, the previous settings are 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](#).

F.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 F-1: Environment settings 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

F.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 F-2: Environment settings 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

F.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 F-3: Environment settings 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

F.4 Environment settings related to the queueless job execution environment

The following table lists the environment setting parameters that are related to the queueless job execution environment and for which recommended values are set. For each parameter listed, the table shows the default used in JP1/AJS2 08-00 or earlier, the recommended value set in JP1/AJS2 08-00 or later, and the recommended value set in JP1/AJS3.

Note that in JP1/AJS2 08-00 or later and in JP1/AJS3, the defaults are the same as the recommended values.

Table F-4: Environment setting parameters related to the queueless job execution environment

Environment setting parameters	Default in JP1/AJS2 08-00 or earlier	Recommended value set in JP1/AJS2 08-00 or later (default in JP1/AJS2 08-00 or later)	Recommended value set in JP1/AJS3 (default in JP1/AJS3)
"AJSQL_JOBMAX"	dword:00000400	In Windows: dword:00000005 In UNIX: dword:00000400	In Windows: dword:00000005 In UNIX: dword:00000400
"AJSQL_JOBWAITMAX"	dword:00000000	In Windows: dword:00000800 In UNIX: dword:00000000	In Windows: dword:00000800 In UNIX: dword:00000000
"AJSQL_LOGSIZE"	dword:00001000	dword:00002000	dword:00002000
"AJSQL_STATSIZE"	dword:00000000	dword:00000800	dword:00000800
"AJSQL_CJOBMAX"	dword:00000400	In Windows: dword:00000005 In UNIX: dword:00000400	In Windows: dword:00000005 In UNIX: dword:00000400
"AJSQL_CJOBWAITMAX"	dword:00000000	In Windows: dword:00000800 In UNIX: dword:00000000	In Windows: dword:00000800 In UNIX: dword:00000000

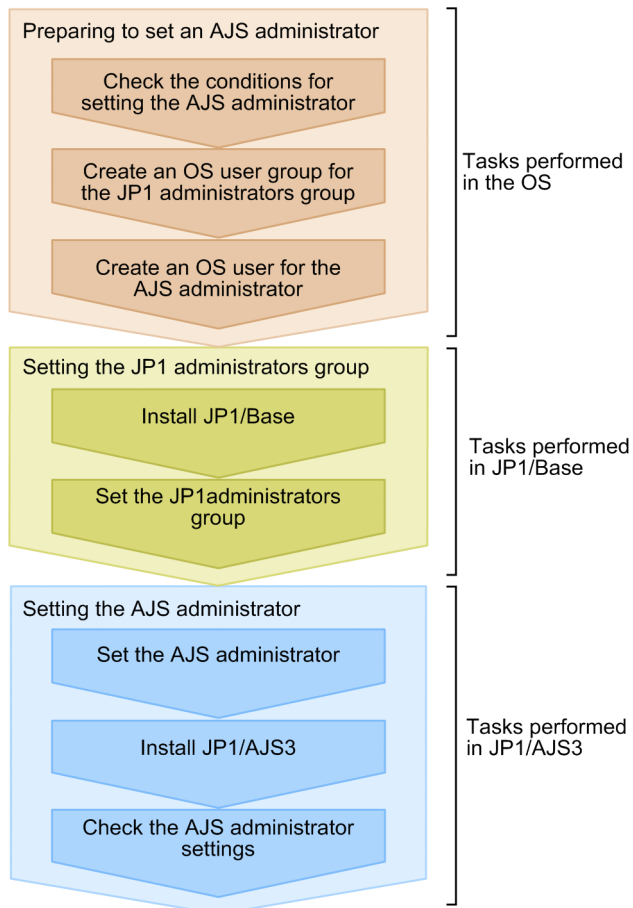
G. Installation and Setup for Operation by AJS Administrators (UNIX only)

This appendix describes the required preparation and method for setting up a JP1 administrators group and an AJS administrator.

G.1 Workflow for setting an AJS administrator

You can set an AJS administrator according to the following workflow.

Figure G-1: Workflow for setting an AJS administrator



G.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 *Job Management Partner 1/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.

G.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 *Job Management Partner 1/Base User's Guide*.

G.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* in *2. Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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

H. Procedure for Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up

This appendix 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 *F. Replicating a Virtual Machine on which JP1/AJS3 Is Installed and Set Up* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

The procedure for replicating a virtual machine on which JP1/AJS3 - Manager or JP1/AJS3 - Agent is installed varies depending on whether replication is being performed after installation or after setup. The following table gives the locations where the replication procedures are described in this manual.

Table H-1: Locations where virtual machine (VM) replication procedures are described

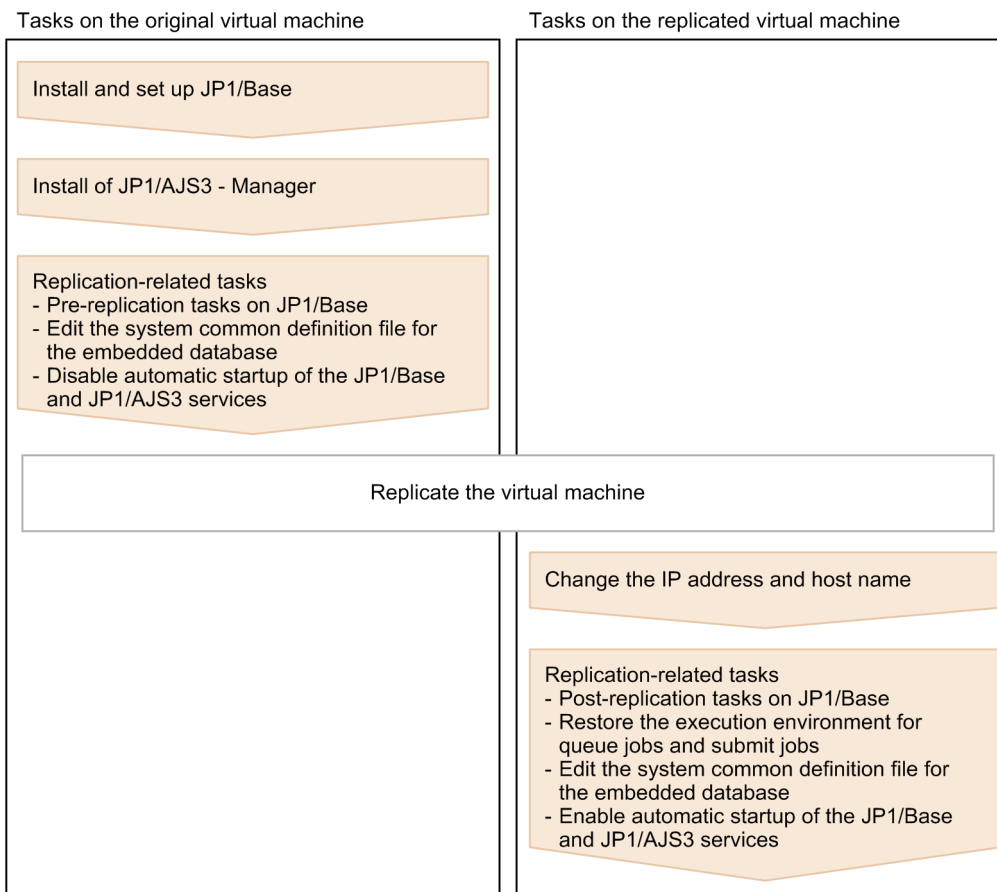
Time of replication	Location		
	Overview	Procedure on the original VM	Procedure on the replicated VM
After installation of JP1/AJS3 - Manager	Section H.1	Section H.2	Section H.3
After setup of JP1/AJS3 - Manager	Section H.4	Section H.5	Section H.6
After installation of JP1/AJS3 - Agent	Section H.7	Section H.8	Section H.9
After setup of JP1/AJS3 - Agent	Section H.10	Section H.11	Section H.12

Note that only Windows and Linux support replication of virtual machines on which JP1/AJS3 is installed.

H.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 H-1: Overview of replicating a virtual machine after installing JP1/AJS3 - Manager



H.2 Procedure for replicating a virtual machine after installing JP1/AJS3 - Manager (on the original VM)

This appendix 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 *Job Management Partner 1/Base User's Guide*.
2. Set up JP1/Base.
For details about the setup procedure, see the *Job Management Partner 1/Base User's Guide*.
3. Install JP1/AJS3 - Manager on the virtual machine.
For details about the installation procedure, see [2.2.2 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 2. *Commands* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 *Release Notes* of JP1/Base.
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.

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 *Job Management Partner 1/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 *Job Management Partner 1/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.

H.3 Procedure for replicating a virtual machine after installation of JP1/AJS3 - Manager (on the replicated VM)

If you replicate a virtual machine after installing 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

This subsection 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 *Release Notes* for JP1/Base.
2. To connect to the replicated virtual machine from JP1/AJS3 - Web Operation Assistant, in a text editor, open the system configuration file for the embedded database, and then specify the replication-destination host name.
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
```

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,destination_host_name
```

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) When changing the IP address only

This subsection 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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.
3. To connect to the replicated virtual machine from JP1/AJS3 - Web Operation Assistant, in a text editor, open the system configuration file for the embedded database, and then specify the replication-destination host name.
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
```

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,destination_host_name
```

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(3) When changing the host name only

This subsection 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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.
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 `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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

4. To connect to the replicated virtual machine from JP1/AJS3 - Web Operation Assistant, in a text editor, open the system configuration file for the embedded database, and then specify the replication-destination host name.

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
```

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,destination_host_name
```

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) When changing both the IP address and the host name

This subsection 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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.
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 *3. Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.
5. To connect to the replicated virtual machine from JP1/AJS3 - Web Operation Assistant, in a text editor, open the system configuration file for the embedded database, and then specify the replication-destination host name.
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
```

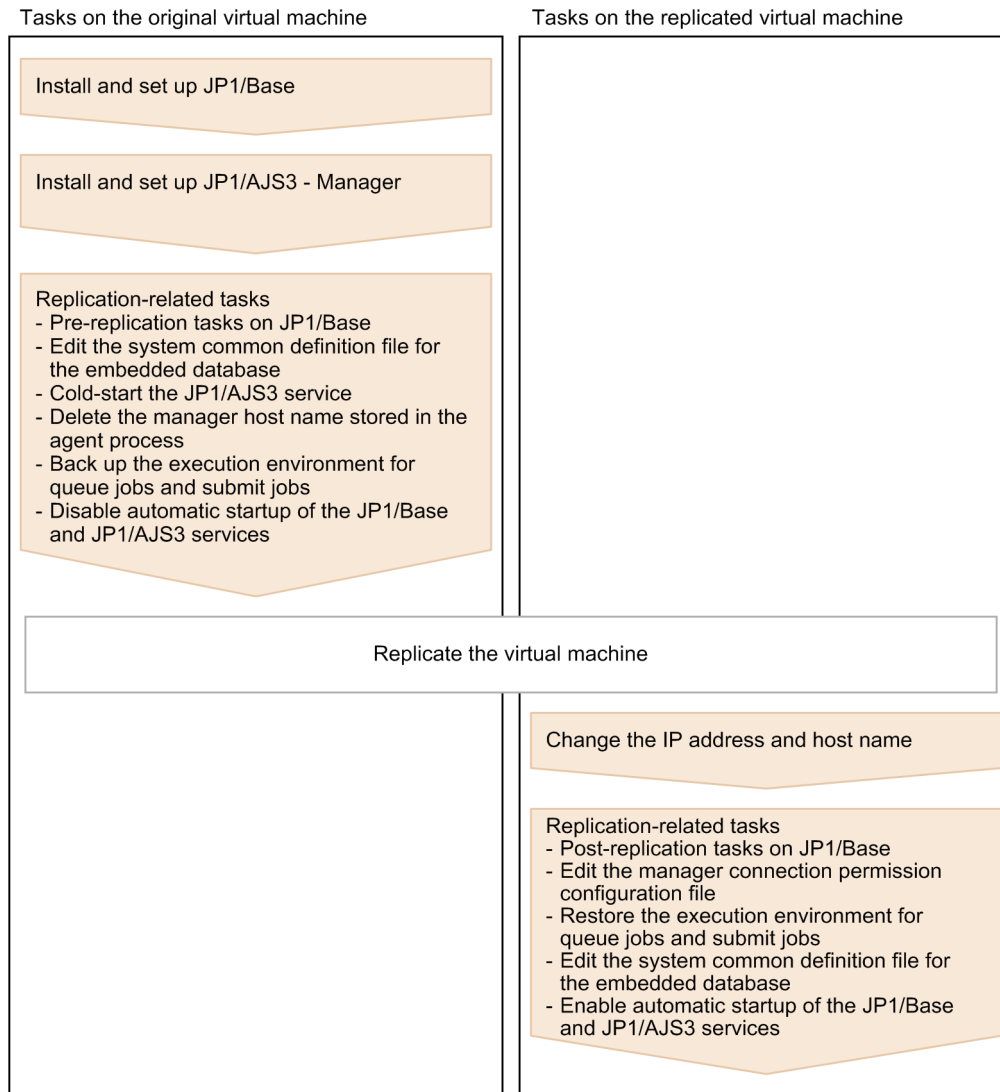

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,destination_host_name
```
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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

H.4 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 H-2: Overview of replicating a virtual machine after setting up JP1/AJS3 - Manager



H.5 Procedure for replicating a virtual machine after setting up JP1/AJS3 - Manager (on the original VM)

This appendix 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 *Job Management Partner 1/Base User's Guide*.

2. Set up JP1/Base.

For details about the setup procedure, see the *Job Management Partner 1/Base User's Guide*.

3. Install JP1/AJS3 - Manager on the virtual machine.

For details about the installation procedure, see [2.2.2 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](#)

[3.4.1 Setting up JP1/AJS3 Console Manager](#)

[3.4.2 Setting up JP1/AJS3 Console Agent](#)

In UNIX:

[13.1.2 Setting up JP1/AJS3 - Manager](#)

[13.3.1 Setting up JP1/AJS3 Console Manager](#)

[13.3.2 Setting up JP1/AJS3 Console Agent](#)

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 note:

- 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 `ajsembddbstop`.

To check whether the embedded database is active, execute the command `ajsembddbstatus`.

For details about the command `ajsembddbstop`, see `ajsembddbstop` in [2. Commands](#) in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 *Release Notes* of JP1/Base.

11. Edit the system configuration file for the embedded database.

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 *7.2.1 Temporarily changing the start mode of JP1/AJS3* in the *Job Management Partner 1/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 *2. Commands* of the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 *3. Commands Used for Special Operation* of the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.

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 *Job Management Partner 1/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 *Job Management Partner 1/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.

H.6 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

This subsection 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 *Release Notes* for JP1/Base.

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 2.3.8 *Restricting access to JP1/AJS3 in the Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

3. To connect to the replicated virtual machine from JP1/AJS3 - Web Operation Assistant, in a text editor, open the system configuration file for the embedded database, and then specify the replication-destination host name.

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
```

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,destination_host_name
```

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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.

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 2.3.8 *Restricting access to JP1/AJS3 in the Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

- To connect to the replicated virtual machine from JP1/AJS3 - Web Operation Assistant, in a text editor, open the system configuration file for the embedded database, and then specify the replication-destination host name.

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
```

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,destination_host_name
```

- 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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(3) When changing the host name only

This subsection 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.

- 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 *Job Management Partner 1/Base User's Guide*.
- 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 *Release Notes* for JP1/Base.
- 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 2.3.8 *Restricting access to JP1/AJS3* in the *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.
- 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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.
- To connect to the replicated virtual machine from JP1/AJS3 - Web Operation Assistant, in a text editor, open the system configuration file for the embedded database, and then specify the replication-destination host name.
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
```

After the change:

```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,destination_host_name
```

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) When changing both the IP address and the host name

This subsection 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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.
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 2.3.8 *Restricting access to JP1/AJS3* in the *Job Management Partner 1/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 `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 3. *Commands Used for Special Operation* in the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 2*.
6. To connect to the replicated virtual machine from JP1/AJS3 - Web Operation Assistant, in a text editor, open the system configuration file for the embedded database, and then specify the replication-destination host name.

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
```

After the change:

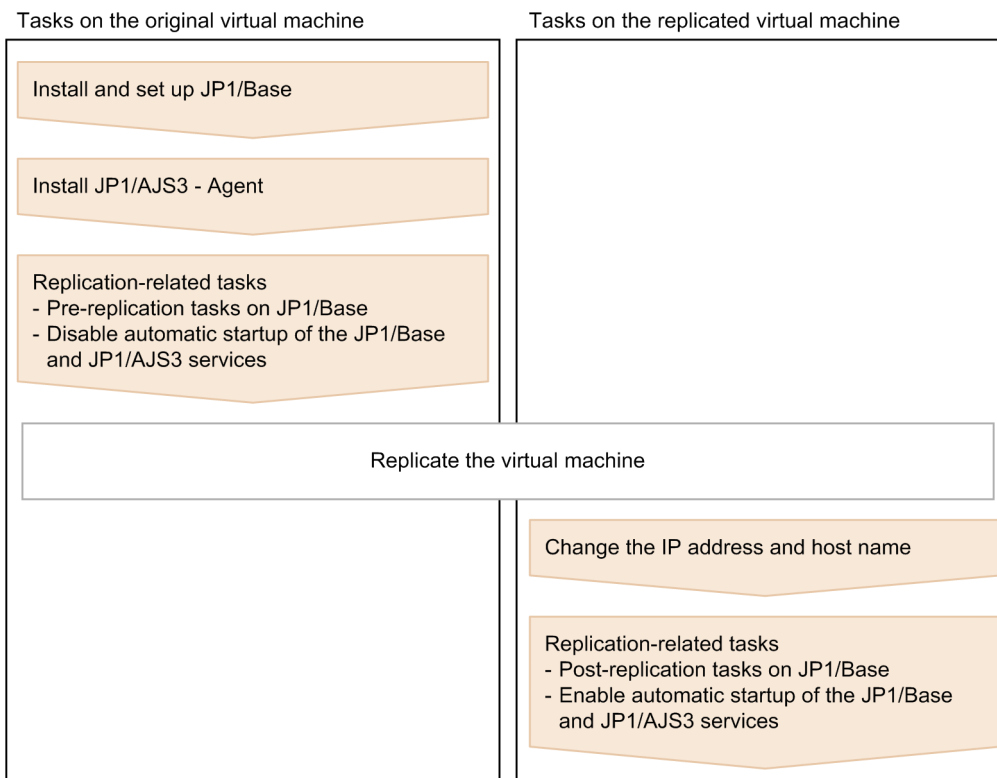
```
pdstart -t SDS -s ajs2 -u unt1 -m 127.0.0.1,destination_host_name
```

7. 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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

H.7 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 H-3: Overview of replicating a virtual machine after installing JP1/AJS3 - Agent



H.8 Procedure for replicating a virtual machine after installing JP1/AJS3 - Agent (on the original VM)

This appendix 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 *Job Management Partner 1/Base User's Guide*.

2. Set up JP1/Base.

For details about the setup procedure, see the *Job Management Partner 1/Base User's Guide*.

3. Install JP1/AJS3 - Agent on the virtual machine.

For details about the installation procedure, see [2.2.2 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 *Release Notes* of JP1/Base.

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 *Job Management Partner 1/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 *Job Management Partner 1/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.

H.9 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

This subsection 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 *Release Notes* for JP1/Base.

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) When changing the IP address only

This subsection 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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(3) When changing the host name only

This subsection 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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.

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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) When changing both the IP address and the host name

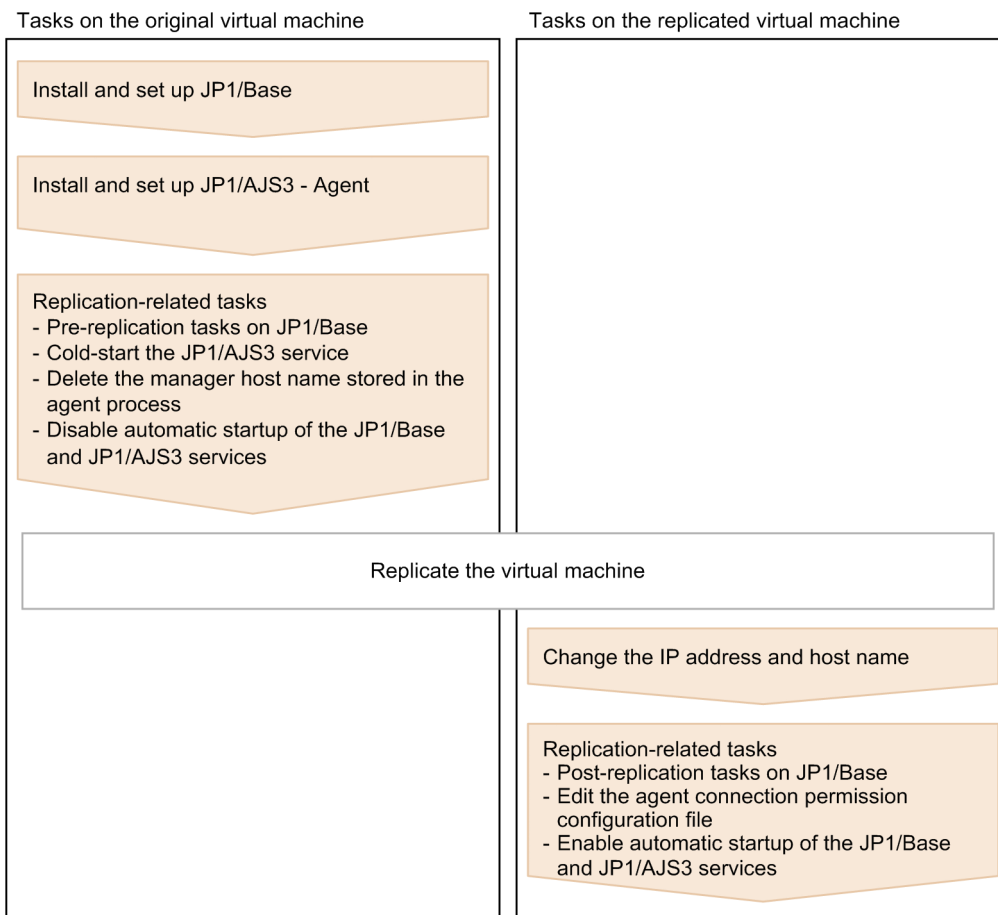
This subsection describes the procedure for replicating a virtual machine (after installing JP1/AJS3 - Agent) that must be performed on the replicated virtual machine when both the IP address and host name are to be changed.

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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.
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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

H.10 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 H-4: Overview of replicating a virtual machine after setting up JP1/AJS3 - Agent



H.11 Procedure for replicating a virtual machine after setting up JP1/AJS3 - Agent (on the original VM)

This appendix 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 *Job Management Partner 1/Base User's Guide*.
2. Set up JP1/Base.
For details about the setup procedure, see the *Job Management Partner 1/Base User's Guide*.
3. Install JP1/AJS3 - Agent on the virtual machine.
For details about the installation procedure, see [2.2.2 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 *Release Notes* of JP1/Base.

9. Cold-start the JP1/AJS3 service.

For details about how to cold-start the JP1/AJS3 service, see *7.2.1 Temporarily changing the start mode of JP1/AJS3* in the *Job Management Partner 1/Automatic Job Management System 3 Administration Guide*.

10. Delete the manager host name stored in the agent process.

Execute the command `jpoagoc -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 `jpoagoc -p`, and make sure the deleted manager host name is not output.

For details about the command `jpoagoc`, see the description `jpoagoc` in *2. Commands* of the manual *Job Management Partner 1/Automatic Job Management System 3 Command Reference 1*.

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 *Job Management Partner 1/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 *Job Management Partner 1/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.

H.12 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

This subsection 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 *Release Notes* for JP1/Base.

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 2.3.8 *Restricting access to JP1/AJS3* in the *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(2) When changing the IP address only

This subsection 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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.
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 2.3.8 *Restricting access to JP1/AJS3* in the *Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(3) When changing the host name only

This subsection 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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.
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 *2.3.8 Restricting access to JP1/AJS3 in the Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(4) When changing both the IP address and the host name

This subsection 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 *Job Management Partner 1/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 *Job Management Partner 1/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 *Release Notes* for JP1/Base.

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 *2.3.8 Restricting access to JP1/AJS3 in the Job Management Partner 1/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 *Job Management Partner 1/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 *Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide*.

I. Version Revisions

This appendix lists the changes in each version of the JP1/AJS series programs.

I.1 Revisions in 10-50

The following lists the revisions in 10-50 for each program.

(1) JP1/AJS3 - Manager

- A virtual machine on which JP1/AJS3 has been installed and configured can now be duplicated.
- Functionality was expanded so that a disaster recovery environment can be set up with the main and remote hosts whose logical host names are the same.
- A setting for shifting the start day by a number of days (counting both open and closed days) was added.
- A function that holds jobnet execution during immediate execution registration was added.
- A function that can execute some commands from JP1/AJS3 - View to JP1/AJS3 - Manager was added.
- The files `jajs_log.bat` and `jajs_log`, which have the same functionality as the data collection tool (`_04.bat` and `_04`), are now available. In addition, an option was added to the Windows version of the data collection tools that allows you to specify the location to which data is output.
- An option was added to the `ajsprint` command so that relation line information can be output in order of the unit name.
- The procedure for changing the IP address of an agent host was changed.
- UTF-8 was added to the list of character encodings that can be used in AIX, HP-UX, and Solaris 10.
- The number of characters that can be used when specifying a logical host name for the command `jajs_killall.cluster` was increased.

(2) JP1/AJS3 - Agent

- The files `jajs_log.bat` and `jajs_log`, which have the same functionality as the data collection tool (`_04.bat` and `_04`), are now available. In addition, an option was added to the Windows version of the data collection tools that allows you to specify the location to which data is output.
- The procedure for changing the IP address of an agent host was changed.
- UTF-8 was added to the list of character encodings that can be used in AIX, HP-UX, and Solaris 10.
- The number of characters that can be used when specifying a logical host name for the command `jajs_killall.cluster` was increased.

(3) JP1/AJS3 - View

- A setting for shifting the start day by a number of days (counting both open and closed days) was added to the **Schedule by days from start** settings in the **Advanced** tab of the Schedule Rule dialog box.
- A setting for holding jobnet execution if the registration method is **Immediate execution** was added to the Register for Execution dialog box.
- A function that can execute some commands from JP1/AJS3 - View to JP1/AJS3 - Manager was added.

- The files `jajs_log.bat` and `jajs_log`, which have the same functionality as the data collection tool (`_04.bat` and `_04`), are now available. In addition, an option was added to the Windows version of the data collection tools that allows you to specify the location to which data is output.

I.2 Revisions in 10-10

The following lists the revisions in 10-10 for each program.

(1) JP1/AJS3 - Manager

- A function was added that uses IP addresses to restrict the hosts that are able to connect to a manager host.
- A function was added for checking the execution schedule of unregistered units in the Monthly Schedule window of JP1/AJS3 - View.
- A function was added for preventing scheduler services for which the JP1 user logged in to JP1/AJS3 - View has no access privileges from appearing in JP1/AJS3 - View.
- A function was added for restricting the maximum number of allowed JP1/AJS3 - View concurrent sessions for a scheduler service.
- A function was added for changing the passwords of JP1 users by using JP1/AJS3 - View.
- The following OS is supported:
 - Linux 5.1 (x86) or later
 - Linux 5.1 (AMD/Intel 64) or later
- Content related to Solaris 11 (SPARC) was added.

(2) JP1/AJS3 - Agent

- A function was added that uses IP addresses to restrict the hosts that are able to connect to an agent host.
- Content related to Solaris 11 (SPARC) was added.

(3) JP1/AJS3 - View

- A function was added for checking the execution schedule of unregistered units in the Monthly Schedule window of JP1/AJS3 - View.
- A function was added for preventing scheduler services for which the JP1 user logged in to JP1/AJS3 - View has no access privileges from appearing in JP1/AJS3 - View.
- A function was added for restricting the maximum number of allowed JP1/AJS3 - View concurrent sessions for a scheduler service.
- A function was added for changing the passwords of JP1 users by using JP1/AJS3 - View.
- The way in which the Register Custom Job dialog box and the Set Properties of Custom Job dialog box are displayed was changed.
- A change was made so that when **Jobnet Definition** is selected from **Function Menu**, jobnets for which execution has been registered are displayed in the list area of the JP1/AJS3 - View window (main window).
- The function for hiding the icons of unused units in the Jobnet Editor window (a setting in the Set Default Values dialog box) was extended.

- A function was added for preventing the history of previously-used login-user names and connection-destination host names from appearing on the Login screen.

I.3 Revisions in 10-00

The following lists the revisions in 10-00 for each program.

(1) JP1/AJS3 - Manager

- IPv6 addresses are now supported for communication.
- Mirroring by copying a disk is now supported to enable disaster recovery operations.
- The AJS administrator, with JP1/AJS3 access permissions that are almost equivalent to superuser permissions, can now be designated when JP1/AJS3 is installed as a new installation.
- Wait conditions can now be used as a means for controlling the execution order of units across jobnets.
- The number of definition items for which macro variables can be specified has been increased, and the passing information setting job, which uses macro variables to pass information, has been added.
- A function that assigns a created or copied unit the attributes inherited from the upper-level unit, and a function that can permanently assign (fix) an execution user to a job have been added.
- A function that prevents jobs from being executed on unauthorized execution agents has been added.
- A function that allows users to save information about temporary change operations and to re-execute temporary change operations has been added.
- A function that automatically retries execution of a job when the executable file defined for the job terminates abnormally has been added.
- The dependent job of a judgment job can now be re-executed when the judgment job terminates normally.
- Mutually exclusive conditions and range conditions can now be specified as judgment conditions for judgment jobs.
- The Monitoring Event Log Job now can monitor the types of log data and events that were added in Windows Server 2008.
- An option that can be used when the Interval Control Job is defined as a start condition has been added to forcibly assume that the start condition is satisfied immediately after the monitoring of the start condition starts.
- The email sending job now supports a function that sends emails without using Outlook.
- SNMP traps can now be issued in Windows Server 2008.
- Processes for managing the embedded database have been improved.
- The startup type of the JP1/AJS3 Database service has been changed to **Manual** so that the JP1/AJS3 Database ClusterService service will not be created.
- An option has been added that checks the permissions of JP1 users mapped to OS users that have administrator permissions based on the JP1 permission level.
- A time period can now be specified when the `aj_sentry` command is used to register a jobnet for fixed execution.
- Options that can be specified when the `jajs_setup` or `jajs_setup_cluster` command is used to set up the embedded database have been added.
- The `ajsembdbidlist` and `ajsembdbstatus` commands can now be used to display the status of the embedded database.

- The embedded database settings file is now generated when an embedded database is set up. If this file is specified when the `ajsembddbbuild` command is used to build another embedded database, the other embedded database will be set up with the settings in the file.
- *Execution user name* and *Execution time* have been added as extended attributes that can be output for JP1 events (specific information) so that JP1 events indicating job termination can be used as job operating information.
- JP1/AJS3 - Manager can now link with JP1/DH - AJE, and DHAJEW has been added as a standard custom job.
- The following OS is no longer supported:
 - Solaris 9(SPARC)
 - Linux 5 (x86)
 - Linux 5 (AMD/Intel 64)
 - Linux 5 (IPF)
- The following OS is supported:
 - Windows Server 2012
 - Solaris 11(SPARC)
 - Linux 6 (x86)
 - Linux 6 (x64)

(2) JP1/AJS3 - Agent

- IPv6 addresses are now supported for communication.
- The AJS administrator, with JP1/AJS3 access permissions that are almost equivalent to superuser permissions, can now be designated when JP1/AJS3 is installed as a new installation.
- An option that can be used when the Interval Control Job is defined as a start condition has been added to forcibly assume that the condition is satisfied when the monitoring of the start condition starts.
- The email sending job now supports a function that sends emails without using Outlook.
- SNMP traps can now be issued in Windows Server 2008.
- The Monitoring Event Log Job now can monitor the types of log data and events that were added in Windows Server 2008.
- The following OS is no longer supported:
 - Solaris 9(SPARC)
 - Linux 5 (x86)
 - Linux 5 (AMD/Intel 64)
 - Linux 5 (IPF)
- The following OS is supported:
 - Windows Server 2012
 - Solaris 11(SPARC)
 - Linux 6 (x86)
 - Linux 6 (x64)

(3) JP1/AJS3 - View

- The Wait Conditions Settings List window and the Wait Conditions Statuses window have been added as means for managing units with wait conditions and units whose end is being waited for.
- A dialog box which lists temporary change operations that have already been performed and which allows users to re-execute (re-apply) specific temporary change operations has been added.
- Retry information can now be displayed in the following windows:
 - Daily Schedule window
 - Monthly Schedule window
 - Jobnet Monitor window
 - Detailed Schedule dialog box
 - Monitor Details - [*icon-name*] dialog box
- Whether retries are enabled is now displayed in the list area of the Jobnet Editor window.
- The Jobnet Monitor window was provided with a function that grays out all relation lines and units other than the day's units (the units that were executed and are to be executed on the day).
- **Specify period**, **Reference calendar**, **Waiting-target**, and **Execution type** have been added as search conditions that can be specified in the Search window.
- In the Search window, **Retry Settings** and **Retry execution** can now be specified as search conditions. In addition, the search results displayed in the Search window now include items related to automatic retry.
- The procedure for displaying the units found in the Search window in the Summary Monitor window has been simplified.
- The Display Item Setup dialog box can now be used to set the items to be displayed in the list areas of the Jobnet Editor window and the Jobnet Monitor window.
- A function that allows users to define all-at-one-time schedule rules that start execution at regular intervals, and a function that allows users to delete multiple schedule rules at one time have been added.
- Definition items related to automatic retry have been added to the detailed definitions of Unix jobs, PC jobs, QUEUE jobs, and custom jobs.
- Mutually exclusive conditions and range conditions can now be specified as judgment conditions for judgment jobs.
- The types of log data and events that were added in Windows Server 2008 can now be specified as **Log type** and **Event type** in the detailed definition of the Monitoring Event Log Job.
- The **Expire right after starting** option has been added in the detailed definition of the Interval Control Job. When the job has been defined as a start condition, this option can be used to forcibly assume that the condition is satisfied immediately after the monitoring of the start condition starts.
- An option ensuring that the job groups and planning groups displayed in the list area are initially selected when the JP1/AJS3 - View window (Main window) opens has been added. In addition, an option ensuring that the nested jobnets and nested remote jobnets displayed in the map area are initially selected when the Jobnet Editor window or the Jobnet Monitor window opens has been added.
- An option has been added that displays a nested jobnet as being selected at the location at which the jobnet existed before it was moved to the upper layer in the Jobnet Editor window or the Jobnet Monitor window.
- When the **Depends on upper-level jobnet** check box is selected in the schedule settings of a nested jobnet, whether to display a confirmation message before defined schedule rules are deleted can now be selected by using an option.
- The **Start** button, which allows users to launch arbitrary programs, has been added to the Monitor Details - [*custom-job-name*] dialog box.

- Because of the user authentication function added in JP1/AJS3 - Definition Assistant 09-10, specifying the JP1 user name is now mandatory for starting JP1/AJS3 - Definition Assistant from JP1/AJS3 - View. With this specification change, **User name** has been added as an item that can be selected from the **Replace** drop-down list in the Tool Entry dialog box.
- The following OS is supported:
 - Windows 8.1
 - Windows 8
 - Windows Server 2012
- An option for preventing the opening of multiple Jobnet Editor windows and Jobnet Monitor windows has been added.

I.4 Revisions in 09-00

The following lists the revisions in 09-00 for each program.

(1) JP1/AJS3 - Manager

- The standard database of JP1/AJS3 is now an embedded database.
- Functions related to an embedded database have been changed as follows:
 - The sizes of the large-scale, medium-scale, and small-scale database models have been changed.
 - The database area auto-increment function and the system log auto-increment function have been added.
 - The system log is no longer used.
 - The functions of the commands used to control an embedded database have been enhanced.
- The ISAM database is now used only for QUEUE jobs and submit jobs.
- An agent management function has been added for specifying a logical execution agent name as the destination host for a job or jobnet. Previously, users could only specify execution hosts by their real names.
- Jobs that are in the *Now queuing* status when the service is stopped are now returned to the *Wait for prev. to end* status when the service restarts (in hot-start mode), before being resubmitted.
- A jobnet release function has been added for replacing the definition of a jobnet that is registered for execution with another definition.
- The job execution control manager process (jpm) and event/action control manager process (jpac) can now be started on a scheduler service basis.
- A scheduler log file can now be output for an individual scheduler service or host.
- The following functions have been enhanced:
 - The method by which the number of logs to keep is managed
 - The process by which monitored generations of jobnets with start conditions are established
 - The process by which execution generations when a start condition is established are held
- A format specification has been added to the `ajsshows` command for outputting the standard output file name.
- The Manager Environment Settings dialog box is no longer provided. Instead, you can use the `ajjs_config` command to set up the manager environment.
- The following environment setting parameters have been added:

- FixedHostnameForAgent
- NotificationConstantRetry
- NotificationRetryInterval
- NotificationRetryCount
- ClientConnectTimeout
- A function has been added to support end delay monitoring based on how long a job takes to execute.
- The jobnet connector functionality has been enhanced to enable control of the execution order of root jobnets managed by different scheduler services.
- The definition pre-check has been enhanced so that if an invalid execution order is found in the units of the jobnet being checked, the names of the units are output to the check results file.
- The file permission check performed at execution of a Unix job has been enhanced to include checks of the access control list and secondary group settings as well as file permissions.
- A function has been added that enables event jobs to continue executing even if the JP1/AJS3 service stops on the execution host.
- A function has been added for exporting and importing the registration statuses of jobnets as registered execution-schedule information.
- Linkage with message queues on UNIX hosts (TP1/LiNK, TP1/Message Queue, MQSeries) is no longer supported.
- Windows Server 2008 has been added as platforms supported by JP1/AJS3 - Manager.
- A unit called a jobnet connector which controls the execution order of root jobnets has been added.
- An option has been added to output a detailed history of user operations, such as changes to jobnet definitions, to the scheduler log.
- The `ajslogprint` command for extracting log entries from the scheduler log has been added.

(2) JP1/AJS3 - Agent

- The Agent Environment Settings dialog box is no longer provided. Instead, you can use the `jajs_config` command to set up the agent environment.
- Linkage with a message queue system is no longer supported.
- The following environment setting parameters have been added:
 - FixedHostnameForAgent
 - NotificationConstantRetry
 - NotificationRetryInterval
 - NotificationRetryCount
 - ClientConnectTimeout
- The file permission check performed at execution of a Unix job has been enhanced to include checks of the access control list and secondary group settings as well as file permissions.
- Linkage with message queues on UNIX hosts (TP1/LiNK, TP1/Message Queue, MQSeries) is no longer supported.
- Windows Server has been added as platforms supported by JP1/AJS3 - Agent.

(3) JP1/AJS3 - View

- An agent management function has been added for specifying a logical execution agent name as the destination host for a job or jobnet. Previously, users could only specify execution hosts by their real names.
- A jobnet release function has been added for replacing the definition of a jobnet that is registered for execution with another definition.
- Function menus have been added to the JP1/AJS3 - View window to facilitate task-oriented operation.
- The JP1/AJS3 - View window (Summary Monitor window) has been added. In this window, you can view the progress of jobnets and other information.
- JP1/AJS3 - View can now be started in the following modes:
 - Normal mode
In this mode, the JP1/AJS3 - View window is equipped with function menus.
 - Monitoring mode
A mode dedicated to monitoring jobs and jobnets. Only the JP1/AJS3 - View window (Summary Monitor window) is displayed.
 - Compatible mode
JP1/AJS3 - View operates in the same way as JP1/AJS2 - View version 8 or earlier.
- A Detailed Information area has been added to the JP1/AJS3 - View window (Main window), which displays detailed information about a unit.
- The concurrent execution setting of monitored generations and the holding behavior of execution generations (produced when a start condition is satisfied) can now be selected in the detailed definition of a start condition.
- A list filter function has been added for filtering the information in a list.
- A function has been added for saving list information in CSV format.
- You can now click a button in the Daily Schedule window and Monthly Schedule window to move between days and months.
- A list area has been added to the Jobnet Editor window and Jobnet Monitor window. This area displays the jobs defined in the jobnet.
- A Search window has been added, in which you can set detailed search conditions and perform operations on units listed in the search results.
- You can now use a mouse wheel to scroll inside JP1/AJS3 - View.
- A function has been added that allows you to select whether **Type** in list areas are grouped by type or displayed in detailed format.
- A function has been added for prohibiting changes to specific definition items in the Define Details dialog box.
- A function has been added for removing icons you no longer use from the icon list area in the Jobnet Editor window.
- Windows 7 has been added as a supported OS (JP1/AJS3 - View 09-00-05 or later).
- A function has been added to support end delay monitoring based on how long a job takes to execute.
- The jobnet connector functionality has been enhanced to enable control of the execution order of root jobnets managed by different scheduler services.
- An option has been added to the Filter Settings dialog box so that jobnets with hold plans can be treated as jobnets in *Being held* status for filtering purposes in the Daily Schedule window and Monthly Schedule window.
- The ability to define, operate, and monitor jobnet connectors which control the execution order of root jobnets has been added.
- A function that displays the preceding and succeeding jobs of a given job or jobnet in bold has been added.

- Support for Windows Vista has been added.

I.5 Revisions in 08-00

The following lists the revisions in 08-00 for each program.

(1) JP1/AJS2 - Manager

- The recommended values for the environment settings are now set during installation and setup.
- A Monitoring Files job can now monitor files larger than 2 gigabytes (large files).
- The `ajsstatus` command can now output the connection status of JP1/AJS2 - View.
- The following commands used to control an embedded database have been added:
 - `ajsembdbaddarea` command (expands a database area in an embedded database)
 - `ajsembdbaddlog` command (expands a log area in an embedded database)
 - `ajsembdbcancel` command (cancels execution of a command manipulating an embedded database)
 - `ajsembdboplog` command (manipulates embedded database logs)
 - `ajsembdbreclaim` command (maintains an embedded database)
 - `ajsembdbrorg` command (unloads and reloads an embedded database)
 - `ajsembdbstr` command (backs up and restores an embedded database)
 - `ajsembdbstart` command (starts an embedded database)
 - `ajsembdbstatus` command (monitors an embedded database)
 - `ajsembdbstop` command (stops an embedded database)
 - `ajsembdbunset` command (removes the setup of an embedded database)

With support of the `ajsembdbreclaim` command, the time required to reclaim free pages has been reduced.

- JP1/Performance Management - Agent Option for JP1/AJS2 can now be linked with JP1/AJS2 to analyze the operating status.
- The `jajs_start` command and the `jajs_start.cluster` command can now check whether a process has already been started when JP1/AJS2 is started. (UNIX only)

(2) JP1/AJS2 - Agent

- The recommended values for the environment settings are now set during installation and setup.
- A Monitoring Files job can now monitor files larger than 2 gigabytes (large files).

(3) JP1/AJS2 - View

- Icons have been changed.

I.6 Revisions in 07-50

The following lists the revisions in 07-50 for each program.

(1) JP1/AJS2 - Manager

- Macro variables can now be used during registration for execution to specify information to be passed.
- Judgment jobs can now perform variable judgment.
- A function has been added that suppresses jobnet executions that follow an abnormally terminated jobnet and that will be started when their start conditions are satisfied.
- A definition pre-check function has been added for conducting a final check before starting production in the production environment after the unit definitions are migrated from the development environment.
- The `jpomanevreset` command has been added for deleting data accumulated in the event action manager if a large amount of unprocessed data accumulated in the event action manager has caused delay. To identify the start conditions and agents that have caused this problem, the `jpomanevshow` command has also been added for displaying information about agents that frequently send data to the manager and the start conditions.
- A function that alleviates consumption of the Desktop heap has been added. (Windows only)
- A function has been added for specifying the maximum wait time for the scheduler service to connect to a database.
- Messages that were output to only the integrated trace log can now be output to syslog also. (UNIX only)
- The following functions have been added to the data collection tool:
 - Specifying a logical host name
 - Filtering the data to be collected
 - Adding types of data that can be collected
- Descriptions of messages have been improved.
- An urgent command has been added that can be executed if an error occurs.
- A function has been added that places limits on, for example, the size of files that can be received, to prevent a part of job processing from affecting the entire system operation.
- A function has been added that performs a synchronized write when updating event job information or the wait information file.
- The monitoring interval for linkage with MQ Series can now be specified in seconds.
- If a TCP/IP connection error occurs, the retry interval and count can now be changed.
- The policy to determine the agent hosts to which a job will be dispatched can now be specified.
- All the detailed processes of the event action function can now be stopped to terminate the agent process for the event action function if any of the detailed processes have terminated upon receiving a signal.
- Microsoft(R) Visual C++ .NET Version 2003 is now supported as a compiler for the provided code functions.
- The `ajsshows` command can now display the hold attribute of a jobnet or job even when the jobnet or job has already terminated.

(2) JP1/AJS2 - Agent

- A definition pre-check function has been added for conducting a final check before starting production in the production environment after the unit definitions are migrated from the development environment.
- The following functions have been added to the data collection tool:
 - Specifying a logical host name
 - Filtering the data to be collected
 - Adding types of data that can be collected

- Descriptions of messages have been improved.
- The monitoring interval for linkage with MQ Series can now be specified in seconds.
- All the detailed processes of the event action function can now be stopped to terminate the agent process for the event action function if any of the detailed processes have terminated upon receiving a signal.
- A function has been added that performs a synchronized write when updating event job information or the wait information file.

(3) JP1/AJS2 - View

- Macro variables can now be used during registration for execution to specify information to be passed.
- Judgment jobs can now perform variable judgment.
- A function has been added that suppresses the jobnet executions that follow an abnormally terminated jobnet and that will be started when their start conditions are satisfied.
- The **Add**, **Change Time**, **Execute Immediately**, and **Release Change** options have been added to the JP1/AJS2 - View window.
- The **Paste (Extension)** menu command has been added for copying units and relationship lines at the same time.
- Relationship lines can now be drawn from multiple units to a single job network element.
- When opening the Jobnet Monitor window of JP1/AJS2 - View from JP1/AJS2 Console View, if there is already an activated JP1/AJS2 - View, the window can now be opened in JP1/AJS2 - View.
- The following functions have been added to the data collection tool:
 - Specifying a logical host name
 - Filtering the data to be collected
 - Adding types of data that can be collected
- Descriptions of messages have been improved.
- The maximum log file size for JP1/AJS2 - View has been increased.
- The maximum log file size for JP1/AJS2 Console View has been increased.
- In JP1/AJS2 - View, log information that previously was output many times in small units can now be output at one time.
- In JP1/AJS2 Console View, log information that previously was output many times in small units can now be output at one time.
- In the Windows version of JP1/AJS2 - View, **Help** has been added to the **Start** menu.

I.7 Revisions in 07-00

The following lists the revisions in 07-00 for each program.

(1) About JP1/AJS2 - Manager

- A function was provided to temporarily compress JP1/AJS2 and reconfigure the ISAM database (scheduler database and job execution environment database) without stopping active applications.
- ISAM databases can now be reconfigured in parallel.
- The number of scheduler services that can be added has been changed from 9 to 20.

- An option was added for outputting the execution timings of reference commands, such as `ajs show` and the history of service processing requests from operation commands, as the operation log to the scheduler log.
- The number of logs to keep for a jobnet has been changed from 99 to 999.
- For a cold start of JP1/AJS2, the job execution environment database is deleted so that the startup time of JP1/AJS2 becomes shorter.
- A function is now supported for validating the user profile information in the environment setup for job execution control.
- By setting the number of days that job information is held to 0 days, jobs that terminate abnormally can now be handled by changing the save time.
- The JP1/AJS2 job information deletion can now be suppressed.
- Any event job can now be used in a DNS environment (host name in the FQDN format).
- Event job reception information can now be inherited as macro variables as the parameters of standard jobs and action jobs without having to pay attention to double quotation marks in the inherited information.
- The extended regular expression supported by JP1/Base can now be used in Receive event job monitoring jobs, Monitoring log files jobs, and Monitoring event log jobs according to the JP1/Base settings.
- A function to execute queueless jobs is now supported.

(2) About JP1/AJS2 - Agent

- Event job reception information can now be inherited as macro variables of the parameters of standard jobs and action jobs without being aware of double quotation marks in the inherited information.
- A function for executing queueless jobs was supported.
- When JP1/AJS2 - Agent starts, it no longer accesses the authentication server (07-00-/C or later).

(3) About JP1/AJS2 - View

- A user profile can now be used to set the JP1/AJS2 - View environment.
- A line feed character can now be inserted at any point in a unit name displayed in the map area of the Jobnet Editor and Jobnet Monitor windows.
- The default values in the dialog box can now be changed.
- Display items (columns) in the following locations can now be selected.
 - List area in the JP1/AJS2 - View window
 - Execution result list in the Daily Schedule window
 - Execution result list in the Monthly Schedule window

J. Reference Material for This Manual

This appendix provides reference information, including various conventions, for this manual.

J.1 Related publications

This manual is part of a related set of manuals. The manuals in the set are listed below (with the manual numbers):

About JP1/AJS:

- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Overview* (3021-3-318(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 System Design (Configuration) Guide* (3021-3-319(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 System Design (Work Tasks) Guide* (3021-3-320(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Configuration Guide 2* (3021-3-322(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Administration Guide* (3021-3-323(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Troubleshooting* (3021-3-324(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Operator's Guide* (3021-3-325(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Command Reference 1* (3021-3-326(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Command Reference 2* (3021-3-327(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Linkage Guide* (3021-3-328(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Messages 1* (3021-3-329(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 Messages 2* (3021-3-330(E))
- *Job Management Partner 1/Automatic Job Management System 2 Description* (3020-3-K21(E))
- *Job Management Partner 1/Automatic Job Management System 2 Planning and Administration Guide* (3020-3-K22(E))
- *Job Management Partner 1/Automatic Job Management System 2 Setup Guide* (3020-3-K23(E))
- *Job Management Partner 1/Automatic Job Management System 2 Operator's Guide* (3020-3-K24(E))
- *Job Management Partner 1/Automatic Job Management System 2 Command Reference* (3020-3-K25(E))
- *Job Management Partner 1/Automatic Job Management System 2 Linkage Guide* (3020-3-K27(E))
- *Job Management Partner 1/Automatic Job Management System 2 Messages* (3020-3-K28(E))

- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 - Print Option Description, User's Guide (3021-3-331(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 - Definition Assistant Description, Operator's Guide and Reference (3021-3-332(E))*
- *Job Management Partner 1/Automatic Job Management System 3 - Web Operation Assistant Description, Operator's Guide and Reference (3020-3-S18(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Automatic Job Management System 3 for Enterprise Applications Description, User's Guide and Reference (3021-3-333(E))*

About JP1:

- *Job Management Partner 1 Version 10 Job Management Partner 1/Base User's Guide (3021-3-301(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Base Messages (3021-3-302(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Base Function Reference (3021-3-303(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Quick Reference (3021-3-304(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Overview and System Design Guide (3021-3-305(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Configuration Guide (3021-3-306(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Administration Guide (3021-3-307(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager GUI Reference (3021-3-308(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Command and Definition File Reference (3021-3-309(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Messages (3021-3-310(E))*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Script Description and Reference (3021-3-135(E)), for Windows Systems*
- *Job Management Partner 1 Version 10 Job Management Partner 1/File Transmission Server/FTP Description, Reference, and Operator's Guide (3021-3-334(E)), for Windows systems*
- *Job Management Partner 1 Version 10 Job Management Partner 1/File Transmission Server/FTP Description, Reference, and Operator's Guide (3021-3-335(E)), for UNIX systems*
- *Job Management Partner 1 Version 10 Job Management Partner 1/Data Highway - Automatic Job Executor Operation manual (3021-3-336(E))*
- *Job Management Partner 1/Software Distribution Description and Planning Guide (3020-3-S79(E)), for Windows systems*
- *Job Management Partner 1/Software Distribution Setup Guide (3020-3-S80(E)), for Windows systems*
- *Job Management Partner 1/Software Distribution System Administrator's Guide Volume 1 (3020-3-S81(E)), for Windows systems*
- *Job Management Partner 1/Software Distribution System Administrator's Guide Volume 2 (3020-3-S82(E)), for Windows systems*
- *Job Management Partner 1/Software Distribution Automatic Installation Tool Description and Reference (3020-3-S83(E)), for Windows systems*

- *Job Management Partner 1/Software Distribution Administrator Kit Description and Operator's Guide (3020-3-S84(E))*
- *Job Management Partner 1/Software Distribution Client Description and User's Guide (3020-3-S85(E)), for UNIX systems*
- *Job Management Partner 1/Software Distribution SubManager Description and Administrator's Guide (3020-3-L42(E)), for UNIX systems*
- *Job Management Partner 1/Software Distribution Manager Description and Administrator's Guide (3000-3-841(E))*
- *Job Management Partner 1/Consolidated Management 2/Extensible SNMP Agent Description, Operator's Guide and Reference (3020-3-L04(E)), for UNIX systems*
- *Job Management Partner 1/NQSEXEC System Administrator's Guide (3020-3-F30(E))*
- *Job Management Partner 1/Open Job Entry Description, User's Guide and Reference (6190-3-365(E)), for VOS3 systems*
- *Job Management Partner 1/Open Job Entry Description, User's Guide and Reference (9000-3-365(E)), for MVS systems*
- *Job Management Partner 1/Open Job Entry Description, User's Guide and Reference (9000-3-366(E)), for OSIV/MSP systems*
- *Job Management Partner 1/Open Job Entry for Midrange Computer Description and User's Guide (9000-3-367(E))*

J.2 Conventions: Abbreviations for product names

This manual uses the following abbreviations for product names:

Abbreviation		Full name or meaning
JP1/AJS3	JP1/AJS3 - Manager	Job Management Partner 1/Automatic Job Management System 3 - Manager
	JP1/AJS3 - Agent	Job Management Partner 1/Automatic Job Management System 3 - Agent
	JP1/AJS3 - View	Job Management Partner 1/Automatic Job Management System 3 - View
JP1/AJS2	JP1/AJS2 - Manager	Job Management Partner 1/Automatic Job Management System 2 - Manager
	JP1/AJS2 - Agent	Job Management Partner 1/Automatic Job Management System 2 - Agent
	JP1/AJS2 - View	Job Management Partner 1/Automatic Job Management System 2 - View
JP1/AJS2 - Advanced Manager		Job Management Partner 1/Automatic Job Management System 2 - Advanced Manager [#]
JP1/AJS2 - Client Toolkit		Job Management Partner 1/Automatic Job Management System 2 - Client Toolkit [#]
JP1/AJS3 - Definition Assistant		Job Management Partner 1/Automatic Job Management System 3 - Definition Assistant
JP1/AJS3 for Enterprise Applications		Job Management Partner 1/Automatic Job Management System 3 for Enterprise Applications

Abbreviation		Full name or meaning
JP1/AJS3 - Web Operation Assistant		Job Management Partner 1/Automatic Job Management System 3 - Web Operation Assistant
JP1/DH - AJE		Job Management Partner 1/Data Highway - Automatic Job Executor
JP1/DH - Server		Job Management Partner 1/Data Highway - Server
JP1/FTP		Job Management Partner 1/File Transmission Server/FTP
JP1/IM	JP1/IM - Manager	Job Management Partner 1/Integrated Management - Manager
	JP1/IM - View	Job Management Partner 1/Integrated Management - View
	JP1/IM - Central Console	Job Management Partner 1/Integrated Manager - Central Console [#]
	JP1/IM - Central Scope	Job Management Partner 1/Integrated Manager - Central Scope [#]
JP1/OJE		Job Management Partner 1/Open Job Entry
JP1/OJE for Midrange Computer		Job Management Partner 1/Open Job Entry for Midrange Computer
JP1/OJE for VOS3		VOS3 Job Management Partner 1/Open Job Entry
JP1/SES		Job Management Partner 1/System Event Service
NNM	HP NNM	HP Network Node Manager Software version 7.5 or earlier
		HP Network Node Manager Software Starter Edition version 7.5 or earlier
AIX		AIX 5L 5.3
		AIX V6.1
		AIX V7.1
HP-UX	HP-UX (IPF)	HP-UX 11i V2(IPF)
		HP-UX 11i V3(IPF)
Linux	Linux 6.1 (x86)	Red Hat Enterprise Linux(R) Server 6.1 (32-bit x86)
	Linux 6.1 (x64)	Red Hat Enterprise Linux(R) Server 6.1 (64-bit x86_64)
	Linux 5.1 (x86)	Red Hat Enterprise Linux(R) 5.1 (x86)
	Linux 5.1 (AMD/Intel 64)	Red Hat Enterprise Linux(R) 5.1 (AMD/Intel 64)
SAP BW		SAP Business Information Warehouse
SAP R/3		SAP R/3(R)
Solaris		Solaris 10(SPARC)
		Solaris 11(SPARC)

Version 7

- In this manual, *JPI/AJS* is sometimes used generically, referring to JP1/AJS3 and JP1/AJS2.
- *UNIX* is sometimes used generically, referring to HP-UX, Solaris, AIX and Linux.

J.3 Conventions: Acronyms

This manual also uses the following acronyms:

Acronym	Full name or meaning
ACL	Access Control List
DB	Database
DBMS	Database Management System
DNS	Domain Name System
EUC	Extended UNIX Code
FQDN	Fully Qualified Domain Name
FTP	File Transfer Protocol
GUI	Graphical User Interface
IME	Input Method Editor
IPF	Itanium(R) Processor Family
ISAM	Indexed Sequential Access Method
LAN	Local Area Network
MAPI	Messaging Application Programming Interface
MIB	Management Information Base
MIME	Multipurpose Internet Mail Extensions
NAT	Network Address Translator
NFS	Network File System
NIC	Network Interface Card
OS	Operating System
PDF	Portable Document Format
RDB	Relational Database
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol
SUP	Service Using Program
TCP/IP	Transmission Control Protocol/Internet Protocol
UAC	User Account Control
UNC	Universal Naming Convention
WAN	Wide Area Network
WOW64	Windows On Windows 64

Acronym	Full name or meaning
WSDL	Web Services Description Language

J.4 Conventions: KB, MB, GB, and TB

This manual uses the following conventions:

- 1 KB (kilobyte) is 1,024 bytes.
- 1 MB (megabyte) is 1,024² bytes.
- 1 GB (gigabyte) is 1,024³ bytes.
- 1 TB (terabyte) is 1,024⁴ bytes.

J.5 Conventions: Meaning of "directory" and "folder"

As a general rule, Windows folder names are used in this manual if they are identical to UNIX directory names.

J.6 Conventions: Meaning of "member of the Administrators group"

The term *member of the Administrators group* in this manual refers to a user who is a member of the Administrators group on the local PC only. The privileges of local users, domain users, and Active Directory users are no different as long as these users are members of the Administrators group on the local PC.

J.7 Default installation folders of JP1/AJS3 for Windows

The default installation folders of JP1/AJS3 for Windows are as follows:

Default installation folders of JP1/AJS3 - Manager:

`system-drive\Program Files#\HITACHI\JP1AJS2`
and

`system-drive\Program Files#\HITACHI\JP1AJS2CM`

Default installation folder of JP1/AJS3 - Agent:

`system-drive\Program Files#\HITACHI\JP1AJS2`

Default installation folder of JP1/AJS3 - View:

`system-drive\Program Files#\HITACHI\JP1AJS2V`

#

For 64-bit versions of Windows, replace Program Files with Program Files (x86).

J.8 About the Start menu in Windows

In Windows Server 2012 or later, instead of using the **Start** menu, perform the operation as described below.

In Windows 8 or Windows Server 2012 (except Windows Server 2012 R2):

Right-click on the Start screen to display the All Apps screen.

In Windows 8.1 or Windows Server 2012 R2:

Click the down-pointing arrow icon to display the Apps screen.

J.9 Online manual

JP1/AJS3 - View comes with an online manual that you can read in browsers.

The HTML manual contains the same content as the *Job Management Partner 1/Automatic Job Management System 3 Operator's Guide*.

In JP1/AJS3 - View, you can view the manual by choosing **Help** and then **Contents**. You can also press the **F1** key to view the manual contents. Your Web browser must be associated with a file that has the extension `htm`; otherwise, the online manual will not be displayed correctly. If this happens, associate the `htm` file with the Web browser.

Cautionary note

Depending on the OS settings, the online manual might appear in the active window of the browser when you launch the manual from the **Start** menu.

J.10 Regular expressions available in JP1/AJS3

Regular expressions can be used in some items in dialog boxes and commands. For details about regular expressions in Windows, see the *Job Management Partner 1/Base User's Guide*. For details about regular expressions in UNIX, see your UNIX documentation.

The regular expressions that you can use when executing an event job on a Windows host depend on the JP1/Base settings. For details on setting regular expressions for event job execution, see the explanation about extending the available regular expressions in the *Job Management Partner 1/Base User's Guide*.

Searching may take a long time if you often use the regular expression `. *` (which means match any character or characters). In long messages, use `. *` only where necessary. In UNIX, you can use `[^] *` (repeat characters other than space characters) instead of `. *` when you want to find a match other than space characters. Using `[^] *` reduces the search time.

J.11 About the 3rd level and 4th level Kanji characters added in JIS 2004 (JIS X 0213:2004)

JP1/AJS3 cannot use the 3rd level and 4th level Kanji characters added in JIS 2004. If these characters are used, operation might not be performed correctly.

J.12 About NNM linkage

JP1/AJS3 supports linkage with the following products:

- HP Network Node Manager Software version 6 or earlier
- HP Network Node Manager Starter Edition Software version 7.5 or earlier

In this manual, these products are indicated as *HP NNM*.

Note that linkage with the following products is not supported:

- HP Network Node Manager i Software v8.10

K. Glossary

abnormal end

A jobnet ends abnormally if one of the processes defined in the jobnet fails to execute properly. The jobnet is interrupted at that point and subsequent processes are not executed.

A job ends abnormally if it fails to execute properly. The process is interrupted at that point.

The embedded database system ends abnormally when an error causes its status to change from active to stopped or paused, without any intervention by the user. For details, see *D. How the Embedded Database Operates* in the manual *Job Management Partner 1/Automatic Job Management System 3 Troubleshooting*.

abnormal threshold

A value that is compared with a job's return code to evaluate whether the job ended normally or abnormally.

action job

A job that sends email, or sends events reporting the system status to JP1/ IM or the HP NNM.

agent host

A host that executes jobs on request from a manager host. JP1/AJS3 - Agent must be installed on the agent host, or since JP1/AJS3 - Manager also provides JP1/AJS3 - Agent functionality, JP1/AJS3 - Manager might be installed on the agent host.

The agent host executes the job on receipt of a job request from the manager host. At completion of the job, the agent host receives the execution result (return value) of the executable file and forwards it to the manager host.

AJS3 unit monitored object

An object for monitoring the status of root jobnets in JP1/AJS3. By defining the monitoring conditions in this object, you can then switch to monitoring mode and monitor the root jobnets.

AJS administrator

A user that has access permissions almost equivalent to superuser permissions for JP1/AJS3. Only one of the JP1/Base administrators in the JP1 administrators group can be designated as the AJS administrator. An ordinary user designated as the AJS administrator can perform such JP1/AJS3 system management operations as specifying the environment settings and starting and stopping services.

AJSPATH

An environment variable for defining the paths used by JP1/AJS3. When this environment variable is defined, you do not need to specify the full path when specifying a jobnet name in a command.

automatic retry

A function that automatically retries execution of a job if the executable file defined for the job terminates abnormally. Because jobs that have terminated abnormally due to a temporary error might be able to run normally when automatically retried, this function can improve the system availability.

backup box

A directory or a folder for storing backup files.

backup file

A file containing the units defined in JP1/AJS3.

base day

A date specified as the starting day of the month in the calendar information.

base time

The time that marks when a day ends and the next day begins in a JP1/AJS3 system. For example, if 8:00 a.m. is set as the base time, the previous day is regarded as lasting until 7:59 a.m.

calendar information

Information about open days and closed days for jobnet execution. You can define calendar information separately for each job group. The calendar information specifies the days on which jobnets in the job group can and cannot be executed. (When the processing cycle falls on a closed day, the jobnet can be executed on another day if a substitute schedule is defined.) For open days, you can specify the base day, base month, and base time.

closed day

A day on which jobnets are not executed. However, if **Execute without shift** is specified, the jobnet will be executed on that closed day.

cluster system

A system configured as multiple linked server systems, designed to continue operation even if one system fails. If a failure occurs in the server currently executing applications (primary node), the other standby server (secondary node) takes over and continues processing the applications. Therefore, a cluster system is also referred to as a *node switching system*.

The term *cluster system* can also mean load balancing based on parallel processing. In this manual, however, *cluster system* refers only to node-switching functionality for preventing interruption of application processing.

common user profile

A file containing the environment settings for JP1/AJS3 - View, accessible to all JP1 users. The system administrator saves the common user profile in JP1/AJS3 - Manager. JP1 users can download this file, enabling the same JP1/AJS3 - View environment to be set for all JP1 users.

A common user profile is useful when a large number of JP1 users will be using JP1/AJS3 - View in the same environment.

compatible ISAM configuration

A system configuration in which JP1/AJS3 information is managed exclusively by the ISAM database.

This configuration is offered to help users migrate from JP1/AJS2 version 8 or earlier. It can restrict to the same degree as in previous versions, the use of resources such as hard disk and memory. However, from version 9 only a subset of the new features offered is provided.

correlation ID

Information for identifying sent and received messages. The correlation ID is received in the character code set specified by the sender.

custom job

A predefined job for executing a task with a specific purpose. JP1/AJS3 provides standard custom jobs such as file transfer and job requests to a mainframe. In addition, you can register your own frequently used jobs as custom jobs. When registering a custom job, you can represent it by creating an icon with a special shape and design, and you can create a dialog box for entering job information.

To use a custom job, the requisite program for the job must be installed.

Daily Schedule window

A window that displays each day's execution schedules, execution status, and execution results.

data collection tool

These tools are provided by JP1 for batch collection of log data and other information required to investigate problems. In addition to problems in JP1/AJS3, problems might occur in the OS or user programs or as the result of operational mistakes. The data collection tools collect JP1/AJS3 log data and other information, such as OS log data, at the same time.

default queue

A queue created in an agent host for executing jobs. You must always create a default queue.

When you submit a job for execution, if you specify an agent host name as the destination, the job will be submitted to the default queue of the specified agent host.

dependent job

A job executed when the judgment result of a judgment job is true.

dependent jobnet

A jobnet executed when the judgment result of a judgment job is true.

disaster recovery

Disaster recovery refers to measures that are taken when there are unexpected occurrences such as system shutdown due to a large-scale disaster.

JP1/AJS3 supports a disaster recovery operation that copies JP1/AJS3 data on the shared disk to a shared disk at a remote site. If the JP1/AJS3 system fails because of an event such as a disaster, the JP1/AJS3 system at the remote site can continue operation by using the copied data. The disk copy and mirroring functionality of hardware is used to copy data between shared disks.

embedded database

The standard database of JP1/AJS3. An embedded database offers high reliability, and is well suited to large-scale systems that handle large quantities of information.

embedded database administrator (database administrator)

A user authorized to assign and cancel various permissions for an embedded database (a user with DBA permissions).

Database administrators are managed within an embedded database.

embedded database operation commands

A generic term for commands whose name begins with `ajsembdb`.

embedded database service

A service that provides the environment for using the embedded database in Windows. This service must be started before you can use the embedded database. The name of the embedded database service is JP1/AJS3 Database *setup-identifier*.

embedded database system administrator

The owner of an embedded database practical directory and embedded database file system areas (data area and system area). The embedded database system administrator can execute commands for an embedded database.

The OS manages embedded database system administrators.

end with warning

A status indicating that a jobnet finished, but some of the processes defined in the jobnet were executed incorrectly. The jobnet continues to the end without interruption.

This ending method is used when an error is not so serious as to terminate the jobnet.

environment setting parameter

A parameter for defining the information required to operate JP1/AJS3, written in an environment settings file. With these parameters, you can specify the directory in which information about JP1/AJS3 units is stored, whether to output syslog messages, and other such preferences.

environment settings file

A file containing the settings required to operate JP1/AJS3, such as the scheduler service environment and job execution environment.

event

A specific event, such as email reception or file update, that occurred in the system. Events can be used to start a job or jobnet, and can be monitored using an event job.

event job

A job that monitors specific events occurring in the system. When an event job is initiated, it starts monitoring for file updates, incoming messages, or other specified events.

execution agent

The logical name of an agent host that executes jobs or jobnets. Based on the agent information defined in the manager host, the manager maps the execution agent specified in the job or jobnet to the physical host name of the agent host, and distributes the job or jobnet accordingly.

execution agent group

A group of execution agents configured to realize load distribution. The manager distributes jobs among the execution agents according to their assigned priorities.

execution agent restriction

A function that suppresses execution of jobs on an execution agent that the administrator has not permitted to execute the jobs. The execution agents permitted to execute jobs can be set for each unit.

When the execution agent profile is enabled, this function checks for whether the execution agent is permitted to execute jobs at the following times:

- When a unit is defined in JP1/AJS3 - View
- When the `ajschkdef` command is used to conduct a definition pre-check
- When a job is executed

execution ID

A number assigned to an execution schedule of the uppermost jobnet.

execution-locked resource

A means of preventing multiple jobs from executing at the same time, by specifying the same resource name (execution-locked resource name) for each job.

fixed execution registration

A method of registering a jobnet so that it starts and runs at a predetermined date and time calculated by the system from schedule definitions.

fixed schedule

A schedule set by absolute times when a jobnet is registered for fixed execution.

HP NNM

A suite of integrated network management tools from Hewlett-Packard Co. for managing network configuration, performance, and failures.

immediate execution registration

A method for starting and processing a jobnet immediately after registering it for execution.

ISAM database

The database that manages the execution environment for QUEUE jobs and submit jobs. Data is indexed using the Indexed Sequential Access Method (ISAM) and is managed in the database. The ISAM database is provided as standard with JP1/Base.

job

A group of commands, shell scripts, or Windows executable files.

job execution environment

A job execution environment consists of a JP1/AJS3 manager and agents.

The job execution environment for the manager is used to manage the definition information for execution agents (such as the maximum number of concurrently executable jobs and job transfer restriction status), job distribution method, and job execution results.

The job execution environment for the agent is used mainly to manage how a job is executed.

These job execution environments are managed by using a database and environment setting parameters.

When QUEUE jobs and submit jobs are used, the ISAM database and environment setting parameters are used as the job execution environment for the QUEUE jobs and submit jobs.

Note that queueless jobs are managed in the queueless job execution environment.

job group

A folder for classifying and managing jobnets.

job network element

The generic term for these elements is *unit*.

jobnet

A set of jobs associated in execution order. When a jobnet is executed, the jobs in the jobnet are automatically executed in their predetermined order.

jobnet connector

A unit for controlling the execution order of root jobnets. A jobnet connector establishes connections between root jobnets and controls their execution order by having connected generations wait for their counterparts to start or finish.

Jobnet Editor window

A window in which you can create new jobnets or edit existing jobnets.

Jobnet Monitor window

A window that displays the execution status or detailed execution results of jobnets or jobs. You can manipulate jobnets or jobs in this window.

JP1 event

Event information that is reported to JP1/Base when an event occurs in the system. JP1 events are reported to other systems via JP1/Base.

JP1 permission level

A name that indicates the operations that a JP1 user is allowed to perform on management targets (resources) defined in JP1/AJS3, including applications and events. Use JP1/Base to define JP1 permission levels.

JP1 resource group

A name given to a specific JP1/AJS3 unit for controlling access by JP1 users to that unit.

JP1 user

A user designation for using JP1/AJS3 or JP1/IM - Manager. Each JP1 user is registered in the authentication server, which controls the user's access to management targets (resources).

JP1/AJS3 - Definition Assistant

This program allows you to register a large amount of JP1/AJS3 definition information edited using an Excel template into a manager host, or to retrieve JP1/AJS3 definition information from a manager host to an Excel template. The Excel templates provided by JP1/AJS3 - Definition Assistant are called *definition management templates*. With a definition management template in the spreadsheet format, you can enter or edit definition information efficiently by using automatic filling, automatic filtering, and other Excel functionalities.

JP1/AJS3 - Print Option

This program allows you to display or print jobnet or schedule information formatted as needed (for example, as jobnet definition information, an execution schedule table, or an execution result confirmation table).

You can also output jobnet or schedule information in CSV format so that you can edit the information.

JP1/AJS3 Console Agent

A JP1/AJS3 component that regularly monitors the status of objects (root jobnets) on the local host, specified in JP1/AJS3 Console Manager. Any change in status is notified to JP1/AJS3 Console Manager.

JP1/AJS3 Console Manager

A JP1/AJS3 component that stores definitions about monitored objects defined in JP1/AJS3 Console View, and gets status information about monitored objects by issuing requests to JP1/AJS3 Console Agent.

JP1/AJS3 Console View

A JP1/AJS3 component that allows you to define objects to be monitored, using a graphical user interface. The definitions are stored in JP1/AJS3 Console Manager. Using JP1/AJS3 Console View, you can view and monitor the status of target objects notified by JP1/AJS3 Console Agent to JP1/AJS3 Console Manager. You need to log in to JP1/AJS3 Console Manager before using JP1/AJS3 Console View.

JP1/AJS3 for Enterprise Applications

A program that allows you to control jobs in an R/3 system from another system. You can submit, delete, and monitor R/3 jobs.

R/3 jobs can be executed automatically from JP1/AJS3 if you register them as custom jobs for JP1/AJS3 for Enterprise Applications when you define a JP1/AJS3 jobnet.

JP1/AJS3 for Enterprise Applications is the successor to JP1/Application Manager for R/3.

JP1/Base

A program that provides the event service function. JP1/Base allows you to control the order in which services start, and it lets you send and receive JP1 events. JP1/Base is a prerequisite program for JP1/IM and JP1/AJS3. When JP1/IM is deployed in a system with JP1/AJS3, JP1/Base provides functionality for restricting operations by JP1 users.

JP1/DH - AJE

A program that automatically sends data to and receives data from JP1/DH - Server.

JP1/FTP

A program for performing file transfer tasks efficiently, including file transfer/reception linked to application execution, scheduled file transfer, and automated program execution following file reception. JP1/FTP supports monitoring of transfer status, enhancing file transfer reliability.

JP1/IM

A program for centrally monitoring a distributed system. Using the windows in JP1/IM - View, the system administrator can monitor JP1 events, which provide information about job execution status or problems in the distributed system.

JP1/NQSEXEC

A program for executing routine batch processing on a distributed system and for running batch jobs efficiently.

JP1/OJE for Midrange Computer

A program for submitting batch jobs to AS/400 from a Windows or UNIX host, or for submitting batch jobs from AS/400 to a Windows or UNIX host.

JP1/OJE for VOS3

A program that links with JP1/AJS3 for executing and monitoring batch jobs between a Windows or UNIX system and a mainframe (VOS3).

JP1/Script

A program for creating and executing scripts (batch files) that control jobs on Windows. Job operation can be automated by linking JP1/Script with JP1/AJS3.

JP1/Software Distribution

A general term for a system that distributes software and manages clients using batch operations over a network.

By linking with JP1/AJS3 using the JP1/Software Distribution command interface, the user can automate software distribution and other tasks.

judgment job

A job that executes a dependent unit if the judgment result of a specified condition is true.

judgment value

A value for evaluating whether a job ended normally or abnormally.

kill

To forcibly terminate a unit being executed.

When the root jobnet is killed, all the jobs being executed are killed and the jobnets are terminated.

list file

A file containing a list of extracts from sent and received mail.

logical host

A logical server that provides the JP1 execution environment for running a cluster system. If a failure occurs on the primary node, the logical host is switched to the secondary node.

Each logical host has a unique IP address. At failover, the secondary node inherits the IP address. Thus, if the physical server fails, clients can access the secondary node using the same IP address. To the clients, it appears that one server is operating continuously.

macro variable

A variable used to pass information from one job to another job during execution.

A macro variable name and passing information (or for an event job, a passing information name) are specified during unit definition. A macro variable can be used during job execution by specifying the name of the macro variable in the succeeding job.

macro variable name

A character string in ?AJS2xxxx? format that indicates the name of a macro variable. If a macro variable name is specified during the definition of a unit, the macro variable set in the preceding job can be used during job execution.

mail filtering application

A program or a shell script that converts email formats.

A mail filtering application is required to convert the character set when exchanging email in formats other than RFC822.

mail receipt parameter file

A file containing the mail receipt monitoring parameters defined by the user. The file extension is .prm. This file is created automatically when the user defines a Receive Email Event job.

mail send parameter file

A file containing the mail send parameters defined by the user. The file extension is .prm. This file is created automatically when the user defines a Send Email Action job.

manager host

A host that manages jobnet definitions and schedule information in a database, and requests agent hosts to execute jobs. You must install JP1/AJS3 - Manager on the manager host.

The manager host creates jobnet execution schedules from the defined schedule information. At jobnet run time, the manager host starts the executable files defined as jobs, forwards the job definitions to an agent host, and requests the agent host to execute the jobs. When execution completes, the execution result is received by the agent host and the database is updated. Based on the updated information, the manager host executes a succeeding job or schedules the next execution of the jobnet.

manager job group

A job group for monitoring JP1/AJS3 - Manager applications from another JP1/AJS3 - Manager.

manager jobnet

A jobnet for monitoring JP1/AJS3 - Manager applications from another JP1/AJS3 - Manager.

MAPI (Messaging Application Programming Interface)

The standard messaging API for Windows.

max. shiftable days

A set number of days within which to shift the next scheduled execution date when the recalculated date falls on a closed day.

maximum number of concurrently executable jobs

The maximum number of jobs that can be executed concurrently.

message ID

One item in an MQSeries message descriptor. Message IDs are stored in the character set specified by the sender. They can be used as storage locations to help identify messages.

MIME (Multipurpose Internet Mail Extensions)

An extended SMTP function used for sending and receiving non-ASCII data.

MIME specifies various procedures, such as how data is to be transmitted between email systems, and the format of control messages for email transfer.

Monthly Schedule window

A window that displays each month's execution schedules and execution results.

nested jobnet

A jobnet defined within another jobnet.

node switching system

See *cluster system*.

normal end

A normal end of a jobnet occurs when all the processes defined in the jobnet have executed correctly and the jobnet has completed.

A normal end of a job occurs when the job has executed correctly.

open day

A day when jobnets run.

passing information

Values specified for macro variables during registration for execution, event IDs, event issuance dates, and other information (values) that is dynamically set in macro variables and passed to succeeding jobs.

passing information name

A variable name indicating the event information to be received by an event job.

Variable names that can be used for this purpose include `EVID` (event ID) and `EVDATA` (event issuance date). These variable names are specified during the definition of an event job.

physical host

An environment unique to each of the servers (nodes) in a cluster system. When a secondary node takes over from the primary node, the environment of the physical host remains unchanged and is not inherited by the other server.

planned execution registration

A method of registering a jobnet so that it starts and executes according to schedule definitions.

planning group

A unit for switching execution among multiple root jobnets in a planned manner. Directly under a planning group, you can create a number of root jobnets, each defined differently and with differing execution schedules. This enables the root jobnets to be executed automatically in turn, according to the set schedules.

preceding job

A job executed immediately before another job or jobnet.

preceding jobnet

A jobnet executed immediately before another job or jobnet.

processing cycle

The interval between one execution start date and the next execution start date of a jobnet. By defining a processing cycle, you can execute a jobnet at regular intervals.

queue

An area for temporarily keeping jobs registered for execution. Jobs are submitted to the queue in order of registration, and are sequentially transferred for execution to the agent connected to that queue.

The queue controls the number of jobs that the agent executes concurrently, thereby preventing any degradation in performance caused by a large number of jobs being executed at the same time.

queueless job

A job transferred directly from the manager to an agent host for execution, without using a queue. Queueless jobs simplify processing because they are not managed in a queue by the job execution control. As a result, they offer better performance than ordinary queued jobs, allowing more jobs to be executed within a given period of time. However, job execution control functions such as execution agent names and execution agent groups are not available with queueless jobs.

You can define PC jobs and Unix jobs in a jobnet as queueless jobs by specifying **Queueless Agent** as the execution service.

Unless otherwise indicated, the descriptions in this manual apply to jobs for which **Standard** is specified as the execution service.

queueless job execution environment

A queueless job execution environment consists of execution environments for the JP1/AJS3 manager (scheduler service and queueless file transfer service) and queueless agents (queueless agent services). The execution of queueless jobs is managed by using the environment setting parameters for the job execution environment.

Note that the job execution environment must be set up by using the `ajsqlsetup` command before environment setting parameters are set.

queuing job

A job submitted directly to a queue and waiting to be executed.

recovery job

A job to be executed when a job or jobnet ends abnormally.

recovery jobnet

A jobnet to be executed when a job or jobnet ends abnormally.

schedule by days from start

A schedule defined for recalculating the next scheduled execution date, using as the base day the next scheduled execution date determined from the execution start time, processing cycle, and substitute schedule for closed days.

schedule information file

A text file containing schedule information parameters, entered by command when setting fixed execution registration for a jobnet.

schedule rule

Jobnet information such as execution start time and processing cycle. Up to 144 schedule rules can be defined for a single jobnet.

scheduler service

A service that manages the schedules for jobnet execution, and executes processes according to those schedules. Each scheduler service manages all the units in the root job group whose name matches the scheduler service name.

Multiple scheduler services can be activated in a single manager. This allows root job groups to be managed individually. For example, if you start a separate scheduler service for each application, each scheduler service can run its specific application (jobnet and jobs) in parallel, independently of the other scheduler services.

shift days

A set number of days within which to determine a substitute date when the next execution date falls on a closed day.

shutdown status

A situation in which a jobnet fails to start or end due to an error, and the execution status or the next scheduled execution cannot be verified. If this happens, you must cancel and then re-register the jobnet for execution.

SMTP (Simple Mail Transfer Protocol)

A protocol, generally used in UNIX networks, for transferring ASCII data by TCP/IP between heterogeneous systems.

standard configuration

A system configuration in which JP1/AJS3 information is managed by the embedded database.

Unless otherwise indicated, the descriptions in this manual relate to a system in a standard configuration.

Note that the ISAM database is still used to store some information related to QUEUE jobs and submit jobs.

start condition

A definition of the conditions under which a jobnet starts when the jobnet is driven by a specific event.

subject

A character string written in the subject line of an email message. Non-ASCII characters are supported in JP1/AJS3, but might not be supported in connected email systems.

submit

To request the system to execute a job.

submit job

A standard job registered using the `jpqjobsub` command.

substitute schedule

A means of executing a jobnet on a different day when the next execution date, determined from the jobnet schedule, falls on a closed day.

succeeding job

A job executed immediately after another job or jobnet.

succeeding jobnet

A jobnet executed immediately after another job or jobnet.

suspend

To suppress the execution of the root jobnet and lower units.

When you change a definition under a root jobnet that has been registered for execution, you should suspend the root jobnet to prevent erroneous operation such as the execution control processing running with the old definition. By suspending the root jobnet, the redefinition processing can be synchronized with the execution control processing.

threshold

A value for evaluating the termination status of a job. You can define an abnormal threshold and a warning threshold for each job.

timeout period

A time interval after which an executed job is forcibly terminated if there was no response from the job or if it failed to complete during the specified period.

TP1/Server Base

Software for distributing transaction processing and server processing in an open system. JP1/AJS2 uses TP1/Server Base transaction processing.

unit

A generic term for any job network element.

unit definition parameter file

A text file containing unit definition parameters, entered by command when defining the units.

unit ID

A unique number allocated to a unit.

unit whose end is being waited for

A unit specified as a wait condition of another unit. The unit for which the unit whose end is being waited for is specified as a wait condition starts when the unit whose end is being waited for terminates.

unit with wait condition

A unit for which another unit (unit whose end is being waited for) is specified as a wait condition. The unit with the wait condition starts execution when the associated unit (unit whose end is being waited for) terminates.

virtual machine

A virtual computer system (host) created on a physical host to run an OS is called a *virtual machine*. Multiple virtual machines can operate on a single physical host to execute multiple processes simultaneously or to run different OSs concurrently.

By replicating a virtual machine that has already been set up, you can easily increase hosts that have the same environment.

wait condition

A condition set for a unit that allows the execution order of units across jobnets to be controlled. A unit with another unit specified as a wait condition starts execution when the associated unit terminates.

warning threshold

A value for evaluating whether a job ended with a warning.

Windows Messaging

A facility that provides an interface for sending and receiving email. Using Windows Messaging, you can manage, access, and share a variety of information such as data received from an online service.

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