HITACHI
Inspire the Next

JP1 Version 13

JP1/Automatic Job Management System 3 for Enterprise Applications Description, User's Guide and Reference

Notices

■ Relevant program products

JP1/Automatic Job Management System 3 for Enterprise Applications (for Windows)
P-2A2C-65DL JP1/Automatic Job Management System 3 for Enterprise Applications 13-00

JP1/Automatic Job Management System 3 for Enterprise Applications (for Linux)
P-842C-65DL JP1/Automatic Job Management System 3 for Enterprise Applications 13-00

This manual may also be used with other program products, in addition those listed above. For details, see the release notes.

■ Trademarks

HITACHI, JP1 are either trademarks or registered trademarks of Hitachi, Ltd. in Japan and other countries.

Itanium is a trademark of Intel Corporation or its subsidiaries.

Linux is the registered trademark of Linus Torvalds in the U.S. and other countries.

Microsoft is a trademark of the Microsoft group of companies.

Microsoft, Windows are trademarks of the Microsoft group of companies.

Microsoft, Windows Server are trademarks of the Microsoft group of companies.

Oracle, Java, and MySQL are registered trademarks of Oracle and/or its affiliates.

Red Hat is a registered trademark of Red Hat, Inc. in the United States and other countries.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE in Germany and other countries.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or

UNIX is a trademark of The Open Group.

Other product and company names mentioned in this document may be the trademarks of their respective owners. Throughout this document Hitachi has attempted to distinguish trademarks from descriptive terms by writing the name with the capitalization used by the manufacturer, or by writing the name with initial capital letters. Hitachi cannot attest to the accuracy of this information. Use of a trademark in this document should not be regarded as affecting the validity of the trademark.

■ Microsoft product name abbreviations

This manual uses the following abbreviations for Microsoft product names.

Abbreviation	Full name or meaning
Windows Server 2016	Microsoft(R) Windows Server(R) 2016 Datacenter
	Microsoft(R) Windows Server(R) 2016 Standard
Windows Server 2019	Microsoft(R) Windows Server(R) 2019 Datacenter
	Microsoft(R) Windows Server(R) 2019 Standard
Windows Server 2022	Microsoft(R) Windows Server(R) 2022 Datacenter
	Microsoft(R) Windows Server(R) 2022 Standard

In this manual, Windows Server 2016, Windows Server 2019 and Windows Server 2022 might be referred to collectively as Windows.

■ Restrictions

Information in this document is subject to change without notice and does not represent a commitment on the part of Hitachi. The software described in this manual is furnished according to a license agreement with Hitachi. The license agreement contains all of the terms and conditions governing your use of the software and documentation, including all warranty rights, limitations of liability, and disclaimers of warranty.

Material contained in this document may describe Hitachi products not available or features not available in your country.

No part of this material may be reproduced in any form or by any means without permission in writing from the publisher.

■ Issued

June. 2023: 3021-D54(E)

■ Copyright

Summary of amendments

The following table lists changes in this manual (3021-3-D54(E)) and product changes related to this manual.

Changes	Changes
Supported the following OS: • Red Hat(R) Enterprise Linux(R) Server 9 • Oracle Linux(R) Operating System 9	--
Removed the following OS from the supported OSs: • Microsoft(R) Windows Server(R) 2012 • Microsoft(R) Windows Server(R) 2012 R2	--
Added the `eapctrlconf` file for customizing the JP1/AJS3 for EAP operating environment.	*2.2*, *2.2.1*, *3.1.1(1)(a)*, *3.1.1(1)(b)*, *3.1.2(1)(a)*, *3.1.2(1)(b)*, *3.2.1(1)*, *3.2.1(2)*, *3.3*
Added descriptions of settings and troubleshooting methods when connecting with WebSocket RFC.	*2.3.6(1)*, *2.6.1(2)*, *2.6.2*, *8.3.1(1)(a)*, 8.3.1(1)(b), *8.3.1(2)(a)*, *8.3.1(2)(b)*, *8.3.1(2)(c)*, *8.3.1(2)(d)*, *8.3.1(2)(e)*, *8.3.1(2)(f)*, *8.3.1(2)(g)*, *8.3.2(1)(b)*, *8.3.2(2)(a)*, *8.3.2(2)(b)*, *8.3.2(3)(a)*, *8.3.2(3)(d)*
Added the custom job definition program for Linux.	*3.1.1(2)*, *3.1.2(2)*, *3.2.2*, *Appendix A.2*
Changed the upper size limit for environment variables.	*3.1.1(3)(l)*, *3.1.2(3)(g)*, *3.2.3(5)*
The following message was added: KAJM0030-W, KAJM0031-W, KAJM0032-W, KAJM0033-W, KAJM0034-W, KAJM0035-E	*6.2*
Added the following materials as materials collected when a problem occurs: • `eapctrlconf` file • BAPI execution permissions list	*8.2.1(1)(b)*, *8.2.1(1)(c)*, *8.2.1(2)(b)*, *8.2.1(2)(c)*, *8.2.2(1)(b)*, *8.2.2(1)(c)*, *8.2.2(2)(b)*, *8.2.2(2)(c)*

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

Preface

This manual explains the functions, use, and syntax of JP1/Automatic Job Management System 3 for Enterprise Applications (hereinafter abbreviated as JP1/AJS3 for EAP).

■ Intended readers

This manual is intended for users who want to know about the functions, use, and syntax of JP1/AJS3 for EAP.

This manual assumes the reader has a basic understanding of:

- the SAP system and its system management
- the SAP BW system and its system management if the SAP BW system is to be used

■ Organization of this manual

This manual consists of the following chapters. Note that this manual applies equally to all OSs. If a function operates differently in different OSs, the differences are noted.

1. Overview of JP1/AJS3 for EAP

This chapter describes the features and system configuration of JP1/AJS3 for EAP and explains linkage with JP1 Series programs.

2. Installation and Setup

This chapter explains how to install and set up JP1/AJS3 for EAP.

3. Executing Background Jobs Using JP1/AJS

This chapter shows how to execute background jobs using JP1/AJS.

4. Commands

This chapter describes the command syntax of JP1/AJS3 for EAP.

5. Events

This chapter explains the events that JP1/AJS3 for EAP issues to other programs.

6. Messages

This chapter describes the messages that are issued by JP1/AJS3 for EAP.
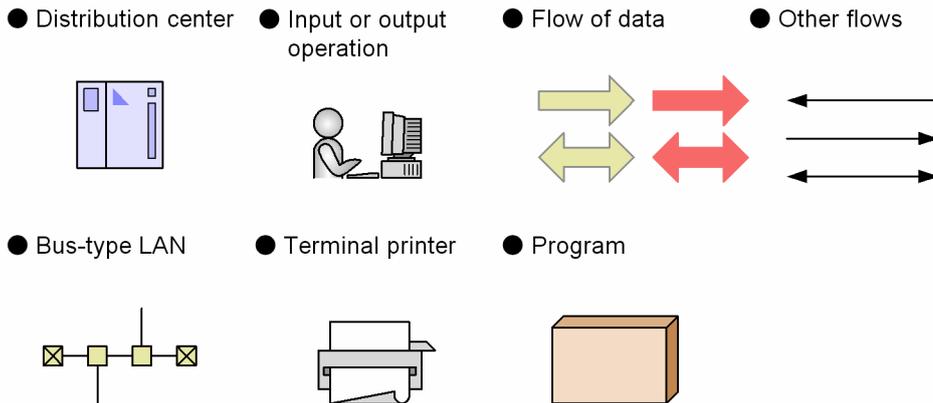
7. syslog Messages (When Linux Is Used)

This chapter explains the syslog messages of JP1/AJS3 for EAP output to the syslog file.

8. Troubleshooting Guide for JP1/AJS3 for EAP

This chapter describes how to troubleshoot JP1/AJS3 for EAP.

■ Conventions: Diagrams

This manual uses the following conventions in diagrams:

● Distribution center　● Input or output operation　● Flow of data　● Other flows

● Bus-type LAN　● Terminal printer　● Program

■ Conventions: Fonts and symbols

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

Text formatting	Convention
Bold	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: • From the **File** menu, choose **Open**. • Click the **Cancel** button. • In the **Enter name** entry box, type your name.
Italic	Italic characters indicate a placeholder for some actual text to be provided by the user or system. For example: • Write the command as follows: 　`copy` *source-file target-file* • The following message appears: 　`A file was not found. (file = `*file-name*`)` Italic characters are also used for emphasis. For example: • Do *not* delete the configuration file.
`Monospace`	Monospace characters indicate text that the user enters without change, or text (such as messages) output by the system. For example: • At the prompt, enter `dir`. • Use the `send` command to send mail. • The following message is displayed: 　`The password is incorrect.`
SD	Bold code-font characters indicate the abbreviation for a command.
<u>`perm`</u>	Underlined characters indicate the default value.

The following table explains the symbols used in this manual:

Symbol	Convention
|	In syntax explanations, a vertical bar separates multiple items, and has the meaning of OR. For example: `A|B|C` means `A`, or `B`, or `C`.

Symbol	Convention
{ }	In syntax explanations, curly brackets indicate that only one of the enclosed items is to be selected. For example: {A|B|C} means only one of A, or B, or C.
[ ]	In syntax explanations, square brackets indicate that the enclosed item or items are optional. For example: [A] means that you can specify A or nothing. [B|C] means that you can specify B, or C, or nothing.
...	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: A, B, B, ... means that, after you specify A, B, you can specify B as many times as necessary.
-	This symbol delimits options. Options have the following structure: • One or more alphanumeric characters • One or more alphanumeric characters arguments An argument may contain an option. If an argument contains an option or space when specified, it can be enclosed by single (') or double (") quotation marks. Example: -ab, -a, '-b *argument-1*', "-a *argument-2*"
( )	Parentheses indicate the range of items to which the vertical bar (|) or ellipsis (...) is applicable.

■ Conventions: Installation folder for the Linux edition of JP1/AJS3 for EAP

The installation folder for the Linux edition of JP1/AJS3 for EAP is always /opt/jp1_am_r3/.

■ Conventions: Installation folder for the Windows edition of JP1/AJS3 for EAP

This manual uses the term *installation folder* to refer to the installation folder for the Windows edition of JP1/AJS3 for EAP.

The default installation folder for the Windows edition of JP1/AJS3 for EAP is one of the following folders, depending on the Windows version being used:

system-drive\Program Files (x86)\Hitachi\JP1AMR3\

■ 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*.

Contents

Appendixes   296

1

Overview of JP1/AJS3 for EAP

The JP1/AJS3 for EAP program provides SAP system job execution support. Using JP1/AJS3 for EAP, it is possible to run background jobs from a non-SAP system, control InfoPackage and process chains on a SAP BW system from a non-SAP BW system, and execute operations with other JP1 Series programs.

This chapter describes the features of JP1/AJS3 for EAP, the system configuration, the job control functions of JP1/AJS3 for EAP, and linkage with JP1 Series programs.

1.1 Features

JP1/AJS3 for EAP is a JP1 Series program that enables you to link a non-SAP system with an SAP system.

JP1/AJS3 for EAP provides the following features:

- SAP system jobs can now be controlled from non-SAP systems. The following operations on SAP system background jobs (which, in this document, may be referred to as SAP jobs or simply jobs) can be controlled from JP1/AJS3 for EAP:
  - Creation
  - Copy
  - Release
  - Cancellation
  - Deletion
  - Job information display
  - Acquisition of SAP system resource information
- SAP system background jobs can be executed with JP1 Series programs.
  - Linkage with JP1/AJS (under Windows or Linux)
    JP1/AJS is a JP1 program that runs jobs automatically. It can assign sequence numbers to processes and periodically run those processes in the specified sequence. Alternatively, JP1/AJS3 can start processes when a specific event occurs.
  - Linkage with JP1/Script (under Windows)
    JP1/Script is a JP1 Series program used to create script files.
    JP1/Script allows you to create script files for commands of JP1/AJS3 for EAP.
    By using script files created with JP1/Script, you can specify the time to start processing a script or to automatically execute a script during system startup.
- InfoPackage in a SAP BW system can be controlled (InfoPackage defined on SAP BW can be started) from a non-SAP BW system.
- Process chains in a SAP BW system can be controlled (process chains defined on SAP BW can be started) from a non-SAP BW system.

1.2 System configuration

The basic configuration of a JP1/AJS3 for EAP system consists of the following machines:

- A machine running JP1/AJS3 for EAP

- An SAP system (such as an application server or SAP client machine) or a SAP BW system (such as an application server or SAP BW client machine)

JP1 Series programs can be added as needed to the basic configuration.

1.2.1 Controlling a background job

Figure 1-1 shows a typical system configuration for background job control.

The example configuration shown below consists of the following machines:

- Machine running JP1/AJS3 for EAP, JP1/AJS, and JP1/Base (external machine A)

- Machine running JP1/AJS3 for EAP (external machine B)

- Application server

- Machine running SAP front-end software (SAP client machine)

Figure 1–1: Typical system configuration for background job control
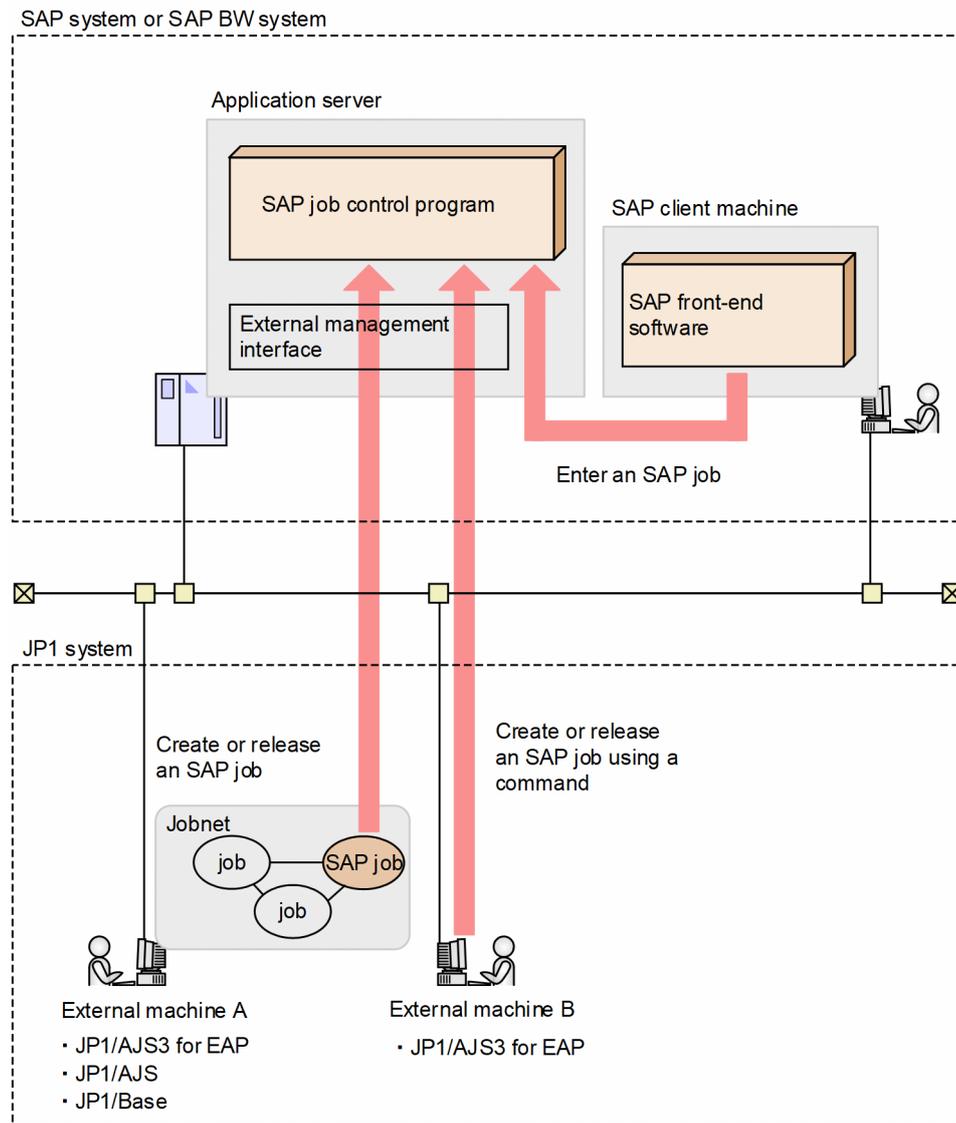
1.2.2 Controlling InfoPackage or process chains

Figure 1-2 shows a typical system configuration for controlling InfoPackage or process chains in a SAP BW system.

The example configuration shown below consists of the following machines:

- Machine running JP1/AJS3 for EAP, JP1/AJS, and JP1/Base (external machine A)
- Machine running JP1/AJS3 for EAP (external machine B)
- Application server
- Machine running SAP front-end software (SAP BW client machine)

Figure 1–2: Typical system configuration for controlling InfoPackage or process chains in a SAP BW system
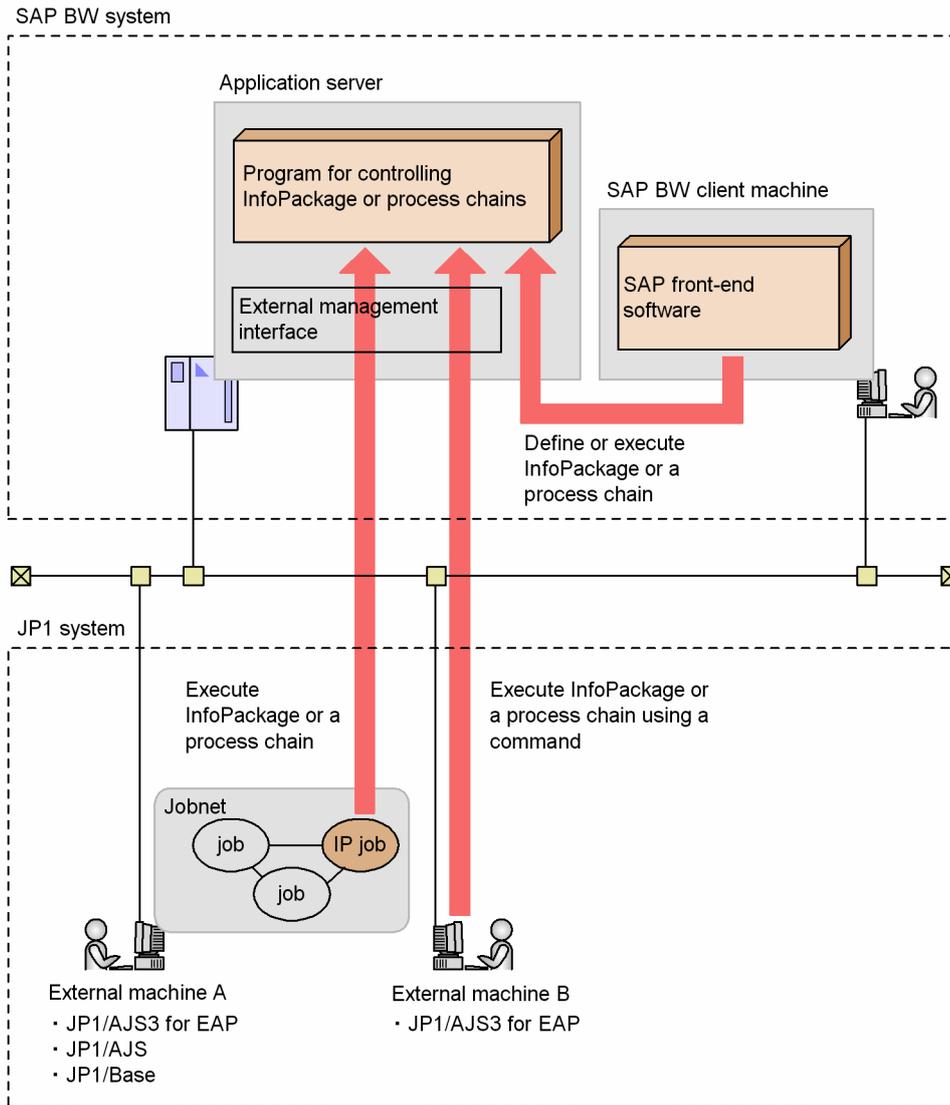
1.3 Job control function of JP1/AJS3 for EAP

An SAP system usually executes a program in interactive mode (online). However, when a program is to be executed at a specific time (or at periodic intervals) or a large quantity of data is to be printed, the processing is executed as a batch process (background job) by the SAP system.

By using the job control function of JP1/AJS3 for EAP, you can control the background jobs of the SAP system from a non-SAP system.

JP1/AJS3 for EAP uses the XBP interface, which is an external management interface for the SAP system, to control the background jobs of the SAP system. The XBP interface is an open interface provided by SAP for controlling the background jobs of the SAP system from a non-SAP system.

The background jobs of the SAP system that can be controlled by JP1/AJS3 for EAP are those that can be defined and executed using transaction code `SM36`.

Figure 1-3 shows the status transition of a background job within an SAP system.

Figure 1–3: Status transition of a background job within an SAP system
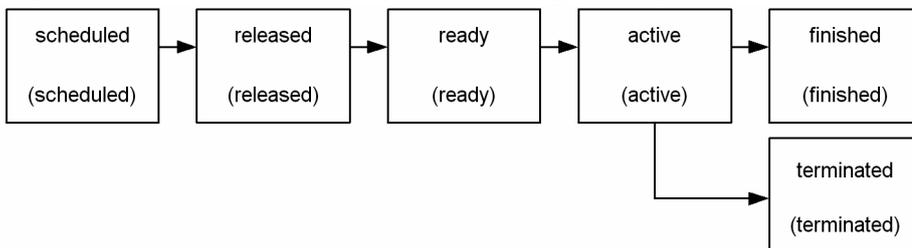
JP1/AJS3 for EAP allows you to use commands to control the status transition of a background job shown in *Figure 1-3* . To change the job status from `scheduled` to `released`, for instance, use the `jr3bjrel` command, which releases an SAP system background job.

Note that a background job consists of one or more job steps. The following two types of job steps can be used in background jobs:

- ABAP program (report program created by using ABAP)
- External program (general program that can be executed by the SAP system)

SAP system background job control that can be executed from JP1/AJS3 for EAP is explained below with reference to the transition sequence of the background job status.

For details of the commands used with JP1/AJS3 for EAP, see *4. Commands*.

1.3.1 Creating a background job

To create a job, use the `jr3bjsub` command. An ABAP program or an external program can be created as a job in the SAP system. When the job is created, it is placed in the *scheduled* state.

When the job is created, the following variants can be specified as the job step information:

- Variant
  A variant is a set of input values to a program and it is stored in the SAP system before the job is created.

- Temporary variant

  A temporary variant is a type of variant that is generated dynamically when the job is created.

You can also pre-check the variants for a specific program by using the `jr3bjrep` command. The variants are stored in the SAP system.

You can use the `jr3bjdel` command to delete scheduled jobs.

1.3.2 Copying a background job

To copy an existing job, use the `jr3bjcpy` command.

You can use the `jr3bjdel` command to delete copied jobs.

1.3.3 Releasing a background job

To release a job (specify the job start attribute), use either of the following methods:

- Specify the `-rs` or `-ri` option of `jr3bjsub` command.
- Specify the `-rs` or `-ri` option of `jr3bjcpy` command.
- Specify the `jr3bjrel` command.

When the `-rs` or `-ri` option of the `jr3bjsub` or `jr3bjcpy` command is used to specify the job start attribute, the job can be released after creation (scheduling). The `jr3bjrel` command can release jobs that were not released by the `jr3bjsub` command and jobs that are created in the SAP system. You can specify `Release job as soon as possible` or `Release job immediately` as the job start attribute. When the command is executed, the SAP system job scheduler executes the job according to the job start attribute. The job status then changes from *scheduled* to *released*.

If the `-wait` option is specified for job release, job completion is monitored. If a child job is generated while the target job is being executed, you can monitor job completion that includes the child jobs (completion monitoring of parent and child jobs). When you monitor the completion of a job, the keyboard and other input devices will be disabled until job execution terminates. If a communication error occurs during job completion monitoring, the connection will be retried until a timeout occurs, as defined in the environment setup file.

1.3.4 Canceling a background job

To cancel a job, use the `jr3bjcan` command. You can cancel an *active* job, which is being executed. However, a *scheduled*, *released*, *ready*, *finished*, or *terminated* job cannot be canceled.

1.3.5 Deleting a background job

To delete a job, use the `jr3bjdel` command. You can delete *scheduled*, *released*, *finished*, and *terminated* jobs. You cannot delete *active* or *ready* jobs.

1.3.6 Displaying information about a background job

To display information about a job, use the `jr3bjsho` command. You can view the job status in list or detailed list format. You can display jobs for a specific user only or jobs for a specific status only, such as *ready*.

1.3.7 Acquiring information about SAP system resources

To obtain information about SAP system resources, use the `jr3bjrep` command. As resource information, you can obtain the names of variants defined for a specified ABAP program.

1.3.8 For using job control facility

- This facility uses the SAP interface for external control BC-XBP. This allows XMI logs to be output onto the destination SAP system according to the setting on the SAP system and the environment setting (Audit Level) on JP1/AJS3 for EAP.

- To enable control through SAP's graphical user interface, we recommend not using lowercase letters in SAP-managed object names (such as job names) in commands. Use uppercase letters when specifying SAP user names.

1.4 InfoPackage or process chain control function of JP1/AJS3 for EAP

By using the InfoPackage control function and the process chain control function of JP1/AJS3 for EAP, you can control InfoPackage and the process chains in a SAP BW system from a non-SAP BW system.

1.4.1 InfoPackage control function

By using the InfoPackage control function of JP1/AJS3 for EAP, you can run InfoPackage defined on a SAP BW system from a non-SAP BW system. InfoPackage is a means of generating a transfer request when you want to transfer data to a SAP BW system. By running InfoPackage, you can transfer data to a SAP BW system.

JP1/AJS3 for EAP uses the BW - STA interface, which is an external management interface for a SAP BW system, to control InfoPackage in a SAP BW system. The BW - STA interface is an open interface provided by SAP for controlling InfoPackage in a SAP BW system from a non-SAP BW system.

To start InfoPackage, use the `jbwipsta` command. The `jbwipsta` command enables you to start an InfoPackage already defined on a SAP BW system and monitor InfoPackage until InfoPackage terminates. For details about the commands used with JP1/AJS3 for EAP, see *4. Commands*.

> **❗ Important**
>
> Any InfoPackage started by this function is processed in the background. The InfoPackage begins to load data when a request job generated by the InfoPackage is executed. Before executing an InfoPackage, make sure that there is an idle background work process. If you start an InfoPackage when there is no idle background work process, the InfoPackage waits for execution until a background work process becomes idle.
>
> If no background work process becomes idle before the request registration monitoring time expires, the command terminates abnormally (and message KAJM2825-E or KAJM2824-E is output).

1.4.2 Process chain control function

By using the process chain control function of JP1/AJS3 for EAP, you can run process chains defined on a SAP BW system from a non-SAP BW system. A process chain is a means of automatically running the jobs in a SAP BW system and consists of a series of processes (jobs) that are run in the background. By running a process chain, you can automatically run a series of processes based on the execution sequence.

JP1/AJS3 for EAP uses the BW - SCH interface, which is an external management interface for a SAP BW system, to control the process chains of the SAP BW system. The BW - SCH interface is an open interface provided by SAP for controlling the process chains of the SAP BW system from a non-SAP BW system.

To start a process chain, use the `jbwipsta` command. The `jbwipsta` command enables you to start a process chain already defined on a SAP BW system and monitor the process chain until the process chain ends. For details about the commands used with JP1/AJS3 for EAP, see *4. Commands*.

> **❗ Important**
>
> - Any process chain started by this function is processed in the background. The process chain starts when the startup process job is executed. Before executing a process chain, make sure that there is an idle background work process.
>
>   If you start a process chain when there is no idle background work process, the process chain waits for startup until a background work process becomes idle. If no background work process becomes idle within 10 minutes, the command terminates abnormally (and messages KAJM2803-E and KAJM2802-E is output).
>
> - While a process chain is being executed, do not start the same process chain. If you do, the process chain might not start or the currently running process chain might continue running because the response to the process chain start request has been lost (see SAP Note 833168).

1.5 Linkage with JP1 Series programs

This section describes linkage with JP1 Series programs for each OS.

1.5.1 Linkage with other programs (under Windows)

The following explains linkage with JP1/AJS and JP1/Script.

(1) Creating a background job in the SAP system using JP1/AJS

To create a background job in the SAP system using JP1/AJS, you must register and define a custom job for the SAP system using JP1/AJS. First, register the custom job for the SAP system in the Register Custom Job dialog box of JP1/AJS. Next, open the Jobnet Editor window of JP1/AJS and define the custom job registered in JP1/AJS in the jobnet. The SAP system custom job defined in the jobnet can be executed using the schedule and calendar functions of JP1/AJS.

For details about registering and defining a custom job for the SAP system in the jobnet of JP1/AJS, see *3.1.1 Creating a new SAP job*.

(2) Copying a background job in the SAP system using JP1/AJS

To copy an existing background job using JP1/AJS, you must copy and define a custom job for the SAP system using JP1/AJS.

For details about copying and defining an existing background job, see *3.1.2 Copying an existing SAP job*.

(3) Starting InfoPackage or a process chain in a SAP BW system using JP1/AJS

To start InfoPackage or a process chain in a SAP BW system by using JP1/AJS, you must use JP1/AJS to register and define a custom job for the SAP BW system. First, register the custom job for the SAP BW system in the Register Custom Job dialog box of JP1/AJS. Next, open the Jobnet Editor window of JP1/AJS and define the custom job registered in JP1/AJS in a jobnet. The SAP BW system custom job defined in the jobnet can be executed using the schedule and calendar functions of JP1/AJS.

For details about registering and defining a custom job for the SAP BW system in a jobnet of JP1/AJS, see *3.2 Executing InfoPackage or a process chain by using JP1/AJS*.

(4) Controlling a background job in the SAP system using JP1/Script

To use JP1/Script to control a background job in the SAP system, create a script file for commands of JP1/AJS3 for EAP.

For details about how to create a script file, see the manual *JP1/Script (For Windows Systems)*[#].

#: This manual is provided in Japanese only.

1.5.2 Linkage with other programs (under Linux)

The following explains linkage with JP1/AJS.

(1) Registering a background job in an SAP system using JP1/AJS

To use JP1/AJS to register a background job in an SAP system, define a command (command line) for JP1/AJS3 for EAP as a job for JP1/AJS, and then define the job in a JP1/AJS jobnet. An SAP job defined in a jobnet can be registered in the SAP system and executed using the schedule and calendar functions of JP1/AJS.

For details about defining job and defining jobs in a jobnet, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

(2) Starting InfoPackage or a process chain in a SAP BW system by using JP1/AJS

To start InfoPackage or a process chain in a SAP BW system by using JP1/AJS, define JP1/AJS3 for EAP commands (command line) as a JP1/AJS job and define the job in a JP1/AJS jobnet. The job defined in the jobnet can be registered in the SAP BW system and executed with the schedule and calendar functions of JP1/AJS.

For details about defining jobs and defining jobs in a jobnet, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

(3) Controlling SAP system background jobs with JP1/AJS

To control SAP system background jobs using JP1/AJS, specify JP1/AJS3 for EAP commands for the JP1/AJS action.

For details about specifying the JP1/AJS3 for EAP commands for a JP1/AJS action, see the manual *JP1/Automatic Job Management System 3 Linkage Guide*.

(4) Controlling InfoPackage or a process chain in a SAP BW system by using JP1/AJS

To control InfoPackage or a process chain in a SAP BW system by using JP1/AJS, specify JP1/AJS3 for EAP commands for the JP1/AJS action.

For details about specifying JP1/AJS3 for EAP commands for a JP1/AJS action, see the manual *JP1/Automatic Job Management System 3 Linkage Guide*.

1.6 Handling of various types of system configurations

This section explains how JP1/AJS3 for EAP handles various types of system configurations.

1.6.1 Handling of cluster systems

Since JP1/AJS3 for EAP has no information to take over at the time of failover, cluster resource registration is unnecessary. To install JP1/AJS3 for EAP in a cluster system, install it on each of the physical nodes of the cluster system.

> **ⓘ Important**
>
> If you fail over JP1/AJS3 in a cluster environment, and then re-execute any SAP linkage jobs that were being executed when JP1/AJS3 was failed over, the same SAP linkage job is sometimes executed multiple times on the SAP system. Before re-executing SAP linkage jobs from JP1/AJS3 after a failover, check the statuses of the jobs on the SAP system side, and verify that no problems occur when you re-execute the jobs.

2

Installation and Setup

This chapter describes how to install and set up JP1/AJS3 for EAP on each OS.

2.1 Installation and uninstallation of JP1/AJS3 for EAP

This section explains the procedures for installing and uninstalling JP1/AJS3 for EAP.

2.1.1 Installation and uninstallation (under Windows)

This section describes the procedures for uninstalling and installing Windows-compliant JP1/AJS3 for EAP.

JP1/AJS3 for EAP is designed for use with a Transmission Control Protocol/Internet Protocol (TCP/IP) network configuration. Confirm the machine environment at the installation site before installing JP1/AJS3 for EAP.

The following operations require you to log in as a user granted the Administrators authority. Furthermore, if the OS's User Account Control (UAC) is enabled, you need to start the installer from the administrator console.

Once you have installed JP1/AJS for EAP, you need to restart the system to use the product.

(1) Installing

To install JP1/AJS3 for EAP:

1. Insert the disk supplied with JP1/AJS3 for EAP in the drive.

   The initial screen opens. Follow the on-screen instructions to install JP1/AJS3 for EAP.

   If a message appears requesting a restart, restart the system.

If you are using JP1/Software Distribution, you can remotely install JP1/AJS3 for EAP. For instructions on how to perform remote installation, see the manual *Job Management Partner 1/Software Distribution Administrator's Guide Volume 1*, for Windows systems.

When the installation ends normally, perform the setup procedures required to use JP1/AJS3 for EAP.

Note:

   If the following two conditions are met, you need to update the custom job definition program registered in JP1/AJS - View after installing JP1/AJS3 for EAP:

   • JP1/AJS2 for EAP or JP1/AJS3 for EAP is upgraded.

   • Windows version of JP1/AJS - View was used to define a custom job.

   Perform Procedure 1 described in *3.1.1(1) Procedures for executing SAP jobs* and Procedure 1 described in *3.2.1(1) If JP1/AJS3 for EAP is installed on a Windows machine* again.

For details about directories created after product installation, see *A. Directory List*.

(2) Uninstalling

To uninstall JP1/AJS3 for EAP:

1. Log on to the system.

2. From **Control Panel**, select **Programs and Functions**.

   Delete JP1/AJS3 for EAP by following the instructions displayed in the window.

2.1.2 Installation and uninstallation (under Linux)

This section describes the procedures for uninstalling and installing Linux-compliant JP1/AJS3 for EAP.

JP1/AJS3 for EAP is designed for use with a TCP/IP network configuration. Confirm the machine environment at the installation site before installing JP1/AJS3 for EAP. To perform installation and uninstallation, you must be a superuser with root authority.

(1) Installing

To install JP1/AJS3 for EAP, follow the procedure below.

(a) Prepare for installer startup

1. Log in as a superuser or issue the `su` command to switch from a user to a superuser.

2. Make sure that JP1/AJS3 for EAP is not running.

3. Insert the supplied JP1/AJS3 for EAP media into the drive.

(b) Start Hitachi PP Installer

Start Hitachi PP Installer using the following command:

For Linux

```
# /cdrom/X64LIN/setup /cdrom/cdrom
```

When Hitachi PP installer starts, the initial window of Hitachi PP Installer appears.

(c) Install

1. In the initial window, enter `I`.
   A list of the software that can be installed appears.

2. Move the cursor to JP1/AJS3 for Enterprise Applications and press the space bar to select it.

3. Enter `I` to install JP1/AJS3 for EAP.

4. Enter `Y` or `y`.
   The Installer installs JP1/AJS3 for EAP.
   When installation is completed, enter `Q` to return to the initial screen.

For details about directories created during installation, see *A. Directory List*.

When the installation ends normally, perform the setup procedures required to use JP1/AJS3 for EAP.

(2) Uninstalling

To uninstall JP1/AJS3 for EAP, follow the procedure below.

1. Log in as a superuser or issue the `su` command to switch from a user to a superuser.

2. Check that JP1/AJS3 for EAP is not running.

3. Execute the following command to start Hitachi PP Installer.

```
# /etc/hitachi_setup
```

When you start Hitachi PP Installer, the Hitachi PP Installer initial window opens.

4. In the initial window, enter D.

A list of uninstallable software programs appears.

5. Position the cursor on JP1/AJS3 for Enterprise Applications and press the space bar to select it.

6. Enter D.

7. Enter Y or y.

The Installer uninstalls JP1/AJS3 for EAP.

Once uninstallation is complete, enter Q. The initial window reappears.

2.2 Common setup

This section describes the common setup procedure for the JP1/AJS3 for EAP job control function, and the InfoPackage or process chain control.

2.2.1 Creating the eapctrlconf file

Place the JP1/AJS3 for EAP `eapctrlconf` file by copying the model file created when performing a new install of JP1/AJS3 for EAP.

The names of the `eapctrlconf` file and the model files are as follows.

Table 2–1: eapctrlconf file and model files

File name	Description
eapctrlconf	`eapctrlconf` file
eapctrlconf.model.windows	Model `eapctrlconf` file (for Windows)
eapctrlconf.model.linux	Model `eapctrlconf` file (for Linux)

Copy the Windows model file when installing on a Windows operating environment, or the Linux model file when installing on a Linux operating environment.

Model `eapctrlconf` files are found in the following file paths.

- For Windows:
  installation-folder`\Conf`
- For Linux:
  `/etc/opt/jp1_am_r3/conf`

In addition, place the `eapctrlconf` file in the custom job definition module copy destination. For details about the custom job definition module copy destination, see the following sections:

- When registering a new SAP job: *3.1.1(1)(a)*
- When copying an existing SAP job: *3.1.2(1)(a)*
- When executing an InfoPackage or process chain using JP1/AJS: *3.2.1(1)*

2.3 Job control function setup

This section explains the setup that must be performed to enable the use of the job control functions of JP1/AJS3 for EAP. Before using the job control functions of JP1/AJS3 for EAP, you must perform the setup outlined below. For Linux, perform the setup as a superuser.

Procedure 1

Setting up the operating environment for JP1/AJS3 for EAP (job control)

Procedure 2

Setting the path

Procedure 3

Setting the language type (Linux)

Procedure 4

Adding SAP system entries to the `services` file

Procedure 5

Adding SAP system entries to the `hosts` file

Procedure 6

Completing the following setup steps before using the job control commands:

- Create the `sapnwrfc.ini` file to make sure that the `-d` option for SAP destination information is usable.[1]

- Set the defaults for the command common arguments (SAP destination information and SAP logon information).[2]

Procedure 7

Creating the `sapnwrfc.ini` file before SAP system custom job execution[3]

Procedure 8

Enabling the XBP 2.0 interface (to use functions)[4]

Procedure 9

Preparing a SAP user for job control

Procedure 10

Setting the code page when connecting to a Unicode version SAP system

#1

This step is not necessary if the `-d` option will not be used.

#2

This step must be performed when common arguments (SAP destination information and SAP logon information) for the job control commands are not specified. If the SAP destination information and SAP logon information are specified on the command line, this step is not necessary.

#3

This step is not necessary if **Connect by sapnwrfc.ini file** and **Log on by using the sapnwrfc.ini file** are not used for SAP system custom job definitions.

#4

Perform this procedure to use the following functions:

- Monitoring the completion of a job, including child jobs that are generated during the execution of the target job (completion monitoring of parent and child jobs)

- Specifying job class A or B as the priority level of a job

- Controlling the following extended print parameters:
  - Specifying the title of a spool request
  - Specifying the output format using a format name
  - Specifying the department name to be printed on the cover sheet
  - Specifying the information text when archive data is output

The procedures are detailed in the following sections.

When JP1/AJS3 for EAP communicates with an SAP system, the connecting side (JP1/AJS3 for EAP) does not use a specific port number or a well-known port number, and the connected side (SAP system) uses a different port number based on the connection method used. For details about the port numbers that are available in the SAP system based on the connection method, see *B.1 List of port numbers*.

If a firewall will be placed between JP1/AJS3 for EAP and an SAP system, see *B.2 Firewall passage direction and supported firewalls*.

2.3.1 Setting the operating environment for JP1/AJS3 for EAP (job control)

You can modify the operating environment for JP1/AJS3 for EAP (job control) by creating a job control environment setup file.

The environment setup file for job control (`conf` file) is located in the following directory. If the environment setup file does not exist at installation, the model file in the same directory is automatically copied as the environment setup file at installation.

- Windows: (*installation-path*)`\conf\conf`

- Linux: `/etc/opt/jp1_am_r3/conf/conf`

The following figure shows the contents of the model file on which the environment setup file to be created at installation is based.

- For Windows

Figure 2–1: Model file for the environment setup file for job control (for Windows)

```
[Trace]
Level=2
Size=307200

[Event]
ntevent=YES

[Command]
MonitorInterval=5
CheckLevel=2
RetryCount=3
RetryInterval=180
(EOF)
```

- For Linux

Figure 2–2: Model file for the environment setup file for job control (for Linux)

```
[Trace]
Level=2
Size=307200

[Event]
Syslog=YES

[Command]
MonitorInterval=5
CheckLevel=2
RetryCount=3
RetryInterval=180
(EOF)
```

In situations where Windows is used with an NTFS type file system, we recommend that you prevent tampering of the environment setup file information by defining the access permission so that only personnel with Administrators permission can edit the environment setup file.

Before reediting the environment setup file, make sure that no command has been executed for JP1/AJS3 for EAP.

The environment setup file syntax is as follows:

```
[section]
key=string
```

- As the separator between `section` and `key` and between `key` and `key`, specify one or more new-line codes.
- The character strings specified for `section` and `key` are case-insensitive.
- The `key` specifications within the same `section` can be in any order.
- If a semicolon (;) is placed at the beginning of a line, the line is handled as a comment statement.
- When there are two or more `section` or `key` specifications having the same name, the value of the first specification is used.

In the following situations, JP1/AJS3 for EAP operates using the defaults.

- An environment setup file is not created.
- An illegal value is specified for the environment setup file (includes a syntax error).
- The environment setup file cannot be read.

The `keys` that can be specified for the environment setup file are explained below for each section.

trace (trace section)

For `trace` (trace section), specify the name of the trace file that stores the trace level, trace file size, and trace information. The following table describes the keys that can be specified in the trace section.

Table 2–2: Keys that can be specified for trace

Key	Value selectable as a string	Explanation

Level	0
	
	    No trace
	
	1
	
	    Standard level
		Specify the trace level. If this `key` specification is omitted, a trace level of 2 is used. The trace volume per command for each trace level is as follows:

Key	Value selectable as a string	Explanation
Level	2 Detail level 3 Debug level	• When monitoring the completion of jobs: 1 (standard level): 10.2 kilobytes 2 (detail level): 12.0 kilobytes + (job execution time/completion monitoring interval) **x** 0.4 kilobytes 3 (debug level): 40.8 kilobytes + (job execution time/completion monitoring interval) **x** 0.9 kilobytes • When not monitoring the completion of jobs: 1 (standard level): 2.0 kilobytes 2 (detail level): 12.0 kilobytes 3 (debug level): 40.8 kilobytes Normally, select Detail level. Debug level should be specified only if a failure occurs. If you select no trace, no information about the use of JP1/AJS3 for EAP will be collected.
Size	0 or 1 to 1,280,000 (in kilobytes)	Specify the trace file size. If you specify 0, the trace file size is 2 gigabytes. If you omit this key, the trace file size is 307,200 kilobytes.[1] To reduce the trace file size, delete the created trace file and then change the size.
TargetDir	Windows: Character string beginning with (*drive-name*):\ or remote resource name coded in UNC (Universal Naming Convention) format[2] Linux: Character string beginning with /	Specify the directory for storing trace files. A trace file is created for each application. If you omit this key, a trace file is created for each application in the default directory[3]. *Note* If you specify TargetFile, any assignment to this key is ignored.
TargetFile	Windows: Character string beginning with (*drive-name*):\ or remote resource name coded in UNC (Universal Naming Convention) format[2] Linux: Character string beginning with /	Trace information about all applications will be stored in the specified file. *Note* If you specify this key, any assignment to TargetDir is ignored.

#1

If you specify 307,200 kilobytes as the trace file size, the trace file can record at least seven days' worth of trace data when 100 jobs are executed per hour at trace level 2 (default).

#2

The remote resource name expressed in UNC format is *computer-name**sharename*, which is provided by Microsoft for networked folder/file name specification purposes. The folder and files must be kept accessible at all times.

#3

For details about the default directory that stores the trace file, see *A. Directory List*.

⊘ Important

A temporary directory is used when outputting trace files.

Under Windows, the folder specified by the TMP environment variable is used. In the TMP environment variable, specify a folder that can be accessed using the permissions of the user executing the command (if

---

the default JP1/AJS service account is used when a JP1/AJS job is executed, the folder specified in the `TMP` system environment variable is used).

event (event section)

For `event` (event section), specify whether or not to generate events that are used in Windows application logs.

For Linux, make an `event` (event section) entry to specify whether to generate `syslog` messages. The following table describes the keys that can be specified in the event section.

Table 2–3: Keys that can be specified for an event

Key	Value selectable as a string	Explanation
ntevent	YES or NO	This entry can be made when you are using Windows. Specify whether to generate Windows events. If this key specification is omitted, YES is used as the event generation condition.
Syslog	YES or NO	This entry can be made when you are using Linux. Specify whether or not to generate syslog messages. If this key specification is omitted, YES is used as the syslog message generation condition.

command (command section)

For `command` (command section), specify whether or not to check the work directory for JP1/AJS3 for EAP, the job completion monitoring interval, the appropriateness of a specified SAP object, the time and interval for attempting to retry connection in the event of a communication error, and whether to output the SAP job log to the standard error output file. Also, specify the code page number used when replacing the character code in the connected Unicode version SAP system. The following table describes the keys that can be specified in the `command` section.

Table 2–4: Keys that can be specified for command

Key	Value selectable as a string	Explanation
WorkDir	Windows: Character string beginning with (*drive-name*)`:\` or remote resource name[#1] coded in Universal Naming Convention (UNC) format Linux: Character string beginning with `/`	Enter a full pathname to specify the work directory for commands. The work directory is set when you execute a command. If this `key` specification is omitted, the current directory at the time the command is executed is used. (When JP1/AJS is used, the work directory to be used for execution of a JP1/AJS job[#2] is used.)
MonitorInterval	1 to 65,535 (in seconds)	Specify the job completion monitoring interval. The value specified will be used if the job completion monitoring interval specification is omitted from the JP1/AJS3 for EAP `jr3bjsub`, `jr3bjcpy` or `jr3bjrel` command line. If this key specification is omitted, the job completion monitoring interval value is 5 seconds.
CheckLevel	0 Does not query the SAP system about the appropriateness of a specified value.	Specify the level for determining whether to query the SAP system about the validity of the SAP object (ABAP program, variant)

Key	Value selectable as a string	Explanation
CheckLevel	1 Queries the SAP system about the appropriateness of a specified value regarding the following points before a job is created (no check of temporary variants).[#3] - Whether the specified ABAP program exists - Whether variants are necessary for the specified ABAP program - Whether the specified variant exists 2 Queries the SAP system about the appropriateness of a specified value regarding the following points before a job is created (no check of temporary variants).[#3] - Whether the specified ABAP program exists - Whether the specified variant exists	specified in the job step information when a job is registered (when the jr3bjsub command is executed). If you omit this key, the level is 2.
RetryTime	0 to 65,535 (minutes)	Specify a period of time during which attempts are made to restore connection with the SAP system if a communication error occurs during communication with the SAP system. Repeated attempts to recover the connection will be made until the duration specified here elapses. If you specify 0, no attempt is made to restore the connection and an error is reported immediately. Specification of this key is ignored if you specify this key together with the RetryCount key. If neither the RetryTime key nor the RetryCount key is specified, the default value of the RetryCount key (3 times) takes effect[#4]. To specify the interval between retries to restore connection, use the RetryInterval key.
RetryCount	0 to 65,535 (times)	Specify the number of retries for the connection with the SAP system if a communication error occurs during communication with the SAP system. If you specify 0, no retry is attempted and an error is reported immediately. If you omit this key, the default value of 3 is assumed. The RetryCount key has priority over the RetryTime key if they are specified together. If neither the RetryCount key nor the RetryTime key is specified, the default value of the RetryCount key (3 times) takes effect[#4].

Key	Value selectable as a string	Explanation
RetryCount	0 to 65,535 (times)	To specify the interval between retries to restore connection, use the RetryInterval key.
RetryInterval	1 to 65,535 (seconds)	If you specify the RetryTime or RetryCount key, specify the time interval between retries to restore connection with the SAP system if a communication error occurs during communication with the SAP system.[#5] If you specify the RetryTime key, a time longer than the time specified for the RetryTime key cannot be specified for the RetryInterval key. If you omit this key, the time interval is set to 180 seconds. The value of the RetryInterval key is invalid in the following cases: • You specify 0 for the RetryCount key. • You specify 0 for the RetryTime key without specifying the RetryCount key.
JoblogAddToStderr	YES or NO	Specify whether to output the SAP job log to the standard error output at the same time that it is output to the specified output destination file. If you omit this key, NO is assumed for the output condition.
Codepage	0 to 9999 (unit: Codepage number)	Specify the code page number to be used for character code conversion in the connected Unicode version SAP system. To exchange Japanese character data with the Unicode version SAP system, specify 8000 as the Shift JIS code page number. To use Japanese UTF-8 code as the character code in Linux, specify the same code page number. When sending or receiving character data in English, this key does not need to be specified.

#1

The remote resource name expressed in UNC format is *computer-name**sharename*, which is provided by Microsoft for networked folder/file name specification purposes. This folder must be kept accessible at all times.

#2

For details about the work directory used when a JP1/AJS job is executed, see the manual *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

#3

Network load will be greater than if a checklevel of 0 has been specified. The required time for command execution will also be longer.

#4

The valid key differs depending on whether you specify the RetryCount key, the RetryTime key, or both.

Key specification			RetryCount		
			Not specified	Specified	
				0	*N* (> 0)
`RetryTime`	Not specified		(1) Retry three times	(4) Immediate error	(5) Retry *N* times
	Specified	0	(2) Immediate error	(4) Immediate error	(5) Retry *N* times
		T (> 0)	(3) Retry for *T* minutes	(4) Immediate error	(5) Retry *N* times

(1) If neither the `RetryTime` key nor the `RetryCount` key is specified, retry is set to three times, which is the default value of the `RetryCount` key.

(2) An error occurs because 0 is specified for the `RetryTime` key and the `RetryCount` key is not specified.

(3) The specification of the `RetryTime` key takes effect. Retry for *T* minutes is set.

(4) An error occurs immediately because 0 is specified for the `RetryCount` key.

(5) Because the specification of the `RetryCount` key has priority, retry is set to *N* times.

#5

   The following shows the operation when the `RetryCount` and `RetryTime` keys are specified:

- When 3 is specified for RetryCount and 120 is specified for RetryInterval

Attempts to restore the connection are made at the interval specified for RetryInterval and for the number of times specified for RetryCount.
If the connection cannot be restored even after the number of attempts specified for RetryCount, the error is reported.

Legend

⬤ : Occurrence of an error   ⬤ : Timing at which an attempt to restore the connection is made

- When 7 is specified for RetryTime and 120 is specified for RetryInterval

Attempts to restore the connection are made at the interval specified for RetryInterval and for the number of times specified for RetryCount.
If the connection cannot be restored even after the number of attempts specified for RetryCount, the error is reported.

Legend:

⬤ : Occurrence of an error   ⬤ : Timing at which an attempt to restore the connection is made

`XMI` (XMI section)

For `XMI` (XMI section), specify the XMI interface session audit level. The following table describes the keys that can be specified in the XMI section.

Table 2–5: Keys that can be specified for XMI

Key	Value selectable as a string	Explanation

AuditLevel	0
	
	    Records data write (change) operations.
	1
	
	    Records data read errors.
	2
	
	    Records data read operations.
	3
	
	    Records external management system access.
		Specify the XMI interface session audit level. If this key specification is omitted, the current XMI interface session audit level continues to be used.

2.3.2 Setting the path

To use the job control commands, define the command storage path for each user.

- Windows

  With Windows, use the System Properties dialog box to define the environment variable PATH.

  To open the System Properties dialog box, from **Control Panel**, double-click the **System** icon.

  Set the environment variable PATH to *installation folder*\program.

- Linux

  With Linux, the system administrator must enter the path definition in the system profile. For the path definition, use environment variable PATH. Set the environment variable PATH to /opt/jp1_am_r3/bin/.

2.3.3 Setting the language type (Linux)

This setup need only be performed when you are using Linux.

You can output messages in English or Japanese. To specify the language type, use environment variable LANG. The following table describes the available character code sets and the values that environment variable LANG may take.

Table 2–6: Available character codes and environment variable LANG values

OS	Available character code		Environment variable LANG value
Linux	Japanese	Shift JIS code	ja_JP.SJIS[1] or ja_JP.sjis[1]
		UTF-8 code	ja_JP.UTF-8[2] or ja_JP.utf8
	English		C

#1: Use SUSE Linux only.

#2: To use ja_JP.UTF-8, install ja_JP.UTF-8 locale in the OS.

> **❗ Important**
>
> - If ja_JP.UTF-8 is set for the environment variable LANG in Linux, English is used as the language type.

- When you run this product, it checks the value of the LANG environment variable and switches the operating language of the program accordingly. If you want to change the value of the LANG environment variable of this product while an operation is running, do so when the operation has stopped.

- If you change the value of the LANG environment variable of this product while an operation is running, check and, if necessary, revise the following setting values:

  - The setting value of the interconnection language with the SAP system (the setting value of the -l option of the respective commands)

  - The setting value of the SAP code page (the setting value of the Codepage key in the Command section of the environment file)

- If any other value is set for `LANG`, English is used as the language type.

- If different character codes are used for the JP1/AJS3 for EAP language environment and the SAP language environment, the information that is obtained from the SAP system might be displayed incorrectly (except for when Japanese UTF-8 code is used as the character code in Linux).

- To use Japanese UTF-8 code as the character code in Linux, specify 8000 as the Shift JIS code page number for either the environment variable SAP_CODEPAGE or the Codepage key in the Command section of the environment settings file. For details about how to specify the Shift JIS code page number, see *2.3.1 Setting the operating environment for JP1/AJS3 for EAP (job control)*. Specify ja_JP.UTF-8 or ja_JP.utf8 for the environment variable LANG of the command execution environment.

- If you handle Japanese character input data by using Japanese UTF-8 code as the character code in Linux, the command argument is converted to Shift JIS. For this reason, make sure to note the specified length of the character string.

  If Japanese is the selected language type, JP1/AJS3 for EAP can use the following characters:

  - ASCII/JIS Roman characters

  - One-byte katakana characters

  - JIS X 0208-1990 characters

  If the character code for JP1/AJS3 for EAP is Japanese UTF-8, JP1/AJS3 for EAP cannot use the following characters:

  tilde, two vertical lines, dash, cent, pound, negation sign, backslash, underline, yen, overline

  Also, JP1/AJS3 for EAP cannot use external characters, platform-dependent characters, or the newly-defined level 3 and level 4 kanji characters in the JIS 2004 standard.

- If you want to use Japanese UTF-8 code as the character code, both JP1/Base and JP1/AJS3 on the same device must be run in a UTF-8 environment.

  To run JP1/Base in a UTF-8 environment, you must change the settings. For details about how to change the settings, see Setting the language (for UNIX) of the manual *JP1/Base User's Guide*.

  You must also change the settings to run JP1/AJS3 in a UTF-8 environment. For details about how to change the settings, see setting the language environment of the manual *JP1/Automatic Job Management System 3 Configuration Guide* or migration to a UTF-8 environment of the manual *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

2.3.4 Adding SAP system entries to the services file

Add the service name and the port number of the connection destination message server in the `services` file when you connect a message server.

The following table describes the specification format for the service name and the port number of the message server to be connected.

Table 2–7: Specification format for the service name and port number

Item	Service name	Port number
Message server	sapms*sid*[#]	*Any*/tcp

#

    Specify the system ID of the SAP system for *sid* in sapms*sid*.

    For example, if the system ID of the connection destination message server is SD1 and the port number of the message server is 3601/tcp, add the following entry (server name and port number) to the services file:

    sapmsSD1 3601/tcp

The following figure shows typical additions to the SAP system entries.

Figure 2–3: Example of adding SAP system entries (services file)

```
sapmsSD0   3600/tcp
sapmsSD1   3601/tcp
sapmsSD2   3602/tcp
           . . .
```

2.3.5 Adding SAP system entries to the hosts file

Add the host names of connection destination application servers to the hosts file.

This step is not required if a name service such as DNS can resolve application server host names at the connection destination.

The following figure shows typical additions to the SAP system entries.

Figure 2–4: Example of adding SAP system entries (hosts file)

```
#*************************************
#**  SAP Application Server       **
#*************************************
172.16.48.126  R3CENTRL
              :
              :
```

2.3.6 Steps to be completed before using the job control commands

The following describes the procedures that must be completed when you want to use the -d option of a command or you want to set the command common argument defaults. The procedures are not necessary if the -d option will not be used or command common argument defaults will not be set.

(1) Making sure that the -d option for SAP destination information is usable

When using the `-d` option for the SAP destination information on the command line of JP1/AJS3 for EAP, the `sapnwrfc.ini` file must be created.

Note:

The sapnwrfc.ini file is a definition file provided by SAP NetWeaver RFC Library and a successor of the saprfc.ini file for versions 10 and earlier. For details about the specification changes and the migration method for the saprfc.ini and sapnwrfc.ini files, see *2.6.1 Notes on version upgrading*.

Either of the following `sapnwrfc.ini` files (or both) will be used depending on the operation method.

- The `sapnwrfc.ini` file created in the work directory of JP1/AJS3 for EAP specified by the `WorkDir` key in the `command` section of the environment settings file (`conf` file) for job control (or in the current directory during execution of each command if the `WorkDir` key is not specified)
- `sapnwrfc.ini` file specified by environment variable `RFC_INI`

A `sapnwrfc.ini` file search occurs in the following sequence:

- When `sapnwrfc.ini` is specified by environment variable `RFC_INI`
  Only the `sapnwrfc.ini` file specified by environment variable `RFC_INI` is searched for.
  The `sapnwrfc.ini` file in the work directory of JP1/AJS3 for EAP is not searched for.
- When `sapnwrfc.ini` is not specified by environment variable `RFC_INI`
  The `sapnwrfc.ini` file in the JP1/AJS3 for EAP work directory is searched for.

The `sapnwrfc.ini` file is usually created in the JP1/AJS3 for EAP work directory that is defined in the environment setup file. To set up the `sapnwrfc.ini` file for a specific user, create the `sapnwrfc.ini` file in the desired directory and specify the path for the `sapnwrfc.ini` file in environment variable `RFC_INI`.

After JP1/AJS3 for EAP is installed, a sample `sapnwrfc.ini` file is stored in the following directory:

- For Windows:
  ```
  installation-folder\Sample\
  ```
- For Liunx:
  ```
  /opt/jp1_am_r3/sample
  ```

Copy the sample `sapnwrfc.ini` file to the JP1/AJS3 for EAP working directory (or the directory specified by the environment variable `RFC_INI`) and edit the copy sample `sapnwrfc.ini` file as required. Non-ASCII characters are not allowed in the sapnwrfc.ini file. If you intend to use environment variable RFC_INI, specify it in advance.

Use the full path for the `sapnwrfc.ini` file to be specified in environment variable `RFC_INI`.

- Typical specification of environment variable `RFC_INI` (Windows)
  ```
  RFC_INI=C:\home\user01\sapnwrfc.ini
  ```
- Typical specification of environment variable `RFC_INI` (Linux)
  ```
  RFC_INI=/home/user01/sapnwrfc.ini
  ```

The following figure shows an example of the `sapnwrfc.ini` file. For details of the `sapnwrfc.ini` file entries, see the SAP manual or online help.

Figure 2–5: Typical sapnwrfc.ini file

```
DEST=r3centrl
MSHOST=hs0311
R3NAME=BIN
GROUP=PUBLIC
CLIENT=100
USER=RFCUSER
PASSWD=pass12345
LANG=JA
CODEPAGE=8000
```

Note that there are multiple ways to specify settings for the sapnwrfc.ini file. The figure above shows an example setup for connecting to a message server. You can also connect to a specific application. Edit the `services` file and `hosts` file as appropriate for the type. For the specification items of each type and whether the `services` file and `hosts` file must be edited, see the SAP manual or online help.

The following figure shows an example of the `sapnwrfc.ini` file when connecting using WebSocket RFC. When connecting via WebSocket, specify both the `DEFAULT` and address-specific entries.

Figure 2–6: Example of the sapnwrfc.ini (connecting with WebSocket RFC)

`DEFAULT` entry

```
DEFAULT
TLS_SAPCRYPTOLIB=c:\work\lib\rfc\
```

Address-specific entry

```
DEST=WS_Client
WSHOST=winnetou2.bamberg.com
WSPORT=443
USE_TLS=1
TLS_CLIENT_PSE= C:\WINDOWS\system32\
trustedServerCertificates.pse
TLS_CLIENT_CERTIFICATE_LOGON=1
```

(2) Specifying the defaults for command common arguments (SAP destination information and SAP logon information)

If the common arguments (SAP destination information and SAP logon information) entry is omitted from the command line for JP1/AJS3 for EAP, an `r3defcon` file must be created. This file must be created in the home directory that is specified for the user account.

Note

To use the Windows version `r3defcon` file, you need to specify the `HOMEDRIVE` or `HOMEPATH` environment variable for job execution to identify the home directory. Since these environment variables are not defined by default in the execution environment of commands executed from JP1/AJS, you must define them using environment variable items for job definition.

The following is a specification example of an environment variable (when the `r3defcon` file is placed at `C:\Documents and Settings\Administrator`):

```
HOMEDRIVE=C:
HOMEPATH=\Documents and Settings\Administrator
```

In those situations where Windows is employed with the NTFS file system, to prevent unwanted access to `r3defcon` file information, you should specify a different home directory for each user. With the FAT file system, however, you cannot protect the `r3defcon` file information at the file level.

With Linux, to prevent unwanted access to `r3defcon` file information, you should define the access permissions for the `r3defcon` file so that only the user executing the command can read the `r3defcon` file.

The following figure shows an example of creating the `r3defcon` file.

Figure 2–7: Example of creating an r3defcon file

```
[Logon]
Client=000
User=RFCUSER
Passwd2=pass12345
Lang=J

[Address]
Host=R3CENTRL
Sysno=00


```

The syntax for the `r3defcon` file is as follows:

```
[section]
key=string
```

- As the separator between `section` and `key` and between `key` and `key`, specify one or more new-line codes.
- The character strings specified for `section` and `key` are case-insensitive.
- The `key` specifications within the same `section` can be in any order.
- If a semicolon (;) is placed at the beginning of a line, the line is handled as a comment statement.
- When there are two or more `section` or `key` specifications that have the same name, a KAJM0022-E message appears and command execution is terminated.

The `keys` that can be specified in the `r3defcon` file are explained below for each section.

`logon` (logon section)

When omitting the SAP logon information specification, specify `logon` (logon section). The following table describes the keys that can be specified in the logon section.

Table 2–8: Keys that can be specified for logon

Key	Value selectable as a string	Explanation
Client	1- to 3-byte character string (The character string must consist of numerals only.)	Specify the SAP client number for logging on to the SAP system. Note that a 1- or 2-byte SAP client number sent to the SAP system is

Key	Value selectable as a string	Explanation
Client	1- to 3-byte character string (The character string must consist of numerals only.)	always converted to a 3-byte number. If, for instance, the client number is 001, you can specify the number 1, 01, or 001. However, the 3-byte client number 001 is always sent to the SAP system.
User	1- to 12-byte character string	Specify the SAP user name for logging on to the SAP system. For details about the SAP users that can be specified, see *2.3.9 Providing a SAP user for job control*.
Passwd	1- to 8-byte character string	Specify the password that has been assigned to the SAP user for logging on to the SAP system. Specify this key when a conventional password rule is applied to the SAP system.
Passwd2	1- to 40-byte character string	Specify the extended password that was assigned to the SAP user for logging in to the SAP system. The extended password is a password rule that was extended in the SAP systems based on SAP NetWeaver 7.0 and later. Specify this key when the extended password rule is applied to the SAP system. You can specify up to 40 bytes, and alphabetic characters are case-sensitive.
Lang	Japanese: J English: E	Specify the language type that can be used with the SAP system. You can specify either Japanese or English as the language type.

> **Important**
>
> When you specify the logon section, be sure to specify all the keys (client, user, passwd or passwd2, and lang). Note that you cannot specify passwd and passwd2 at the same time. Specify one of them according to the availability of the extended password.

address (address section)

When omitting the SAP destination information specification, specify address (address section). The following table describes the keys that can be specified in the address section.

Table 2–9: Keys that can be specified for address

Key	Value selectable as a string	Explanation
Host	1- to 100-byte character string	Specify the host name of a destination SAP system.
Sysno	1- to 2-byte character string (The character string must consist of numerals only.)	Specify the host SAP system number of a destination SAP system.
Dest	1- to 32-byte character string	Specify the destination (DEST value) that is defined in the sapnwrfc.ini file.

> **❗ Important**
>
> `dest` and `host` and `sysno` cannot be specified together. When specifying the address section, specify `dest` only or specify `host` and `sysno`.

2.3.7 Creating the sapnwrfc.ini file prior to SAP system custom job execution (Windows)

This setup need be performed only when you are using Windows.

If you plan to use the `sapnwrfc.ini` file to define an SAP system custom job, you must create it in advance at the host where the `jr3bjsub` command is to be executed.

For `sapnwrfc.ini` file creation, see *(1) in 2.3.6* above.

2.3.8 Enabling the XBP 2.0 interface (to use some functions)

By using XBP interface version 2.0, which is an external management interface provided by SAP (XBP 2.0 interface), you can use the following functions:

- Monitoring job completion that includes the child jobs that are generated during the execution of the target job (completion monitoring of parent and child jobs)
- Specifying job class A or B as the priority level of a job
- Controlling the following extended print parameters:
  - Specifying the title of a spool request
  - Specifying the output format using a format name
  - Specifying the department name to be printed on the cover sheet
  - Specifying information text to be used when archive data is output

To use these functions, you need to enable the XBP 2.0 interface.

In addition, if you want to monitor the completion of parent and child jobs, you need to enable the parent and child function in the connection destination SAP system before you execute the target job.

The following sections describe how to enable the XBP 2.0 interface and the parent and child function.

(1) Enabling the XBP 2.0 interface

Check whether the XBP 2.0 interface is installed in the connection destination SAP system and whether you can log on to the XBP 2.0 interface.

If the XBP 2.0 interface is not installed in the connection destination SAP system, use the appropriate support package for your SAP to install the XBP 2.0 interface.

To check whether the XBP 2.0 interface is installed in the connection destination SAP system, use transaction SE38 of the connection destination SAP system to check whether INITXBP2 (an ABAP program) exists. If INITXBP2 exists, the XBP 2.0 interface is installed.

For details about the XBP 2.0 interface, see *SAP Note 604496*.

(2) Enabling the parent and child function

To monitor the completion of parent and child jobs, you need to enable the parent and child function in the connection destination SAP system before you execute the jobs.

To enable the parent and child function, enable the XBP 2.0 interface and then use the INITXBP2 ABAP program to turn on the parent and child function.

To turn on the parent and child function:

1. Use the SAP front-end software to start the ABAP editor (transaction SE38).

2. In the startup window of the ABAP editor, enter INITXBP2 for **Program**.

3. From the **Program** menu, choose **Execute**.
   The INITXBP2 program starts and the current settings are shown.

4. In **Change Settings** in **Parent-Child Function,** select **Switch On**.

5. From the **Program** menu, choose **Execute**.
   The parent and child function is now enabled.

2.3.9 Providing a SAP user for job control

To control SAP jobs, JP1/AJS3 for EAP uses RFC, which is the SAP Corporation communication protocol used to execute the external management interface defined on the SAP system side. For this reason you need to provide in advance, on the SAP system side, a user to be used by JP1/AJS3 for EAP.

This section describes the user type, password, and role that need to be provided on the SAP system side.

(1) User type

For the user type, you can use dialog, system, communication, or service.

(2) Characters that can be specified in the password

To define the password you can use numbers (from 0 to 9), alphabetic characters (a to z, A to Z), and the following single-byte symbols:

`!@$%&/()=?'`*+~#-_.:{[]}<>|`

(3) Required roles

The following roles are required for a user for job control.

- Role object (S_RFC) for logging on from an external system
  Assign a built-in role value (S_RFC_ALL).
- Role object (S_XMI_PROD) for logging on to an external management interface
  Assign a role value for which a value in the following table is set, or a built-in role value (S_XMI_ADMIN).

Table 2–10: Roles required for role objects (S_XMI_PROD)

Role item	Description	Value
EXTCOMPANY	Company name of external management tool	HITACHI
EXTPRODUCT	Program name of external management tool	JP1
INTERFACE	Interface ID	*

- Role object (S_BTCH_ADM and S_BTCH_NAM) for executing jobs

  Assign the built-in role value (S_BTCH_ADM) for the S_BTCH_ADM role object, and the built-in role value (S_BTCH_ALL) for the S_BTCH_NAM role object.

- Role object (S_PROGRAM) for executing the ABAP program

  Assign the built-in role value (S_ABAP_ALL) as the role object value.

- Role object (S_BTCH_JOB) for executing background jobs

  Assign the built-in role value (S_BTCH_JOB) as the role object value.

2.3.10 Setting up a code page for connecting to a Unicode version SAP system

JP1/AJS3 for EAP communicates with SAP systems by using an RFC library that does not support Unicode. Character data sent or received when connecting to a Unicode version SAP system must first be converted into Unicode from the code page on the JP1/AJS3 for EAP side, or conversely on the SAP system side.

The default code page on the JP1/AJS3 for EAP side is set to the German code page number 1100. Therefore, to exchange character data with a Unicode version SAP system, you must specify code page number 8000, which is the Shift JIS code page number.

To use Japanese UTF-8 as the character code in Linux, you must specify the same code page number.

Use either of the methods described below to set up the code page.

(1) Setting up the default code page

Set up the default code page in the Codepage key in the command section of the environment settings file for job control. For details about the setup method, see *2.3.1 Setting the operating environment for JP1/AJS3 for EAP (job control)*.

(2) Specifying a separate code page for each job to be executed

Define the following environment variable in the execution environment of the command provided by JP1/AJS3 for EAP:

```
SAP_CODEPAGE=8000
```

> 🛑 **Important**
> - If the code page number is not correctly set up, non-US7ASCII character data will be corrupted. Even when a code page number is set up, data corruption occurs if the SAP system cannot convert the character data. Corrupted character data is displayed as a hash mark (#).

- If an environment variable (`SAP_CODEPAGE`) is specified, the specification in this environment variable takes precedence over the specification for the `Codepage` key in the environment settings file.

2.4 InfoPackage or process chain control function setup

This section explains the setup that must be performed to use the InfoPackage control function or the process chain control function of JP1/AJS3 for EAP.

Before using JP1/AJS3 for EAP (InfoPackage control or process chain control), you must perform the setup outlined below. For Linux, perform the setup as a superuser.

Procedure 1

Setting up the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)

Procedure 2

Setting the path

Procedure 3

Setting the language type (Linux)

Procedure 4

Adding SAP BW system entries to the `services` file

Procedure 5

Adding SAP BW system entries to the `hosts` file

Procedure 6

Completing the following setup steps before using the commands for InfoPackage control or process chain control:

- Create the `sapnwrfc.ini` file to make sure that the `-d` option for SAP BW destination information is usable. [1]

- Set the defaults for the command common arguments (SAP BW destination information and SAP BW logon information). [2]

Procedure 7

Creating the `sapnwrfc.ini` file before SAP BW system custom job execution [3] (Windows)

Procedure 8

Specifying the action to take when InfoPackage ends with a warning on the SAP BW system side

Procedure 9

Providing a SAP user for the InfoPackage control or process chain control

Procedure 10

Setting a code page when connecting to a Unicode version SAP system

#1

This step is not necessary if the `-d` option will not be used.

#2

This step must be performed when common arguments (SAP BW destination information and SAP BW logon information) for the InfoPackage control or process chain control commands are not specified. If the SAP BW destination information and SAP BW logon information are specified on the command line, this step is not necessary.

#3

This step is not necessary if **Connect by sapnwrfc.ini file** and **Log on by using the sapnwrfc.ini file** are not used for SAP BW system custom job definitions.

The procedures are detailed in the following sections.

When JP1/AJS3 for EAP communicates with a SAP BW system, the connecting side (JP1/AJS3 for EAP) does not use a specific port number or a well-known port number, and the connected side (SAP BW system) uses a different port number based on the connection method used. For details about the port numbers that are available in the SAP BW system based on connection methods, see *B.1 List of port numbers*.

If a firewall will be placed between JP1/AJS3 for EAP and a SAP BW system, see *B.2 Firewall passage direction and supported firewalls*.

2.4.1 Setting the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)

You can modify the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control) by creating an environment setup file for InfoPackage control or process chain control.

The environment setup file for InfoPackage control or process chain control (`conf` file) is located in the following directory. If the environment setup file does not exist at installation, the model file in the same directory is automatically copied as the environment setup file at installation.

- For Windows:

```
installation-folder\bwsta\conf\conf
```

- For Linux:

```
/etc/opt/jp1_am_r3/bwsta/conf/conf
```

The following figure shows the contents of the model file on which the environment setup file to be created at installation is based.

- For Windows

Figure 2–8: Model file for the environment setup file for InfoPackage control or process chain control (for Windows)

```
[Trace]
Level=2
Size=307200

[Event]
ntevent=YES

[Command]
MonitorInterval=5
RetryCount=3
RetryInterval=180
RequestMonitorTime=-1
(EOF)
```

- For Linux

Figure 2–9: Model file for the environment setup file for InfoPackage control or process chain control (for Linux)

```
[Trace]
Level=2
Size=307200

[Event]
Syslog=YES

[Command]
MonitorInterval=5
RetryCount=3
RetryInterval=180
RequestMonitorTime=-1
(EOF)
```

In situations where Windows is used with an NTFS type file system, we recommend that you prevent tampering of the environment setup file information by defining the access permission so that only personnel with Administrators permission can edit the environment setup file.

Before reediting the environment setup file, make sure that no command has been executed for JP1/AJS3 for EAP.

The environment setup file syntax is as follows:

```
[section]
key=string
```

- As the separator between `section` and `key` and between `key` and `key`, specify one or more new-line codes.
- The character strings specified for `section` and `key` are case-insensitive.
- The `key` specifications within the same `section` can be in any order.
- If a semicolon (;) is placed at the beginning of a line, the line is handled as a comment statement.
- When there are two or more `section` or `key` specifications having the same name, the value of the first specification is used.

In the following situations, JP1/AJS3 for EAP operates using the defaults.

- An environment setup file is not created.
- An illegal value is specified for the environment setup file (includes a syntax error).
- The environment setup file cannot be read.

The `keys` that can be specified for the environment setup file are explained below for each section.

`trace` (trace section)

For `trace` (trace section), specify the name of the trace file that stores the trace level, trace file size, and trace information. The following table describes the keys that can be specified in the trace section.

Table 2–11: Keys that can be specified for trace

Key	Value selectable as a string	Explanation
Level	0 　　No trace	Specify the trace level. If this key specification is omitted, a trace level of 2

Key	Value selectable as a string	Explanation

Level	1
	
	    Standard level
	
	2
	
	    Detail level
	
	3
	
	    Debug level
		is used. The trace volume per command for each trace level is as follows:
		• When monitoring the completion of InfoPackage or process chains:
		  1 (standard level): 5.7 kilobytes
		  2 (detail level): 7.2 kilobytes + (InfoPackage or process chain execution time)/completion monitoring interval) **x** 0.3 kilobytes
		  3 (debug level): 27.7 kilobytes + (InfoPackage or process chain execution time)/completion monitoring interval) **x** 2.5 kilobytes
		• When not monitoring the completion of InfoPackage or process chains:
		  1 (standard level): 2.0 kilobytes
		  2 (detail level): 7.2 kilobytes
		  3 (debug level): 27.7 kilobytes
		
		Normally, select Detail level. The debug level should be specified only if a failure occurs. If you select no trace, no information about the use of JP1/AJS3 for EAP will be collected.

Size	0 or 1 to 1,280,000 (in kilobytes)	Specify the trace file size. If you specify 0, the trace file size is 2 gigabytes. If this key specification is omitted, the trace file size is 307,200 kilobytes.[1] To reduce the trace file size, delete the created trace file and then change the size.

TargetFile	Windows:
	  Character string beginning with (*drive-name*): \ or remote resource name coded in Universal Naming Convention (UNC) format[2]
	Linux:
	  Character string beginning with /
		Trace information about all applications will be collected in the stored file.
		If you omit this key, a trace file is created for each application in the default directory.[3]

#1

  If you specify 307,200 kilobytes as the trace file size, the trace file can record at least seven days' worth of trace data when 100 jobs are executed per hour at trace level 2 (default).

#2

  The remote resource name expressed in UNC format is *computer-name**sharename*, which is provided by Microsoft for networked folder/file name specification purposes. The folder and files must be kept accessible at all times.

#3

  For details about the default directory that stores the trace file, see *A. Directory List*.

🛈 Important

A temporary directory is used when outputting trace files.

Under Windows, the folder specified by the TMP environment variable is used. In the TMP environment variable, specify a folder that can be accessed using the permissions of the user executing the command (if

---

the default JP1/AJS service account is used when a JP1/AJS job is executed, the folder specified in the `TMP` system environment variable is used).

`event` (event section)

For `event` (event section) in Windows, specify whether or not to generate events that are used in Windows application logs.

For `event` (event section) in Linux, specify whether to generate `syslog` messages.

The following table describes the keys that can be specified in the event section.

Table 2–12: Keys that can be specified for an event

Key	Value selectable as a string	Explanation
ntevent	YES or NO	This entry can be made when you are using Windows. Specify whether to generate Windows events. If this key specification is omitted, YES is used as the event generation condition.
Syslog	YES or NO	This entry can be made when you are using Linux. Specify whether or not to generate syslog messages. If this key specification is omitted, YES is used as the syslog message generation condition.

`command` (command section)

For `command` (command section), specify the work directory for JP1/AJS3 for EAP, the InfoPackage or process chain completion monitoring interval, and the time and interval for attempting to retry connection in the event of a communication error. Also, specify the code page number to be used for character code conversion in the connected Unicode version SAP system. The following table describes the keys that can be specified in the `command` section.

Table 2–13: Keys that can be specified for command

Key	Value selectable as a string	Explanation

WorkDir	Windows:
	  Character string beginning with (*drive-name*)`:\` or remote resource name coded in Universal Naming Convention (UNC) format[#1]
	Linux:
	  Character string beginning with `/`
		Enter a full pathname to specify the work directory for InfoPackage control function commands. The work directory is set when you execute an InfoPackage control function command. If this key specification is omitted, the current directory at the time the command is executed is used. (When JP1/AJS is used, the work directory to be used for execution of a JP1/AJS job[#2] is used.)

MonitorInterval	1 to 65,535 (in seconds)	Specify the interval for monitoring the completion of InfoPackage or a process chain. This value is used if you do not specify the interval for monitoring the completion of InfoPackage or a process chain on the jbwipsta command line of JP1/AJS3 for EAP. If this key specification is omitted, the InfoPackage completion monitoring interval value is 5 seconds.

Key	Value selectable as a string	Explanation
RetryTime	0 to 65,535 (in minutes)	Specify a period of time during which attempts are made to restore connection with the SAP BW system if a communication error occurs during communication with the SAP BW system. Repeated attempts to recover the connection will be made until the duration specified here elapses. If you specify 0, no attempt is made to restore the connection and an error is reported immediately. Specification of this key is ignored if you specify this key together with the RetryCount key. If neither the RetryTime key nor the RetryCount key is specified, the default value of the RetryCount key (3 times) takes effect.[#3] To specify the interval between retries to restore connection, use the RetryInterval key.
RetryCount	0 to 65,535 (times)	Specify the number of retries to restore connection with the SAP BW system if a communication error occurs during communication with the SAP BW system. If you specify 0, no attempt is made to restore the connection and an error is reported immediately. If you omit this key, the default value of 3 is assumed. The RetryCount key has priority over the RetryTime key if they are specified together. If neither the RetryCount key nor the RetryTime key is specified, the default value of the RetryCount key (3 times) takes effect.[#3] To specify the interval between retries to restore connection, use the RetryInterval key.
RetryInterval	1 to 65,535 (in seconds)	If you specify the RetryTime or RetryCount key, specify the time interval between retries to restore connection with the SAP BW system if a communication error occurs during communication with the SAP BW system.[#4] If you specify the RetryTime key, a time longer than the time specified for the RetryTime key cannot be specified for the RetryInterval key. If you omit this key, the time interval is set to 180 seconds. The value of the RetryInterval key is invalid in the following cases: • You specify 0 for the RetryCount key. • You specify 0 for the RetryTime key without specifying the RetryCount key.
RequestMonitorTime	-1 or 0 to 65,535 (in minutes)	Specify a period of time during which InfoPackage request registrations are monitored (request registration monitoring time). If a request registration does not complete within the time specified by this value, the InfoPackage completion monitoring process ends abnormally. If you specify -1, the request registration monitoring time is the same as the -time option

Key	Value selectable as a string	Explanation
RequestMonitorTime	-1 or 0 to 65,535 (in minutes)	(length of time during which the completion is monitored) of the `jbwipsta` command. If you specify `0`, the completion monitoring for InfoPackage immediately ends abnormally if the request is not registered for the first status query. If you omit this key, `-1` is assumed.
QMActionWaitTime	0 to 65,535 (in seconds)	Specify a time period (wait time) during which InfoPackage ends normally and then the job that executes InfoPackage ends. In JP1/AJS3 for EAP, the completion of QM action (enabling processing of loaded data that is executed after InfoPackage data loading) or subsequent processing (such as deletion of duplicated requests) of InfoPackage cannot be monitored. If you wish to execute a subsequent job by waiting for the end of that processing, set this wait time. This value is used when you omit wait time specification (`-qmwait_time` option) in the `jbwipsta` command line of JP1/AJS3 for EAP. If this `key` specification is omitted, the wait time is `0` seconds.
Codepage	0 to 9999 (unit: Codepage number)	Specify the code page number to be used for character code conversion in the connected Unicode version SAP system. To exchange Japanese character data with a Unicode version SAP system, specify `8000` as the Shift JIS code page number. To use Japanese UTF-8 code as the character code in Linux, specify the same code page number. When character data is sent or received in English, this `key` does not need to be specified.

#1

The remote resource name expressed in UNC format is *computer-name**sharename*, which is provided by Microsoft for networked folder/file name specification purposes. This folder must be kept accessible at all times.

#2

For details about the work path to use during execution of a JP1/AJS job, see the manual *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

#3

The valid key differs depending on whether you specify the `RetryCount` key, the `RetryTime` key, or both.

Key specification			RetryCount		
			Not specified	Specified	
				0	*N* (> 0)
RetryTime	Not specified		(1) Retry three times	(4) Immediate error	(5) Retry *N* times
	Specified	0	(2) Immediate error	(4) Immediate error	(5) Retry *N* times
		T (> 0)	(3) Retry for *T* minutes	(4) Immediate error	(5) Retry *N* times

(1) If neither the `RetryTime` key nor the `RetryCount` key is specified, retry is set to three times, which is the default value of the `RetryCount` key.

(2) An error occurs because `0` is specified for the `RetryTime` key and the `RetryCount` key is not specified.

(3) The specification of the `RetryTime` key takes effect. Retry for *T* minutes is set.

(4) An error occurs immediately because `0` is specified for the `RetryCount` key.

(5) Because the specification of the `RetryCount` key has priority, retry is set to *N* times.

#4

The following shows the operation when the `RetryCount` and `RetryTime` keys are specified:

- When 3 is specified for RetryCount and 120 is specified for RetryInterval

Attempts to restore the connection are made at the interval specified for RetryInterval and for the number of times specified for RetryCount.
If the connection cannot be restored even after the number of attempts specified for RetryCount, the error is reported.

Legend
⬤ : Occurrence of an error
⬤ : Timing at which an attempt to restore the connection is made

- When 7 is specified for RetryTime and 120 is specified for RetryInterval

Attempts to restore the connection are made at the interval specified for RetryInterval and for the number of times specified for RetryCount.
If the connection cannot be restored even after the number of attempts specified for RetryCount, the error is reported.

Legend:
⬤ : Occurrence of an error
⬤ : Timing at which an attempt to restore the connection is made

2.4.2 Setting the path

To use the InfoPackage or process chain control commands, it is convenient to define the path for the command storage directory for each user.

- Windows

  With Windows, use the System Properties dialog box to define the environment variable `PATH`.

  To open the System Properties dialog box, from **Control Panel**, double-click the **System** icon.

  For the environment variable `PATH`, specify *installation-folder*`\bwsta\program`.

- Linux

  With Linux, the system administrator must set the path in the system profile. Set the path in the environment variable `PATH`. Set the environment variable `PATH` to `/opt/jp1_am_r3/bwsta/bin/`.

2.4.3 Setting the language type (Linux)

This setup need only be performed when you are using Linux.

You can output messages in English or Japanese. To specify the language type, use environment variable `LANG`. The following table describes the available character code sets and the values that environment variable `LANG` may take.

Table 2–14: Available character codes and environment variable LANG values

OS	Available character code		Environment variable LANG value
Linux	Japanese	Shift JIS code	`ja_JP.SJIS` or `ja_JP.sjis`[#]
		UTF-8 code	`ja_JP.UTF-8`
	English		`C`

#: Use SUSE Linux only.

> **! Important**
>
> - If ja_JP.UTF-8 is set for the environment variable LANG in Linux, English is used as the language type.
>
> - When you run this product, it checks the value of the LANG environment variable and switches the operating language of the program accordingly. If you want to change the value of the LANG environment variable of this product while an operation is running, do so when the operation has stopped.
>
> - If you change the value of the LANG environment variable of this product while an operation is running, check and, if necessary, revise the following setting values:
>   - The setting value of the interconnection language with the SAP system (the setting value of the -l option of the respective commands)
>   - The setting value of the SAP code page (the setting value of the Codepage key in the Command section of the environment file)
>
> - If any other value is set for `LANG`, English is used as the language type.
>
> - If different character codes are used for the JP1/AJS3 for EAP language environment and the SAP BW system language environment, the information that is obtained from the SAP BW system might be displayed incorrectly (except for when Japanese UTF-8 code is used as the character code in Linux).
>
> - To use Japanese UTF-8 code as the character code in Linux, specify 8000 as the Shift JIS code page number for either the environment variable SAP_CODEPAGE or the Codepage key in the Command section of the environment settings file. For details about how to specify the Shift JIS code page number, see *2.4.1 Setting the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)*. Specify ja_JP.UTF-8 or ja_JP.utf8 for the environment variable LANG of the command execution environment.
>
> - If you handle Japanese character input data by using Japanese UTF-8 code as the character code in Linux, the command argument is converted to Shift JIS. For this reason, make sure to note the specified length of the character string.
>   If Japanese is the selected language type, JP1/AJS3 for EAP can use the following characters:
>   - ASCII/JIS Roman characters
>   - One-byte katakana characters
>   - JIS X 0208-1990 characters
>   If the character code for JP1/AJS3 for EAP is Japanese UTF-8, JP1/AJS3 for EAP cannot use the following characters:
>   tilde, two vertical lines, dash, cent, pound, negation sign, backslash, underline, yen, overline
>   Also, JP1/AJS3 for EAP cannot use external characters, platform-dependent characters, or the newly-defined level 3 and level 4 kanji characters in the JIS 2004 standard.

- If you want to use Japanese UTF-8 code as the character code, both JP1/Base and JP1/AJS3 on the same device must be run in a UTF-8 environment.

  To run JP1/Base in a UTF-8 environment, you must change the settings. For details about how to change the settings, see Setting the language (for UNIX) of the manual *JP1/Base User's Guide*.

  You must also change the settings to run JP1/AJS3 in a UTF-8 environment. For details about how to change the settings, see setting the language environment of the manual *JP1/Automatic Job Management System 3 Configuration Guide* or migration to a UTF-8 environment of the manual *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

2.4.4 Adding SAP BW system entries to the services file

Add the service name and the port number of the connection destination message server into the `services` file when you connect a message server.

The following table describes the specification format for the service name and the port number of the message server to be connected.

Table 2–15: Specification format for the service name and port number

Item	Service name	Port number
Message server	`sapms`*sid*[#]	*Any*/`tcp`

#

Specify the system ID of the SAP BW system for *sid* in `sapms`*sid*.

For example, if the system ID of the connection destination message server is `IB1` and the port number of the message server is `3601/tcp`, add the following entry (service name, port number) to the `services` file:

`sapmsIB1 3601/tcp`

The following figure shows examples of additions to the SAP BW system entries.

Figure 2–10: Example of adding SAP BW system entries (services file)

```
sapmsIB0   3600/tcp
sapmsIB1   3601/tcp
sapmsIB2   3602/tcp
     . . .
```

2.4.5 Adding SAP BW system entries to the hosts file

Add the host names of connection destination application servers to the `hosts` file.

This step is not required if a name service such as DNS can resolve application server host names at the connection destination.

The following figure shows an example of an addition to the SAP BW system entries.

Figure 2–11: Example of adding SAP BW system entries (hosts file)

```
#***************************************
#**  SAP BW Application Server    **
#***************************************
 172.16.48.194  BWCENTRL
            …
```

2.4.6 Steps to be completed before using the InfoPackage or process chain control commands

The following describes the procedures that must be completed when you want to use the -d option of a command or you want to set the command common argument defaults. The procedures are not necessary if the -d option will not be used or command common argument defaults will not be set.

(1) Making sure that the -d option for SAP BW destination information is usable

When using the -d option for the SAP BW destination information on the command line of JP1/AJS3 for EAP, the sapnwrfc.ini file must be created.

Note:

The sapnwrfc.ini file is a definition file provided by SAP NetWeaver RFC Library and a successor of the saprfc.ini file for versions 10 and earlier. For details about the specification changes and the migration method for the saprfc.ini and sapnwrfc.ini files, see *2.6.1 Notes on version upgrading*.

Depending on the operation method, create the sapnwrfc.ini file in one of the following directories or folders:

- The work directory specified by the WorkDir key in the command section of the environment settings file (conf file) for InfoPackage or process chain control
  This is the directory used when the work directory of JP1/AJS3 for EAP is specified in the environment settings file (conf file) for InfoPackage or process chain control.

- The current directory during execution of each command
  This is the directory used when the work directory of JP1/AJS3 for EAP is not specified in the environment settings file (conf file) for InfoPackage or process chain control.

- Arbitrary folder
  You must specify the storage destination folder in the environment variable RFC_INI.

Note that a sapnwrfc.ini file search occurs in the following sequence:

- When sapnwrfc.ini is specified by environment variable RFC_INI
  Only the sapnwrfc.ini file specified in environment variable RFC_INI is searched for. The sapnwrfc.ini file in the work directory of JP1/AJS3 for EAP is not searched for.

- When sapnwrfc.ini is not specified by environment variable RFC_INI
  The sapnwrfc.ini file in the JP1/AJS3 for EAP work directory is searched for.

The `sapnwrfc.ini` file is usually created in the JP1/AJS3 for EAP work directory that is defined in the environment setup file. To specify the `sapnwrfc.ini` file for a specific user, create the `sapnwrfc.ini` file in the desired directory and specify the path for the `sapnwrfc.ini` file in environment variable `RFC_INI`.

After JP1/AJS3 for EAP is installed, a sample `sapnwrfc.ini` file is stored in the following directory:

- For Windows:

```
RFC_INI=C:\home\user01\sapnwrfc.ini
```

- For Linux:

```
RFC_INI=/home/user01/sapnwrfc.ini
```

Copy the sample `sapnwrfc.ini` file to the JP1/AJS3 for EAP working directory (or the directory specified by environment variable `RFC_INI`) and edit the copy sample `sapnwrfc.ini` file as required. If you intend to use environment variable `RFC_INI`, specify it in advance.

Use the full path for the `sapnwrfc.ini` file to be specified in environment variable `RFC_INI`.

- Typical specification of environment variable `RFC_INI` (Windows)

```
RFC_INI=C:\home\user01\sapnwrfc.ini
```

- Typical specification of environment variable `RFC_INI` (Linux)

```
RFC_INI=/home/user01/saprfc.ini
```

The following figure shows an example of the `saprfc.ini` file. For details about the `saprfc.ini` file entries, see the SAP manual or online help.

Figure 2–12: Typical saprfc.ini file

```
DEST=r3centrl
MSHOST=hs0311
R3NAME=BIN
GROUP=PUBLIC
CLIENT=100
USER=RFCUSER
PASSWD=pass12345
LANG=JA
CODEPAGE=8000
```

Note that there are multiple ways to specify settings for the sapnwrfc.ini file. The figure above shows an example setup for connecting to a message server. You can also connect to a specific application. Edit the `services` file and `hosts` file as appropriate for the type. For the specification items of each type and whether the `services` file and `hosts` file must be edited, see the SAP BW manual or online help.

(2) Specifying the defaults for command common arguments (SAP BW destination information and SAP BW logon information)

If the common arguments (SAP BW destination information and SAP BW logon information) entry is omitted from the command line for JP1/AJS3 for EAP, an `r3defcon` file must be created. This `r3defcon` file must be created in the home directory that is specified for the user account.

Note

To use the `r3defcon` file in the Windows version, you need to specify the `HOMEDRIVE` or `HOMEPATH` environment variable for job execution to identify the home directory. Since these environment variables are not defined by default in the execution environment of commands executed from JP1/AJS, you must define them using environment variable items for job definition.

The following is a specification example of an environment variable (when the `r3defcon` file is placed at `C:\Documents and Settings\Administrator`):

```
HOMEDRIVE=C:
HOMEPATH=\Documents and Settings\Administrator
```

In those situations where Windows is employed with the NTFS file system, to prevent leakage of `r3defcon` file information, you should specify a different home directory for each user. With the FAT file system, however, you cannot protect the `r3defcon` file information at the file level.

With Linux, to prevent leakage of `r3defcon` file information, we recommend that you define the access permissions for the `r3defcon` file so that only the user executing the command can read the `r3defcon` file.

The following figure shows an example of creating the `r3defcon` file.

Figure 2–13: Example of creating an r3defcon file

```
[Logon]
Client=100
User=RFCUSER
Passwd2=pass12345
Lang=J

[Address]
Host=BWCENTRL
Sysno=00
```

The syntax for the `r3defcon` file is as follows:

```
[section]
key=string
```

- As the separator between `section` and `key` and between `key` and `key`, specify one or more new-line codes.

- The character strings specified for `section` and `key` are case-insensitive.

- The `key` specifications within the same `section` can be in any order.

- If a semicolon (;) is placed at the beginning of a line, the line is handled as a comment statement.

- When there are two or more `section` or `key` specifications that have the same name, a KAJM0022-E message appears and command execution is terminated.

The `keys` that can be specified in the `r3defcon` file are explained below for each section.

`logon` (logon section)

When omitting the SAP BW logon information specification, specify `logon` (logon section). The following table describes the keys that can be specified in the logon section.

Table 2–16: Keys that can be specified for logon

Key	Value selectable as a string	Explanation
Client	1- to 3-byte character string (The character string must consist of numerals only.)	Specify the SAP BW client number for logging on to the SAP BW system. Note that a 1- or 2-byte SAP BW client number sent to the SAP BW system is always converted to a 3-byte number. If, for instance, the client number is 001, you can specify the number 1, 01, or 001. However, the 3-byte client number 001 is always sent to the SAP BW system.
User	1- to 12-byte character string	Specify the SAP user name for logging on to the SAP BW system. For details about the SAP users that can be specified, see *2.4.9 Providing a SAP user for InfoPackage control or process chain control*.
Passwd	1- to 8-byte character string	Specify the password that has been assigned to the SAP user for logging on to the SAP BW system. Specify this key when a conventional password rule is applied to the SAP system.
Passwd2	1- to 40-byte character string	Specify the extended password that was assigned to the SAP user for logging in to the SAP BW system. The extended password is a password rule that was extended in the SAP systems based on SAP NetWeaver 7.0 and later. Specify this key when the extended password rule is applied to the SAP system. You can specify up to 40 bytes, and alphabetic characters are case-sensitive.
Lang	Japanese: J English: E	Specify the language type that can be used with the SAP BW system. You can specify either Japanese or English as the language type.

> **! Important**
>
> When you specify the logon section, be sure to specify all the keys (client, user, passwd or passwd2, and lang). Note that you cannot specify passwd and passwd2 at the same time. Specify one of them according to the availability of the extended password.

address (address section)

When omitting the SAP BW destination information specification, specify address (address section). The following table describes the keys that can be specified in the address section.

Table 2–17: Keys that can be specified for address

Key	Value selectable as a string	Explanation
Host	1- to 100-byte character string	Specify the host name of a destination SAP BW system.
Sysno	1- or 2-byte character string (The character string must consist of numerals only.)	Specify the host SAP system number of a destination SAP BW system.

Key	Value selectable as a string	Explanation
Dest	1- to 32-byte character string	Specify the destination (`DEST` value) that is defined in the `sapnwrfc.ini` file.

> **Important**
>
> `dest` and `host` and `sysno` cannot be specified together. When specifying the address section, specify `dest` only or specify `host` and `sysno`.

2.4.7 Creating the sapnwrfc.ini file prior to SAP BW system custom job execution (Windows)

This setup need be performed only when you are using Windows.

If you plan to use the `sapnwrfc.ini` file to define an SAP BW system custom job, you must create it in advance at the host where the `jbwipsta` command is to be executed.

For `sapnwrfc.ini` file creation, see *(1) in 2.4.6* above.

2.4.8 Specifying the action to take when InfoPackage ends with a warning on the SAP BW system

To monitor the completion of InfoPackage, the SAP BW system requires a setting that changes the signal to green or red when InfoPackage ends with an error. To set this specification, open the Monitor window of the administrator workbench and choose **Settings -> Evaluation of requests (traffic light)**. In the opened dialog box, check whether **is judged to be successful (green lights)** or **is thought to have errors (red lights)** is selected in **If no data is available in the system, the request** and **If warning arise during processing, the request**.

> **Important**
>
> - The name of **Administrator Work Bench** in SAP BW system can be different depending on the version of the SAP system such as **Data warehousing work bench**. Refer to your SAP system for actual screen name.
>
> - The operating procedure from Menu (**Settings -> Evaluation of requests (traffic light)**.) can be different (**Scheduler - Treatment of Warnings** or **Scheduler - Color of Traffic Light for Empty Request**) depending on the version of the SAP system. Refer to your SAP system for actual operating procedure.

2.4.9 Providing a SAP user for InfoPackage control or process chain control

To control InfoPackage or process chains, JP1/AJS3 for EAP uses RFC, which is the SAP Corporation communication protocol used to execute the external management interface defined on the SAP system side. For this reason you need to provide in advance, on the SAP system side, a user to be used by JP1/AJS3 for EAP.

This section describes the user type, password, and roles that need to be provided on the SAP system side.

(1) User type

For the user type, you can use dialog, system, communication, or service.

(2) Characters that can be specified in the password

To define the password, use numbers (from 0 to 9), alphabetic characters (a to z, A to Z) and the following single-byte symbols:

```
!@$%&/()=?'`*+~#-_.:{[]}<>|
```

(3) Required roles

The following roles are required in order for a SAP user to be able to perform InfoPackage control or process chain control.

- To use the `InfoPackage` control function:

  To create a user who can execute InfoPackage, create a user based on the role profile (`S_BI-WHM_RFC`) for the background user provided in the SAP BW system.

- To use the process chain control function:

  A user who executes a process chain requires a role (`S_RFC`) to log on from an external system in addition to the role to execute in the background each process that comprises a process chain.

  Assign the built-in role value (`S_RFC_ALL`) for the role (`S_RFC`) to log on from an external system.

2.4.10 Setting up a code page for connecting to a Unicode version SAP system

JP1/AJS3 for EAP communicates with SAP systems by using an RFC library that does not support Unicode. Character data sent or received when connecting to a Unicode version SAP system is converted into Unicode from the code page on the JP1/AJS3 for EAP side, or conversely on the SAP system side.

The default code page on the JP1/AJS3 for EAP side is the German code page number 1100. Therefore, to exchange character data with a Unicode version SAP system, you must specify `8000`, which is the Shift JIS code page number.

To use Japanese UTF-8 as the character code in Linux, you must specify the same code page number.

Use either of the methods described below for setting up the code page.

(1) Setting up the default code page

Set up the code page in the `Codepage` key in the `command` section of the environment settings file for InfoPackage or process chain control. For details about the setup method, see *2.4.1 Setting the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)*.

(2) Specifying a separate code page for each job to be executed

Define the following environment variable in the execution environment of the command provided by JP1/AJS3 for EAP:

```
SAP_CODEPAGE=8000
```

> ❗ **Important**
>
> - If the code page number is not correctly set up, non-US7ASCII character data will be corrupted. Even when a code page number is set up, data corruption occurs if the SAP system cannot convert the character data. Corrupted character data is displayed as a hash mark (#).
>
> - If an environment variable (`SAP_CODEPAGE`) is specified, the specification in this environment variable takes precedence over the specification for the `Codepage` key in the environment settings file.

2.5 SAP NetWeaver RFC Library setup

To use JP1/AJS3 for EAP, you must locate SAP NetWeaver RFC Library provided by SAP in the following directory of the computer on which JP1/AJS3 for EAP is installed:

- For Windows:
  installation folder`\lib\rfc`

- For Linux:
  `/opt/jp1_am_r3/lib/rfc`

For details about how to obtain and place the SAP NetWeaver RFC Library, see the *Release Notes*.

2.6 Notes on installation and setup

2.6.1 Notes on version upgrading

In version 11-00, the RFC library, which is used to communicate with the SAP system, has been changed from the classic RFC library to SAP NetWeaver RFC Library. In SAP NetWeaver RFC Library, the name of the saprfc.ini file and the parameter specifications have been changed from those provided by the classic RFC library. If you were using the saprfc.ini file in version 10-00 or earlier, you need to perform migration operations by noting the specification changes described below.

(1) Changing file names

The name of the saprfc.ini file, which has been used so far, has been changed to sapnwrfc.ini. Change the name of the saprfc.ini file for version 10-00 or earlier to sapnwrfc.ini.

In addition, the file name sapnwrfc.ini is now fixed for SAP NetWeaver RFC Library. If multiple saprfc.ini files with a name of your choice were stored in the same folder in version 10-00 or earlier, you need to take action such as storing those files in separate folders.

(2) Changing parameter definitions

The parameter definitions in the file have been changed. The SAP connection type parameter (TYPE) was removed from the range supported by JP1. If the TYPE parameter was set in the saprfc.ini file, remove the parameter from the sapnwrfc.ini file.

The following table lists the parameters supported by JP1 version 11-00 and later.

Table 2–18: The sapnwrfc.ini parameters supported by JP1 version 11-00 and later

Parameter	Description
DEST	Specifies destinations.
ASHOST	Specifies the host name for the SAP system.
SYSNR	Specifies the system number that is used to identify the SAP system.
MSHOST	Specifies the host name for the message server.
R3NAME	Specifies the system ID of the SAP system.
GROUP	Specifies the logon group.
CLIENT	Specifies the client number that is valid in the logon destination SAP system.
USER	Specifies the user name that is valid in the logon destination SAP system.
PASSWD	Specifies a password for the SAP user specified in the USER parameter.
LANG	Specifies the language type to be used for logon.
CODEPAGE	Specifies the code page number.
DEFAULT	Items that indicates common section of sapnwrfc.ini.
RFC_TRACE_ENCODING	The encoding of the trace file that the RFC library output. Set the followings for encoding. • Windows: UTF-16

Parameter	Description
RFC_TRACE_ENCODING	• Linux: UTF-8 If you do not set above, the RFC library cannot output information properly when the communication error occurs. Also, do not comment out the line.

The following table lists the parameters supported by JP1 version 13-00 and later.

Table 2–19: The sapnwrfc.ini parameters supported by JP1 version 13-00 and later

Parameter	Description
TLS_SAPCRYPTOLIB	Specifies the absolute path of the cryptography library.
WSHOST	Specifies the host name of the SAP system connected using WebSocket RFC.
WSPORT	Specifies the port number of the SAP system connected using WebSocket RFC.
USE_TLS	Specifies whether to enable or disable SSL/TLS encryption.
TLS_CLIENT_PSE	Specifies the PSE file containing the certificates required for TLS encrypted communications.
TLS_CLIENT_CERTIFICATE_LOGON	Specifies whether to use client certificates for server logins.

(3) Changing the definition of the environment parameter RFC_INI

If the path for the saprfc.ini file has been specified for the environment parameter RFC_INI, in line with the definition change made in (1), change the file path to that of the sapnwrfc.ini file.

The following compatibility function is available to make it easy for you to change the definition of the environment parameter RFC_INI:

Compatibility function:

If a file name that does not end with "sapnwrfc.ini" is specified for the environment parameter RFC_INI, the function regards the path up until the folder name as valid, and then references the sapnwrfc.ini file in that folder.

By using this function, you can reference the sapnwrfc.ini file without changing the value of the environment parameter RFC_INI, even if the sapnwrfc.ini file and saprfc.ini file are created in the same folder.

(4) Other notes

- When you perform an overwrite installation or an upgrade installation over this product, select the product of the same model name for the installation.

- In version 11-00-01 of JP1/AJS3 for EAP, the default value of trace level has changed from 1 to 2 and the size of trace size has changed from 12,288(KB) to 307,200(KB). For JP1/AJS3 for EAP, the changed trace level value and trace size value will not applied,in case of performing an overwrite installation or an upgrade installation , from version 11-00 or later versions.

  Change the trace level value and trace size value refering the following procedure.

  Files to be changed:

  - In case of using job control function:

    Environment file for job control

    In Windows: *Installation folder*/conf/conf

    In Linux: /etc/opt/jp1_am_r3/conf/conf

  - In case of using info package or process chain control:

Environment file for info package or process chain control

In Windows: *Installation folder*`/bwsta/conf/conf`

In Linux: `/etc/opt/jp1_am_r3/bwsta/conf/conf`

Change the Level and Size of trace (trace section). Change example follows:

- Old

[Trace]

Level=1

Size=12288

- New

[Trace]

Level=2 [1]

Size=307200 [2]

#1: Specify the trace level. It is recommended to specify 2 (detail level).

#2: Specify the size of the trace file. Default value is 307200(KB).

Specify the size of the trace file based on the execution frequency

of the command in the your operational environment and the period you want to keep the trace.

Trace file size (KB)= Trace volume per command (KB/times) *

Frequency of command execution (times/day) *

period to leave the trace(day)

For details on the trace volume per command and the environment setting file, see *2.3.1 Setting the operating environment for JP1/AJS3 for EAP (job control)* or *2.4.1 Setting the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)*. If you specify 307,200 kilobytes as the trace file size, the trace file can record at least seven days' worth of trace data when 100 jobs are executed per hour (2,400 times / day) at trace level 2.

2.6.2 Setup for connecting with WebSocket RFC

To connect using WebSocket RFC, you will need to place the SAP Common Crypto Lib provided by SAP on the machine that has JP1/AJS3 for EAP installed.

For details about how to obtain and place the SAP Common Crypto Lib, see the *Release Notes*.

2.6.3 Other notes

- If you install the product while the computer time is being set back, installation might fail. If installation fails, the following message appears:

Product information could not be accessed.

Specify the current time as the computer time, and then install the product.

- If you specify the folder below as the installation destination, the installation folder will be redirected and the installation will not be performed correctly. Do not specify the following folder as the installation destination:

system-drive:`\Program Files\Hitachi\`

2.7 Notes on uninstallation

- Uninstalling JP1/AJS3 for EAP does not delete the following environment setup files. Delete these files by deleting the directory in which the product was installed:

  - *Installation folder*`\Conf\Conf`

  - *Installation folder*`\log`

  - *Installation folder*`\lib\rfc`

  - *Installation folder*`\bwsta\conf\conf`

  - *Installation directory*`\bwsta\log`

  Files that cannot be deleted, such as files that are being used, might still remain after uninstallation is performed. If you do not need these files, you can use Explorer to delete the folder in which JP1/AJS3 for EAP was installed.

- Uninstall JP1/AJS3 for EAP using the same language setting as when the product was installed.

- If you uninstall the product, the custom job definition program-related files that you manually copied to a folder of your choice on the machine on which JP1/AJS3 - View is installed are not deleted. Use Explorer to delete these files.

2.8 Notes regarding operation

2.8.1 Setting back the time of the operating computer

If you try to execute a command when the computer time has been set to a time that predates installation, the error message KAJM0992-E is output, and the command cannot be executed. When operating the computer, make sure to specify a time that does not predate product installation.

2.8.2 Notes on performing a soft shutdown of the SAP system

Even after you perform a "soft shutdown", which is one of the SAP system functions, the system continues to accept the execution of background jobs, InfoPackages, and process chains, and waits for these jobs to finish. If you want to avoid executing jobs from JP1/AJS3 for EAP after a soft shutdown, you must first stop the execution of the background jobs, InfoPackages, and process chains that are executed automatically (for example, in JP1/AJS3) or are executed directly by a command of JP1/AJS3 for EAP.

2.8.3 Notes when running anti-virus software

If anti-virus software imposes an exclusive control lock on a file or folder used by JP1/AJS3 for EAP, the following problems might arise:

- A command or custom job cannot be executed or might be delayed.
  A command or custom job cannot be executed, terminates abnormally, or might be delayed due to the exclusive control lock placed on the file required to execute the command or custom job.

- A custom job definition cannot be modified.
  An attempt to add or modify a custom job definition might fail due to the exclusive control lock placed on the JP1/AJS3 for EAP custom job file.

- No information is output to a file.
  Information might not be output to a file due to the exclusive control lock placed on files that are output by JP1/AJS3 for EAP.

- JP1/AJS3 for EAP cannot output log data.
  An exclusive control lock placed on a JP1/AJS3 for EAP log file might prevent JP1/AJS3 for EAP from outputting log data and make it difficult to troubleshoot errors.

If you run a virus check during JP1/AJS3 for EAP operation, exclude the following files and folders. If you run a virus check while JP1/AJS3 for EAP is stopped, make sure the following files and folders were scanned before you restart JP1/AJS3 for EAP:

In Windows:

- JP1/AJS3 for EAP installation folder
  The default installation folder is as follows:
  system-drive\Program Files(x86)\Hitachi\JP1AMR3\

- JP1/AJS3 for EAP log files and folders

For details about JP1/AJS3 for EAP log files and folders, see the trace (trace section) in *2.3.1 Setting the operating environment for JP1/AJS3 for EAP (job control)* or *2.4.1 Setting the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)*.

- JP1/AJS3 for EAP command work directory

    For details about the JP1/AJS3 for EAP command work directory, see the command (command section) in *2.3.1 Setting the operating environment for JP1/AJS3 for EAP (job control)* or *2.4.1 Setting the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)*.

- Files output by JP1/AJS3 for EAP

    For details about the files output by JP1/AJS3 for EAP, see the following sections:

    - *3.1.1(3)(k) Specifying the execution result output destination*
    - *3.1.2(3)(f) Specifying the execution result output destination*
    - Redirection information in *4. Common argument formats for various commands*
    - `-jo` *SAP-job-log-filename* in *4 jr3bjcpy*
    - `-jo` *SAP-job-log-filename* in *4 jr3bjsub*

- JP1/AJS3 for EAP product information registration file

    The product information registration file is in the following directory:

    system-drive`\Program Files(x86)\Hitachi\jp1common\jp1amr3\jp1amr3.dat`

In Linux:

- JP1/AJS3 for EAP installation directory

    The default installation folder is as follows:

    - `/etc/opt/jp1_am_r3`
    - `/opt/jp1_am_r3`
    - `/var/opt/jp1_am_r3`

- JP1/AJS3 for EAP log files and directory

    For details about JP1/AJS3 for EAP log files and directory, see the trace (trace section) in *2.3.1 Setting the operating environment for JP1/AJS3 for EAP (job control)* or *2.4.1 Setting the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)*.

- JP1/AJS3 for EAP command work directory

    For details about the JP1/AJS3 for EAP command work directory, see the command (command section) in *2.3.1 Setting the operating environment for JP1/AJS3 for EAP (job control)* or *2.4.1 Setting the operating environment for JP1/AJS3 for EAP (InfoPackage control or process chain control)*.

- Files output by JP1/AJS3 for EAP

    For details about the files output by JP1/AJS3 for EAP, see the following sections:

    - *3.1.1(3)(k) Specifying the execution result output destination*
    - *3.1.2(3)(f) Specifying the execution result output destination*
    - Redirection information in *4. Common argument formats for various commands*
    - `-jo` *SAP-job-log-filename* in *4 jr3bjcpy*
    - `-jo` *SAP-job-log-filename* in *4 jr3bjsub*

- JP1/AJS3 for EAP product information registration file

    The product information registration file is in the following directory:

    `/etc/opt/.hlic/116C.dat`

2.8.4 About setting to acquire investigation material prepared for abnormal termination

JP1/AJS3 for EAP might be required RFC trace file `dev_rfc*` (The * part depends on the version of the RFC library) which is generated by the SAP NetWeaver RFC Library for failure analysis purposes. The character code of the RFC trace file has defined in configuration file (`sapnwfc.ini`) of SAP NetWeaver RFC Library. Therefore, if the encoding is not configured in sapnwrfc.ini, the trace information will not properly be generated. In that case, it is difficult to do failure analysis and we ask you to reproduce the issue after you set the configuration file.

Thus, we recommend that you configure the encoding setting in sapnwrfc.ini file before you run command of JP1/AJS3 for EAP for preparing he failure analysis. See below for the path to be placed and settings of `sapnwrfc.ini`.

Path to place the `sapnwrfc.ini`

- In the case that you use command to control job Set sapnwrfc.ini to either or both paths depending on your operating style.
  - The working directory of the JP1/AJS3 for EAP where is specified by WorkDir key under the command (command section) in the environmental configuration file (conf file) to control job (If the WorkDir key is not set, current directory is set when command is run)
  - The folder where is specified an environment variable `RFC_INI`
- In the case that you use the command to control InfoPackage or process chain
  Set sapnwrfc.ini to either or both paths depending on your operating style.
  - The working directory of the JP1/AJS3 for EAP where is specified by WorkDir key under the command (command section) in the environmental configuration file (conf file) to control InfoPackage or process chain (If the WorkDir key is not set, current directory is set when command is run)
  - The folder where is specified an environmental valuable `RFC_INI`

Settings

Set the beginning of the sapnwrfc.ini below

- In Windows
  - DEFAULT
  - RFC_TRACE_ENCODING=UTF-16

  See also the sample of sapnwrfc.ini (*installation-folder*`\Sample\apnwrfc.ini`).
- In Linux
  - DEFAULT
  - RFC_TRACE_ENCODING=UTF-16

  See also the sample of sapnwrfc.ini (`/opt/jp1_am_r3/sample/sapnwrfc.ini`).

(1) In Windows

A user mode process dump may be required as investigation material when the command of JP1/AJS3 for EAP terminates abnormally. By setting the following registry, you can immediately obtain a user mode process dump for a problem investigation report when terminates command of JP1/AJS3 for EAP abnormally. It is recommended to set it beforehand in case of failure occurrence. Take sufficient care when setting registry values, because registry values influence the entire system.

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\Windows Error Reporting\LocalD
umps
```

Set the following registry value for the registry key above:

- DumpFolder: REG_EXPAND_SZ *folder-name-of-dump-destination*
  The folder requires access authorization.
- DumpCount: REG_DWORD *number-of-dumps-saved*
- DumpType: REG_DWORD 2

If the above is not set, no user mode process dump is output in case of failure occurrenceby JP1/AJS3 for EAP, so you might not be able to investigate the cause of error. In this case, it may be necessary to reproduce the symptom after setting the above.

(2) In Linux

- Core dump may be required as investigation material when the command of JP1/AJS3 for EAP terminates abnormally. The maximum size of a core dump file depends on the command-executing user's core dump file size setting (ulimit -c). It is recommended to set the size of the core dump file to unrestricted (ulimit -c unlimited) beforehand in preparation for a failure occurrence.

  If the above is not set, no core dump is output in case of failure occurrenceby JP1/AJS3 for EAP, so you might not be able to investigate the cause of error. In this case, it may be necessary to reproduce the symptom after setting the above.

- For Linux environments in which the Automatic Bug Reporting Tool (ABRT) is installed, if you specify the ABRT settings to limit core dump file generation by users or user groups of the OS accounts or processes that use JP1/AJS3 for EAP, no core dump file will be output and you will not be able to investigate the failure in situations such as when a segmentation fault or a bus failure occurs in a JP1/AJS3 for EAP process. In accordance with the operations you are performing, revise the ABRT settings so they do not limit generation of core dump files by users or user groups of the OS accounts or processe.

- These settings apply to Linux environments where the settings file for core dump file names (`/proc/sys/kernel/core_pattern`) begins with the character string "|/usr/lib/systemd/systemd-coredump". If the operation settings file for core dump files (/etc/systemd/coredump.conf) includes a setting that specifies that no core dump files are to be created, no core dump file will be output and users will not be able to investigate the failure in situations such as when a segmentation fault or a bus failure occurs in a JP1/AJS3 for EAP process. Based on operations to be performed, revise the settings in /etc/systemd/coredump.conf so that core dump files are created. For details, see the Linux documentation.

- If the standard trace level (trace level 1) is set, detailed investigation is not possible at the time of failure occurrence, and it may be necessary to reproduce the symptom after setting the trace level to 2. It is recommended to set the trace level to 2 before executing the JP1/AJS3 for EAP command in preparation for a failure occurrence.

2.8.5 Other notes

- The third level and the fourth level characters supported by JIS X 0213 are not supported.
- Installation on a virtual disk that was created in following platforms storage pool is not supported.
  - Windows Server 2012
  - Windows Server 2016
  - Windows Server 2019

- Windows Server 2022

- Windows 8

- Windows 8.1

- Windows 10

- Windows 11

- This product does not support communications using IPv6 addresses. If you want to use this product in an operating system that supports IPv4/IPv6 dual stacking, the IP address that is calculated from the SAP host name on the connection destination must be resolvable by using IPv4. In this case, you must not set the environment variable SAP_IPv6_ACTIVE (which is used for IPv6 communications with the SAP system) in the execution environment for JP1/AJS3 for EAP product.

- When the OS is Linux, this program product cannot use files of 2 or more gigabytes, nor does it support user IDs that are over 65535.

- When the OS is Linux, take note of the following points when setting environment variables to correctly display the license agreement.

  - If LC_ALL is not set, you must set the same values for LC_MESSAGES, LANG, and LC_CTYPE[#].

  - If LC_ALL and LC_MESSAGES are not set, you must set the same values for LANG and LC_CTYPE[#].

  #: LC_CTYPE does not have to be set.

- If in Linux, Job Management Partner 1/Automatic Job Management System 3 for Enterprise Applications generates as many processes as commands that are concurrently being executed. It will also use as many file locks as four times the number of job control commands that are concurrently being executed. Therefore, the maximum numbers of system processes and file locks must be large enough to accommodate the process and file lock requirements of the program product.

- If the information acquired from a SAP system and the client language environment in which the acquired information is displayed use different character code sets, the displayed information may be unreadable.

  In Linux, for details about how to specify Japanese UTF-8 code as the character code, see *2.3.3 Setting the language type (Linux)*.

3

Executing Background Jobs Using JP1/AJS

This chapter describes the procedures for executing background jobs by using JP1/AJS and explains the setup data required for JP1/AJS.

3.1 Executing SAP jobs by using JP1/AJS

This section explains the procedures for executing background jobs (SAP jobs) by using JP1/AJS and explains the setup data required for JP1/AJS.

3.1.1 Creating a new SAP job

(1) Procedures for executing SAP jobs

Before you can use JP1/AJS to execute SAP jobs, you must perform the following tasks. These tasks will vary depending on the OS of the machine on which JP1/AJS - View is installed.

(a) If JP1/AJS3 for EAP is installed on a Windows machine

Procedure 1

Environment settings

If the machine on which JP1/AJS3 for EAP is installed runs Windows, manually copy the following file. However, if JP1/AJS3 for EAP of version 12-00 or earlier is linked, do not copy the following file.

Copied from:

- *installation-folder*\Program\eapctrlconf.model.windows (model eapctrlconf file for Windows)

Copied to:

- *installation-folder*\Program\eapctrlconf (eapctrlconf file)

Notes

Custom jobs can be set by the definition program even when linking with version 12-00 or earlier, but please define the arguments for the version of AJS-EAP to be executed.

Manually copy the following programs provided by JP1/AJS3 for EAP to the machine on which JP1/AJS - View is installed:

- *installation-folder*\Program\jr3cjdfx.exe (definition program)
- *installation-folder*\Program\jr3cjdfx.ini (initialization file)
- *installation-folder*\Program\eapctrlconf.model.windows (model eapctrlconf file for Windows)

Copy the above files to the same folder located anywhere on the machine on which JP1/AJS - View is installed.

If you are using multiple versions of JP1/AJS3 for EAP, copy the latest versions of JP1/AJS3 for EAP files to the machine on which JP1/AJS - View is installed.

When migrating from an earlier version, if you update a custom job definition module on a machine on which JP1/AJS2 - View is installed, delete all modules copied by earlier versions, and then copy a module that has a later version.

For the model eapctrlconf file for Windows (eapctrlconf.model.windows), copy and then rename the file eapctrlconf.

Procedure 2

Custom job registration

Procedure 3

Custom job definition

When the above procedures are completed and the JP1/AJS jobnet is started for execution of the SAP system custom job, the job is created in the SAP system and then executed.

(b) If JP1/AJS3 for EAP is installed on a Linux machine

Procedure 1

Environment settings

If the machine on which JP1/AJS3 for EAP is installed runs Linux, manually copy the following file. However, if JP1/AJS3 for EAP of version 12-00 or earlier is linked, do not copy the following file.

Copied from:

- `/etc/opt/jp1_am_r3/conf/eapctrlconf.model.linux` (model `eapctrlconf` file for Linux)

Copied to:

- `/etc/opt/jp1_am_r3/conf/eapctrlconf`

Notes

Custom jobs can be set by the definition program even when linking with version 12-00 or earlier, but please define the arguments for the version of AJS-EAP to be executed.

Manually copy the following programs provided by JP1/AJS3 foer EAP to the machine on which JP1/AJS - View is installed:

- `/opt/jp1_am_r3/bin/jr3cjdfx.exe` (definition program)
- `/opt/jp1_am_r3/bin/jr3cjdfx.ini` (initialization file)
- `/etc/opt/jp1_am_r3/conf/eapctrlconf.model.windows` (model `eapctrlconf` file for Windows)

Copy the above files to the same folder located anywhere on the machine on which JP1/AJS - View is installed.

If you are using multiple versions of JP1/AJS3 for EAP, copy the latest versions of JP1/AJS3 for EAP files to the machine on which JP1/AJS - View is installed.

When migrating from an earlier version, if you update a custom job definition module on a machine on which JP1/AJS2 - View is installed, delete all modules copied by earlier versions, and then copy a module that has a later version.

For the model `eapctrlconf` file for Windows, copy and then rename the file `eapctrlconf`.

For the model `eapctrlconf` file for Windows (`eapctrlconf.model.windows`), copy and then rename the file `eapctrlconf`.

In addition, If JP1/AJS - View of version 12-00 or earlier is linked, copy the following file to the JP1/AJS - View installation location:

Copied from:

- `/opt/jp1_am_r3/image/CUSTOM_PC_JP1AMR3UX.gif`

Copied to:

- *JP1/AJS - View installation-folder*`\image\custom`

Procedure 2

Custom job registration

Procedure 3

Custom job definition

When the above procedures are completed and the JP1/AJS jobnet is started for execution of the SAP system custom job, the job is created in the SAP system and then executed.

(2) Registering a custom job

Register the files as custom jobs in the Register Custom Job dialog box of JP1/AJS - View.

To register a custom job for the SAP system:

1. Display the Register Custom Job dialog box in JP1/AJS - View.
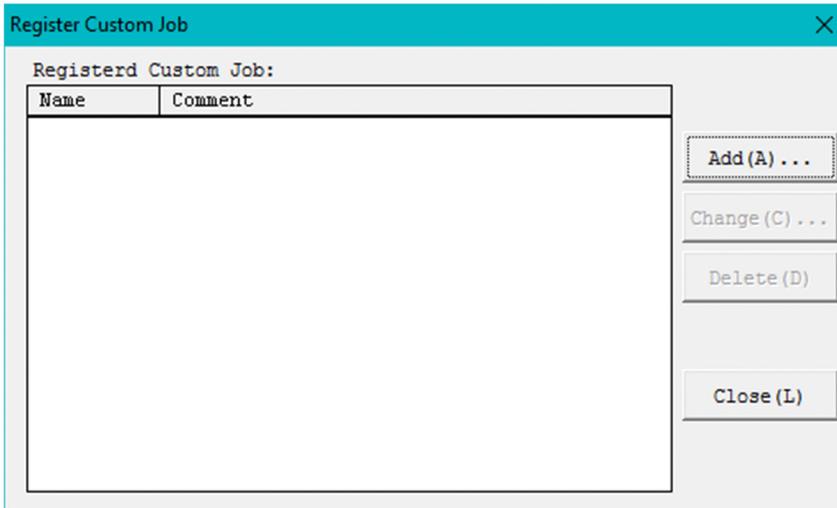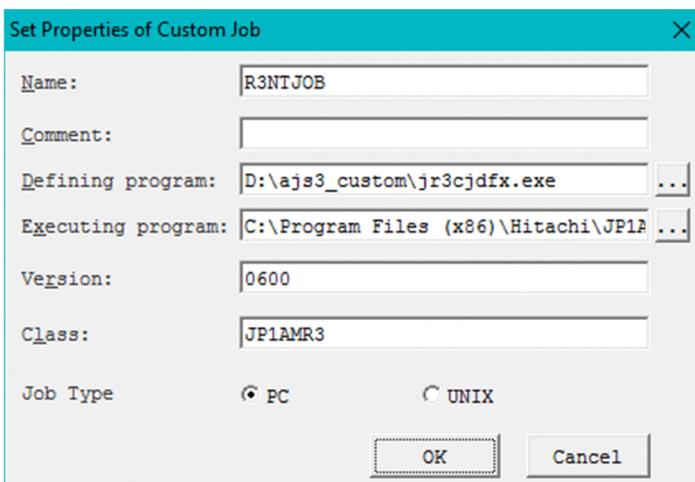
2. Choose the **Add** button.

The Set Properties of Custom Job dialog box is displayed.

3. Register the custom job for the SAP system.
   Specify information in the entry boxes of the dialog box as described below.
   Name
       Specify a name from 1 to 8 bytes for the custom job of JP1/AJS3 for EAP.

Comment

You can enter a comment from 1 to 40 bytes long. You cannot include slashes (/) and blank characters in comments. You can omit **Comment**.

Defining program

Specify the pathname of the `jr3cjdfx.exe` program you have manually copied for defining the custom job.

Note that you need not specify **Defining program** when you select **UNIX** in **Job Type**.

Executing program

Specify the pathname of the program for executing the custom job on the JP1/AJS - Agent (or JP1/AJS - Manager) machine.

For Windows:

- *installation-folder*`\Program\jr3bjsub.exe`

For Linux:

- `/opt/jp1_am_r3/bin/jr3bjsub`

Notes

•You need not specify **Executing program** when you select **UNIX** in **Job Type**.

• If the path to the JP1/AJS3 for EAP installation folder is different for different machines, define a job execution work path as a variable in JP1/AJS3. If you do not specify this setting, the message (`KAVU4550-W`) indicating that no executable file was found during job execution is output to the Execution Result Details dialog box of JP1/AJS3 - View, and the job cannot be executed.

For the setup method, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

Version

Specify `0600`.

Class

Specify `JP1AMR3`.

Further, when specifying **PC** as the **Job Type** in Linux, specify `JP1AMR3UX`.

Job Type

Select **PC** if the JP1/AJS - Agent (or JP1/AJS - Manager) machine on which JP1/AJS3 for EAP is installed is a Windows machine. Select **UNIX** if it is a Linux machine.

You can also specify **PC** when registering a custom job in Linux.

4. Choose the **OK** button.

For more details on how to register custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

(3) Defining a custom job

In the Jobnet Editor window of JP1/AJS, define the registered custom job in a jobnet.

To define a custom job for use with the SAP system:

(a) Defining a custom job (PC job)

1. Use the Jobnet Editor window of JP1/AJS to display the jobnet definition area.

2. Select the **Custom Jobs** tab, and then drag the registered custom job to be used with the SAP system and drop it onto the jobnet definition area.

The registered custom job is added to the jobnet definition area and the Define Details - [Custom Job] dialog box is displayed.

3. Specify the end judgment.

- If you want JP1/AJS to handle an abnormal job end (the return value of the `jr3bjsub` command is `1`) and other errors (the return value of the `jr3bjsub` command is `2` or greater) as abnormal conditions:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify no value.

  Abnormal

  Specify `0`.

- If you want JP1/AJS to issue a warning for an abnormal job end (the return value of the `jr3bjsub` command is `1`) and handle other errors (the return value of the `jr3bjsub` command is `2` or greater) as abnormal conditions:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify `0`.

  Abnormal

  Specify `1`.

- If you want JP1/AJS to handle an abnormal job end (the return value of the `jr3bjsub` command is `1`, or `5` or greater) as abnormal conditions and handle other errors (the return value of the `jr3bjsub` command is between `2` and `4`) as warnings:

Rule

Select **Judgment by threshold**.

Warning

Specify no value.

Abnormal

Specify 4 (the upper limit for the return value handled as a warning).

The subsequent judgment job determines if the return value is a value from 1 to 4. For details about the setup method, see the chapter that contains definition examples of jobnets with judgment jobs in the manual *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

4. Choose the **Details** button.

   The R/3 Job Definition dialog box is displayed.

5. Define the attributes of the SAP request.

   Specify the following information in the dialog box.

   - Specify the method for connecting to the SAP system where the SAP job will be created.

   - Define the SAP job.

   - Define the job steps.

   - Specify the job release/completion monitoring settings.

   - Specify the execution result output destination.

   Note

   When specifying the job cancellation time in the Define Details - [Custom Job] dialog box, make sure that the setting is longer than the job cancellation time specified by JP1/AJS3 for EAP.

6. Choose the **OK** button.

For more details on how to define custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

> **❗ Important**
>
> The custom job definition program of the SAP job internally generates the command line for the `jr3bjsub` command based on the input information.
>
> The maximum length of this command line is 1,020 bytes. If this length is exceeded, the error: `The generated command line (`*byte-count-of-the-generated-command-line* `bytes) exceeded the maximum length (1,020 bytes). Definition information cannot be saved.` occurs in the custom job definition program.
>
> Depending on the SAP job definition, such as when multiple job steps are assigned to a single job, the generated command line may exceed 1,020 bytes.
>
> If multiple job steps are assigned to a single job, define them in separate jobs and specify the execution order for these jobs, for example.

(b) Defining a custom job (UNIX job)

1. Use the Jobnet Editor window of JP1/AJS to display the jobnet definition area.

2. Select the **Custom Jobs** tab, and then drag the registered custom job to be used with the SAP system and drop it onto the jobnet definition area.

The registered custom job is added to the jobnet definition area and the Define Details - [Custom Job] dialog box is displayed.

3. Define **Command statement**.

Specify command line parameters for the `jr3bjsub` command.

4. Specify the end judgment.

- If you want JP1/AJS to handle an abnormal job end (the return value of the `jr3bjsub` command is 1) and other errors (the return value of the `jr3bjsub` command is 2 or greater) as abnormal conditions:

   Rule

   Select **Judgment by threshold**.

   Warning

   Specify no value.

   Abnormal

Specify `0`.

- If you want JP1/AJS to issue a warning for an abnormal job end (the return value of the `jr3bjsub` command is `1`) and handle other errors (the return value of the `jr3bjsub` command is `2` or greater) as abnormal conditions:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify `0`.

  Abnormal

  Specify `1`.

- If you want JP1/AJS to handle an abnormal job end (the return value of the `jr3bjsub` command is `1`, or `5` or greater) as abnormal conditions and handle other errors (the return value of the `jr3bjsub` command is between `2` and `4`) as warnings:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify no value.

  Abnormal

  Specify `4` (the upper limit for the return value handled as a warning).

The subsequent judgment job determines if the return value is a value from `1` to `4`. For details about the setup method, see the chapter that contains definition examples of jobnets with judgment jobs in the manual *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

5. Choose the **OK** button.

For more details on how to define custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

(c) Specifying the method for connecting to the SAP system

To specify the method for connecting to the SAP system where the SAP job will be created, use the **R/3 System** page of the R/3 Job Definition dialog box.

The following figure shows the **R/3 System** page.

Figure 3–1: R/3 System page - R/3 Job Definition dialog box
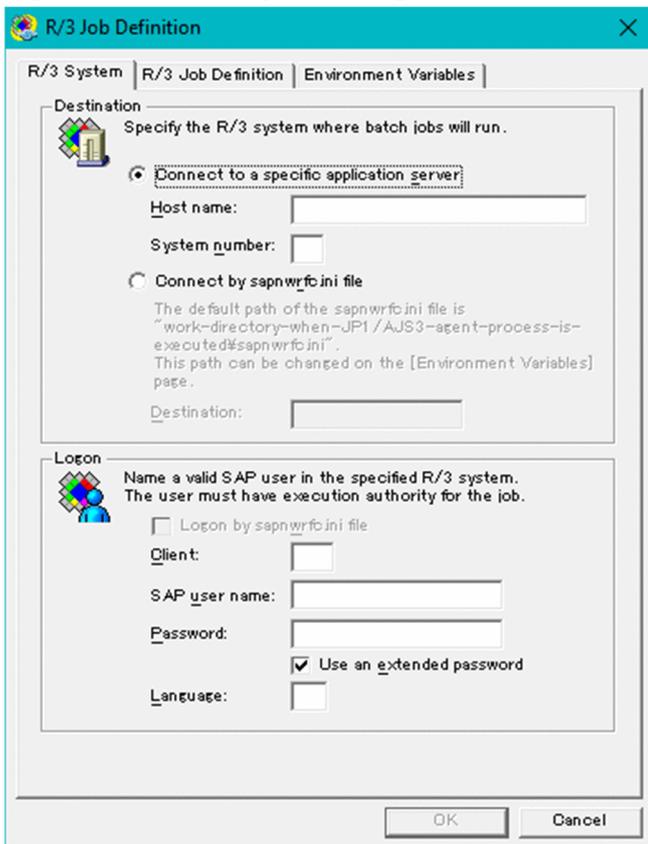
The items to be defined in the **R/3 System** page are explained below.

Definition items

Destination

Specify the method for connecting to the application server where the job will be created. Use either of the following options to specify the application server to be connected:

- Specify a specific application server.
- Use the destination specified in the `sapnwrfc.ini` file.

Connect to a specific application server

Select this option when directly specifying the application server to be connected to.

Host name

Specify the host name of the application server (or SAP router) to be connected to. A character string of 1 to 100 bytes can be entered for the host name.

You can use host names in the following formats:

- Host name defined in the `hosts` file (for example, `host1`)
- IP address (for example, `123.123.123.123`)
- SAP router address (for example, `/H/hostname/S/port/H/host/S/port/...`)

For details about the SAP router address format, see the SAP manual or online help.

This item corresponds to the `-h` option of the `jr3bjsub` command.

System number

Specify the system number that identifies the target application server. A character string of 1 or 2 bytes can be entered for the system number. Only numerals can be used. Normally enter `00`.

This item corresponds to the `-s` option of the `jr3bjsub` command.

Connect by sapnwrfc.ini file

Select this option when you set the parameter that identifies the application server to be connected to from the external file. You need to select this option when you try to connect to the application server by balancing the workload.

Depending on what is defined in the `sapnwrfc.ini` file, the system connects to either a specific application server or the application server determined by the load-balancing function of the message server.

Destination

Enter the value of the DEST key identifying the connection entry in the `sapnwrfc.ini` file. A character string of 1 to 32 bytes can be entered for the destination.

This item corresponds to the `-d` option of the `jr3bjsub` command.

Logon

Specify the user information used for the connection destination SAP system. JP1/AJS3 for EAP uses this information to log on to the SAP system and execute jobs. Specify the user to log on by either of the following methods:

- Use the user specified in `sapnwrfc.ini`

- Use a specific user (client, user name, password, and language)

Log on by using the sapnwrfc.ini file

To log on by using the definitions specified in the external file (`sapnwrfc.ini`) and for **Destination**, select **Log on by using the sapnwrfc.ini file**.

This item corresponds to the `-dl` option of the `jr3bjsub` command.

Client

Specify the number of the client assigned to the SAP user who executes jobs. The lengths of character strings you can specify are from 1 to 3 bytes. You can only include digits in the character string. When an SAP client number of 1 or 2 bytes is to be sent to the SAP system, it is converted to 3 bytes.

For example, if the client number is `001`, you can specify `1`, `01`, or `001`. When this client number is sent to the SAP system, it is sent as `001`.

This item corresponds to the `-c` option of the `jr3bjsub` command.

SAP user name

Specify the name of the SAP user who executes jobs.

For details about the users who can be specified, see *2.3.9 Providing a SAP user for job control*.

When you do not explicitly specify the authorized user to define the job step, the system executes the job step by using the permission specified in this option.

The lengths of character strings you can specify are from 1 to 12 bytes. You cannot include single-byte lower-case alphabetic characters in the user name.

This item corresponds to the `-u` option of the `jr3bjsub` command.

Password

For the SAP user who executes jobs, enter the password or extended password specified for the user name. To use an extended password, select **Use an extended password**.

The lengths of character strings you can specify are from 1 to 8 bytes for the password, and from 1 to 40 bytes for the extended password. Entered characters are marked with asterisks (`*`).

This item corresponds to the −p option of the jr3bjsub command if you use the password, and the −p2 option of the jr3bjsub command if you use the extended password.

Using the extended password

When the extended password rule is applied to the SAP system, select the **Using the extended password** check box. When you select this check box, confirm that the configuration at the execution host is as follows:

- JP1/AJS3 for EAP 09-00 and later is installed.
- The availability of the extended password is set to ON by the jr3chrfc command.

Language

Specify the language environment for executing jobs. You can use either Japanese or English. Specify the following language supported by the SAP system as the language to be used.

- For Japanese: J
- For English: E

You cannot specify a lowercase single-byte character for the language.

In the following cases, the default language type defined by the destination SAP system is used:

- Language type specification is omitted.
- A language type not defined by the destination SAP system is specified.

The language type specified for this item affects the language for the SAP job log. It also affects the language for the error details that are returned by the SAP system and inserted into a message, such as KAJM0802-E and KAJM0813-E.

This item corresponds to the −l option of the jr3bjsub command.

(d) Defining an SAP job

To create an SAP job definition, use the **R/3 Job Definition** page of the R/3 Job Definition dialog box.

The following figure shows the **R/3 Job Definition** page.

Figure 3–2: Job Definition page - R/3 Job Definition dialog box
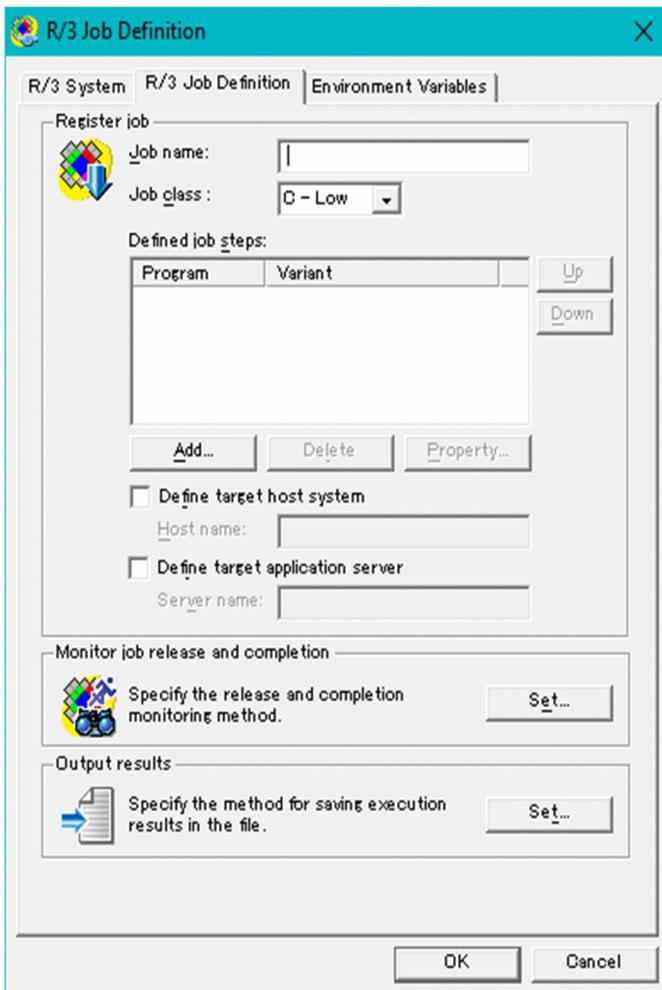
The items to be defined in the **Job Definition** page are explained below.

Definition items

Register job

Enter the setup data such as the job name and job step information necessary for job registration.

A job consists of one or more job steps. ABAP report programs (ABAP programs) or general programs (external programs) executable by the SAP system can be specified for the job steps.

The background jobs that can be registered on the SAP system are those that can be defined and executed using transaction code SM36.

Job name

Specify the job name to be registered in the SAP system. The lengths of character strings you can specify are from 1 to 32 bytes. You cannot include single-byte lower-case alphabetic characters in the job name.

This item corresponds to the -jn option of the jr3bjsub command.

Job class

Specify the job class (priority level of job execution) of the SAP job to be executed in the SAP system. The available job classes are as follows:

- **A - High**
- **B - Middle**

- **C - Low**

Normally, specify **C - Low**. If you want to execute a job with a higher level of priority, specify **B - Middle**. If you need to execute a job immediately because of an emergency, specify **A - High**. The default is **C - Low**.

This item corresponds to the `-class` option of the `jr3bjsub` command.

Note

To specify **A - High** or **B - Middle**, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

Defined job steps

Click **Add**, **Delete**, or **Property** to specify the job steps that constitute an SAP job. The programs specified as job steps (ABAP programs or external programs) are executed in the order indicated in the **Defined job steps** program list.

To change the program execution order, select the program you want to move, and then click **Up** or **Down**.

- **Add** button

  Use this button when adding a program as a job step. Clicking this button opens the Job Step dialog box. In the dialog box, define the program to be added.

- **Delete** button

  Use this button when deleting a program from the **Defined job steps** program list. You can delete the selected program from the program list.

- **Property** button

  Use this button when referencing or updating the definitions of programs listed in **Defined job steps**. Clicking this button opens the Job Step dialog box for the selected program type.

- **Up** button

  Use this button to move the selected program up the execution order in the **Defined job steps** program list.

- **Down** button

  Use this button to move the selected program down the execution order in the **Defined job steps** program list.

Define target host system

When you want to define the host of the application server that executes jobs, select this check box, and then enter the host name.

If you do not select this check box, the SAP system will distribute the execution load of SAP jobs among the application servers.

When you select this check box, the **Define target application server** check box is cleared.

Define target host system is a job definition compatible parameter created for Release 4.0 and earlier SAP systems. To define jobs for Release 4.5 or later SAP systems, use **Define target application server**.

Note

If one of the following conditions is satisfied, and if you select the **Define target host system** check box, the specification in the **Host name** field becomes ineffective:

- Neither **Release job as soon as possible** nor **Release job immediately** is selected as the release method in the Monitor dialog box.

- You have registered the job normally, but have failed to release the job.

In this case, no target host is assigned to the job registered on the SAP system.

To execute the job on the target system, release the job by specifying the target system using the `-tgh` or `-tgs` option in the `jr3bjrel` command. If you release the job without specifying a target system using the `jr3bjrel` command, the SAP system will dynamically select the target system on which the job will be executed.

Host name

Specify the host name of the application server that executes jobs.

From the list of host names displayed by the transaction SM51, select the host name assigned to the application server that offers a background processing service. Select one of the application servers that are running on the specified host and designate it as the target system on which the job will be executed.

This item corresponds to the `-tgh` option of the `jr3bjsub` command.

Define target application server

To specify an application server or a job server group that executes the created SAP jobs, select the **Define target application server** check box. If you do not specify an application server or a job server group in the text box, the created SAP jobs are distributed among the application servers for execution.

When you select this check box, the **Define target host system** check box is cleared.

Note

If either of the following conditions is satisfied, the server specified in the **Server name** text box under the selected **Define target application server** check box is invalid:

- If **Release job as soon as possible** or **Release job immediately** is not selected as the release method in the Monitor dialog box

- If the job was successfully created but failed to be released

If either of these conditions applies, no execution destination server is set for the jobs created on SAP.

To execute these jobs on a specific execution destination, use the `-tgh` option or the `-tgs` option of the `jr3bjrel` command to specify the execution destination and then release the jobs. If you release the jobs without specifying an execution destination using the `jr3bjrel` command, the execution destination for the jobs is dynamically selected by the SAP system.

Server name

Specify the name of the application server or the job server group that executes jobs. You can specify a character string of 1 to 20 bytes.

When you use an application server, you can specify one of the names (upper-case and lower-case characters are differentiated) that are assigned to the application servers for providing background processing services. These application server names are listed by transaction SM51. When you use a job server group, you can specify one of the names (upper-case and lower-case characters are differentiated) of job server groups containing the application servers that provide background processing services. These job server group names are listed by transaction SM61.

This item corresponds to the `-tgs` option of the `jr3bjsub` command.

Monitor job release and completion

Specify whether or not to release the job after you register the job, or whether or not to monitor the completion of the released job.

- **Set** button

Use this button to browse or modify the existing settings in the Monitor dialog box that prompts you to specify whether or not to release the job after you register the job, or whether or not to monitor the completion of the released job.

Output results

Specify the message that JP1/AJS3 for EAP (program for executing custom jobs) outputs, or specify the method for obtaining logs of SAP jobs whose termination is monitored.

To browse or modify the existing settings, click the Set button on the right.

- **Set** button

Use this button to browse or modify the existing settings in the Output Results dialog box that prompts you specify the method for obtaining messages JP1/AJS3 for EAP outputs or log where the completion of the SAP job is monitored.

(e) Defining job steps

For details about job step definition, use the Job Step dialog box. The Job Step dialog box opens when you click the **Add** or **Property** button in the R/3 Job Definition dialog box.

Figure 3-3 shows the Job Step dialog box for the ABAP program.

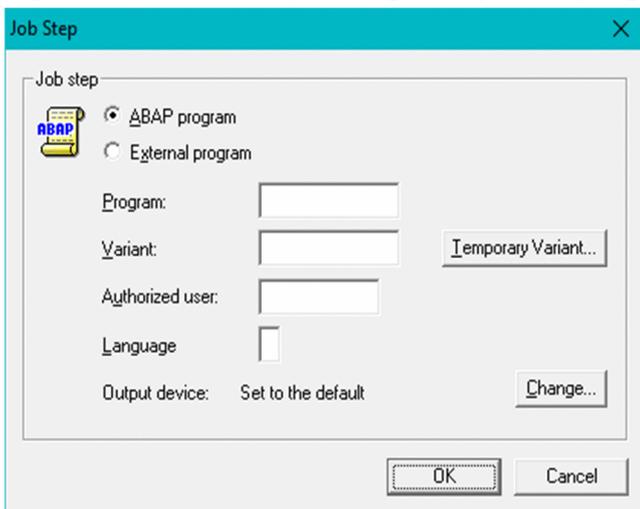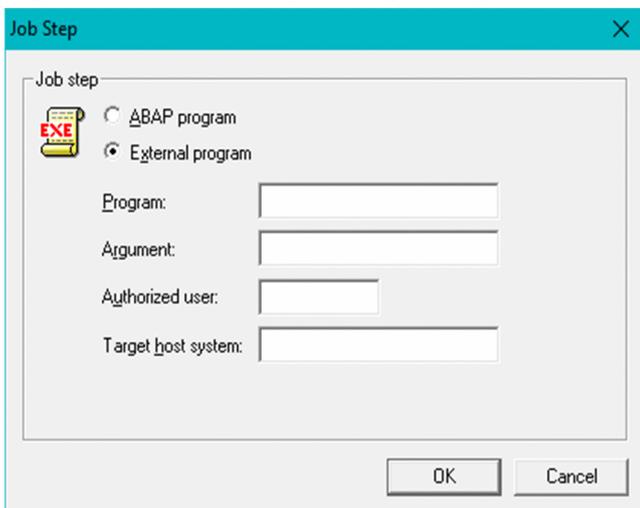Figure 3–3: Job Step dialog box (ABAP program)

Figure 3-4 shows the Job Step dialog box for the external program.

Figure 3–4: Job Step dialog box (External program)

The items to be defined in the Job Step dialog box are explained below.

Definition items

Job step

Define the program that is to be specified as the job step. You can define either an ABAP program or an external program.

ABAP program

Select this option to define an ABAP program.

External program

Select this option to define an external program.

Program

Specify the name of an ABAP program or an external program to be specified as a job step. For an ABAP program, you can specify a character string of 1 to 40 bytes. In an external program, you can enter a character string of 1 to 128 bytes. You cannot use lower-case alphabetic characters for ABAP programs.

This item corresponds to the -pa option of the jr3bjsub command (for ABAP programs) and the -px option of the jr3bjsub command (for external programs).

Argument

Specify the arguments of the ABAP program or the external program specified in **Program**. For an ABAP program, you can specify a character string of 1 to 14 bytes. For an external program, you can specify a character string of 1 to 255 bytes. If the specified ABAP program or external program does not have any arguments, you do not need to specify any. For ABAP programs, you cannot use lower-case alphabetic characters.

This item corresponds to the -var option of the jr3bjsub command (for ABAP programs) and the -arg option of the jr3bjsub command (for external programs).

Temporary Variant

Click this button to open the Temporary Variant dialog box to specify a temporary variant of the ABAP program.

Authorized user

Specify the authorized user to be set when the ABAP program or the external program specified in **Program** is executed. You can specify a character string of 1 to 12 bytes for an ABAP program or an external program. The default authorized user is the user who logs on to the SAP system. You cannot use lower-case alphabetic characters to specify an authorized user.

This item corresponds to the -auth option of the jr3bjsub command.

Language (for ABAP programs)

Use a single-byte alphabetic character to specify the language to be used when ABAP programs are executed. You can use either Japanese or English. Specify the following language supported by the SAP system as the language to be used.

- For Japanese: J

- For English: E

You cannot specify a lowercase single-byte character for the language. By default, the language type defined by the destination SAP system is used.

This item corresponds to the -lang option of the jr3bjsub command.

Output device (for ABAP programs)

Indicates the output destination of the execution results of the ABAP program. To change the output device, click **Change** and use the Output Parameters dialog box.

Change button (for ABAP programs)

Click this button to open the Output Parameters dialog box to specify the output destination of the execution results of the ABAP program and the output method.

Target host system (for external programs)

Specify the name of the host that executes the specified external program.

A character string of 1 to 32 bytes can be entered for the target host system.

You can enter host names in the following formats:

- Host name defined in the `hosts` file (for example, `host1`)
- IP address (for example, `172.16.90.4`)

For this item, specify the name of the host on which the application server is running.

This item corresponds to the `-xpgtgh` option of the `jr3bjsub` command.

(f) Adding a temporary variant

To add the details of a temporary variant, use the Temporary Variant dialog box.

The Temporary Variant dialog box opens when you click the **Temporary Variant** button in the Job Step dialog box.

The following figure shows the Temporary Variant dialog box.

Figure 3–5: Temporary Variant dialog box
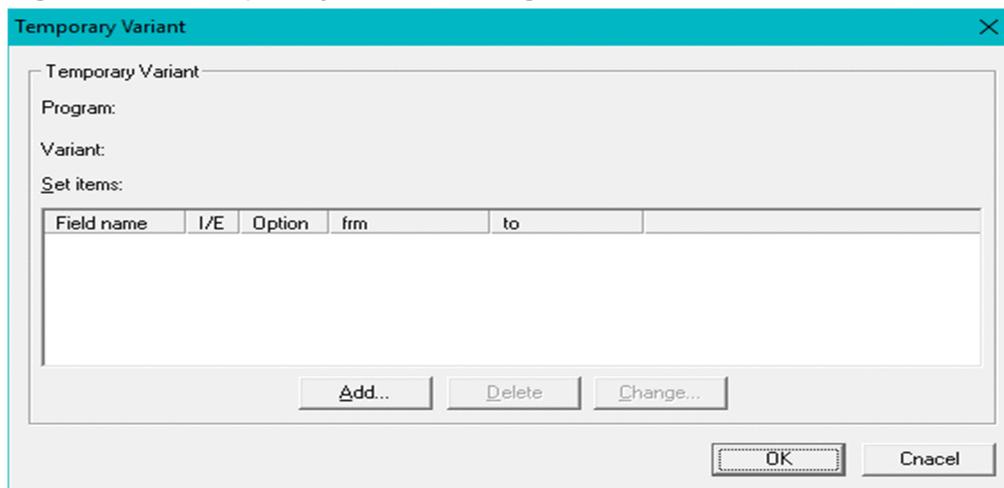
The items to be defined in the Temporary Variant dialog box are explained below.

Definition items

Temporary variant

Select an ABAP program in the Job Step dialog box to specify the temporary variant field for the specified program.

Program

The program specified in the Job Step dialog box is displayed.

Variant

The argument specified in the Job Step dialog box is displayed.

Set items

Click the **Add**, **Delete**, or **Change** button to specify a temporary variant field. The **Specified items** section shows the items added as temporary variants in the order of definitions in the job definition.

- **Add** button

  Use this button to add the temporary variant field for the program added as a job step. Define the item names in the Temporary Variant Field dialog box, which appears when you click the **Add** button.

- **Delete** button

  Use this button to delete a temporary variant field.

- **Change** button

  Use this button to modify a temporary variant field.

(g) Defining a temporary variant field

To define the details of a temporary variant field, use the Temporary Variant Field dialog box.

The Temporary Variant Field dialog box opens when you click the **Add** or **Change** button in the Temporary Variant dialog box.

The following figure shows the Temporary Variant Field dialog box.

Figure 3–6: Temporary Variant Field dialog box
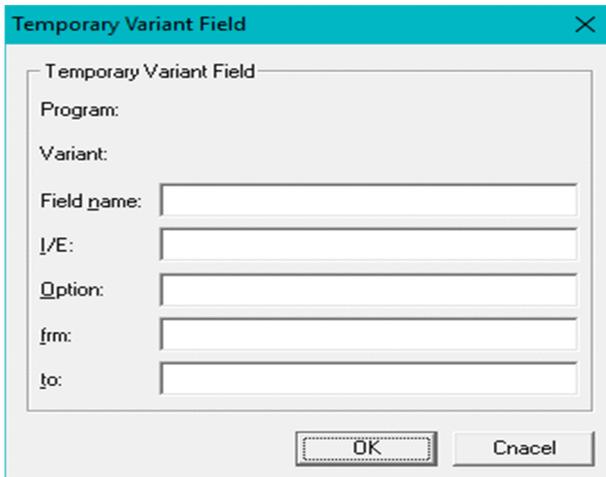
Definition items

Temporary Variant Field

Specify the temporary variant field for the program specified in the Job Step dialog box.

Program

The program specified in the Job Step dialog box is displayed.

Variant

The argument specified in the Job Step dialog box is displayed.

Field name

Specify the item name of the temporary variant. A character string of 1 to 8 bytes can be entered. You must specify the item name.

This item corresponds to the -selname option of the jr3bjsub command.

I/E

Specify whether to select the temporary variant name specified in **Field name**. If you specify a single-byte lower-case alphabetic character, it is treated as a single-byte upper-case equivalent. It is not converted into a single-byte upper-case equivalent.

- Select: I

- Do not select: E

You can omit **I/E**. If omitted, the name in question is not selected.

This item corresponds to the -sign option of the jr3bjsub command.

Option

Specify the option value[#] of the temporary variant name specified in **Field name**. A character string of 1 to 2 bytes can be entered.

#: The option value that is displayed in the Display a Variant window when you start the ABAP Editor on the SAP frontend software

This item corresponds to the -option option of the jr3bjsub command.

frm

Specify the frm value[#] of the temporary variant name specified in **Field name**. A character string of 1 to 45 bytes can be entered.

#: The frm value that is displayed in the Display a Variant window when you start the ABAP Editor on the SAP frontend software

This item corresponds to the -frm option of the jr3bjsub command.

to

Specify the to value[#] of the temporary variant name specified in **Field name**. A character string of 1 to 45 bytes can be entered.

#: The to value that is displayed in the Display a Variant window when you start the ABAP Editor on the SAP frontend software

This item corresponds to the -to option of the jr3bjsub command.

(h) Defining the print method

To define the details about the method for printing the execution results of the ABAP program, use the Output Parameters dialog box.

The Output Parameters dialog box opens when you click the **Change** button in the Job Step dialog box (for ABAP programs).

The following figure shows the Output Parameters dialog box.

Figure 3–7: Output Parameters dialog box
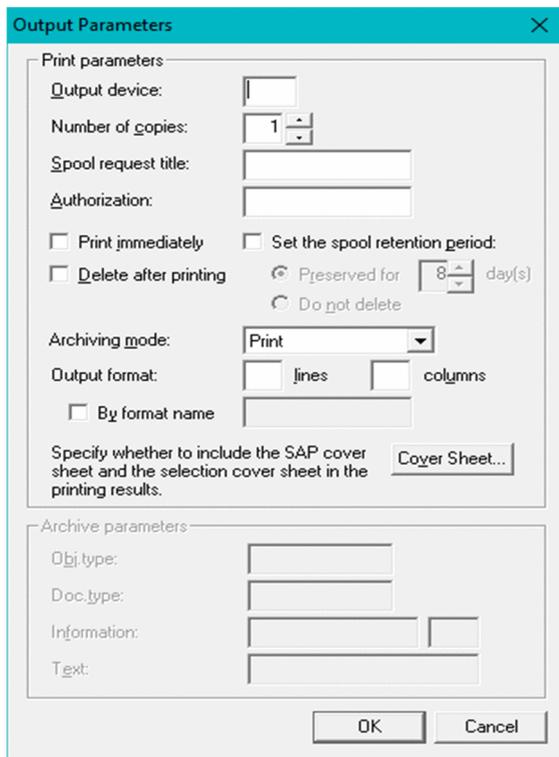
The items to be defined in the Output Parameters dialog box are explained below.

Definition items

Print parameters

Define the method for printing the execution results of the ABAP program.

Output device

Specify an execution result output device using the abbreviation of an output device configured on the SAP system. The lengths of character strings you can specify are from 1 to 4 bytes for the abbreviation. If you omit this option, the default destination that the SAP system defines is assumed.

For the output destination, you cannot specify lowercase single-byte characters. If you do specify such characters, they are converted to uppercase single-byte characters.

This item corresponds to the `-out` option of the `jr3bjsub` command.

Number of copies

Specify the number of copies to be printed. The values you can specify are from 1 to 255. The default value is 1.

This item corresponds to the `-cc` option of the `jr3bjsub` command.

Spool request title

Specify the title of the spool request. You can specify a title of 1 to 68 bytes. If you omit this item, the spool request title is blank.

This item corresponds to the `-title` option of the `jr3bjsub` command.

Note

To specify a title in **Spool request title**, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

Authorization

To prevent the invalid operation of spool requests, you can specify an authorized character string of 1 to 12 bytes.

The users, who have the permission for the spool action objects matching with the authorized character string specified in this option, can request spools.

For the authorized character string, you cannot specify lowercase single-byte characters. If you do specify such characters, they are converted to uppercase single-byte characters.

This item corresponds to the `-shwpwd` option of the `jr3bjsub` command.

Print immediately

Select this check box to immediately send the execution results of the ABAP program to the printer.

This item corresponds to the `-ip` option of the `jr3bjsub` command.

Set the spool retention period

Select this check box if you want to change the default spool period of the SAP system.

This item corresponds to the `-rpd` option of the `jr3bjsub` command.

Delete after printing

Select this check box to delete the execution results of the ABAP program after printing. If printing succeeds, the SAP system automatically deletes the print requests associated with the spool requests.

When an error occurs, spool requests, print requests, and the associated logs are kept in the system even if this option is selected.

This item corresponds to the `-dp` option of the `jr3bjsub` command.

Archiving mode

Specify a method for archiving the execution results of the ABAP program. You can specify one of the following methods:

- Print (default)

- Archive
- Print and archive

This item corresponds to the `-armode` option of the `jr3bjsub` command.

Output format

Specify the numbers of lines and columns or the format name for the output format for the execution results of the ABAP program.

lines

Specify the number of lines on each page of the list. You can specify a number from of 1 to 255. If you omit this option, the SAP system assumes the appropriate value.

When you select the **By format name** check box, the value specified in the **lines** box is invalid.

This item corresponds to the `-ln` option of the `jr3bjsub` command.

columns

Specify the number of columns on each page of the list. You can specify a number from 1 to 255. If you omit this option, the SAP system assumes the appropriate value.

When you select the **By format name** check box, the value specified in the **columns** box is invalid.

This item corresponds to the `-col` option of the `jr3bjsub` command.

By format name

Specify the name of the desired output format. To do so, select the **By format name** check box and specify a name in the text box on the right. You can specify a character string of 1 to 16 bytes.

When you select this check box, the values specified in the **lines** and **column**s boxes are invalid.

This item corresponds to the `-fmt` option of the `jr3bjsub` command.

Note

To specify a format name, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

Cover Sheet button

Specify whether or not to print the SAP cover or selected-report cover, by browsing or modifying the existing settings in the Cover Sheet dialog box.

Archive parameters

Specify the following archive parameters.

Object type

Specify the object type of the archive document. The lengths of character strings you can specify are from 1 to 10 bytes. If you select **Archive** or **Print and Archive** as **Archiving mode**, you must fill in the **Obj type** field.

This item corresponds to the `-objtyp` option of the `jr3bjsub` command.

Document type

Specify the document type used to classify the archive document. The lengths of character strings you can specify are from 1 to 10 bytes. If you select **Archive** or **Print and Archive** as **Archiving mode**, you must fill in the **Doc type** field.

This item corresponds to the `-doctyp` option of the `jr3bjsub` command.

Information

The left text box shows the ABAP program name. Specify the information ID of the archive document. As well as the report name that generates the print list displayed in the left text box, this information ID is registered as the detailed information of the archive document. The lengths of character strings you can specify are from 1 to 3 bytes. If you select **Archive** or **Print and Archive** as **Archiving mode**, you must fill in the **Information** field.

This item corresponds to the `-info` option of the `jr3bjsub` command.

Text

Enter an explanation about the archive request.

You can enter a character string of 1 to 40 bytes. This text box is available when you select **Archive** or **Print and archive** in the **Archiving mode** text box. You can omit the **Text** box.

This item corresponds to the `-text` option of the `jr3bjsub` command.

Note

To enter an explanation in **Text**, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

(i) Attaching a cover to the output results

You can add a SAP cover when printing the execution results of the ABAP program. You define details of the SAP cover in the Cover dialog box.

You can open the Cover dialog box by choosing **Cover Sheet** in the Output Parameter dialog box.

The Cover dialog box contains the following definition items you specify.

Definition items

SAP cover sheet

Specify whether or not to print a SAP cover. You can select one of the following:

- Printer default (A SAP cover is printed depending on the settings for the printer to be used)
- Print
- Not print

This item corresponds to the `-sapcvr` option of the `jr3bjsub` command.

Receiver

Enter the recipient name to be printed on the SAP page. The length of the character string you can specify is from 1 to 12 bytes. You cannot include single-byte lower-case alphabetic characters in the receiver name. If you specify single-byte lower-case alphabetic characters, they are converted to upper-case equivalents.

This item corresponds to the `-receiver` option of the `jr3bjsub` command.

Department

Enter the name of the department to be printed on the SAP cover.

You can specify a character string of 1 to 12 bytes. If you omit this item, the department set in the profile of the user who is authorized to execute the ABAP program is printed on the SAP cover.

This item corresponds to the `-dpt` option of the `jr3bjsub` command.

Note

To specify a name in **Department**, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

Selection cover sheet

Print a selected-report cover describing execution conditions for the program.

This item corresponds to the `-selcvr` option of the `jr3bjsub` command.

(j) Specifying the job release/completion monitoring method

To specify the job release/completion monitoring method, use the Monitor dialog box.

The Monitor dialog box opens when you click the **Set** button (for job release/completion monitoring) in the R/3 Job Definition dialog box.

The following figure shows the Monitor dialog box (for job release/completion monitoring).

Figure 3–8: Monitor dialog box
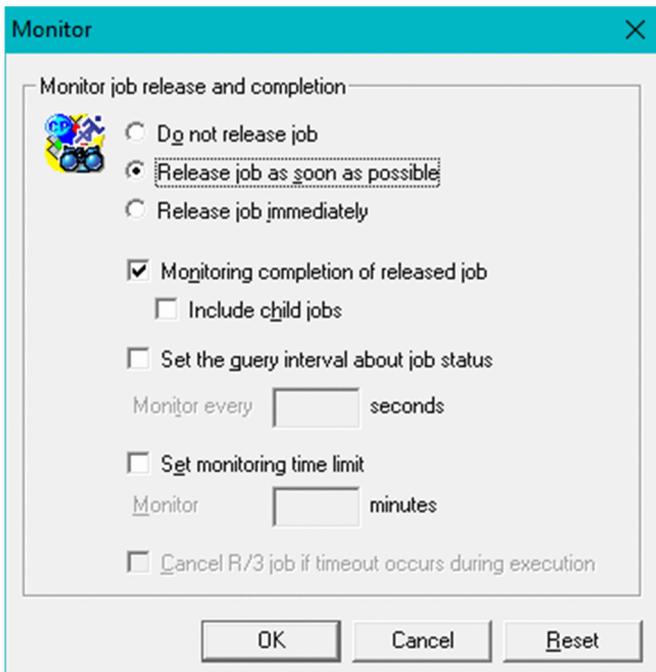
The items to be defined in the Monitor dialog box are explained below.

Definition items

Monitor job release and completion

Specify whether to release a job after you register the job, and whether to monitor the completion of the released job.

Do not release job

Select this option when you only want to register the job without releasing the job. Next time you release this job, be sure to release the job on the SAP system.

Release job as soon as possible

Starts the job as soon as possible after you register the job. The system immediately sets the start conditions, and the SAP system starts the job if a background process is available.

This item corresponds to the -rs option of the jr3bjsub command.

Release job immediately

Immediately starts the registered job. If the system resource for executing the job is not allocated on the system, release of the job fails and the job is left registered.

This item corresponds to the -ri option of the jr3bjsub command.

Monitoring completion of released job

Select this check box to monitor the completion of a released job.

This item corresponds to the -wait option of the jr3bjsub command.

Include child jobs

Select **Include child jobs** to monitor the completion of all jobs, which includes the child jobs that are generated during the execution of the target job (completion monitoring of parent and child jobs).

This item corresponds to the -with_child option of the jr3bjsub command.

Note

To select **Include child jobs**, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host, and the XBP 2.0 interface and the parent and child function must be enabled in the connection destination SAP system.

Set the query interval about job status

Select this check box to change the interval at which the SAP system will be inquired about the job status.

Monitor every [ ] seconds

Specify the interval at which the SAP system will be queried about the job status. You can specify 1 to 65,535 seconds.

The default query interval is the value specified in the environment settings file. (If a value is not specified in the environment settings file or that file was not created, the default value is 5 seconds.)

This item corresponds to the -ival option of the jr3bjsub command.

Set monitoring time limit

Select this check box to enter the monitoring time. If the SAP job does not stop within the specified monitoring time, execution of the custom job fails.

Monitor [ ] minutes

Specify the time for monitoring the job termination. You can specify 1 to 65,535 seconds. If no job termination monitoring time was specified, monitoring continues indefinitely.

This item corresponds to the -time option of the jr3bjsub command.

Cancel R/3 job if timeout occurs during execution

Use this check box to cancel the executing SAP job if the job does not terminate in the specified monitoring time.

You cannot cancel an inactive job such as a released or ready job. Alternatively, you cannot cancel a job that is executing an external program.

This item corresponds to the -cancel option of the jr3bjsub command.

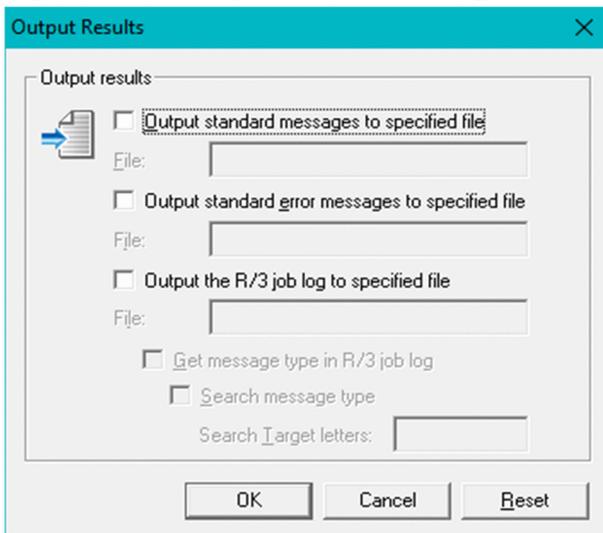## (k) Specifying the execution result output destination

To specify the execution result output destination, use the Output Results dialog box.

The Output Results dialog box opens when you click the **Set** button (for execution result output destination) in the R/3 Job Definition dialog box.

The following figure shows the Output Results dialog box (for execution result output destination).

Figure 3-9: Output Results dialog box

The items to be defined in the Output Results dialog box are explained below.

Definition items

Output results

Specify the method for obtaining the log of the messages JP1/AJS3 for EAP outputs and the log of SAP jobs whose termination are monitored.

Output standard messages to specified file

Click this check box when you want to save the standard output messages of JP1/AJS3 for EAP to a specified file, and then enter the name of the destination file. Messages with the information level indicating the execution status of the program are output to the standard output. If the specified file does not exit, it is newly created and messages are always added in the file.

For details about the work directory of the program for executing the custom job, see the manual *JP1/Automatic Job Management System 3 Administration Guide*.

File (for standard output messages)

Use the full path to specify the name of the output destination file for storing the standard output messages of JP1/AJS3 for EAP. You can enter a character string of 1 to 259 bytes. You can include blank characters in the path.

If you do not specify the full path name for the destination file, the file is created in the JP1/AJS3 for EAP work directory that is specified in the environment setup file for job control. (If the JP1/AJS3 for EAP work directory is not specified in the environment setup file, the file is created in the work directory that is used when a JP1/AJS job is executed.)

For the file name, do not specify a device file, such as /dev/null. If a file for standard output messages is not needed, delete the file that is created.

You can also write standard output messages to this file.

This item corresponds to the -so option of the jr3bjsub command.

Output standard error messages to specified file

Select this check box when you want to save the standard error output messages of JP1/AJS3 for EAP to a specified file, and then enter the name of the destination file. Messages with the caution and error level are output to the standard error output. If the specified file does not exit, it is newly created and messages are always added in the file.

For details about the work directory of the program for executing the custom job, see the manual *JP1/Automatic Job Management System 3 Administration Guide*.

File (for standard error output messages)

Use the full path to specify the name of the output destination file for storing the standard error output messages of JP1/AJS3 for EAP. You can enter a character string of 1 to 259 bytes. You can include blank characters in the path.

If you do not specify the full path name for the destination file, the file is created in the JP1/AJS3 for EAP work directory that is specified in the environment setup file for job control. (If the JP1/AJS3 for EAP work directory is not specified in the environment setup file, the file is created in the work directory that is used when a JP1/AJS job is executed.)

For the file name, do not specify a device file, such as `/dev/null`. If a file for standard error output messages is not needed, delete the file that is created.

You can also write standard output messages to this file.

This item corresponds to the `-se` option of the `jr3bjsub` command.

Output the R/3 job log to specified file

Select this check box when you want to obtain the log of an SAP job which ceased to be monitored, and then enter the name of the destination file. If the specified file does not exit, it is newly created and messages are always added in the file.

For details about the work directory of the program for executing the custom job, see the manual *JP1/Automatic Job Management System 3 Administration Guide*.

File (for SAP job log)

Use the full path to specify the name of the output destination file for the SAP job log. You can specify a character string of 1 to 259 bytes. You can include blank characters in the path.

If you do not specify the full path name for the destination file, the file is created in the JP1/AJS3 for EAP work directory that is specified in the environment setup file for job control. (If the JP1/AJS3 for EAP work directory is not specified in the environment setup file, the destination file is created in the work directory that is used when a JP1/AJS job is executed.)

For the SAP job log file name, do not specify a device file, such as `/dev/null`. If the SAP job log file is not needed, delete the file that is created.

You can also write the SAP job log to this file.

If you specify `YES` for the `JoblogAddToStderr` key of the Command section of the environment settings file, you can output the SAP job log to the specified file and to the standard error output at the same time. Therefore, if the **Output standard error messages to specified file** check box is not selected, you can use JP1/AJS - View to view the contents of the SAP job log as follows:

- When you specify an output destination file for standard error output messages

  You can output the SAP job log to the specified output destination file for standard error output messages.

- When you do not specify an output destination file for standard error output messages, but specify a standard error output file name in the Define Details - [Custom Job] dialog box of JP1/AJS - View

  You can view the content of the SAP job log in the Execution Result Details dialog box in the Jobnet Monitor window of JP1/AJS - View.

This item corresponds to the `-jo` option of the `jr3bjsub` command.

- **Get message type in R/3 job log**[#]

  When you collect SAP job logs, select the **Get message type in R/3 job log** check box if you also want to collect message types. The message type can be collected only if SAP job logs are collected.

  This item corresponds to the `-mt` option of the `jr3bjsub` command.

- **Search message type**[#]

  Select this check box if you want to terminate a custom job command abnormally with the return value 4 when the specified character is contained in the message types of the collected SAP job logs.

  This item corresponds to the `-mts` option of the `jr3bjsub` command.

- **Search Target letters**[#]

  Specify the search target character in the message types of the collected SAP job logs as a character output to the message type.

  If you specify more than one character, the search means that any of the specified characters are contained. A character string of 1 to 8 bytes can be entered. You must specify it if you search the message types.

  This item corresponds to the *message-type-character-string* option specified in the `-mts` option of the `jr3bjsub` command.

  #: If JP1/AJS is configured not to monitor the completion of SAP jobs in the Monitor job release and completion dialog box, or if SAP job logs are not stored in a file, this item is inactive.

For details about the work directory that is used when JP1/AJS jobs are executed, see the manual *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(l) Defining environment variables

To add, edit, or delete environment variables, use the Environment Variable dialog box (for job control functionality).

To open the Environment Variable dialog box (for job control functionality) from the **Environment Variables** page, click the **Add** button. To open the **Environment Variables** page, click the **Environment Variables** tab.

The following figure shows the **Environment Variables** page.

Figure 3–10: Environment Variables page - R/3 Job Definition dialog box

The items to be defined in the **Environment Variables** page are explained below.

- Definition items

Environment variables

An area used to specify environment variables for JP1/AJS3 for EAP.

Defined environment variables

A list control used to add, edit, and delete environment variable definitions for JP1/AJS3 for EAP. The names and values of the defined environment variables are displayed in the order of definitions.

You can define up to 10 environment variables whose total size is no more than 20,411 bytes.

Add

Opens an empty Environment Variable dialog box (for job control functionality).

A newly defined environment variable will be added before the environment variable selected when the **Add** button is clicked. (If nothing is selected, the variable will be added to the top.)

Edit

Applies the environment variable selected in the list control, and opens the Environment Variable dialog box (for job control functionality). (Double-clicking the environment variable selected in the list control also executes the same operation.)

If no environment variable is selected in the list control, this button is inactive.

Delete

Deletes the environment variable definition selected in the list control. (Pressing the **Delete** key also executes the same operation.)

If no environment variable is selected in the list control, this button is inactive.

The items to be defined in the Environment Variable dialog box (for job control functionality) are explained below.

- Definition items

Environment variable

An area used to specify environment variables for JP1/AJS3 for EAP.

Variable name

Specify the name of an environment variable by using a character string of 1 to 259 bytes. Entering a value for this item is mandatory.

Variable value

Specify the value of an environment variable by using a character string of 1 to 2,047 bytes. Entering a value for this item is mandatory.

OK

Temporarily saves the specified items into the program, and then closes the dialog box. To save the settings into the definitions, in the main window, click the **OK** button to close the program. (If this button is highlighted, pressing the **Enter** key also executes the same operation.)

The specified environment variables are temporarily saved in the following format, which is the same as the storage format for job definitions:

environment-variable-name-1=value-1<linefeed>

environment-variable-name-2=value-2<linefeed>

If double quotation marks (**"**) or hash marks (**#**) are contained in an environment variable, such symbols are escaped with a hash mark (**#**) as follows, and then the environment variable is temporary saved:

" -> #"

->

If the size of the defined environment variables exceeds 20,411 bytes, an error dialog box is displayed.

Cancel

Deletes the specified items, and then closes the dialog box. (Pressing the **ESC** key also executes the same operation.)

3.1.2 Copying an existing SAP job

(1) Procedures for executing SAP jobs

Before you can use JP1/AJS to execute SAP jobs, you must perform the following tasks. These tasks will vary depending on the OS of the machine on which JP1/AJS - View is installed.

(a) If JP1/AJS3 for EAP is installed on a Windows machine

Procedure 1

Environment settings

If the machine on which JP1/AJS3 for EAP is installed runs Windows, manually copy the following file. However, if JP1/AJS3 for EAP of version 12-00 or earlier is linked, do not copy the following file.

Copied from:

- *installation-folder*\Program\eapctrlconf.model.windows (model eapctrlconf file for Windows)

Copied to:

- *installation-folder*\Program\eapctrlconf (eapctrlconf file)

Notes

Custom jobs can be set by the definition program even when linking with version 12-00 or earlier, but please define the arguments for the version of AJS-EAP to be executed.

Manually copy the following programs provided by JP1/AJS3 for EAP to the machine on which JP1/AJS - View is installed:

- *installation-folder*\Program\jr3cpcjd.exe (definition program)
- *installation-folder*\Program\jr3cpcjd.ini (initialization file)
- *installation-folder*\Program\eapctrlconf.model.windows (model eapctrlconf file for Windows)

Copy the above files to the same folder located anywhere on the machine on which JP1/AJS - View is installed.

If you are using multiple versions of JP1/AJS3 for EAP, copy the latest versions of JP1/AJS3 for EAP files to the machine on which JP1/AJS - View is installed.

When migrating from an earlier version, if you update a custom job definition module on a machine on which JP1/AJS2 - View is installed, delete all modules copied by earlier versions, and then copy a module that has a later version.

For the model eapctrlconf file for Windows (eapctrlconf.model.windows), copy and then rename the file eapctrlconf.

In addition, if JP1/AJS - View of version 12-00 or earlier is linked, copy the following file to the JP1/AJS - View installation location:

Copied from:

- *installation-folder*\Image\CUSTOM_PC_JP1AMR3CP.gif

Copied to:

- *JP1/AJS - View installation-folder*\image\custom

Procedure 2

Custom job registration

Procedure 3

Custom job definition

When the above procedures are completed and the JP1/AJS jobnet is started for execution of the SAP system custom job, the job is created in the SAP system and then executed.

(b) If JP1/AJS3 for EAP is installed on a Linux machine

Procedure 1

Environment settings

If the machine on which JP1/AJS3 for EAP is installed runs Linux, manually copy the following file. However, if JP1/AJS3 for EAP of version 12-00 or earlier is linked, do not copy the following file.

Copied from:

- /etc/opt/jp1_am_r3/conf/eapctrlconf.model.linux (model eapctrlconf file for Linux)

Copied to:

- /etc/opt/jp1_am_r3/conf/eapctrlconf

Notes

Custom jobs can be set by the definition program even when linking with version 12-00 or earlier, but please define the arguments for the version of AJS-EAP to be executed.

Manually copy the following programs provided by JP1/AJS3 for EAP to the machine on which JP1/AJS - View is installed:

- /opt/jp1_am_r3/bin/jr3cpcjd.exe (definition program)
- /opt/jp1_am_r3/bin/jr3cpcjd.ini (initialization file)
- /etc/opt/jp1_am_r3/conf/eapctrlconf.model.windows (model eapctrlconf file for Windows)

Copy the above files to the same folder located anywhere on the machine on which JP1/AJS - View is installed.

If you are using multiple versions of JP1/AJS3 for EAP, copy the latest versions of JP1/AJS3 for EAP files to the machine on which JP1/AJS - View is installed.

When migrating from an earlier version, if you update a custom job definition module on a machine on which JP1/AJS2 - View is installed, delete all modules copied by earlier versions, and then copy a module that has a later version.

For the model eapctrlconf file for Windows (eapctrlconf.model.windows), copy and then rename the file eapctrlconf.

In addition, if JP1/AJS - View of version 12-00 or earlier is linked, copy the following file to the JP1/AJS - View installation location:

Copied from:

- /opt/jp1_am_r3/image/CUSTOM_UX_JP1AMR3CP.gif

- `/opt/jp1_am_r3/image/CUSTOM_PC_JP1AMR3CPUX.gif`

Copied to:

- *JP1/AJS - View installation-folder*`\image\custom`

Procedure 2

Custom job registration

Procedure 3

Custom job definition

When the above procedures are completed and the JP1/AJS jobnet is started for execution of the SAP system custom job, the job is created in the SAP system and then executed.

(2) Registering a custom job

Register the files as custom jobs in the Register Custom Job dialog box of JP1/AJS - View.

To register a custom job:

1. Display the Register Custom Job dialog box in JP1/AJS - View.
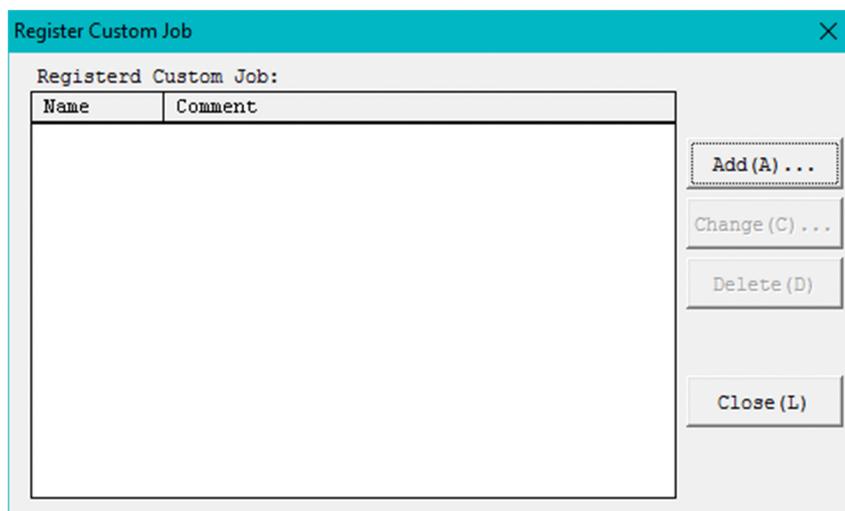
2. Choose the **Add** button.

The Set Properties of Custom Job dialog box is displayed.

3. Register the custom job for the SAP system.
   Specify information in the entry boxes of the dialog box as described below.

Name

Specify a name from 1 to 8 bytes for the custom job of JP1/AJS3 for EAP.

Comment

You can enter a comment from 1 to 40 bytes long. You cannot include slashes (/) and blank characters in comments. You can omit **Comment**.

Defining program

Specify the pathname of the `jr3cpcjd.exe` program you have manually copied for defining the custom job.

Note that you need not specify **Defining program** when you select **UNIX** in **Job Type**.

Executing program

Specify the pathname of the program for executing the custom job on the JP1/AJS - Agent (or JP1/AJS - Manager) machine.

For Windows:

- *installation-folder*`\Program\jr3bjcpy.exe`

For Linux:

- `/opt/jp1_am_r3/bin/jr3bjcpy`

Notes

•You need not specify **Executing program** when you select **UNIX** in **Job Type**.

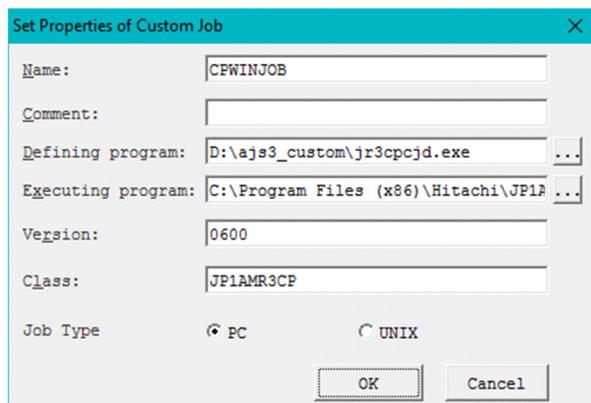• If the path to the JP1/AJS3 for EAP installation folder is different for different machines, define a job execution work path as a variable in JP1/AJS3. If you do not specify this setting, the message (`KAVU4550-W`) indicating that no executable file was found during job execution is output to the Execution Result Details dialog box of JP1/AJS3 - View, and the job cannot be executed.

For the setup method, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

Version

Specify `0600`.

Class

Specify `JP1AMR3CP`.

Further, when specifying **PC** as the **Job Type** in Linux, specify `JP1AMR3CPUX`.

Job Type

Select **PC** if the JP1/AJS - Agent (or JP1/AJS - Manager) machine on which JP1/AJS3 for EAP is installed is a Windows machine. Select **UNIX** if it is a Linux machine.

You can also specify **PC** when registering a custom job in Linux.

4. Choose the **OK** button.

For more details on how to register custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

(3) Defining a custom job

In the Jobnet Editor window of JP1/AJS, define the registered custom job in a jobnet.

To define a custom job for use with the SAP system:

(a) Defining a custom job (PC job)

1. Use the Jobnet Editor window of JP1/AJS to display the jobnet definition area.

2. Select the **Custom Jobs** tab, and then drag the registered custom job to be used with the SAP system and drop it onto the jobnet definition area.

The registered custom job is added to the jobnet definition area and the Define Details - [Custom Job] dialog box is displayed.

3. Specify the end judgment.

- If you want JP1/AJS to handle an abnormal job end (the return value of the `jr3bjcpy` command is `1`) and other errors (the return value of the `jr3bjcpy` command is `2` or greater) as abnormal conditions:

Rule

Select **Judgment by threshold**.

Warning

Specify no value.

Abnormal

Specify `0`.

- If you want JP1/AJS to issue a warning for an abnormal job end (the return value of the `jr3bjcpy` command is `1`) and handle other errors (the return value of the `jr3bjcpy` command is `2` or greater) as abnormal conditions:

Rule

Select **Judgment by threshold**.

Warning

Specify `0`.

Abnormal

Specify `1`.

- If you want JP1/AJS to handle an abnormal job end (the return value of the `jr3bjcpy` command is `1`, or `5` or greater) as abnormal conditions and handle other errors (the return value of the `jr3bjcpy` command is between `2` and `4`) as warnings:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify no value.

  Abnormal

  Specify `4` (the upper limit for the return value handled as a warning).

The subsequent judgment job determines if the return value is a value from `1` to `4`. For details about the setup method, see the chapter that contains definition examples of jobnets with judgment jobs in the manual *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

4. Choose the **Details** button.

   The R/3 Job Copy Definition dialog box is displayed.

5. Copy define the attributes of the SAP request.

   Specify the following information in the dialog box.

   - Specify the method for connecting to the SAP system to use for the copy of the SAP job.

   - Define the SAP job.

   - Specify the job release/completion monitoring settings.

   - Specify the execution result output destination.

   Note

   When specifying the job cancellation time in the Define Details - [Custom Job] dialog box, make sure that the setting is longer than the job cancellation time specified by JP1/AJS3 for EAP.

6. Choose the **OK** button.

For more details on how to define custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

🛑 **Important**

The custom job definition program of the SAP job internally generates the command line for the `jr3bjcpy` command based on the input information.

The maximum length of this command line is 1,020 bytes. If this length is exceeded, the error: `The generated command line (`*byte-count-of-the-generated-command-line*` bytes) exceeded the maximum length (1,020 bytes). Definition information cannot be saved.` occurs in the custom job definition program.

Depending on the SAP job definition, such as when multiple job steps are assigned to a single job, the generated command line may exceed 1,020 bytes.

If multiple job steps are assigned to a single job, define them in separate jobs and specify the execution order for these jobs, for example.

(b) Defining a custom job (UNIX job)

1. Use the Jobnet Editor window of JP1/AJS to display the jobnet definition area.

2. Select the **Custom Jobs** tab, and then drag the registered custom job to be used with the SAP system and drop it onto the jobnet definition area.

   The registered custom job is added to the jobnet definition area and the Define Details - [Custom Job] dialog box is displayed.

3. Define **Command statement**.

   Specify command line parameters for the `jr3bjcpy` command.

4. Specify the end judgment.

   - If you want JP1/AJS to handle an abnormal job end (the return value of the `jr3bjcpy` command is 1) and other errors (the return value of the `jr3bjcpy` command is 2 or greater) as abnormal conditions:

     Rule

Select **Judgment by threshold**.

Warning

Specify no value.

Abnormal

Specify `0`.

- If you want JP1/AJS to issue a warning for an abnormal job end (the return value of the `jr3bjcpy` command is `1`) and handle other errors (the return value of the `jr3bjcpy` command is `2` or greater) as abnormal conditions:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify `0`.

  Abnormal

  Specify `1`.

- If you want JP1/AJS to handle an abnormal job end (the return value of the `jr3bjcpy` command is `1`, or `5` or greater) as abnormal conditions and handle other errors (the return value of the `jr3bjcpy` command is between `2` and `4`) as warnings:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify no value.

  Abnormal

  Specify `4` (the upper limit for the return value handled as a warning).

The subsequent judgment job determines if the return value is a value from `1` to `4`. For details about the setup method, see the chapter that contains definition examples of jobnets with judgment jobs in the manual *JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide*.

  5. Choose the **OK** button.

For more details on how to define custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

(c) Specifying the method for connecting to the SAP system

To specify the method for connecting to the SAP system where the SAP job will be created, use the **R/3 System** page of the R/3 Job Definition dialog box.

The following figure shows the **R/3 System** page.

Figure 3–11: R/3 System page - R/3 Job Copying Definition dialog box
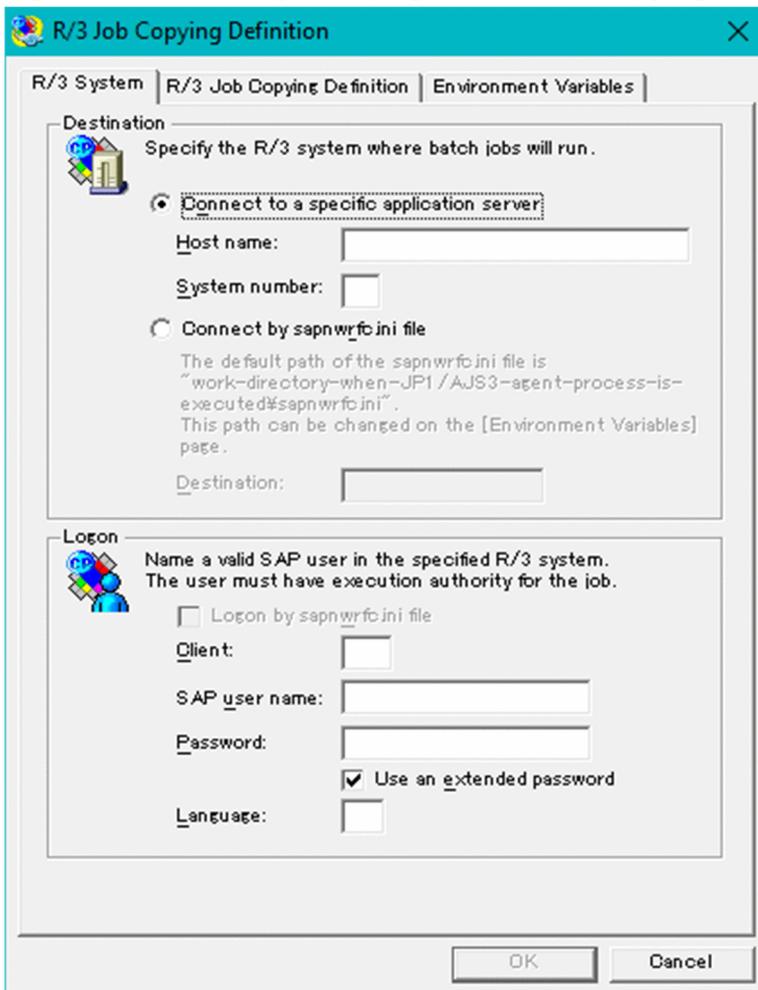
The items to be defined in the **R/3 System** page are explained below.

Definition items

Destination

Specify the method for connecting to the application server to which the job will be copied. Use either of the following options to specify the application server to be connected:

- Specify a specific application server.

- Use the destination specified in the `sapnwrfc.ini` file.

Connect to a specific application server

Select this option when directly specifying the application server to be connected to.

Host name

Specify the host name of the application server (or SAP router) to be connected to. A character string of 1 to 100 bytes can be entered for the host name.

You can use host names in the following formats:

- Host name defined in the `hosts` file (for example, `host1`)

- IP address (for example, `123.123.123.123`)

- SAP router address (for example, `/H/hostname/S/port/H/host/S/port/...`)

For details about the SAP router address format, see the SAP manual or online help.

This item corresponds to the `-h` option of the `jr3bjcpy` command.

System number

Specify the system number that identifies the target application server. A character string of 1 or 2 bytes can be entered for the system number. Only numerals can be used. Normally enter `00`.

This item corresponds to the `-s` option of the `jr3bjcpy` command.

Connect by sapnwrfc.ini file

Select this option when you set the parameter that identifies the application server to be connected to from the external file. You need to select this option when you try to connect to the application server by balancing the workload.

Depending on what is defined in the `sapnwrfc.ini` file, the system connects to either a specific application server or the application server determined by the load-balancing function of the message server.

Destination

Enter the value of the DEST key identifying the connection entry in the `sapnwrfc.ini` file. A character string of 1 to 32 bytes can be entered for the destination.

This item corresponds to the `-d` option of the `jr3bjcpy` command.

Logon

Specify the user information used for the connection destination SAP system. JP1/AJS3 for EAP uses this information to log on to the SAP system and execute jobs. Specify the user to log on by either of the following methods:

- Use the user specified in `sapnwrfc.ini`
- Use a specific user (client, user name, password, and language)

Log on by using the sapnwrfc.ini file

To log on by using the definitions specified in the external file (`sapnwrfc.ini`) and for **Destination**, select **Log on by using the sapnwrfc.ini file**.

This item corresponds to the `-dl` option of the `jr3bjcpy` command.

Client

Specify the number of the client assigned to the SAP user who executes jobs. The lengths of character strings you can specify are from 1 to 3 bytes. You can only include digits in the character string. When an SAP client number of 1 or 2 bytes is to be sent to the SAP system, it is converted to 3 bytes.

For example, if the client number is `001`, you can specify `1`, `01`, or `001`. When this client number is sent to the SAP system, it is sent as `001`.

This item corresponds to the `-c` option of the `jr3bjcpy` command.

SAP user name

Specify the name of the SAP user who executes jobs.

For details about the users who can be specified, see *2.3.9 Providing a SAP user for job control*.

When you do not explicitly specify the authorized user to define the job step, the system executes the job step by using the permission specified in this option.

The lengths of character strings you can specify are from 1 to 12 bytes. You cannot include single-byte lower-case alphabetic characters in the user name.

This item corresponds to the `-u` option of the `jr3bjcpy` command.

Password

For the SAP user who executes jobs, enter the password or extended password specified for the user name. To use an extended password, select **Use an extended password**.

The lengths of character strings you can specify are from 1 to 8 bytes for the password, and from 1 to 40 bytes for the extended password. Entered characters are marked with asterisks (`*`).

This item corresponds to the `-p` option of the `jr3bjcpy` command if you use the password, and the `-p2` option of the `jr3bjcpy` command if you use the extended password.

Using the extended password

When the extended password rule is applied to the SAP system, select the **Using the extended password** check box. When you select this check box, confirm that the configuration at the execution host is as follows:

- JP1/AJS3 for EAP 09-00 and later is installed.
- The availability of the extended password is set to `ON` by the `jr3chrfc` command.

Language

Specify the language environment for executing jobs. You can use either Japanese or English. Specify the following language supported by the SAP system as the language to be used.

- For Japanese: `J`
- For English: `E`

You cannot specify a lowercase single-byte character for the language.

In the following cases, the default language type defined by the destination SAP system is used:

- Language type specification is omitted.
- A language type not defined by the destination SAP system is specified.

The language type specified for this item affects the language for the SAP job log. It also affects the language for the error details that are returned by the SAP system and inserted into a message, such as KAJM0802-E and KAJM0813-E.

This item corresponds to the `-l` option of the `jr3bjcpy` command.

(d) Defining an SAP job

To create an SAP job definition, use the **R/3 Job Copying Definition** page of the R/3 Job Copying Definition dialog box.

The following figure shows the **R/3 Job Copying Definition** page.

Figure 3–12: Job Definition page - R/3 Job Copying Definition dialog box

The items to be defined in the **Job Copying Definition** page are explained below.

Definition items

Copy job

Specify the items required to copy a job (such as the name of the source job and the job step information of the source job).

Name of the source job

Specify the job name of the source SAP job.

The lengths of character strings you can specify are from 1 to 32 bytes. You cannot include single-byte lower-case alphabetic characters in the name of the source job.

This item corresponds to the -jn option of the jr3bjcpy command.

Number of the first step to start copying job

Specify the job count of the source SAP job.

The lengths of character strings you can specify are from 1 to 8 bytes. Note that only numerals can be used. The default is 0.

This item corresponds to the -jc option of the jr3bjcpy command.

New name of the copied job

Specify the job name of the copied SAP job.

The lengths of character strings you can specify are from 1 to 32 bytes. You cannot specify a lowercase single-byte character for the new name of the copied job. If you omit this option, the job is copied with the same name as the name of the source job.

This item corresponds to the -djn option of the jr3bjcpy command.

Define target host system

When you want to define the host of the application server that executes jobs, select this check box, and then enter the host name.

If you do not select this check box, the SAP system will distribute the execution load of SAP jobs among the application servers.

When you select this check box, the **Define target application server** check box is cleared.

Define target host system is a job definition compatible parameter created for Release 4.0 and earlier SAP systems. To define jobs for Release 4.5 or later SAP systems, use **Define target application server**.

Note

If one of the following conditions is satisfied, and if you select the **Define target host system** check box, the specification in the **Host name** field becomes ineffective:

- Neither **Release job as soon as possible** nor **Release job immediately** is selected as the release method in the Monitor dialog box.

- You have registered the job normally, but have failed to release the job.

In this case, no target host is assigned to the job registered on the SAP system.

To execute the job on the target system, release the job by specifying the target system using the -tgh or -tgs option in the jr3bjrel command. If you release the job without specifying a target system using the jr3bjrel command, the SAP system will dynamically select the target system on which the job will be executed.

Host name

Specify the host name of the application server that executes jobs.

From the list of host names displayed by the transaction SM51, select the host name assigned to the application server that offers a background processing service. Select one of the application servers that are running on the specified host and designate it as the target system on which the job will be executed.

This item corresponds to the -tgh option of the jr3bjcpy command.

Define target application server

To specify an application server or a job server group that executes the created SAP jobs, select the **Define target application server** check box. If you do not specify an application server or a job server group in the text box, the created SAP jobs are distributed among the application servers for execution.

When you select this check box, the **Define target host system** check box is cleared.

Note

If either of the following conditions is satisfied, the server specified in the **Server name** text box under the selected **Define target application server** check box is invalid:

- If **Release job as soon as possible** or **Release job immediately** is not selected as the release method in the Monitor dialog box

- If the job was successfully created but failed to be released

If either of these conditions applies, no execution destination server is set for the jobs created on SAP.

To execute these jobs on a specific execution destination, use the -tgh option or the -tgs option of the jr3bjrel command to specify the execution destination and then release the jobs. If you release the jobs without specifying an execution destination using the jr3bjrel command, the execution destination for the jobs is dynamically selected by the SAP system.

Server name

Specify the name of the application server or the job server group that executes jobs. You can specify a character string of 1 to 20 bytes.

When you use an application server, you can specify one of the names (upper-case and lower-case characters are differentiated) that are assigned to the application servers for providing background processing services. These application server names are listed by transaction SM51. When you use a job server group, you can specify one of the names (upper-case and lower-case characters are differentiated) of job server groups containing the application servers that provide background processing services. These job server group names are listed by transaction SM61.

This item corresponds to the `-tgs` option of the `jr3bjcpy` command.

Monitor job release and completion

Specify whether or not to release the job after you register the job, or whether or not to monitor the completion of the released job.

- **Set** button

  Use this button to browse or modify the existing settings in the Monitor dialog box that prompts you to specify whether or not to release the job after you register the job, or whether or not to monitor the completion of the released job.

Output results

Specify the message that JP1/AJS3 for EAP (program for executing custom jobs) outputs, or specify the method for obtaining logs of SAP jobs whose termination is monitored.

To browse or modify the existing settings, click the Set button on the right.

- **Set** button

  Use this button to browse or modify the existing settings in the Output Results dialog box that prompts you specify the method for obtaining messages JP1/AJS3 for EAP outputs or log where the completion of the SAP job is monitored.
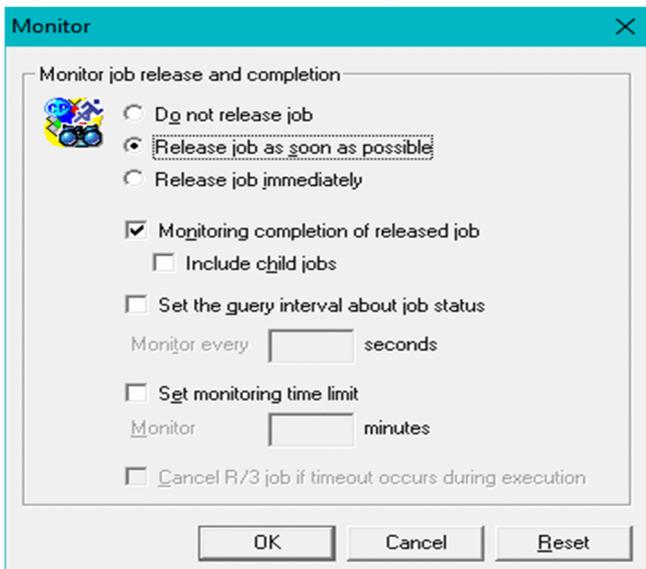
(e) Specifying the job release/completion monitoring method

To specify the job release/completion monitoring method, use the Monitor dialog box.

The Monitor dialog box opens when you click the **Set** button (for job release/completion monitoring) in the R/3 Job Definition dialog box.

The following figure shows the Monitor dialog box (for job release/completion monitoring).

Figure 3–13: Monitor dialog box

The items to be defined in the Monitor dialog box are explained below.

Definition items

Monitor job release and completion

Specify whether to release a job after you copy the job, and whether to monitor the completion of the released job.

Do not release job

Select this option when you only want to copy the job without releasing the job. Next time you release this job, be sure to release the job on the SAP system.

Release job as soon as possible

Starts the job as soon as possible after you copy the job. The system immediately sets the start conditions, and the SAP system starts the job if a background process is available.

This item corresponds to the -rs option of the jr3bjcpy command.

Release job immediately

Immediately starts the copied job. If the system resource for executing the job is not allocated on the system, release of the job fails and the job is left registered.

This item corresponds to the -ri option of the jr3bjcpy command.

Monitoring completion of released job

Select this check box to monitor the completion of a released job.

This item corresponds to the -wait option of the jr3bjcpy command.

Include child jobs

Select **Include child jobs** to monitor the completion of all jobs, which includes the child jobs that are generated during the execution of the target job (completion monitoring of parent and child jobs).

This item corresponds to the -with_child option of the jr3bjcpy command.

Note

To select **Include child jobs**, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host, and the XBP 2.0 interface and the parent and child function must be enabled in the connection destination SAP system.

Set the query interval about job status

Select this check box to change the interval at which the SAP system will be inquired about the job status.

Monitor every [ ] seconds

Specify the interval at which the SAP system will be queried about the job status. You can specify 1 to 65,535 seconds.

The default query interval is the value specified in the environment settings file. (If a value is not specified in the environment settings file or that file was not created, the default value is 5 seconds.)

This item corresponds to the `-ival` option of the `jr3bjcpy` command.

Set monitoring time limit

Select this check box to enter the monitoring time. If the SAP job does not stop within the specified monitoring time, execution of the custom job fails.

Monitor [ ] minutes

Specify the time for monitoring the job termination. You can specify 1 to 65,535 seconds. If no job termination monitoring time was specified, monitoring continues indefinitely.

This item corresponds to the `-time` option of the `jr3bjcpy` command.

Cancel R/3 job if timeout occurs during execution

Use this check box to cancel the executing SAP job if the job does not terminate in the specified monitoring time.

You cannot cancel an inactive job such as a released or ready job. Alternatively, you cannot cancel a job that is executing an external program.

This item corresponds to the `-cancel` option of the `jr3bjcpy` command.

(f) Specifying the execution result output destination

To specify the execution result output destination, use the Output Results dialog box.

The Output Results dialog box opens when you click the **Set** button (for execution result output destination) in the R/3 Job Copy Definition dialog box.

The following figure shows the Output Results dialog box (for execution result output destination).

Figure 3–14: Output Results dialog box

The items to be defined in the Output Results dialog box are explained below.

Definition items

Output results

Specify the method for obtaining the log of the messages JP1/AJS3 for EAP outputs and the log of SAP jobs whose termination are monitored.

Output standard messages to specified file

Click this check box when you want to save the standard output messages of JP1/AJS3 for EAP to a specified file, and then enter the name of the destination file. Messages with the information level indicating the execution status of the program are output to the standard output. If the specified file does not exit, it is newly created and messages are always added in the file.

For details about the work directory of the program for executing the custom job, see the manual *JP1/Automatic Job Management System 3 Administration Guide*.

File (for standard output messages)

Use the full path to specify the name of the output destination file for storing the standard output messages of JP1/AJS3 for EAP. You can enter a character string of 1 to 259 bytes. You can include blank characters in the path.

If you do not specify the full path name for the destination file, the file is created in the JP1/AJS3 for EAP work directory that is specified in the environment setup file for job control. (If the JP1/AJS3 for EAP work directory is not specified in the environment setup file, the file is created in the work directory that is used when a JP1/AJS job is executed.)

For the file name, do not specify a device file, such as `/dev/null`. If a file for standard output messages is not needed, delete the file that is created.

You can also write standard output messages to this file.

This item corresponds to the `-so` option of the `jr3bjcpy` command.

Output standard error messages to specified file

Select this check box when you want to save the standard error output messages of JP1/AJS3 for EAP to a specified file, and then enter the name of the destination file. Messages with the caution and error level are output to the standard error output. If the specified file does not exit, it is newly created and messages are always added in the file.

For details about the work directory of the program for executing the custom job, see the manual *JP1/Automatic Job Management System 3 Administration Guide*.

File (for standard error output messages)

Use the full path to specify the name of the output destination file for storing the standard error output messages of JP1/AJS3 for EAP. You can enter a character string of 1 to 259 bytes. You can include blank characters in the path.

If you do not specify the full path name for the destination file, the file is created in the JP1/AJS3 for EAP work directory that is specified in the environment setup file for job control. (If the JP1/AJS3 for EAP work directory is not specified in the environment setup file, the file is created in the work directory that is used when a JP1/AJS job is executed.)

For the file name, do not specify a device file, such as `/dev/null`. If a file for standard error output messages is not needed, delete the file that is created.

You can also write standard output messages to this file.

This item corresponds to the `-se` option of the `jr3bjcpy` command.

Output the R/3 job log to specified file

Select this check box when you want to obtain the log of an SAP job which ceased to be monitored, and then enter the name of the destination file. If the specified file does not exit, it is newly created and messages are always added in the file.

For details about the work directory of the program for executing the custom job, see the manual *JP1/Automatic Job Management System 3 Administration Guide*.

File (for SAP job log)

Use the full path to specify the name of the output destination file for the SAP job log. You can specify a character string of 1 to 259 bytes. You can include blank characters in the path.

If you do not specify the full path name for the destination file, the file is created in the JP1/AJS3 for EAP work directory that is specified in the environment setup file for job control. (If the JP1/AJS3 for EAP work directory is not specified in the environment setup file, the destination file is created in the work directory that is used when a JP1/AJS job is executed.)

For the SAP job log file name, do not specify a device file, such as `/dev/null`. If the SAP job log file is not needed, delete the file that is created.

You can also write the SAP job log to this file.

If you specify `YES` for the `JoblogAddToStderr` key of the Command section of the environment settings file, you can output the SAP job log to the specified file and to the standard error output at the same time. Therefore, if the **Output standard error messages to specified file** check box is not selected, you can use JP1/AJS - View to view the contents of the SAP job log as follows:

- When you specify an output destination file for standard error output messages

  You can output the SAP job log to the specified output destination file for standard error output messages.

- When you do not specify an output destination file for standard error output messages, but specify a standard error output file name in the Define Details - [Custom Job] dialog box of JP1/AJS - View

  You can view the content of the SAP job log in the Execution Result Details dialog box in the Jobnet Monitor window of JP1/AJS - View.

This item corresponds to the `-jo` option of the `jr3bjcpy` command.

- **Get message type in R/3 job log**[#]

  When you collect SAP job logs, select the **Get message type in R/3 job log** check box if you also want to collect message types. The message type can be collected only if SAP job logs are collected.

  This item corresponds to the `-mt` option of the `jr3bjcpy` command.

- **Search message type**[#]

  Select this check box if you want to terminate a custom job command abnormally with the return value 4 when the specified character is contained in the message types of the collected SAP job logs.

  This item corresponds to the `-mts` option of the `jr3bjcpy` command.

- **Search Target letters**[#]

  Specify the search target character in the message types of the collected SAP job logs as a character output to the message type.

  If you specify more than one character, the search means that any of the specified characters are contained. A character string of 1 to 8 bytes can be entered. You must specify it if you search the message types.

  This item corresponds to the *message-type-character-string* option specified in the `-mts` option of the `jr3bjcpy` command.

#: If JP1/AJS is configured not to monitor the completion of SAP jobs in the Monitor job release and completion dialog box, or if SAP job logs are not stored in a file, this item is inactive.

For details about the work directory that is used when JP1/AJS jobs are executed, see the manual *JP1/Automatic Job Management System 3 System Design (Configuration) Guide*.

(g) Defining environment variables

To add, edit, or delete environment variables, use the Environment Variable dialog box (for job control functionality).

To open the Environment Variable dialog box (for job control functionality) from the **Environment Variables** page, click the **Add** button. To open the **Environment Variables** page, click the **Environment Variables** tab.

The following figure shows the **Environment Variables** page.

Figure 3–15: Environment Variables page - R/3 Job Copying Definition dialog box

The items to be defined in the **Environment Variables** page are explained below.

- Definition items

Environment variables

An area used to specify environment variables for JP1/AJS3 for EAP.

Defined environment variables

A list control used to add, edit, and delete environment variable definitions for JP1/AJS3 for EAP. The names and values of the defined environment variables are displayed in the order of definitions.

You can define up to 10 environment variables whose total size is no more than 20,411 bytes.

Add

Opens an empty Environment Variable dialog box (for job control functionality).

A newly defined environment variable will be added before the environment variable selected when the **Add** button is clicked. (If nothing is selected, the variable will be added to the top.)

Edit

Applies the environment variable selected in the list control, and opens the Environment Variable dialog box (for job control functionality). (Double-clicking the environment variable selected in the list control also executes the same operation.)

If no environment variable is selected in the list control, this button is inactive.

Delete

Deletes the environment variable definition selected in the list control. (Pressing the **Delete** key also executes the same operation.)

If no environment variable is selected in the list control, this button is inactive.

The items to be defined in the Environment Variable dialog box (for job control functionality) are explained below.

- Definition items

Environment variable

An area used to specify environment variables for JP1/AJS3 for EAP.

Variable name

Specify the name of an environment variable by using a character string of 1 to 259 bytes. Entering a value for this item is mandatory.

Variable value

Specify the value of an environment variable by using a character string of 1 to 2,047 bytes. Entering a value for this item is mandatory.

OK

Temporarily saves the specified items into the program, and then closes the dialog box. To save the settings into the definitions, in the main window, click the **OK** button to close the program. (If this button is highlighted, pressing the **Enter** key also executes the same operation.)

The specified environment variables are temporarily saved in the following format, which is the same as the storage format for job definitions:

environment-variable-name-1=value-1<linefeed>

environment-variable-name-2=value-2<linefeed>

If double quotation marks (**"**) or hash marks (#) are contained in an environment variable, such symbols are escaped with a hash mark (#) as follows, and then the environment variable is temporary saved:

" -> #"

 # -> ##

If the size of the defined environment variables exceeds 20,411 bytes, an error dialog box is displayed.

Cancel

Deletes the specified items, and then closes the dialog box. (Pressing the **ESC** key also executes the same operation.)

3.1.3 Notes

- The third level and the fourth level characters supported by JIS X 0213 are not supported. You cannot enter third and fourth level characters in the window for defining custom jobs. (If you enter such characters, they will be converted to ? or ??.)

- You cannot run the custom job definition program in the Windows To Go environment in following platforms.

- Windows 8
- Windows 8.1
- Windows 10

- You cannot run the custom job definition program in following envrionments.
  - Modern UI on the following platforms
    - Windows Server 2012
    - Windows 8
    - Windows 8.1
  - Tablet Mode on the following platforms
    - Windows 10
    - Windows 11

- To copy the custom job definition program to Windows 8 or Windows 8.1, you must not specify the following folder as the destination folder:

  system-drive`\Program Files\WindowsApps`

  Because this folder is not writable, even if you are an administrative user, the copy operation fails.

3.2 Executing InfoPackage or a process chain by using JP1/AJS

This section explains the procedures for executing InfoPackage or a process chain by using JP1/AJS and explains the items that need to be set up for using JP1/AJS.

3.2.1 Procedures for executing InfoPackage or a process chain

Before you can use JP1/AJS to execute InfoPackage or a process chain, you must perform the following tasks. These tasks vary depending on the OS of the machine on which JP1/AJS - View is installed.

(1) If JP1/AJS3 for EAP is installed on a Windows machine

Procedure 1

Environment settings

If the machine on which JP1/AJS3 for EAP is installed runs Windows, manually copy the following file. However, if JP1/AJS3 for EAP of version 12-00 or earlier is linked, do not copy the following file.

Copied from:

- *installation-folder*`\Program\eapctrlconf.model.windows` (model `eapctrlconf` file for Windows)

Copied to:

- *installation-folder*`\Program\eapctrlconf` (`eapctrlconf` file)

Notes

Custom jobs can be set by the definition program even when linking with version 12-00 or earlier, but please define the arguments for the version of AJS-EAP to be executed.

Manually copy the following files provided by JP1/AJS3 for EAP to the machine on which JP1/AJS - View is installed:

- *installation-folder*`\Bwsta\Program\jbwcjdfx.exe` (definition program)

- *installation-folder*`\Bwsta\Program\jbwcjdfx.ini` (initialization file)

- *installation-folder*`\Bwsta\Program\eapctrlconf.model.windows` (model `eapctrlconf` file for Windows)

Copy the above files to the same folder located anywhere on the machine on which JP1/AJS - View is installed.

If you are using multiple versions of JP1/AJS3 for EAP, copy the latest versions of JP1/AJS3 for EAP files to the machine on which JP1/AJS - View is installed.

When migrating from an earlier version, if you update a custom job definition module on a machine on which JP1/AJS2 - View is installed, delete all modules copied by earlier versions, and then copy a module that has a later version.

For the model `eapctrlconf` file for Windows (`eapctrlconf.model.windows`), copy and then rename the file `eapctrlconf`.

Procedure 2

Custom job registration

Procedure 3

Custom job definition

When the above procedures are completed and the JP1/AJS jobnet is started to execute the SAP BW system custom job, InfoPackage or a process chain in the SAP BW system is executed.

(2) If JP1/AJS3 for EAP is installed on a Linux machine

Procedure 1

Environment settings

If the machine on which JP1/AJS3 for EAP is installed runs Linux, manually copy the following file. However, if JP1/AJS3 for EAP of version 12-00 or earlier is linked, do not copy the following file.

Copied from:

- `/etc/opt/jp1_am_r3/conf/eapctrlconf.model.linux` (model `eapctrlconf` file for Linux)

Copied to:

- `/etc/opt/jp1_am_r3/conf/eapctrlconf`

Notes

Custom jobs can be set by the definition program even when linking with version 12-00 or earlier, but please define the arguments for the version of AJS-EAP to be executed.

Manually copy the following files provided by JP1/AJS3 for EAP to the machine on which JP1/AJS - View is installed:

- `/opt/jp1_am_r3/bwsta/bin/jbwcjdfx.exe` (definition program)
- `/opt/jp1_am_r3/bwsta/bin/jbwcjdfx.ini` (initialization file)
- `/etc/opt/jp1_am_r3/conf/eapctrlconf.model.windows` (model `eapctrlconf` file for Windows)

Copy the above files to the same folder located anywhere on the machine on which JP1/AJS - View is installed.

If you are using multiple versions of JP1/AJS3 for EAP, copy the latest versions of JP1/AJS3 for EAP files to the machine on which JP1/AJS - View is installed.

When migrating from an earlier version, if you update a custom job definition module on a machine on which JP1/AJS2 - View is installed, delete all modules copied by earlier versions, and then copy a module that has a later version.

For the model `eapctrlconf` file for Windows (`eapctrlconf.model.windows`), copy and then rename the file `eapctrlconf`.

In addition, If JP1/AJS - View of version 12-00 or earlier is linked, copy the following file to the JP1/AJS - View installation location:

Copied from:

- `/opt/jp1_am_r3/bwsta/image/CUSTOM_PC_JP1AMR3BWUX.gif`

Copied to:

- *JP1/AJS - View installation-folder*`\image\custom`

Procedure 2

Custom job registration

Procedure 3

Custom job definition

When the above procedures are completed and the JP1/AJS jobnet is started to execute the SAP BW system custom job, InfoPackage or a process chain in the SAP BW system is executed.

3.2.2 Registering a custom job

Register the files as custom jobs in the Register Custom Job dialog box of JP1/AJS - View.

To register a SAP BW system custom job:

1. Display the Register Custom Job dialog box in JP1/AJS - View.
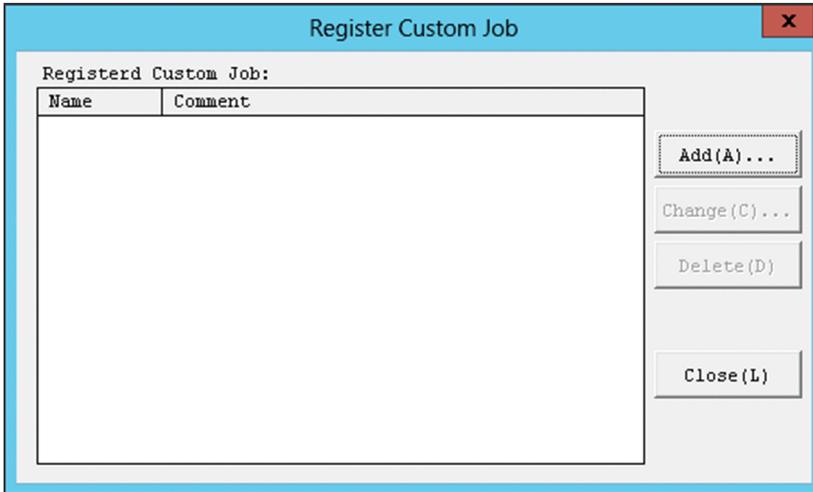
2. Choose the **Add** button.

   The Set Properties of Custom Job dialog box is displayed.
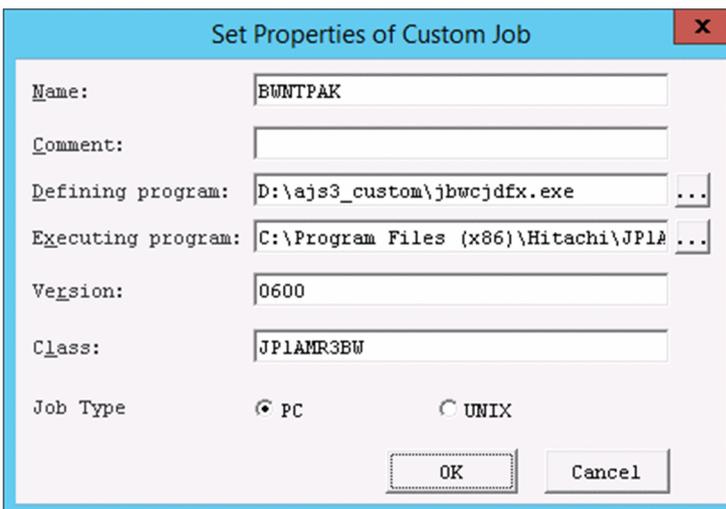
3. Register the custom job for the SAP BW system.

   Specify information in the entry boxes of the dialog box as described below.

   Name

   Specify a name from 1 to 8 bytes for the custom job of JP1/AJS3 for EAP.

   Comment

   You can enter a comment from 1 to 40 bytes long. You cannot include slashes (/) and blank characters in comments. You can omit **Comment**.

   Defining program

   Specify the pathname of the custom job definition program (jbwcjdfx.exe) you have manually copied to JP1/AJS - View.

Note

You need not specify **Defining program** when you select **UNIX** in **Job Type**.

Executing program

Specify the pathname of the program for executing the custom job on the JP1/AJS - Agent (or JP1/AJS - Manager) machine on which JP1/AJS3 for EAP is installed.

For Windows:

- *installation-folder*`\Bwsta\Program\jbwipsta.exe`

For Linux:

- `/opt/jp1_am_r3/bwsta/bin/jbwipsta`

Notes

•You need not specify **Executing program** when you select **UNIX** in **Job Type**.

• If the path to the JP1/AJS3 for EAP installation folder is different for different machines, define a job execution work path as a variable in JP1/AJS3. If you do not specify this setting, the message (`KAVU4550-W`) indicating that no executable file was found during job execution is output to the Execution Result Details dialog box of JP1/AJS3 - View, and the job cannot be executed.

For the setup method, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

When installing JP1/AJS3 for EAP in an x64 version Windows machine, the path to the default installation folder differs from the path to the default installation folder on 32-bit Windows machines.

Version

Specify `0600`.

Class

Specify `JP1AMR3BW`.

Further, when specifying **PC** as the **Job Type** in Linux, specify `JP1AMR3BWUX`.

Job Type

Select **PC** if the JP1/AJS - Agent (or JP1/AJS - Manager) machine on which JP1/AJS3 for EAP is installed is a Windows machine. Select **UNIX** if it is a Linux machine.

You can also specify **PC** when registering a custom job in Linux.

4. Choose the **OK** button.

For more details on how to register custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

3.2.3 Defining a custom job

In the Jobnet Editor window of JP1/AJS, define the custom job that you registered in JP1/AJS in a jobnet.

To define a custom job for use with the SAP BW system:

(1) Defining a custom job (PC job)

1. Display the jobnet definition area in the Jobnet Editor window of JP1/AJS.

2. Select the **Custom Jobs** tab, and then drag the registered SAP BW system custom job and drop it onto the jobnet definition area.

The SAP BW system custom job is added to the jobnet definition area and the Define Details - [Custom Job] dialog box is displayed.

3. Specify the **End judgment**.

- If you want JP1/AJS to handle an abnormal end of InfoPackage or a process chain (the return value of the `jbwipsta` command is `1`) and other errors (the return value of the `jbwipsta` command is `2` or greater) as abnormal conditions:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify no value.

  Abnormal.

  Specify `0`.

- If you want JP1/AJS to issue a warning for an abnormal end of InfoPackage or a process chain (the return value of the `jbwipsta` command is `1`) and handle other errors (the return value of the `jbwipsta` command is `2` or greater) as abnormal conditions:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify `0`.

  Abnormal

  Specify `1`.

4. Choose the **Details** button.

   The SAP BW InfoPackage/Process Chain Definition dialog box is displayed.

5. Specify the following information in the SAP BW InfoPackage/Process Chain Definition dialog box.

   • Specify the method for connecting to the SAP BW system containing InfoPackage or a process chain to be started.

   • Define InfoPackage or a process chain.

6. Choose the **OK** button.

For more details on how to define custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

(2) Defining a custom job (UNIX job)

1. Display the jobnet definition area in the Jobnet Editor window of JP1/AJS.

2. Select the **Custom Jobs** tab, and then drag the registered SAP BW system custom job and drop it onto the jobnet definition area.

   The SAP BW system custom job is added to the jobnet definition area and the Define Details - [Custom Job] dialog box is displayed.

3. Define **Command statement**.

   Define the command line for the `jbwipsta` command.

4. Specify the **End judgment**.

   - If you want JP1/AJS to handle an abnormal end of InfoPackage or a process chain (the return value of the `jbwipsta` command is `1`) and other errors (the return value of the `jbwipsta` command is `2` or greater) as abnormal conditions:

   Rule

   Select **Judgment by threshold**.

   Warning

   Specify no value.

   Abnormal

   Specify `0`.

- If you want JP1/AJS to issue a warning for an abnormal end of InfoPackage or a process chain (the return value of the `jbwipsta` command is `1`) and handle other errors (the return value of the `jbwipsta` command is `2` or greater) as abnormal conditions:

  Rule

  Select **Judgment by threshold**.

  Warning

  Specify `0`.

  Abnormal

  Specify `1`.

5. Choose the **OK** button.

For more details on how to define custom jobs, see the manual *JP1/Automatic Job Management System 3 Operator's Guide*.

(3) Specifying the method for connecting to the SAP BW system

To specify the method for connecting to the SAP BW system containing InfoPackage or a process chain to be started, use the **SAP BW System** page of the SAP BW InfoPackage/Process Chain Definition dialog box.

The following figure shows the **SAP BW System** page.

Figure 3–16: SAP BW System page - SAP BW InfoPackage/Process Chain Definition dialog box)
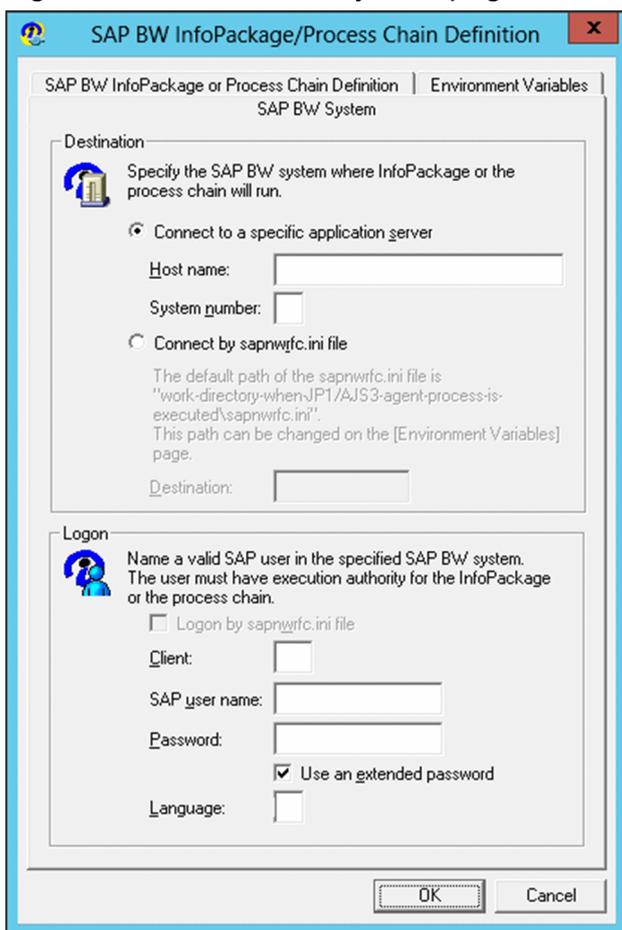
The items to be defined in the **SAP BW System** page are explained below.

Definition items

Destination

Specify the method for connecting to the application server in the SAP BW system containing InfoPackage or a process chain to be started. Use either of the following options to specify the application server to be connected:

- Specify a specific application server.

- Use the destination specified in the `sapnwrfc.ini` file.

Connect to a specific application server

Select this option when directly specifying the application server to which you want to connect.

Host name

Specify the host name of the application server (or SAP router) to which you want to connect. You can enter a character string of 1 to 100 bytes for the host name.

You can use host names in the following formats:

- Host name defined in the `hosts` file

- IP address

- SAP router address

For details about the SAP router address format, see the SAP manual or online help.

This item corresponds to the `-h` option of the `jbwipsta` command.

System number

Specify the target system number on the SAP BW system. You can enter a character string of 1 or 2 bytes for the system number. Only numerals can be used. The default is `0`.

This item corresponds to the `-s` option of the `jbwipsta` command.

Connect by sapnwrfc.ini file

Select this option when you want to use the `sapnwrfc.ini` file to connect to the application server.

Depending on what is defined in the `sapnwrfc.ini` file, the system connects to either a specific application server or the application server determined by the load-balancing function of the message server.

Destination

Specify the value that was specified for `DEST` in the `sapnwrfc.ini` file. You can enter a character string of 1 to 32 bytes for the destination.

This item corresponds to the `-d` option of the `jbwipsta` command.

Logon

Specify the logon information to be used for connecting to the application server specified in **Destination**. Specify the user to log on by either of the following methods:

- Use the user specified in `sapnwrfc.ini`

- Use a specific user (client, user name, password, and language)

Log on by using the sapnwrfc.ini file

To log on by using the definitions specified in the external file (`sapnwrfc.ini`) and for **Destination**, select **Log on by using the sapnwrfc.ini file**.

This item corresponds to the `-dl` option of the `jbwipsta` command.

Client

Specify the client number of the logon destination SAP BW client. You can enter a character string of 1 to 3 bytes for the client number. Only numerals can be used. When a SAP BW client number of 1 or 2 bytes is to be sent to

the SAP BW system, it is converted to 3 bytes. For example, if the client number is `001`, you can specify `1`, `01`, or `001`. However, when this client number is sent to the SAP BW system, it is sent as the 3-byte client number `001`.

This item corresponds to the `-c` option of the `jbwipsta` command.

SAP user name

Specify the user name of the user who executes InfoPackage or a process chain. InfoPackage or the process chain is executed with the specified user name.

For details about the users who can be specified, see *2.4.9 Providing a SAP user for InfoPackage control or process chain control*.

You can enter a character string of 1 to 12 bytes for the user name. You cannot include single-byte lower-case alphabetic characters in the user name.

This item corresponds to the `-u` option of the `jbwipsta` command.

Password

Enter the password or extended password for the user specified in **SAP user name** who executes InfoPackage or a process chain. To use an extended password, select the **Use an extended password** check box. The lengths of character strings you can specify are from 1 to 8 bytes for the password and from 1 to 40 bytes for the extended password. Entered characters are marked with asterisks (`*`).

This item corresponds to the `-p` option of the `jr3bjsub` command if you use the password, and the `-p2` option of the `jr3bjsub` command if you use the extended password.

Using the extended password

When the extended password rule is applied to the SAP system, select the **Using the extended password** check box. When you select this check box, confirm that the configuration at the execution host is as follows:

- JP1/AJS3 for EAP 09-00 and later is installed.
- The availability of the extended password is set to `ON` by the `jr3chrfc` command.

Language

Enter a single-byte alphabetic character to specify the language to be used. You can use either Japanese or English. Specify the following language supported by the SAP BW system as the language to be used.

- For Japanese: `J`
- For English: `E`

You cannot specify a lowercase single-byte character for the language.

In the following cases, the default language type defined by the destination SAP BW system is used:

- Language type specification is omitted.
- A language type not defined by the destination SAP BW system is specified.

The language type specified for this item affects the language for the error details that are returned by the SAP system and inserted into a message, such as KAJM0802-E and KAJM0813-E.

This item corresponds to the `-l` option of the `jbwipsta` command.

(4) Defining InfoPackage or a process chain

To define InfoPackage or a process chain, use the **SAP BW InfoPackage or Process Chain Definition** page of the SAP BW InfoPackage/Process Chain Definition dialog box.

The following figure shows the **SAP BW InfoPackage or Process Chain Definition** page.

Figure 3–17: SAP BW InfoPackage or Process Chain Definition page - SAP BW InfoPackage/
Process Chain Definition dialog box
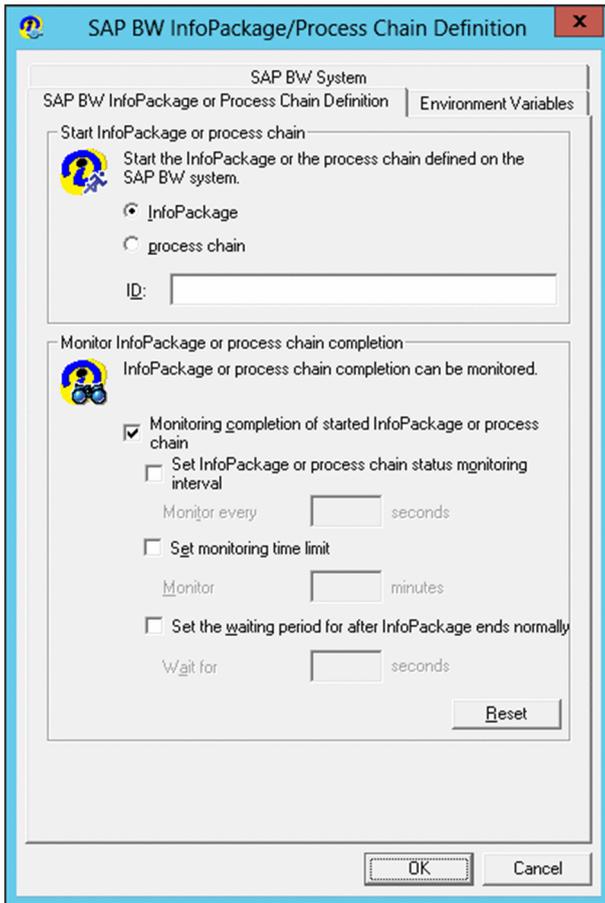
The items to be defined in the **SAP BW InfoPackage or Process Chain Definition** page are explained below.

Definition items

Start InfoPackage or process chain

Specify information about the InfoPackage or process chain to be started.

InfoPackage

Select this option to start InfoPackage.

process chain

Select this option to start a process chain.

ID

Specify the ID of the InfoPackage or the process chain to be started. You can enter a character string of 30 bytes (fixed) for InfoPackage and from 1 to 25 bytes for a process chain. You cannot specify lower-case alphabetic characters in this text box.

This item corresponds to the `-ip` option or the `-pc` option of the `jbwipsta` command.

Monitor InfoPackage or process chain completion

Specify information about completion monitoring when you want to monitor the completion of the started InfoPackage or process chain. When you choose the **Reset** button, the values specified in this box are replaced by the default values.

To monitor the completion of InfoPackage, the SAP BW system side requires a setting that changes the signal to green or red when InfoPackage ends with an error. For details about this setting, see *2.4.8 Specifying the action to take when InfoPackage ends with a warning on the SAP BW system*.

Monitoring completion of started InfoPackage or process chain

Select this option when you want to monitor the completion of the started InfoPackage or process chain.

The completion of InfoPackage or a process chain is judged by acquiring the following statuses from the SAP BW system:

- Monitor InfoPackage Completion

  The InfoPackage request status that can be checked in the Monitors tree of the transaction `RSMON` (**Total** and **Technical** status displayed in the Status tab)

- Monitor Process Chain Completion

  The process chain status that can be checked in the Log view window of the transaction `RSPC`

This item corresponds to the `-wait` option of the `jbwipsta` command.

Set InfoPackage or process chain status monitoring interval

Select this check box when you want to specify an interval for querying the SAP BW system about the status of InfoPackage or a process chain.

Monitor every [ ] seconds

Specify in seconds the interval for querying the SAP BW system about the status of InfoPackage or a process chain. The specifiable range is from 1 to 65,535. The default monitoring interval is the value specified in the environment setup file. (If no value was specified in the environment setup file or no environment setup file was created, 5 seconds is assumed.)

This item corresponds to the `-ival` option of the `jbwipsta` command.

Set monitoring time limit

Select this check box when you want to specify the length of time for monitoring the completion of the started InfoPackage or process chain.

Monitor [ ] minutes

Specify in minutes the length of time for monitoring the completion of InfoPackage or a process chain after it starts. The specifiable range is from 1 to 65,535. If no completion monitoring time is specified for InfoPackage or the process chain, monitoring continues indefinitely.

This item corresponds to the `-time` option of the `jbwipsta` command.

Set the waiting period for after InfoPackage ends normally

Select this check box to set the length of time (wait time) between the normal end of InfoPackage and the end of the job that executes InfoPackage.

Wait for [ ] seconds

Specify in seconds the length of time (wait time) between the normal end of InfoPackage and the end of the job that executes InfoPackage. JP1/AJS3 for EAP cannot monitor the completion of a QM action (enables the loaded data) that is executed after loading of the InfoPackage data or the completion of subsequent InfoPackage processing (such as deleting duplicated requests). To execute a succeeding job after these types of processing, specify the wait time here.

You can specify a value from 0 to 65,535. If you do not specify the wait time, the number of seconds set for the `QMActionWaitTime` key (in the command section) in the environment setup file is assumed.

This item corresponds to the `-qmwait_time` option of the `jbwipsta` command.

(5) Defining environment variables

To add, edit, or delete environment variables, use the Environment Variable dialog box (for InfoPackage or process chain control functionality).

To open the Environment Variable dialog box (for InfoPackage or process chain control functionality), from the **Environment Variables** page, click the **Add** button. To open the **Environment Variables** page, click the **Environment Variables** tab.

The following figure shows the **Environment Variables** page.

Figure 3–18: Environment Variables page - SAP BW InfoPackage/Process Chain Definition
dialog box

The items to be defined in the **Environment Variables** page are explained below.

- Definition items

Environment variables
    An area used to specify environment variables for JP1/AJS3 for EAP.

Defined environment variables

A list control used to add, edit, and delete environment variable definitions for JP1/AJS3 for EAP. The names and values of the defined environment variables are displayed in the order of definitions.

You can define up to 10 environment variables whose total size is no more than 20,411 bytes.

Add

Opens an empty Environment Variable dialog box (for InfoPackage or process chain control functionality).

A newly defined environment variable will be added before the environment variable selected when the **Add** button is clicked. (If nothing is selected, the variable will be added to the top.)

Edit

Applies the environment variable selected in the list control, and opens the Environment Variable dialog box (for InfoPackage or process chain control functionality). (Double-clicking the environment variable selected in the list control also executes the same operation.)

If no environment variable is selected in the list control, this button is inactive.

Delete

Deletes the environment variable definition selected in the list control. (Pressing the **Delete** key also executes the same operation.)

If no environment variable is selected in the list control, this button is inactive.

The items to be defined in the Environment Variable dialog box (for InfoPackage or process chain control functionality) are explained below.

- Definition items

Environment variable

An area used to specify environment variables for JP1/AJS3 for EAP.

Variable name

Specify the name of an environment variable by using a character string of 1 to 259 bytes. Entering a value for this item is mandatory.

Variable value

Specify the value of an environment variable by using a character string of 1 to 2,047 bytes. Entering a value for this item is mandatory.

OK

Temporarily saves the specified items into the program, and then closes the dialog box. To save the settings into the definitions, in the main window, click the **OK** button to close the program. (If this button is highlighted, pressing the **Enter** key also executes the same operation.)

The specified environment variables are temporarily saved in the following format, which is the same as the storage format for job definitions:

environment-variable-name-1=value-1<linefeed>

environment-variable-name-2=value-2<linefeed>

If double quotation marks (**"**) or hash marks (#) are contained in an environment variable, such symbols are escaped with a hash mark (#) as follows, and then the environment variable is temporary saved:

" -> #"

 # -> ##

If the size of the defined environment variables exceeds 20,411 bytes, an error dialog box is displayed.

Cancel

Deletes the specified items, and then closes the dialog box. (Pressing the **ESC** key also executes the same operation.)

3.3 Password protection when connecting to the SAP system

In JP1/AJS3 for EAP, the password for connecting to the SAP system must be included in either of the following:

1. `sapnwrfc.ini` file: The SAP NetWeaver RFC Library configuration file
2. `r3defcon` file: The file used to configure the default common arguments for commands.
3. Command line argument (`-p` option, or `-p2` option)
4. Custom job definition window: **R/3 System** page of the R/3 Job Definition dialog box.

In version 13 and later versions of JP1/AJS3 for EAP, specifying a password on the custom job definition window (item 4 above) in the operating environment with the `eapctrlconf` file without specifying either configuration file (items 1 and 2 above), or specifying a password in the command option (item 3), will save an obfuscated password in JP1/AJS job definitions.

As such, to provide password protection when connecting to the SAP system in version 13 and later versions of the JP1/AJS3 for EAP, place the `eapctrlconf` file and specify a password on the custom job definition window (item 4) without specifying a password in configuration files 1 or 2, or in the command option (item 3).

Further, if a password was specified on the custom job definition window in a version of JP1/AJS3 for EAP before version 13, install version 13 or a later version of JP1/AJS3 for EAP, reload the custom job definition window on the environment where the `eapctrlconf` file is located and save the password again to save an obfuscated password in JP1/AJS job definitions.

4

Commands

This chapter describes the JP1/AJS3 for EAP commands that are used for controlling background jobs in the SAP system and InfoPackage and process chains in the SAP BW system.

Command formats

The commands used with JP1/AJS3 for EAP and their formats are the same for Windows and all versions of Linux. Command execution on Windows is done from the command prompt.

Also, with JP1/AJ3 for EAP for Windows, you can use the JP1-related program JP1/Script and make script files for JP1/AJS3 for EAP commands. If you use a script file made with JP1/Script, you can (for example) specify the time to start script processing or automatically execute the script at system startup.

For details about JP1/Script, see the manual *JP1/Script (For Windows Systems)*[#].

#: This manual is provided in Japanese only.

This section explains the headings used in the explanation of JP1/AJS3 for EAP commands and the symbols used in the explanation of formats.

Headings in command explanations

This manual uses the following headings in explaining commands.

Format
Shows the command format. If two or more formats can be used for a command, the Format 1, Format 2, etc., are used.

Description
Describes the functions of the command.

Arguments
Explains the command arguments (including options).

Return values
Shows the command return values and explains their meaning.

Precautions
Explains precautions to be taken when the command is used.

Supplement
Provides supplementary information.

Usage examples
Provides examples of how the command is used.

Syntax

The following summarizes the syntax of the JP1/AJS3 for EAP commands:

- When two or more options are specified, they can be specified in any order.

- If an unexpected option is specified, an error occurs.

Conventions used in format explanations

See *Conventions in syntax explanations* in *Preface*.

Command list

Commands used with JP1/AJS3 for EAP can be divided according to function as follows:

- Commands used with the job control function
- Command used with the InfoPackage control function and the process chain control function
- Common commands used with every control function

Table 4-1, *Table 4-2*, and *Table 4-3* list the commands used with the various functions.

The commands are explained below in alphabetical order.

Table 4–1: Commands for the job control function

Function	Command name	Required execution authority
Cancels a background job.	jr3bjcan	None
Copies a background job.	jr3bjcpy	None
Deletes a background job.	jr3bjdel	None
Releases a background job.	jr3bjrel	None
Acquires information regarding SAP system resources.	jr3bjrep	None
Displays information about a background job.	jr3bjsho	None
Registers a background job.	jr3bjsub	None

Table 4–2: Command for the InfoPackage control function and the process chain control function

Function	Command name	Required execution authority
Starts InfoPackage or a process chain.	jbwipsta	None

Table 4–3: Common commands used by every control function

Function	Command name	Required execution authority
Sets availability of the extended password	jr3chrfc	• Windows user who has Administrator permissions[#] • Linux superuser
Collects data in the event of a failure in JP1/AJS3 for EAP, as well as OS information.	jr3ras	• Windows user who has Administrator permissions[#] • Linux superuser

\#

   If you have enabled the user account control function (UAC) of the OS, execute the command at the command prompt using Administrator permissions.

Command usage precautions

The following are precautions on using commands for each type of OS.

- If you use Japanese UTF-8 as the character code (in Linux), the command argument is converted to Shift JIS. For this reason, make sure to note the specified length of the character string.

- When the character encoding is UTF-8, multi-byte characters such as Japanese require more bytes than when other character encodings are used. Therefore output columns will be misaligned if output information includes Japanese.

- Notes for Windows

  Differences in command rules

  The rules for JP1/AJS3 for EAP commands differ from in some respects from those for Windows commands. When using the JP1/AJS3 for EAP commands, keep in mind the following rule differences.

General rules for Windows commands	Rules for JP1/AJS3 for EAP
A slash (/) is used to separate options.	A hyphen (-) is used to separate options.
Alphabetic characters used in a specified option are case-insensitive.	Alphabetic characters used in a specified option are case-sensitive.

The common argument formats for commands are explained below.

Common argument formats for various commands

This section explains the common argument formats: for the commands of the job control function, and for the command of the InfoPackage control function and the process chain control function.

(1) Common argument format for job control function commands

The following provides the detailed formats for SAP destination information, SAP logon information, and redirection information. These formats are common to all job control function commands.

SAP destination information

The SAP destination information is an argument for establishing a connection to the SAP system. The SAP destination information format is explained below.

SAP destination information

```
-h host-name [-s NN]|-d destination
```

The SAP destination information options must be used as described below depending on the method of connection to the SAP system.

- When connecting to the SAP system using the specified host name

  Connects to the application server with the specified system number running on the specified host.

  To connect to the SAP system using the specified host name, use the format -h *host-name* [-s *NN*].

  The -d option cannot be specified at the same time.

  -h *host-name*

  > Enter the SAP system host name in the *host-name* position. Host names in the following formats can be used:
  >
  > - hosts address (e.g., r3host1)
  >
  > - IP address (e.g., 123.123.123.123)
  >
  > - SAP router address
  >
  > For the SAP router address, see the SAP manual or online help.

  -s *NN*

  > The system number for SAP system identification must be entered in the *NN* position. A character string of 1 or 2 bytes can be entered. Only numerals can be used. If this entry is omitted, system number 0 is automatically set.

- When connecting to the SAP system using the sapnwrfc.ini file

  Depending on what is defined in the sapnwrfc.ini file, the system connects to either a specific application server or the application server determined by the load-balancing function of the message server.

  To connect to the SAP system using the sapnwrfc.ini file, use the format -d *destination*.

  The -h option cannot be specified at the same time.

  -d *destination*

  > The DEST value specified in the sapnwrfc.ini file must be entered in the *destination* position. A sapnwrfc.ini file search is conducted as follows. Be sure that the *destination* has been entered in advance as the DEST value in the sapnwrfc.ini file.
  >
  > **When the sapnwrfc.ini file is specified by environment variable RFC_INI**
  >
  > Only the sapnwrfc.ini file specified in environment variable RFC_INI is searched for. The sapnwrfc.ini file in the work directory of JP1/AJS3 for EAP is not searched for.
  >
  > **When the sapnwrfc.ini file is not specified by environment variable RFC_INI**

The `sapnwrfc.ini` file in the JP1/AJS3 for EAP work directory is searched for.

- When omitting SAP destination information as part of the command line

    If the SAP destination information is not specified as part of the command line, all options are omitted and the destination information (`address` section information) specified in the `r3defcon` file will be used. Since the `r3defcon` file must exist, create the `r3defcon` file beforehand in the home directory of the user executing the command.

For the creation of the `sapnwrfc.ini` file and `r3defcon` file, see *2. Installation and Setup*.

SAP logon information

The SAP logon information is an argument that specifies user information for logging on to the SAP system.

The SAP logon information format is explained below.

SAP logon information

> {-c *SAP-client* -u *SAP-user-name* {-p *password* | -p2 *extended-password*} [-l *language*] | -dl}

-c *SAP-client*

Specify the client number of an SAP client that is valid for logon to the SAP system. A character string of 1 to 3 bytes can be entered for the client number specification. Only numerals can be used.

Note that a 1- or 2-byte SAP client number sent to the SAP system is converted to a 3-byte number.

For example, if the client number is `001`, you can specify `1`, `01`, or `001`. However, the 3-byte client number `001` is sent to the SAP system.

The -dl option cannot be specified at the same time.

-u *SAP-user-name*

Specify the name of an SAP user that is valid in the SAP system that you log on to.

For details about the SAP users who can be specified, see *2.3.9 Providing a SAP user for job control*.

A character string of 1 to 12 bytes can be entered for the SAP user name specification.

SAP system control will be executed under authority of this SAP user.

The -dl option cannot be specified at the same time.

-p *password*

Enter the password for the SAP user that is specified by the -u option.

Specify this option when a conventional password rule is applied to the SAP system.

For details about the characters that can be specified for the password, see *2.3.9 Providing a SAP user for job control*.

A character string of 1 to 8 bytes can be entered for the password.

The -dl option cannot be specified at the same time.

-p2 *extended-password*

Specify an extended password that corresponds to the SAP user specified by the -u option.

Specify this option when the extended password rule is applied to the SAP system.

For details about the characters that can be specified for the extended password, see *2.3.9 Providing a SAP user for job control*.

A character string of 1 to 40 bytes can be entered for the extended password.

The -dl option cannot be specified at the same time.

-l *language*

> Enter a single-byte alphabetic character to specify the language to be used. You can use either Japanese or English. Specify the following language supported by the SAP system as the language to be used.
>
> - For Japanese: J
>
> - For English: E
>
> In the following cases, the default language type defined by the application server at the logon destination is used:
>
> - The -l option is omitted.
>
> - A language type not defined by the application server at the logon destination is specified.
>
> The language type specified for this option affects the language for the SAP job log. It also affects the language for the error details that are returned by the SAP system and inserted into a message, such as KAJM0802-E and KAJM0813-E.
>
> The -dl option cannot be specified at the same time.

-dl

> Specify this option when you define SAP logon information by using the sapnwrfc.ini file.
>
> This option is enabled when the -d option is specified for the SAP destination information. If the -dl option is specified for the SAP destination information instead of the -d option, the processing terminates abnormally. The -c, -u, -p, -p2, or -l option cannot be specified at the same time.

If the SAP logon information is not specified as part of the command line, the logon information (logon section information) specified by the r3defcon file is used. The r3defcon file must therefore be created beforehand in the home directory of the user executing the command.

For r3defcon file creation, see *2. Installation and Setup*.

Redirection information

Use this argument to specify the standard output and standard error output files that will be used when the command is being executed. The specification format is as follows:

-so *standard-output-file-name*

> Specify a standard output file for command execution.
>
> The lengths of character strings that can be specified as standard output file names vary depending on whether the OS is Windows or a Linux:
>
> - For Windows:
>
>   The lengths of character string you can specify as standard output file names are from 1 to 259 bytes.
>
> - For a Linux:
>
>   The lengths of character string you can specify as standard output file names are from 1 to 255 bytes.
>
> If you do not use the full path to specify the standard output file name, the file is created in the work directory of JP1/AJS3 for EAP. (If the JP1/AJS3 for EAP working directory is not available, the file will be created in the current directory.)
>
> For the standard output file name, do not specify a device file, such as /dev/null. If a standard output file is not needed, delete the file that is created.
>
> You can also write standard output messages for command execution in this file.

-se *standard-error-output-file*

> Specify a standard error output file for command execution.

The lengths of character strings that can be specified as standard error output file names vary depending on whether the OS is Windows or a Linux:

- For Windows:

  The lengths of character string you can specify as standard error output file names are from 1 to 259 bytes.

- For a Linux:

  The lengths of character string you can specify as standard error output file names are from 1 to 255 bytes.

If you do not use the full path to specify the standard error output file name, the file is created in the work directory of JP1/AJS3 for EAP. (If the JP1/AJS3 for EAP working directory is not available, the file will be created in the current directory.)

For the standard error output file name, do not specify a device file, such as `/dev/null`. If the standard error output file is not needed, delete the file that is created.

You can also write standard error output messages for command execution in this file.

(2) Argument formats for the command of the InfoPackage control function and the process chain control function

The following provides the detailed formats for SAP BW destination information and SAP BW logon information. These formats are applied to the command of the InfoPackage control function and the process chain control function.

SAP BW destination information

The SAP BW destination information is an argument for establishing a connection to the SAP BW system. The detailed format for SAP BW destination information is explained below.

SAP BW destination information

    -h *host-name* [-s *NN*]|-d *destination*

The SAP BW destination information options must be used as described below depending on the method of connection to the SAP BW system.

- When connecting to the SAP BW system using the specified host name

  Connects to the application server with the specified system number running on the specified host.

  To connect to the SAP BW system using the specified host name, use the format -h *host-name*[-s *NN*].

  The -d option cannot be specified at the same time.

  -h *host-name*

     Enter the SAP BW system host name in the *host-name* position. Host names in the following formats can be used:
     - hosts address (e.g., `bwhost1`)
     - IP address (e.g., `123.123.123.123`)
     - SAP router address

     For the format of the SAP router address, see the SAP BW manual or online help.

  -s *NN*

     Enter the system number for identifying the SAP BW system in the *NN* position. You can enter a character string of 1 or 2 bytes. Only numerals can be used. If this entry is omitted, system number `0` is automatically set.

- When connecting to the SAP BW system using the `sapnwrfc.ini` file

  Depending on what is defined in the `sapnwrfc.ini` file, the system connects to either a specific application server or the application server determined by the load-balancing function of the message server.

  To connect to the SAP BW system using the `sapnwrfc.ini` file, use the format -d *destination*.

The `-h` option cannot be specified at the same time.

-d *destination*

Specify the value specified for `DEST` in the `sapnwrfc.ini` file in the *destination* position. A `sapnwrfc.ini` file search is conducted as follows. Make sure that the destination has been entered in advance as the `DEST` value in the `sapnwrfc.ini` file.

When the sapnwrfc.ini file is specified by environment variable RFC_INI

Only the `sapnwrfc.ini` file specified in environment variable `RFC_INI` is searched for. The `sapnwrfc.ini` file in the work directory of JP1/AJS3 for EAP is not searched for.

When the sapnwrfc.ini file is not specified by environment variable RFC_INI

The `sapnwrfc.ini` file in the JP1/AJS3 for EAP work directory is searched for.

- When omitting SAP BW destination information as part of the command line

  If the SAP BW destination information is not specified as part of the command line, all options are omitted and the destination information (`address` section information) specified in the `r3defcon` file will be used. Since the `r3defcon` file must exist, create the `r3defcon` file beforehand in the home directory of the user executing the command.

For the creation of the `sapnwrfc.ini` file and `r3defcon` file, see *2. Installation and Setup*.

SAP BW logon information

The SAP BW logon information is an argument that specifies user information for logging on to the SAP BW system. The detailed format for SAP BW logon information is explained below.

SAP BW logon information

`{-c SAP-BW-client -u SAP-BW-user-name {-p password | -p2 extended-password} [-l language] | -dl}`

-c *SAP-BW-client*

Specify the client number of a SAP BW client that is valid for logon to the SAP BW system. You can enter a character string of 1 to 3 bytes for the client number. Only numerals can be used. Note that a 1- or 2-byte SAP BW client number sent to the SAP BW system is converted to a 3-byte number.

If, for instance, the client number is `001`, you can enter `1`, `01`, or `001`. However, when this client number is sent to the SAP BW system, it is sent as the 3-byte client number `001`.

The `-dl` option cannot be specified at the same time.

-u *SAP-BW-user-name*

Specify the name of a SAP BW user that is valid for logon to the SAP BW system.

For details about the SAP BW users who can be specified, see *2.4.9 Providing a SAP user for InfoPackage control or process chain control*.

You can enter a character string of 1 to 12 bytes for the user name.

SAP BW system control will be executed under authority of this SAP BW user.

The `-dl` option cannot be specified at the same time.

-p *password*

Enter the password for the SAP BW user that is specified by the `-u` option.

For details about the characters that can be specified for the password, see *2.4.9 Providing a SAP user for InfoPackage control or process chain control*.

Specify this option when a conventional password rule is applied to the SAP system.

You can enter a character string of 1 to 8 bytes for the password.

The `-dl` option cannot be specified at the same time.

`-p2` *extended-password*

Specify an extended password that corresponds to the SAP BW user specified by the `-u` option.

For details about the characters that can be specified for the extended password, see *2.4.9 Providing a SAP user for InfoPackage control or process chain control*.

Specify this option when the extended password rule is applied to the SAP system.

You can enter a character string of 1 to 40 bytes for the extended password.

The `-dl` option cannot be specified at the same time.

`-l` *language*

Enter a single-byte alphabetic character to specify the language to be used. You can use either Japanese or English. Specify the following language supported by the SAP BW system as the language to be used.

- For Japanese: `J`

- For English: `E`

In the following cases, the default language type defined by the SAP BW system at the logon destination is used:

- The `-l` option is omitted.

- A language type not defined by the SAP BW system at the logon destination is specified.

The language type specified for this option affects the language for the error details that are returned by the SAP system and inserted into a message, such as KAJM0802-E and KAJM0813-E.

The `-dl` option cannot be specified at the same time.

`-dl`

Specify this option when you define SAP BW logon information by using the `sapnwrfc.ini` file.

This option is enabled when the `-d` option is specified for the SAP BW destination information. If the `-dl` option is specified for the SAP BW destination information instead of the `-d` option, the processing terminates abnormally. The `-c`, `-u`, `-p`, `-p2`, or `-l` option cannot be specified at the same time.

If the SAP BW logon information is not specified as part of the command line, the logon information (`logon` section information) specified by the `r3defcon` file is used. The `r3defcon` file must therefore be created beforehand in the home directory of the user executing the command.

For the creation of the `r3defcon` file, see *2. Installation and Setup*.

jbwipsta

Format 1

```
jbwipsta  [SAP-BW-destination-information]
          [SAP-BW-logon-information]
          {-ip InfoPackage-ID | -pc process-chain-ID}
          [-wait [-time monitoring-time]
                 [-ival monitoring-interval]
                 [-qmwait_time wait-time]]
```

Format 2

```
jbwipsta -help
```

Description

Starts InfoPackage or a process chain defined beforehand on the SAP BW system.

- To start InfoPackage

  When InfoPackage is successfully started, the SAP BW system assigns a request number to identify the InfoPackage request. This request number is output to the standard output as part of a message.

  The user can use the request number to check the status of InfoPackage with the SAP front-end software.

- To start a process chain

  When a process chain is successfully started, the SAP BW system assigns a log ID to identify the execution log of the process chain. This log ID is output to the standard output as part of a message. The user can use the log ID and the SAP front-end software to check the status of the process chain and the execution log.

Arguments

SAP-BW-destination-information

Specify the SAP BW system where the InfoPackage or the process chain to be started is registered. For details about the format of SAP BW destination information, see *(2) Argument formats for the command of the InfoPackage control function and the process chain control function*.

SAP-BW-logon-information

Specify the logon information that is valid in the SAP BW system where the InfoPackage or the process chain to be started is registered. For details about the format of SAP BW logon information, see *(2) Argument formats for the command of the InfoPackage control function and the process chain control function*.

`-ip` *InfoPackage-ID*

Specify the ID of the InfoPackage to be started. You can enter a character string of 30 bytes (fixed) for the InfoPackage ID.

You must specify either the `-ip` option or the `-pc` option. You cannot specify both simultaneously.

`-pc` *process-chain-ID*

Specify the ID of the process chain to be started. You can specify a character string of 1 to 25 bytes.

You must specify either the `-ip` option or the `-pc` option. You cannot specify both simultaneously.

-wait

This argument monitors the started InfoPackage or process chain until its completion (until InfoPackage or process chain execution ends, commands cannot be executed from the command line).

The completion of InfoPackage or the process chain is evaluated by acquiring the following statuses from the SAP BW system.

- Monitoring of InfoPackage Completion

  The InfoPackage request status that can be checked in the Monitors tree of the transaction `RSMON` (**Total** and **Technical** statuses displayed in the Status tab)

- Monitoring of Process Chain Completion

  The process chain status that can be checked in the Log view window of the transaction `RSPC`

-time *monitoring-time*

Specify the length of time to monitor the completion of InfoPackage or a process chain (in minutes). The completion of InfoPackage or the process chain is monitored for the specified length of time. Make sure that this monitoring time setting is greater than the monitoring interval value that is specified by the `-ival` option. The specifiable range for the monitoring time is from 1 to 65,535. If the `-time` option is omitted, there is no limit on the monitoring time.

If InfoPackage or the process chain does not end within the specified monitoring time, InfoPackage or process chain monitoring results in a timeout error and the command ends regardless of the status of InfoPackage or the process chain.

The `-time` option is valid when the `-wait` option is specified.

-ival *monitoring-interval*

Specify the interval in seconds at which InfoPackage or a process chain is to be monitored. InfoPackage or a process chain can be monitored at the specified monitoring interval until InfoPackage or the process chain ends (InfoPackage or process chain polling monitoring). The specifiable range for the monitoring interval is from 1 to 65,535. If a monitoring interval is omitted when the `-ival` option is specified, the monitoring interval is 5 seconds.

The default monitoring interval of 5 seconds can be changed in the environment setup file.

The `-ival` option is valid when the `-wait` option is specified.

-qmwait_time *wait-time*

Specify the length of time (wait time in seconds) between the normal end of InfoPackage and the end of the job that executes the InfoPackage. JP1/AJS3 for EAP cannot monitor the completion of a QM action (enables the loaded data) that is executed after loading of the InfoPackage data or the completion of the subsequent processing of InfoPackage (such as deleting duplicated requests). To execute a succeeding job after these types of processing, specify the wait time here. You can specify a value from 0 to 65,535. If you omit the `-qmwait_time` option, the number of seconds set for the `QMActionWaitTime` key (command section) in the environment setup file is assumed.

The `-qmwait_time` option is valid when the `-ip` and `-wait` options are specified.

-help

This argument provides information on using the command.

Return values

- When the `-wait` option is not specified

0

    InfoPackage or a process chain was successfully started.

Integer of `1` or more

    InfoPackage or a process chain was not started.

- When the `-ip` and `-wait` options are specified

0

    InfoPackage ended normally.

1

    InfoPackage ended abnormally.

2

    Timeout occurred before InfoPackage completion was detected.

Integer of `3` or more

    The command ended abnormally (InfoPackage startup failed or completion monitoring failed).

- When the `-pc` and `-wait` options are specified

0

    The process chain ended normally.

1

    The process chain ended abnormally or forcibly.

2

    A timeout error occurred before process chain completion was detected.

Integer of `3` or more

    The command ended abnormally (process chain startup failed or completion monitoring failed).

Precautions

- When starting InfoPackage

  - To start InfoPackage using this command, you must define the InfoPackage in SAP BW beforehand and confirm that it operates normally.

  - To be able to start InfoPackage using this command, you must enter a definition beforehand that enables InfoPackage to be started by background processing. To do so, select background processing in the definition of the InfoPackage scheduler and set immediate execution as the startup condition for starting InfoPackage in the background.

  - To monitor the completion of InfoPackage using this command, you need to specify that the signal color changes to blue or red when InfoPackage ends with a warning. To do so, open the Monitor window of the administrator work bench, and choose **Settings -> Evaluation of requests (traffic lights)**. In the opened dialog box, select **is judged to be successful (green lights)** or **is thought to have errors (red lights)** in **If no data is available in the system, the request** and **If warning arise during processing, the request**.

- When starting a process chain

  - To start a process chain using this command, you must define the process chain in SAP BW beforehand and confirm that it operates normally.

  - To start a process chain using this command, you must define the process chain so it can be immediately executed from a non-SAP BW system. To do so, in the startup process of the process chain, select **Start Using Meta Chain or API**.

- When JP1/AJS re-executes a job that executes a process chain, the process chain is re-executed from the beginning, not from the process that has failed. Therefore, if you want JP1/AJS to re-execute jobs that execute process chains, we recommend that you create each process chain in the smallest re-executable unit as possible.

Usage examples

- Start InfoPackage under the following conditions:

    - SAP BW destination information is specified (`-h bw20b01 -s 00`).

    - SAP BW logon information is specified (`-c 100 -u JP1 -p2 bw2001 -l J`).

    - InfoPackage is specified (`-ip ZPAK_54QRO40UDA09WUQDLD92RSYRL`).

    - InfoPackage completion is to be monitored (`-wait -time 10 -ival 10`).

    To start InfoPackage under the above conditions, make sure that the `jbwipsta` command line is specified as follows:

    ```
    jbwipsta -h bw20b01 -s 00 -c 100 -u JP1 -p2 bw2001 -l E
    -ip ZPAK_54QRO40UDA09WUQDLD92RSYRL -wait -time 10 -ival 10
    ```

- Start the process chain under the following conditions:

    - SAP BW destination information is specified (`-h bw35001 -s 00`).

    - SAP BW logon information is specified (`-c 100 -u JP1 -p2 bw35001 -l J`).

    - A process chain is specified (`-pc ZPC_HRCALCMNTH`)

    - Process chain completion is to be monitored (`-wait -time 30 -ival 5`).

    To start the process chain under the above conditions, make sure that the `jbwipsta` command line is specified as follows:

    ```
    jbwipsta -h bw35001 -s 00 -c 100 -u JP1 -p2 bw35001 -l E
    -pc ZPC_HRCALCMNTH -wait -time 30 -ival 5
    ```

jr3bjcan

Format 1

```
jr3bjcan [SAP-destination-information]
          [SAP-logon-information]
          [redirection-information]
          -jn job-name
          [-jc job-count]
          [-user SAP-user-name]
```

Note

> If the character string for the argument specification contains a space, enclose the argument with double quotation marks (**"**).

Format 2

```
jr3bjcan -help
```

Description

Cancels a background job while an ABAP program job step is *active* (being executed).

The `jr3bjcan` command ends abnormally if an attempt is made to cancel a job in the following states:

- Execution of the job has not started (the job is in the *scheduled* state).
- The job that is specified to start execution is still waiting for execution (the job is in the *released* or *ready* state).
- The job has ended (either *finished* or *terminated*).
- The job is *active* and an external program job step is currently being executed.

  If the SAP kernel patch and profile parameters described in SAP Note 903769 are set in the connection destination SAP system, you can use the `jr3bjcan` command to cancel the job even if a job step corresponding to an external program is being executed.

  For details about the applicable SAP kernel patch and profile parameters, see the aforementioned *SAP Note 903769*.

When the `jr3bjcan` command ends normally, the job being executed by the SAP system is placed in the *terminated* state.

Arguments

SAP-destination-information

Specify the SAP system where the job to be canceled exists. For details about the format of SAP destination information, see *(1) Common argument format for job control function commands*.

SAP-logon-information

Specify logon information that is valid in the SAP system where the job to be canceled exists. For details about the format of SAP logon information, see *(1) Common argument format for job control function commands*.

redirection-information

Specify standard output and standard error output files for command execution. For details about the format of redirection information, see *(1) Common argument format for job control function commands*.

`-jn` *job-name*

Specify the job name of the job to be canceled. A character string of 1 to 32 bytes can be entered for the job name specification. If there are duplicate job names in the specified SAP system, enter the job count with the `-jc` option to specify the job.

Note that you must specify the `-jn` option.

`-jc` *job-count*

To differentiate jobs having the same name, specify the job count. If the job count specification is omitted, all the jobs having the same name are canceled.

`-user` *SAP-user-name*

This argument cancels only the jobs that are specified by the `-jn` option and owned by the specified SAP user. A character string of 1 to 12 bytes can be entered for the SAP user name specification.

`-help`

This argument provides information on using the command.

Return values

`0`

　　All the specified jobs were successfully canceled.

Integer of `1` or more

　　The specified jobs were not canceled successfully.

Usage examples

- Canceling job `R3JOB1` of user `R3USER1`

  The conditions are as follows:

  - The `sapnwrfc.ini` file will be used (`-d R3SERV1`).

  - SAP logon information will be specified (`-c 001 -u R3USER1 -p2 HT0110`).

  - The job count will be specified (`-jc 15520501`).

  - The standard output file and standard error output file will be created in the directory specified by the environment setup file (`-so STDOUT1 -se STDERR1`).

  To cancel job `r3job1` of user `r3user1` under the above conditions, specify the `jr3bjcan` command line as follows:

```
jr3bjcan -d R3SERV1 -c 001 -u R3USER1 -p2 HT0110 -jn R3JOB1 -jc 15520501
-user R3USER1 -so STDOUT1 -se STDERR1
```

jr3bjcpy

Format 1

```
jr3bjcpy  [SAP-destination-information]
          [SAP-logon-information]
          [redirection-information]
          -jn name-of-the-source-job
          -jc job-count-of-the-source-job
          [-js number-of-the-first-step-to-start-copying-job]
          [-djn new-name-of-the-copied-job]
          [{-tgh target-host|-tgs target-server}]
          [{-rs|-ri}]
          [-wait [-time monitoring-time [-cancel]]
                 [-ival monitoring-interval]
                 [-jo SAP-job-log-filename]
                 [-mt [-mts message-type-character-string]]]
                 [-with_child]]
```

Note

If the character string for the argument specification contains a space, enclose the argument with double quotation marks (**"**).

Format 2

```
jr3bjcpy -help
```

Description

Copies a background job in an SAP system.

The background jobs that can be copied on the SAP system are those that can be defined and executed using transaction code SM36.

When the job is successfully copied, the SAP system assigns a job count to it to identify it. This job count is transferred to the standard output as part of a message.

The user can use the job count and the new name of the copied job specified in the -djn option (the name of the source job if the new name of the copied job is not specified) to view the status of a copied job or to cancel job execution.

Use the jr3bjdel command to delete jobs copied on the SAP system.

Arguments

SAP-destination-information

Specify the SAP system in which the job is to be copied. Copied jobs are usually executed with the load distributed among application servers that are capable of executing the jobs. With the -tgh option, however, it is possible to specify the system that will execute the jobs. For details about the format of SAP destination information, see *(1) Common argument format for job control function commands*.

SAP-logon-information

Specify logon information that is valid in the SAP system in which the job is to be copied. Usually, a valid user for job execution is an SAP user who is specified in the SAP logon information. With the -auth option in the job step information, however, it is possible to specify a valid SAP user for job execution.

The language specified for the -l option in the SAP logon information affects the language for the SAP job log. It also affects the language for the error details that are returned by the SAP system and inserted into a message, such as KAJM0802-E and KAJM0813-E.

To change the language type of the ABAP program defined as a job step from the default of the SAP system when you execute the job, use the -lang option in the job step information. For details about the format of SAP logon information, see *(1) Common argument format for job control function commands*.

redirection-information

Specify standard output and standard error output files for command execution. For details about the format of redirection information, see *(1) Common argument format for job control function commands*.

-jn *name-of-the-source-job*

Specify the job name of the SAP job to be copied. A character string of 1 to 32 bytes can be entered for the job name specification.

Note that the -jn option specification cannot be omitted.

-jc *job-count-of-the-source-job*

Specify the job count of the SAP job name to be copied. A character string of 1 to 8 bytes can be entered for the job count of the source job. If the specified character string is shorter than 8 bytes, it is padded with leading zeros to be 8 bytes and then copied.

Note that the -jc option specification cannot be omitted.

-js *number-of-the-first-step-to-start-copying-job*

Specify the job count of the SAP job name from which the copying is started. A character string of 1 to 2 bytes can be entered for the number of the first step to start copying job. If the specified character string is shorter than 2 bytes, it is padded with leading zeros to be 2 bytes and then copied. If 0 or 1 is specified, all job steps are copied.

-djn *new-name-of-the-copied-job*

Specify the name of the copied SAP job. A character string of 1 to 32 bytes can be entered for the job name. If the new name of the copied job is omitted, the job is copied with the same name as the source job.

-tgh *target-host*

Specify the host name of the application server that executes the copied job. As the target host designation, a character string of between 1 and 32 bytes can be entered. From the list of host names displayed by the transaction SM51, you can also select the host name assigned to the application server that offers a background processing service.

If you specify this option, the command will select one of the application servers that are running on the specified host and designate it as the target system.

If you omit this option and the -tgs option, the SAP system will dynamically select the target system on which the job will run. You cannot specify the tgh and -tgs options at the same time.

Note

> This option is the job definition compatible parameter created for Release 4.0 and earlier SAP systems. To define jobs for Release 4.5 or later SAP systems, use the `-tgs` option.

`-tgs` *target-server*

Specify the name of the application server or the job server group that executes the copied job. You can specify a character string of 1 to 20 bytes for the target server. When you use an application server, you can specify one of the names that are assigned to the application servers for providing background processing services (upper-case and lower-case characters are differentiated). These application server names are listed as host names by transaction `SM51`. When you use a job server group, you can specify one of the names (upper-case and lower-case characters are differentiated) of the job server groups containing the application servers that provide background processing services. These job server group names are listed by transaction SM61.

If you omit this option and the `-tgh` option, the SAP system will dynamically select the target system on which the job will run. You cannot specify the `tgs` and `-tgh` options at the same time.

`-rs`

This argument releases the job as soon as possible after its copy.

To release a job as soon as possible means that the job will be released when the system resources necessary for executing the job are allocated.

If the necessary resources cannot be allocated because another job is exclusively using the SAP system resources, release of the job is suspended until the necessary resources are allocated.

`-ri`

This argument releases the job immediately after its copy.

The job is released immediately after the command is entered, regardless of whether the system resources necessary for executing the job are allocated. Therefore, release of a job fails if another job is exclusively using the SAP system resources.

`-wait`

This argument performs job monitoring until the execution of the released job ends (until job execution ends, commands cannot be executed from the command line).

If the job being monitored for its completion is interrupted by the SAP system, the completion monitoring may not end. In such a case, a KAJM1836-W message appears. Follow the instructions in the message.

The `-wait` option is valid when the `-rs` or `-ri` option is specified.

`-time` *monitoring-time*

Specify the duration of job completion monitoring in minutes. Job completion will be monitored for the specified period of time. Make sure that this monitoring time setting is greater than the monitoring interval value that is specified by the `-ival` option. The specifiable range for monitoring time is from 1 to 65,535. If the `-time` option specification is omitted, there is no limit on the monitoring time.

When the `-with_child` option is specified, all jobs, including the child jobs, are monitored for their completion during this time.

If the job does not end within the specified monitoring time, that terminates the command without regard to the job status occurs.

The -time option is valid when the -wait option is specified.

-cancel

This argument cancels a job having the job count specified by the -jc option if it does not end within the time specified by the -time option. Note that this argument works only on an *active* job (job currently being executed). It does not cancel jobs under the following conditions:

- The job whose completion is being monitored is not *active*.
- An external program job step is being executed while the job whose completion is being monitored is *active*.

When the -with_child option is specified, all jobs, including the child jobs, are canceled.

If the -cancel option is not specified, the job execution continues as is in the SAP system.

The -cancel option is valid when the -time option is specified.

-ival *monitoring-interval*

Specify the interval in seconds at which a job is to be monitored. Job monitoring can be performed at the specified monitoring interval until the job ends (job polling monitoring). The specifiable monitoring interval range is from 1 to 65,535. If a monitoring interval is omitted when the -ival option is specified, the monitoring interval is 5 seconds.

The default monitoring interval setting of 5 seconds can be changed in the environment setup file.

The -ival option is valid when the -wait option is specified.

-jo *SAP-job-log-filename*

Specify the SAP job log output destination. The SAP job log is acquired when job execution ends (when the return value is 0 or 1 and the -wait option is specified). The length of the character string for the SAP job log filename varies depending on whether Windows or Linux is used.

- When Windows is used
  A character string of 1 to 259 bytes can be entered for the SAP job log filename.
- When Linux is used
  A character string of 1 to 255 bytes can be entered for the SAP job log filename.

If you do not use the full path to specify the SAP job log file, the file is created in the work directory of JP1/AJS3 for EAP. (If the JP1/AJS3 for EAP work directory is not defined, the file will be created in the current directory.)

For the SAP job log file name, do not specify a device file, such as /dev/null. If the SAP job log file is not needed, delete the file that is created.

The SAP job log output is in *write-date write-time message-code* (message class and message number) *message-text* format.

You can also write the SAP job log to this file.

- When the -se option is specified
  You can output SAP job logs to the standard error output file specified in the -se option.
- When you do not specify the -se option, but specify a standard error output file name in the Define Details - [Custom Job] dialog box of JP1/AJS - View

You can view the content of the SAP job log in the Execution Result Details dialog box in the Jobnet Monitor window of JP1/AJS - View.

If you specify `YES` for the `JoblogAddToStderr` key of the Command section of the environment settings file, you can output the SAP job log to the specified file and to the standard error output at the same time. Therefore, when the `-se` option is not specified, you can use JP1/AJS - View to view the contents of the SAP job log as described above.

When the `-with_child` option is specified, the log of all jobs that are *finished* or *terminated* is acquired when the completion monitoring of all jobs, including the child jobs, ends (includes timeout errors).

If the `-jo` option specification is omitted, the SAP job log will not be output to the JP1/AJS3 for EAP system.

-mt

Specify this option if the message type is output to the SAP job log.

If the `-jo` option is not specified, this option cannot be specified.

-mts *message-type-character-string*

Specify this option if the message type in the SAP job log is searched.

A character string of 1 to 8 bytes can be entered for the message type character string. The characters that can be specified and their meaning are shown below. If you specify more than one character, enter a character followed by the other characters.

```
A: Abnormal termination
E: Error
S: Successful end
I: Information
W: Warning
```

You must specify it if you search the message types. If the `-mt` option is not specified, this option cannot be specified. The command terminates abnormally with the return value `4` if the message type of the output job log contains the character string specified in the *message-type-character-string*.

-with_child

This argument monitors the completion of all jobs, including the child jobs, that are generated during the execution of the target job (completion monitoring of parent and child jobs). The target child jobs are those that are detected when the job being monitored for its completion is *finished* or *terminated*. A maximum of 100 jobs can be monitored for their completion regardless of the generation numbers of the child jobs.

If the number of jobs to be monitored for their completion exceeds the maximum limit, a KAJM1872-W message appears. The completion monitoring then continues for the jobs that can be monitored for their completion and the system returns `1`, indicating that the result of at least one job cannot be checked.

If a job being monitored for its completion is deleted, a KAJM1837-W message or a KAJM1871-W message appears. The completion monitoring then continues for other target jobs and the system returns `1`, indicating that the result of at least one job cannot be checked.

If the system detects a child job that is not released, the completion monitoring may not end. In such a case, a KAJM1838-W message appears. Follow the instructions in the message.

The `-with_child` option is valid when the `-wait` option is specified.

Note

To specify the -with_child option, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host, and the XBP 2.0 interface and the parent and child function must be enabled in the connection destination SAP system.

-help

This argument provides information on using the command.

Return values

- When the -wait or -cancel option is not specified

  0

  The job was successfully copied.

  Integer of 1 or more

  The job was not copied.

- When the -wait option is specified

  0

  The job ended normally.
  All the jobs ended normally (when the -with_child option is specified).

  1

  The job was canceled.
  One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted (when the -with_child option is specified).

  2

  The job completion monitoring resulted in a timeout error.

  Integer of 3 or more

  The command ended abnormally (job copy, release, or monitoring failed).

- When the -cancel option is specified

  0

  The job ended normally.
  All the jobs ended normally (when the -with_child option is specified).

  1

  The job was canceled.
  One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted (when the -with_child option is specified).

  2

  All the jobs were successfully canceled when the job completion monitoring resulted in a timeout error.

  3

  At least one job failed to be canceled when the job completion monitoring resulted in a timeout error.

  Integer of 4 or more

  The command ended abnormally (job copy, release, or monitoring failed).

- When the `-mts` option is specified

  0

  The job ended normally.

  All the jobs are finished and the message type specified in the `-mts` option is not output to the job log.

  1

  The job was canceled.

  One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted.

  2

  All the jobs were successfully canceled when the job completion monitoring resulted in a timeout error.

  3

  At least one job failed to be canceled when the job completion monitoring resulted in a timeout error.

  4

  The job was finished and the message type specified in the `-mts` option is output to the job log.

  Integer of 5 or more

  The command ended abnormally (job copy, release, or monitoring failed).

Precautions

If one of the following conditions is satisfied, the job execution target option (`-tgh` or `-tgs`) specified in the `jr3bjcpy` command will be ineffective:

- The release option (`-rs` or `-ri`) is not specified.
- You have normally copied the job, but have failed to release the job.

In this event, no target host is assigned to the job copied on the SAP system.

To execute the job on a particular target host or server, release the job by specifying the target host or server using the `-tgh` or `-tgs` option in the `jr3bjrel` command. If you use the `jr3bjrel` command to release the job without specifying a target host or server, the SAP system will dynamically select the target host or server on which the job will be executed.

Supplement

- If an error occurs during copy of job or `jr3bjcpy` command execution is aborted, unnecessary jobs (nonexecutable jobs) may remain in the SAP system. Delete unnecessary jobs using the `jr3bjdel` command.

Usage examples

- Copying job `R3JOB1` of user `R3USER1`

  The conditions are as follows:

  - The `sapnwrfc.ini` file will be used (`-d R3SERV1`).
  - SAP logon information will be specified (`-c 001 -u R3USER1 -p2 HT0110`).
  - The job will be released as soon as possible after it is copied (`-rs`).
  - The job count of the copying SAP job will be specified (`-jc 1000`).
  - The new name of the copied job will be specified (`-djn R3JOB1CP`).

- The SAP job log file, standard output file, and standard error output file will be created in the directory specified by the environment setup file

  (`-jo JOBLOG1 -so STDOUT1 -se STDERR1`).

To create job `R3JOB1` of user `R3USER1` under the above conditions, make sure that the `jr3bjcpy` command line is specified as follows:

```
jr3bjcpy -d R3SERV1 -c 001 -u R3USER1 -p2 HT0110 -jn R3JOB1 -jc 1000 -djn
R3JOB1CP -rs -wait  -jo JOBLOG1 -so STDOUT1 -se STDERR1
```

jr3bjdel

Format 1

```
jr3bjdel [SAP-destination-information]
         [SAP-logon-information]
         [redirection-information]
         -jn job-name
         [-jc job-count]
         [-user SAP-user-name]
```

Note

    If the character string for the argument specification contains a space, enclose the argument with double quotation marks (**"**).

Format 2

```
jr3bjdel -help
```

Description

Deletes a background job on the SAP system.

The jr3bjdel command ends abnormally if an attempt is made to delete an *active* or *ready* job.

This command can act on a job that is in one of the following states:

- Execution of the job has not started (the job is in the *scheduled* state).
- The job that is specified to start execution is still waiting for execution (the job is in the *released* state).
- The job has ended (either *finished* or *terminated*).

Arguments

SAP-destination-information

Specify the SAP system where the job to be deleted exists. For details about the format of SAP destination information, see *(1) Common argument format for job control function commands*.

SAP-logon-information

Specify logon information that is valid in the SAP system where the job to be deleted exists. For details about the format of SAP logon information, see *(1) Common argument format for job control function commands*.

redirection-information

Specify standard output and standard error output files for command execution. For details about the format of redirection information, see *(1) Common argument format for job control function commands*.

-jn *job-name*

Specify the job name of the job to be deleted. A character string of 1 to 32 bytes can be entered for the job name specification. If there are duplicate job names in the specified SAP system, enter the job count with the -jc option to specify the job.

Note that you must specify the −jn option.

−jc *job-count*

To differentiate jobs having the same name, specify the job count. If the job count specification is omitted, all the jobs having the same name are deleted.

−user *SAP-user-name*

This argument deletes only the jobs that are specified by the −jn option and owned by the specified SAP user. A character string of 1 to 12 bytes can be entered for the SAP user name specification.

−help

This argument provides information on using the command.

Return values

0
   All the specified jobs were successfully deleted.

Integer of 1 or more
   The specified jobs were not deleted successfully.

Usage examples

- Deleting job R3JOB1 of user R3USER1
  The conditions are as follows:

  - The sapnwrfc.ini file will be used (−d R3SERV1).
  - SAP logon information will be specified (−c 001 −u R3USER1 −p2 HT0110).
  - The job count will be specified (−jc 15520501).
  - The standard output file and standard error output file will be created in the directory specified by the environment setup file (−so STDOUT1 −se STDERR1).

  To delete job R3JOB1 of user R3USER1 under the above conditions, specify the jr3bjdel command line as follows:

  ```
  jr3bjdel -d R3SERV1 -c 001 -u R3USER1 -p2 HT0110 -jn R3JOB1 -jc 15520501
  -user R3USER1 -so STDOUT1 -se STDERR1
  ```

jr3bjrel

Format 1

```
jr3bjrel [SAP-destination-information]
         [SAP-logon-information]
         [redirection-information]
         -jn job-name
         [-jc job-count [-wait [-time monitoring-time [-cancel]]
                                [-ival monitoring-interval]
                                [-jo SAP-job-log-filename]
                                [-mt [-mts message-type-character-string]]]
                                [-with_child]]]
         [{-tgh target-host|-tgs target-server}]
         [{-rs|-ri}]
         [-user SAP-user-name]
```

Note

If the character string for the argument specification contains a space, enclose the argument with double quotation marks (**"**).

Format 2

```
jr3bjrel -help
```

Description

Releases a job created in the SAP system.

If the `-rs` and `-ri` option specifications are omitted, the created job will be released *as soon as possible*. When the `jr3bjrel` command ends normally, the job status in the SAP system changes to the *released* state. If a job is released just after system resources needed to execute the job are allocated, the job is said to be released as soon as possible.

The following jobs can be released by the `jr3bjrel` command:

- Jobs that are created for the SAP system without using the `-rs` or `-ri` option of the `jr3bjsub` command
- Jobs registered as *scheduled* within the SAP system

Arguments

SAP-destination-information

Specify the SAP system where the job to be released exists. For details about the format of SAP destination information, see *(1) Common argument format for job control function commands*.

SAP-logon-information

Specify logon information that is valid in the SAP system where the job to be released exists. For details about the format of SAP logon information, see *(1) Common argument format for job control function commands*.

redirection-information

Specify standard output and standard error output files for command execution. For details about the format of redirection information, see *(1) Common argument format for job control function commands*.

`-jn` *job-name*

Specify the job name of the job to be released. A character string of 1 to 32 bytes can be entered for the job name specification. If there are duplicate job names in the specified SAP system, enter the job count with the `-jc` option to specify the job.

Note that the `-jn` option specification cannot be omitted.

`-jc` *job-count*

To differentiate jobs having the same name, specify the job count. If the job count specification is omitted, all the jobs having the same name are released. When using the `-wait` option for monitoring job completion, be sure to specify the job count.

`-wait`

This argument performs job monitoring until execution of the released job ends (until job execution ends, commands cannot be executed from the command line). The `-wait` option is valid when the `-rs` or `-ri` option is specified.

`-time` *monitoring-time*

Specify the duration of job completion monitoring in minutes. Job completion will be monitored for the specified period of time. Make sure that this monitoring time setting is greater than the monitoring interval value that is specified by the `-ival` option. The specifiable range for monitoring time is from 1 to 65,535. If the `-time` option specification is omitted, there is no limit on the monitoring time.

When the `-with_child` option is specified, the completion of all jobs, including the child jobs, is monitored during this time.

If the job does not end within the specified monitoring time, a job monitoring timeout that terminates the command without regard to the job status occurs.

The `-time` option is valid when the `-wait` option is specified.

`-cancel`

This argument cancels a job having the job count specified by the `-jc` option if it does not end within the time specified by the `-time` option. Note that this argument works only on an *active* job (job currently being executed). It does not cancel jobs under the following conditions:

- The job whose completion is being monitored is not *active*.
- An external program job step is being executed while the job whose completion is being monitored is *active*.

When the `-with_child` option is specified, all jobs, including the child jobs, are canceled.

If the `-cancel` option is not specified, job execution continues as is in the SAP system.

The `-cancel` option is valid when the `-time` option is specified.

`-ival` *monitoring-interval*

Specify the interval in seconds at which a job is to be monitored. Job monitoring can be performed at the specified monitoring interval until the job ends (job polling monitoring). The specifiable monitoring interval range is from 1 to 65,535. If a monitoring interval is omitted when the `-ival` option is specified, the monitoring interval is 5 seconds.

The default monitoring interval of 5 seconds can be changed in the environment setup file.

The `-ival` option is valid when the `-wait` option is specified.

`-jo` *SAP-job-log-filename*

Specify the destination of the SAP job log output. The SAP job log is acquired when job execution ends (when the return value is 0 or 1 and the `-wait` option is specified). The length of the character string for the SAP job log filename varies depending on whether Windows or Linux is used.

- When Windows is used

  A character string of 1 to 259 bytes can be entered for the SAP job log filename.

- When Linux is used

  A character string of 1 to 255 bytes can be entered for the SAP job log filename.

If you do not use the full path to specify the name of the SAP job log file, the file is created in the work directory of JP1/AJS3 for EAP. (If the JP1/AJS3 for EAP work directory is not defined, the file will be created in the current directory.)

For the SAP job log acquisition file name, do not specify a device file, such as `/dev/null`. If the SAP job log acquisition file is not needed, delete the file that is created.

SAP job log output is in *write-date write-time message-code* (message class and message number) *message-text* format.

You can also write the SAP job log to this file.

If you specify `YES` for the `JoblogAddToStderr` key of the Command section of the environment settings file, you can output the SAP job log to the specified file and to the standard error output at the same time. Therefore, when the `-se` option is not specified, you can use JP1/AJS - View to view the contents of the SAP job log as described above.

- When the `-se` option is specified

  You can output SAP job logs to the standard error output file specified in the `-se` option.

- When you do not specify the `-se` option, but specify a standard error output file name in the Define Details - [Custom Job] dialog box of JP1/AJS - View

  You can view the content of the SAP job log in the Execution Result Details dialog box in the Jobnet Monitor window of JP1/AJS - View.

When the `-with_child` option is specified, the log of all jobs that are *finished* or *terminated* is acquired when the completion monitoring of all jobs, including the child jobs, ends (includes time out errors).

If the `-jo` option specification is omitted, the SAP job log is not output to the JP1/AJS3 for EAP system.

`-mt`

Specify this option if the message type is output to the SAP job log.

If the `-jo` option is not specified, this option cannot be specified.

`-mts` *message-type-character-string*

Specify this option if the message type in the SAP job log is searched.

A character string of 1 to 8 bytes can be entered for the message type character string. The characters that can be specified and their meaning are shown below. If you specify more than one character, enter a character followed by the other characters.

```
A: Abnormal termination
E: Error
S: Successful end
I: Information
W: Warning
```

You must specify it if you search the message types. If the -mt option is not specified, this option cannot be specified. The command terminates abnormally with the return value 4 if the message type of the output job log contains the character string specified in the *message-type-character-string*.

-with_child

This argument monitors the completion of all jobs, including the child jobs that are generated during the execution of the target job (completion monitoring of parent and child jobs). The target child jobs are those that are detected when the job being monitored for its completion is *finished* or *terminated*. A maximum of 100 jobs can be monitored for their completion regardless of the generation numbers of the child jobs.

If the number of jobs to be monitored for completion exceeds the maximum limit, a KAJM1872-W message appears. The completion monitoring then continues for the jobs that can be monitored for their completion and the system returns 1, indicating that the result of at least one job cannot be checked.

If a job being monitored for its completion is deleted, a KAJM1837-W message or a KAJM1871-W message appears. The completion monitoring continues for other target jobs and the system returns 1, indicating that the result of at least one job cannot be checked.

If the system detects a child job that is not released, the completion monitoring may not end. In such a case, a KAJM1838-W message appears. Follow the instructions in the message.

The -with_child option is valid when the -wait option is specified.

Note

   To specify the -with_child option, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host, and the XBP 2.0 interface and the parent and child function must be enabled in the connection destination SAP system.

-tgh *target-host*

Specify the host name of the application server that executes the registered job. You can specify a target host name with a length from 1 to 32 bytes. From the list of host names displayed by the transaction SM51, you can also select the host name assigned to the application server that offers a background processing service.

If you specify this option, the command will select one of the application servers that are running on the specified host and designate it as the target system.

If you omit this option and the -tgs option, the SAP system will dynamically select the target system on which the job will run. You cannot specify the tgh and -tgs options at the same time.

Note

   This option is the job definition compatible parameter created for Release 4.0 and later SAP systems. To define jobs for Release 4.5 or later SAP systems, use the -tgs option.

-tgs *target-server*

Specify the name of the application server or the job server group that executes the registered job. You can specify a character string of 1 to 20 bytes. When you use an application server, you can specify one of the names (upper-case

and lower-case characters are differentiated) that are assigned to the application servers for providing background processing services. These application server names are listed by transaction SM51. When you use a job server group, you can specify one of the names (upper-case and lower-case characters are differentiated) of the job server groups containing the application servers that provide background processing services. These job server group names are listed by transaction SM61.

If you omit this option and the -tgh option, the SAP system will dynamically select the target server on which the job will run. You cannot specify the tgs and -tgh options at the same time.

-rs

This argument releases a job as soon as possible after its creation.

To release a job as soon as possible means that the job will be released when the system resources necessary for executing the job are allocated.

If the necessary resources cannot be allocated because another job is exclusively using the SAP system resources, release of the job is suspended until the necessary resources are allocated.

The -rs option is the default when the -rs and -ri options are not specified.

-ri

This argument releases a job immediately after its creation.

The job is released immediately after the command is entered, regardless of whether the system resources necessary for executing the job are allocated. Therefore, release of a job fails if another job is exclusively using the SAP system resources.

-user *SAP-user-name*

This argument cancels only the jobs that are specified by the -jn option and are owned by the specified SAP user. A character string of 1 to 12 bytes can be entered for the SAP user name specification.

Note that the -user option cannot be used together with the -wait option.

-help

This argument provides information on using the command.

Return values

- When the -wait or -cancel option is not specified

  0
  > All the specified jobs were successfully released.

  Integer of 1 or more
  > The specified jobs were not successfully released.

- When the -wait option is specified

  0
  > The job ended normally.
  > All the jobs ended normally (when the -with_child option is specified).

  1
  > The job was canceled.

One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted (when the `-with_child` option is specified).

2

The job completion monitoring resulted in a timeout error.

Integer of 3 or more

The command ended abnormally (a job release or monitoring operation failed).

- When the `-cancel` option is specified

0

The job ended normally.

All the jobs ended normally (when the `-with_child` option is specified).

1

The job was canceled.

One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted (when the `-with_child` option is specified).

2

All the jobs were successfully canceled when the job completion monitoring resulted in a timeout error.

3

At least one job was not successfully canceled when the job completion monitoring resulted in a timeout error.

Integer of 4 or more

The command ended abnormally (a job release or monitoring operation failed).

- When the `-mts` option is specified

0

The job ended normally.

All the jobs are finished and the message type specified in the `-mts` option is not output to the job log.

1

The job was canceled.

One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted.

2

All the jobs were successfully canceled when the job completion monitoring resulted in a timeout error.

3

At least one job failed to be canceled when the job completion monitoring resulted in a timeout error.

4

The job was finished and the message type specified in the `-mts` option is output to the job log.

Integer of 5 or more

The command ended abnormally (a job release or monitoring operation failed).

Supplement

- When the `-wait` option is specified and the `-rs` or `-ri` option has been specified, job monitoring will be performed until the execution of a released job ends (until job execution ends, commands cannot be executed from the command

line). Specifying the `-wait` option adds job execution result (ended normally or canceled) information to the command end code.

It should be remembered that jobs can also be released by the `jr3bjsub` command.

Usage examples

- Releasing job `R3JOB1` of user `R3USER1`

  The conditions are as follows:

  - The `sapnwrfc.ini` file will be used (`-d R3SERV1`).

  - SAP logon information will be specified (`-c 001 -u R3USER1 -p2 HT0110`).

  - The job count will be specified (`-jc 11204501`).

  - The job will be released as soon as possible (`-rs`).

  - The released job will be subject to job completion monitoring at 10-second intervals for a period of 10 minutes (`-wait -time 10 -ival 10`).

  - The job completion monitoring operation will be canceled in 10 minutes (`-cancel`).

  - The standard output file and standard error output file will be created in the directory specified by the environment setup file (`-so STDOUT1 -se STDERR1`).

  To release job `R3JOB1` of user `R3USER1` under the above conditions, make sure that the `jr3bjrel` command line is specified as follows:

  ```
  jr3bjrel -d R3SERV1 -c 001 -u R3USER1 -p2 HT0110 -jn R3JOB1 -jc 11204501
  -rs -wait -time 10 -ival 10  cancel -so STDOUT1 -se STDERR1
  ```

jr3bjrep

Format 1

```
jr3bjrep  [SAP-destination-information]
          [SAP-logon-information]
          [redirection-information]
          -pa ABAP-program-name
```

Note

> If the character string for the argument specification contains a space, enclose the argument with double quotation marks (**"**).

Format 2

```
jr3bjrep -help
```

Description

Acquires information about SAP system resources. The names of the variants defined for a specified ABAP program can be enumerated as SAP program resource information.

Arguments

SAP-destination-information

Specify the SAP system where the job about which resource information will be obtained exists. For details about the format of SAP destination information, see *(1) Common argument format for job control function commands*.

SAP-logon-information

Specify logon information that is valid in the SAP system where the job about which resource information will be obtained exists. For details about the format of SAP logon information, see *(1) Common argument format for job control function commands*.

redirection-information

Specify standard output and standard error output files for command execution. For details about the format of redirection information, see *(1) Common argument format for job control function commands*.

-pa *ABAP-program-name*

Specify a desired ABAP program name. You can specify a character string from 1 to 40 bytes.

-help

This argument provides information on using the command.

Return values

`0`

> The job resource information was successfully obtained.

Integer of `1` or more

> Job resource information was not obtained.

Usage examples

- Enumerating the variants of the ABAP program `RSPO0041`

  The conditions are as follows:

  - SAP destination information will be specified (`-h R3CENTRL -s 00`).

  - SAP logon information will be specified (`-c 000 -u R3USER1 -p2 HT0110`).

  - The standard output file and standard error output file will be created in the system's standard output and standard error output, respectively.

  To enumerate the variants of the ABAP program `RSPO0041` under the above conditions, make sure that the `jr3bjrep` command line is specified as follows:

  ```
  jr3bjrep -h R3CENTRL -s 00 -c 000 -u R3USER1 -p2 HT0110 -pa RSPO0041
  ```

  Output result:

  ```
  P-CC242C-65AL JP1/AJS3 for Enterprise Applications 10-00-01  20130228 090001

  Program information      (RSPO0041)
  Variant
   STANDARD
   WAIT_SPOOL
  (EOD)
  ```

jr3bjsho

Format 1

```
jr3bjsho  [SAP-destination-information]
          [SAP-logon-information]
          [redirection-information]
          -jn job-name
          [-jc job-count]
          [-user SAP-user-name]
          [-status status-name]
          [-check]
          [-ls]
          [-lo [-mt]]
```

Note

If the character string for the argument specification contains a space, enclose the argument with double quotation marks (**"**).

Format 2

```
jr3bjsho -help
```

Description

Displays the information (including the SAP job log) about SAP system background jobs in list or detailed list format.

The characteristics of the display formats are summarized below.

- When list format is used

  Information about a job complying with the an option-specified pattern can be displayed in list format.

- When detailed form is used

  Job information, including job step information and SAP job log information, can be displayed in detailed list format. The -ls and -lo options can be used.

  Individual items of information in the prescribed format are transferred to the standard output. The -ls and -lo options can be specified in any order.

Arguments

SAP-destination-information

Specify the SAP system where the job about which information is to be displayed exists. For details about the format of SAP destination information, see *(1) Common argument format for job control function commands*.

SAP-logon-information

Specify the logon information that is valid in the SAP system where the job about which information is to be displayed exists. For details about the format of SAP logon information, see *(1) Common argument format for job control function commands*.

redirection-information

Specify standard output and standard error output files for command execution. For details about the format of redirection information, see *(1) Common argument format for job control function commands*.

-jn *job-name*

Specify the job name of the job about which information is to be displayed. A character string of 1 to 32 bytes can be entered for the job name specification. If there are duplicate job names in the specified SAP system, enter the job count with the -jc option to specify the job.

Note that the -jn option specification cannot be omitted.

-jc *job-count*

To differentiate jobs having the same name, specify the job count. If the job count specification is omitted, information about all jobs having the same name is displayed.

-user *SAP-user-name*

This argument displays information about only the jobs that are specified by the jn option and owned by the specified SAP user. A character string of 1 to 12 bytes can be entered for the SAP user name specification.

-status *status-name*

This argument displays only jobs that are specified by the -jn option and in the specified state. Note that one or more status names can be specified (e.g., -status RYF). If there are duplicate status name specifications, they are handled as one status name.

The characters that can be specified and their meaning are shown below.

P: Scheduled

S: Released

Y: Ready

R: Active

F: Finished

A: Terminated

-check

This argument displays the latest SAP system job information.

-ls

This argument displays the job attribute information in detailed list format.

-lo

This argument displays an SAP job log if there is one for the target job.

-mt

Specify this option if the message type is output to the SAP job log. If this option is omitted, the message type is not collected.

If the -lo option is not specified, this option cannot be specified.

-help

This argument provides information on using the command.

Return values

`0`

> All the specified jobs were successfully displayed.

Integer of `1` or more

> The specified jobs were not successfully displayed.

Usage examples

- Displaying job information about job `JOB0129` in list format

  The conditions are as follows:

  - SAP destination information will be specified (`-h R3CENTRL -s 00`).

  - SAP logon information will be specified (`-c 000 -u R3USER1 -p2 HT0110`).

  - The standard output file and standard error output file will be created in the system's standard output and standard error output, respectively.

  To display the job information about job `JOB0129` in list format under the above conditions, make sure that the `jr3bjsho` command line is specified as follows:

  ```
  jr3bjsho -h R3CENTRL -s 00 -c 000 -u R3USER1 -p2 HT0110  -jn KEISAN-1
  ```

  Output result:

  ```
  P-CC242C-65AL JP1/AJS3 for Enterprise Applications 10-00-01  20130228 090001

  Job name          Job count   SAP user    Status
  JOB0129           13531901    SAP*        finished
  JOB0129           08000100    SAPUSR1     active
  JOB0129           08500102    JP1USER     released
  JOB0129           22560600    JP1TEST     terminated
  (EOD)
  ```

- Displaying the job information about job `JOB0129` in detailed list format

  The conditions are as follows:

  - SAP destination information will be specified (`-h R3CENTRL -s 00`).

  - SAP logon information will be specified (`-c 000 -u R3USER1 -p2 HT0110`).

  - The job count will be specified (`-jc 13531901`).

  - The standard output file and standard error output file will be created in the system's standard output and standard error output, respectively.

  To display the job information about job `JOB0129` in detailed list format under the above conditions, make sure that the `jr3bjsho` command line is specified as follows:

  ```
  jr3bjsho -h R3CENTRL -s 00 -c 000 -u R3USER1 -p2 HT0110 -jn KEISAN-1 -jc 1
  3531901 -ls -lo
  ```

Output result:

```
P-CC242C-65AL JP1/AJS3 for Enterprise Applications 10-00-01  20130228 090001

Job information
    Job name                :  JOB0129
    Job count               :  13531901
    SAP user                :  SAP*
    Status                  :  finished
    Target server           :
    Execution server        :  r3centrl_SD5_00
    Step count              :  2
    Scheduled time          :  20130227 135319
    Last modified time      :  20130227 135319
    Release time            :  20130227 135322
    Start time              :  20130227 135323
    End time                :  20130227 135402

Step information (1)
    Type                    :  External program
    Program                 :  hello.out
    Parameter               :
    Authorization user      :
    Target host             :  r3centrl

Step information (2)
    Type                    :  ABAP program
    Program                 :  ZSUM0022
    Variant                 :
    Authorization user      :  SAPUSR1
    Language                :  J
*   Printed parameters
    Spool ID                :  0000006503
    Spool request name      :  ZSUM0022_SAP
    Output device           :
    Number of copies        :  1
    Authorization           :
    Print immediately       :  Yes
    Delete after print      :  No
    Retention period        :  8 days
    Archiving mode          :  Print and archive
    SAP cover               :  Default
    Selection cover sheet   :  No
    Receiver                :  SAPUSR1
    Lines/columns           :  65/80
    Format                  :  X_65_80
*   Archive parameters
    Object type             :  ARCHIVE
    Document type           :  ARCHIVE
    Report name             :  ZSUM0022
    Information ID          :  001
    Text                    :

Job log (Job name: JOB0129, Job count: 13531901)
    20130227 135323 00516  Job started
    20130227 135323 BT611  Step 001 started
    20130227 135323 BT612  External program: hello.out
    20130227 135323 BT613  Related parameter:
    20130227 135324 BT606  External program: Hello World!
    20130227 135324 BT606  External program: SAPXPG start date r3centrl_SD5_00. process ID 3908. Processing
no. 1
    20130227 135401 00550  Step 002 start (program ZSUIM0022, variant, user ID SAP*)
    20130227 135402 00517  Job finished
(EOD)
```

jr3bjsub

Format 1

```
jr3bjsub  [SAP-destination-information]
          [SAP-logon-information]
          [redirection-information]
          -jn job-name
        [-class job-class]
          job-step-information...
          [{-tgh target-host|-tgs target-server}]
          [{-rs|-ri}]
          [-wait [-time monitoring-time [-cancel]]
                 [-ival monitoring-interval]
                 [-jo SAP-job-log-filename]
                 [-mt [-mts message-type-character-string]]]
                 [-with_child]]
```

Note

> If the character string for the argument specification contains a space, enclose the argument with double quotation marks (**"**).

Format 2

```
jr3bjsub -help
```

Description

Creates a background job in an SAP system.

The background jobs that can be registered on the SAP system are those that can be defined and executed using transaction code SM36.

When the job is successfully created, the SAP system assigns a job count to it to identify it. This job count is transferred to the standard output as part of a message.

The user can use the job count and the job name specified at creation to viewing the status of a created job or to cancel job execution.

Use the jr3bjdel command to delete jobs registered on the SAP system.

Arguments

SAP-destination-information

Specify the SAP system in which the job is to be created. Created jobs are usually executed with the load distributed among application servers that are capable of executing the jobs. With the -tgh option, however, it is possible to specify the system that will execute the jobs. For details about the format of SAP destination information, see *(1) Common argument format for job control function commands*.

SAP-logon-information

Specify logon information that is valid in the SAP system in which the job is to be created. Usually, a valid user for job execution is an SAP user who is specified in the SAP logon information. With the -auth option in the job step information, however, it is possible to specify a valid SAP user for job execution.

The language specified for the -l option in the SAP logon information affects the language for the SAP job log. It also affects the language for the error details that are returned by the SAP system and inserted into a message, such as KAJM0802-E and KAJM0813-E.

To change the language type of the ABAP program defined as a job step from the default of the SAP system when you execute the job, use the -lang option in the job step information. For details about the format of SAP logon information, see *(1) Common argument format for job control function commands*.

redirection-information

Specify standard output and standard error output files for command execution. For details about the format of redirection information, see *(1) Common argument format for job control function commands*.

-jn *job-name*

Specify the job name of the SAP job to be created. A character string of 1 to 32 bytes can be entered for the job name specification.

Note that the -jn option specification cannot be omitted.

-class *job-class*

Specify the job class (priority level of job execution) of the SAP job to be created. The characters that can be specified and their meaning are shown below.

A: High

B: Middle

C: Low

Normally, specify C. To execute a job with priority, specify B. To execute a job immediately in an emergency, specify A. The default is C.

Note
> To specify a job class, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

job-step-information...

Specify a program (ABAP program or external program) as a job step in the job. If you specify two or more sets of job step information, you can assign two or more job steps to a job. Up to 99 sets of job step information can be specified. The job steps assigned to a job are executed in the order of assignment.

When setting up a job step, specify the -pa option (or -px option) and the options that follow (such as -auth) as a group. For an example of setting the job step, see the usage example.

The job step information format varies with the type of program specified as a job step. The job step information format of each program type is described below.

Job step information format (ABAP program)

```
-pa ABAP-program [-var variant]
                 [-auth authorized-user]
                 [-lang language]
                 [-armode archive-mode]
                 [-out output-device]
                 [-ln lines] [-col columns]
                 [-fmt format]
                 [-cc number-of-copies]
                 [-shwpwd authority]
                 [-ip][-dp]
                 [-rpd spool-retention-period]
                 [-title spool-request-title]
                 [-sapcvr SAP-cover]
                 [-selcvr]
                 [-receiver recipient]
                 [-dpt department]
                 [-objtyp object-type]
                 [-doctyp document-type]
                 [-info information-ID]
                 [-text information-text]
                 [temporary-variant-information]
```

−pa *ABAP-program*

Specify the name of the ABAP report program (ABAP program) to be added as a job step. A character string of 1 to 40 bytes can be entered in the ABAP program. Make sure that the ABAP program to be specified is preregistered in the SAP system.

−var *variant*

When there is a variant for the ABAP program, specify its name. A character string of 1 to 14 bytes can be entered for the variant name specification. Variants that can be specified with the −var option are limited to those that have been registered in the SAP system.

−auth *authorized-user*

Specify the name of the authorized user that is set when the ABAP program is executed. You can specify a character string of 1 to 12 bytes as the name of the authorized user. If you omit the −auth option, the user who logged on to the SAP system (user specified in the SAP logon information) is set as the authorized user when the ABAP program is executed.

−lang *language*

Enter a single-byte alphabetic character to specify the language to be used. You can use either Japanese or English. Specify the following language that can be used in the execution environment of the ABAP program.

- For Japanese: J

- For English: E

If the −lang option is omitted, the language used by the application server at the logon destination is used. The language specified by this option also affects the spool list output information.

−armode *archive-mode*

Specify a method for archiving the execution results of the ABAP program.

The characters that can be specified and their meaning are shown below. The default archive mode is P (print).

P: Print

A: Archive

`PA` (or `AP`): Print and archive

If you assign A or PA to `armode`, you must also specify `-objtyp`, `-doctyp`, and `-info`.

`-out` *output-device*

Specify the name of the output destination device set for the SAP system as the print destination of the execution results of the specified ABAP program. Specify the abbreviation of the output device. A character string of between one and four bytes can be entered. If you omit the printer specification, the default output device defined for the SAP system is selected automatically.

`-ln` *lines*

Specify the number of lines to set the output format for the execution results of the ABAP program. The specifiable values are 1 to 255. If you omit this option, the SAP system will select an appropriate format.

You cannot specify the `-ln` option and the `-fmt` option together.

`-col` *columns*

Specify the number of columns to set the output format for the execution results of the ABAP program.

The specifiable values are 1 to 255. If you omit this option, the SAP system will select an appropriate format.

You cannot specify the `-col` option and the `-fmt` option together.

`-fmt` *format*

Specify the name of the output format for the execution results of the ABAP program.

You can specify a character string of 1 to 16 bytes. If you omit this option, an applicable format is selected by the SAP system.

You cannot specify the `-fmt` option and the `-ln` option or the `-col` option together.

Note

To specify the `-fmt` option, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

`-cc` *number-of-copies*

Specify the number of copies to be printed. A value of between 1 and 255 can be entered. If you omit the number of copies specification, it is automatically set to 1.

`-shwpwd` *authorization*

To prevent the illegal manipulation of print requests, you can specify an authorization character string. Users are allowed to manipulate print requests only when they have a spool action authorization object that matches the authorization character string entered here. A character string of between one and twelve bytes can be entered.

`-ip`

Immediately forwards print requests to the printer.

If this specification is omitted, instant output (instant printing) does not occur.

`-dp`

Deletes print requests after they have been sent to the printer.

If this specification is omitted, print requests are not deleted after they have been sent to the printer.

`-rpd` *spool-retention-period*

Specify how many days the print request should be retained.

The characters that can be specified and their meaning are shown below. If you omit this option, the print request will be retained for eight days (it will be deleted after eight days).

1 to 8: Number of days during which the print request will be retained

unlimited: The print request will be retained indefinitely.

`-title` *spool-request-title*

Specify the title of the spool request. You can specify a value of 1 to 68 bytes. If you omit this option, the title of the spool request is blank.

Note

To specify the `-title` option, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

`-sapcvr` *SAP-cover*

Specify this option to add a SAP cover, including the recipient name, section name, and other information, to the ABAP program execution results. The characters that can be specified and their meaning are shown below.

`Y`: A SAP cover will be added.

`N`: No SAP cover will be added.

`D`: A SAP cover may or may not be added depending on the setting of the printer.

If you omit the `-sapcvr` option, `D` is assumed for the SAP cover.

`-selcvr`

Specify this option to add a selected-report cover, containing the program execution condition, to the ABAP program execution results.

`-receiver` *recipient*

Specify this option to change the recipient of the print-out. If you specify this option, the receiver name printed on the SAP cover will also be changed. You can specify a character string of 1 to 12 bytes. If you do not specify a recipient, the user who is permitted to execute the ABAP program is assumed.

`-dpt` *department*

Enter the name of the department to be printed on the SAP cover.

You can specify a character string of 1 to 12 bytes. If you omit this option, the department specified in the profile of the user who is permitted to execute the ABAP program is assumed.

Note

To specify the `-dpt` option, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

`-objtyp` *object-type*

Specify an object type used to classify the archive of the report to be printed. You can specify a character string of 1 to 10 bytes. You must register the object type with the SAP system in advance.

Note

This option is mandatory if you assign A (Archive) or PA (Print and archive) to `-armode`. If you assign P (print) or nothing to `-armode`, do not specify this option.

`-doctyp` *document-type*

Specify a document type used to classify the archive of the report to be printed. You can specify a character string of 1 to 10 bytes. You must register the document type with the SAP system in advance.

Note

This option is mandatory if you assign A (Archive) or PA (Print and archive) to `-armode`. If you assign P (print) or nothing to `-armode`, do not specify this option.

`-info` *information-ID*

Specify an information ID that identifies the archive request. You can specify a character string of 1 to 3 bytes.

This option is mandatory if you assign A (Archive) or PA (Print and archive) to `-armode`. If you assign P (print) or nothing to `-armode`, do not specify this option.

`-text` *information-text*

Enter an explanation that describes the contents of the archive request.

You can specify a character string of 1 to 40 bytes. You can specify this option when A (archive) or PA (print and archive) is set for `-armode`. You can omit this option.

Note

To specify the `-text` option, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host and the XBP 2.0 interface must be enabled in the connection destination SAP system.

temporary-variant-information

Specify the value of the temporary variant set for the program (an ABAP program or an external program). If you specify more than one set of temporary variant information, you can assign multiple sets of temporary variant information to one program. Up to 32 sets of temporary variant information can be specified.

If you specify the `-var` option together, the items specified for the specified variant are read to overwrite the items specified for the `-tv` option, and then set for the temporary variant.

If the `-var` option is not specified together, only the items specified in the `-tv` option are set as the temporary variant.

Temporary variant information format

```
{-tv} {-selname item-name} [-sign I/E]
                           [-option option]
                           [-frm frm]
                           [-to to]
```

- `-selname` *item-name*

  Specify the name of the temporary variant. A character string of 1 to 8 bytes can be entered for the item name. If you specify the `-tv` option, specify the `-selname` option.

- `-sign` *I/E*

  Specify whether to select the temporary variant name specified for the item name. The specified value is passed to the SAP system as it is. Note that some items may not be set as a value of the temporary variant even if you specify them.

- `-option` *option-value*

  Specify the option value[#] of the temporary variant name specified for the item name. A character string of 1 to 2 bytes can be entered for the option value. The specified value is passed to the SAP system as it is. Note that some items may not be set as a value of the temporary variant even if you specify them.

  #: The option value that is displayed in the Display a Variant window when you start the ABAP Editor on the SAP frontend software

- `-frm` *frm-value*

  Specify the frm value[#] of the temporary variant name specified for the item name. A character string of 1 to 45 bytes can be entered for the frm value. The specified value is passed to the SAP system as it is. In addition, some items may not be set as a value of the temporary variant even if you specify them. Specify the value used in the SAP system. Note that the value displayed in the SAP frontend software may be different from the one used in the SAP system.

  #: The frm value that is displayed in the Display a Variant window when you start the ABAP Editor on the SAP frontend software

- `-to` *to-value*

Specify the to value[#] of the temporary variant name specified for the item name. A character string of 1 to 45 bytes can be entered for the to value. The specified value is passed to the SAP system as it is. In addition, some items may not be set as a value of the temporary variant even if you specify them. Specify the value used in the SAP system. Note that the value displayed in the SAP frontend software may be different from the one used in the SAP system.

#: The to value that is displayed in the Display a Variant window when you start the ABAP Editor on the SAP frontend software

Note

If you specify the temporary variant information, the XBP 3.0 interface must be enabled on the connection destination SAP system.

Job step information format (external program)

```
-px external-program -xpgtgh target-host
                      [-arg argument]
                      [-auth authorized-user]
```

`-px` *external-program*

Specify the name of the external program to be added as a job step. A character string of 1 to 128 bytes can be entered for the external program specification.

The specified external program must comply with the following requirement:

- The external program must be executable by a SAP CPI-C user.

For information about SAP CPI-C users, see the SAP manual or online help.

`-xpgtgh` *target-host*

Specify the name of the host that executes the external program. A character string of 1 to 32 bytes can be entered for the target host specification. Host names in the following formats can be used:

- Host name defined in the `hosts` file

- IP address

For this option, specify the name of the host on which the application server is running.

Note that the appropriateness of the target host specification (whether the specified host name or IP address is in the `hosts` file) will not be checked when the command is executed.

`-arg` *argument*

If the external program requires an argument, specify the name of the argument. You can specify a character string of 1 to 255 bytes.

`-auth` *authorized-user*

Specify the name of the authorized user that is to be specified when the external program is executed. A character string of 1 to 12 bytes can be entered for the authorized user specification. However, since the external program is executed via the SAP CPI-C user, the authorized user specified by the `-auth` option becomes invalid. Note that the external programs are executed by SAP CPI-C users.

If the `-auth` option specification is omitted, the user that logs on to the SAP system (the user specified by the SAP logon information) is set as the authorized user when the external program is executed.

`-tgh` *target-host*

Specify the host name of the application server that executes the registered job. As the target host designation, a character string of between 1 and 32 bytes can be entered. From the list of host names displayed by the transaction SM51, you can also select the host name assigned to the application server that offers a background processing service.

If you specify this option, the command will select one of the application servers that are running on the specified host and designate it as the target system.

If you omit this option and the `-tgs` option, the SAP system will dynamically select the target system on which the job will run. You cannot specify the `tgh` and `-tgs` options at the same time.

Note

> This option is the job definition compatible parameter created for Release 4.0 and earlier SAP systems. To define jobs for Release 4.5 or later SAP systems, use the `-tgs` option.

`-tgs` *target-server*

Specify the name of the application server or the job server group that executes the registered job. You can specify a character string of 1 to 20 bytes for the target server. When you use an application server, you can specify one of the names that are assigned to the application servers for providing background processing services (upper-case and lower-case characters are differentiated). These application server names are listed as host names by transaction `SM51`. When you use a job server group, you can specify one of the names (upper-case and lower-case characters are differentiated) of the job server groups containing the application servers that provide background processing services. These job server group names are listed by transaction SM61.

If you omit this option and the `-tgh` option, the SAP system will dynamically select the target system on which the job will run. You cannot specify the `tgs` and `-tgh` options at the same time.

`-rs`

This argument releases the job as soon as possible after its creation.

To release a job as soon as possible means that the job will be released when the system resources necessary for executing the job are allocated.

If the necessary resources cannot be allocated because another job is exclusively using the SAP system resources, release of the job is suspended until the necessary resources are allocated.

`-ri`

This argument releases the job immediately after its creation.

The job is released immediately after the command is entered, regardless of whether the system resources necessary for executing the job are allocated. Therefore, release of a job fails if another job is exclusively using the SAP system resources.

`-wait`

This argument performs job monitoring until the execution of the released job ends (until job execution ends, commands cannot be executed from the command line).

If the job being monitored for its completion is interrupted by the SAP system, the completion monitoring may not end. In such a case, a KAJM1836-W message appears. Follow the instructions in the message.

The `-wait` option is valid when the `-rs` or `-ri` option is specified.

`-time` *monitoring-time*

Specify the duration of job completion monitoring in minutes. Job completion will be monitored for the specified period of time. Make sure that this monitoring time setting is greater than the monitoring interval value that is specified by the `-ival` option. The specifiable range for monitoring time is from 1 to 65,535. If the `-time` option specification is omitted, there is no limit on the monitoring time.

When the `-with_child` option is specified, all jobs, including the child jobs, are monitored for their completion during this time.

If the job does not end within the specified monitoring time, that terminates the command without regard to the job status occurs.

The `-time` option is valid when the `-wait` option is specified.

`-cancel`

This argument cancels a job having the job count specified by the `-jc` option if it does not end within the time specified by the `-time` option. Note that this argument works only on an *active* job (job currently being executed). It does not cancel jobs under the following conditions:

- The job whose completion is being monitored is not *active*.
- An external program job step is being executed while the job whose completion is being monitored is *active*.

When the `-with_child` option is specified, all jobs, including the child jobs, are canceled.

If the `-cancel` option is not specified, the job execution continues as is in the SAP system.

The `-cancel` option is valid when the `-time` option is specified.

`-ival` *monitoring-interval*

Specify the interval in seconds at which a job is to be monitored. Job monitoring can be performed at the specified monitoring interval until the job ends (job polling monitoring). The specifiable monitoring interval range is from 1 to 65,535. If a monitoring interval is omitted when the `-ival` option is specified, the monitoring interval is 5 seconds.

The default monitoring interval setting of 5 seconds can be changed in the environment setup file.

The `-ival` option is valid when the `-wait` option is specified.

`-jo` *SAP-job-log-filename*

Specify the SAP job log output destination. The SAP job log is acquired when job execution ends (when the return value is `0` or `1` and the `-wait` option is specified). The length of the character string for the SAP job log filename varies depending on whether Windows or Linux is used.

- When Windows is used

  A character string of 1 to 259 bytes can be entered for the SAP job log filename.

- When Linux is used

  A character string of 1 to 255 bytes can be entered for the SAP job log filename.

If you do not use the full path to specify the SAP job log file, the file is created in the work directory of JP1/AJS3 for EAP. (If the JP1/AJS3 for EAP work directory is not defined, the file will be created in the current directory.)

For the SAP job log file name, do not specify a device file, such as `/dev/null`. If the SAP job log file is not needed, delete the file that is created.

The SAP job log output is in *write-date write-time message-code* (message class and message number) *message-text* format.

You can also write the SAP job log to this file.

- When the `-se` option is specified

  You can output SAP job logs to the standard error output file specified in the `-se` option.

- When you do not specify the `-se` option, but specify a standard error output file name in the Define Details - [Custom Job] dialog box of JP1/AJS - View

  You can view the content of the SAP job log in the Execution Result Details dialog box in the Jobnet Monitor window of JP1/AJS - View.

If you specify `YES` for the `JoblogAddToStderr` key of the Command section of the environment settings file, you can output the SAP job log to the specified file and to the standard error output at the same time. Therefore, when the `-se` option is not specified, you can use JP1/AJS - View to view the contents of the SAP job log as described above.

When the `-with_child` option is specified, the log of all jobs that are *finished* or *terminated* is acquired when the completion monitoring of all jobs, including the child jobs, ends (includes timeout errors).

If the `-jo` option specification is omitted, the SAP job log will not be output to the JP1/AJS3 for EAP system.

-mt

Specify this option if the message type is output to the SAP job log.

If the `-jo` option is not specified, this option cannot be specified.

-mts *message-type-character-string*

Specify this option if the message type in the SAP job log is searched.

A character string of 1 to 8 bytes can be entered for the message type character string. The characters that can be specified and their meaning are shown below. If you specify more than one character, enter a character followed by the other characters.

```
A: Abnormal termination
E: Error
S: Successful end
I: Information
W: Warning
```

You must specify it if you search the message types. If the `-mt` option is not specified, this option cannot be specified. The command terminates abnormally with the return value `4` if the message type of the output job log contains the character string specified in the *message-type-character-string*.

-with_child

This argument monitors the completion of all jobs, including the child jobs, that are generated during the execution of the target job (completion monitoring of parent and child jobs). The target child jobs are those that are detected when the job being monitored for its completion is *finished* or *terminated*. A maximum of 100 jobs can be monitored for their completion regardless of the generation numbers of the child jobs.

If the number of jobs to be monitored for their completion exceeds the maximum limit, a KAJM1872-W message appears. The completion monitoring then continues for the jobs that can be monitored for their completion and the system returns `1`, indicating that the result of at least one job cannot be checked.

If a job being monitored for its completion is deleted, a KAJM1837-W message or a KAJM1871-W message appears. The completion monitoring then continues for other target jobs and the system returns `1`, indicating that the result of at least one job cannot be checked.

If the system detects a child job that is not released, the completion monitoring may not end. In such a case, a KAJM1838-W message appears. Follow the instructions in the message.

The `-with_child` option is valid when the `-wait` option is specified.

Note

To specify the `-with_child` option, JP1/AJS2 for EAP 07-50 or later must be installed on the execution destination host, and the XBP 2.0 interface and the parent and child function must be enabled in the connection destination SAP system.

`-help`

This argument provides information on using the command.

Return values

- When the `-wait` or `-cancel` option is not specified

  0

  The job was successfully created.

  Integer of 1 or more

  The job was not created.

- When the `-wait` option is specified

  0

  The job ended normally.
  All the jobs ended normally (when the `-with_child` option is specified).

  1

  The job was canceled.
  One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted (when the `-with_child` option is specified).

  2

  The job completion monitoring resulted in a timeout error.

  Integer of 3 or more

  The command ended abnormally (job creation, release, or monitoring failed).

- When the `-cancel` option is specified

  0

  The job ended normally.
  All the jobs ended normally (when the `-with_child` option is specified).

  1

  The job was canceled.
  One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted (when the `-with_child` option is specified).

  2

  All the jobs were successfully canceled when the job completion monitoring resulted in a timeout error.

3

At least one job failed to be canceled when the job completion monitoring resulted in a timeout error.

Integer of 4 or more

The command ended abnormally (job creation, release, or monitoring failed).

- When the -mts option is specified

0

The job ended normally.

All the jobs are finished and the message type specified in the -mts option is not output to the job log.

1

The job was canceled.

One or more jobs were canceled or the result of at least one job could not be checked because the number of jobs to be monitored exceeded the maximum limit or the target job was deleted.

2

All the jobs were successfully canceled when the job completion monitoring resulted in a timeout error.

3

At least one job failed to be canceled when the job completion monitoring resulted in a timeout error.

4

All the jobs are finished and the message type specified in the -mts option is not output to the job log.

Integer of 5 or more

The command ended abnormally (job creation, release, or monitoring failed).

Precautions

If one of the following conditions is satisfied, the job execution target option (-tgh or -tgs) specified in the jr3bjsub command will be ineffective:

- The release option (-rs or -ri) is not specified.

- You have normally registered the job, but have failed to release the job.

In this event, no target host is assigned to the job registered on the SAP system.

To execute the job on a particular target host or server, release the job by specifying the target host or server using the -tgh or -tgs option in the jr3bjrel command. If you use the jr3bjrel command to release the job without specifying a target host or server, the SAP system will dynamically select the target host or server on which the job will be executed.

Supplement

- If an error occurs during job creation or jr3bjsub command execution is aborted, unnecessary jobs (nonexecutable jobs) may remain in the SAP system. Delete unnecessary jobs using the jr3bjdel command.

Usage examples

- Creating job R3JOB1 of user R3USER1

The conditions are as follows:

  - The sapnwrfc.ini file will be used (-d R3SERV1).

  - SAP logon information will be specified (-c 001 -u R3USER1 -p2 HT0110).

- An ABAP program and an external program will be specified as job steps (`-pa PROG1 -var STANDARD1 -auth JP1USRA -px PROG2 -xpgtgh 111.11.11.11 -arg STANDARD2`).

- The job will be released as soon as possible (`-rs`).

- The SAP job log file, standard output file, and standard error output file will be created in the directory specified by the environment setup file
  (`-jo JOBLOG1 -so STDOUT1 -se STDERR1`).

To create job `R3JOB1` of user `R3USER1` under the above conditions, make sure that the `jr3bjsub` command line is specified as follows:

```
jr3bjsub -d R3SERV1 -c 001 -u R3USER1 -p2 HT0110 -jn R3JOB1 -pa PROG1 -va
r STANDARD1 -auth JP1USRA -px PROG2 -xpgtgh 111.11.11.11 -arg STANDARD2 -r
s -wait  -jo JOBLOG1 -so STDOUT1 -se STDERR1
```

- Creating job `R3JOB1` of user `R3USER1` (specifying a temporary variant)

  The conditions are as follows:

  - The `sapnwrfc.ini` file will be used (`-d R3SERV1`).

  - SAP logon information will be specified (`-c 001 -u R3USER1 -p2 HT0110`).

  - An ABAP program will be specified as job steps (`-pa ZVARI`).

  - The items in the table below (format displayed in the Display a Variant window of the ABAP Editor started on the SAP frontend software[#]) will be set as the temporary variant for ZVARI (`-tv -selname FILENAME -frm XYZ -tv -selname DATE -sign I -option BT -frm 20171216 -to 20171231`).

Select window	Item name	Type	I/E	Option	frm	to
1000	FILENAME	P			XYZ	
1000	DATE	S	I	BT	16.12.2017	31.12.2017

  #: The items must be specified in format that is used in the SAP system.

  For example, the date format varies depending on the locale setting on the SAP frontend software, but the date must be specified on the command line in *YYYYMMDD* format.

  - The job will be released as soon as possible (`-rs`).

  - The SAP job log file, standard output file, and standard error output file will be created in the directory specified by the environment setup file
    (`-jo JOBLOG1 -so STDOUT1 -se STDERR1`).

To create job `R3JOB1` of user `R3USER1` under the above conditions, make sure that the `jr3bjsub` command line is specified as follows:

```
jr3bjsub -d R3SERV1 -c 001 -u R3USER1 -p2 HT0110 -jn R3JOB1 -pa ZVARI -tv
-selname FILENAME -frm XYZ -tv -selname DATE -sign I -option BT -frm 20171
216 -to 20171231 -rs -wait -jo JOBLOG1 -so STDOUT1 -se STDERR1
```

jr3chrfc

Format 1

```
jr3chrfc [-expwd {ON | OFF}]
```

Format 2

```
jr3chrfc -help
```

Function

Sets the availability of the extended password. Also, outputs the extended password's availability status to standard output.

The content set by this command is saved in the RFC library status management file (for Windows: installation destination folder \system\jr3chrfc, for Linux: /etc/opt/jp1_am_r3/.jr3chrfc).

In Windows, this command is executed by a user with Administrator permissions and in Linux, it is executed by a superuser.

Arguments

No argument

Outputs the extended password's availability status to standard output.

-expwd ON

Makes the extended password available. If the setting is changed, a KAJM0601-I message appears.

If you failed to change the setting, a message appears and the command execution is terminated. Take the action indicated by the displayed message.

You must specify the ON or OFF option. You cannot specify both at the same time. You can specify ON in either upper- or lower-case.

-expwd OFF

Makes the extended password unavailable. If the setting is changed, a KAJM0601-I message appears.

If you failed to change the setting, a message appears and the command execution is terminated. Take the action indicated by the displayed message.

You must specify the ON or OFF option. You cannot specify both at the same time. You can specify OFF in either upper- or lower-case.

-help

Displays how to use this command.

Return values

`0`

> The availability of the extended password was successfully changed, or the extended password's availability status was successfully displayed.

`1`

> The change in availability of the extended password failed, or display of the extended password's availability status failed.

Precautions

- Do not execute the `jr3chrfc` command while another command is executing.

Usage examples

- To display the extended password's availability status (when the extended password is used)

  The command line of the `jr3chrfc` command at this time is as follows:

  ```
  jr3chrfc
  ```

  Output result:

  ```
  Extended password: ON
  (EOD)
  ```

- To make the extended password available

  The command line of the `jr3chrfc` command at this time is as follows:

  ```
  jr3chrfc -expwd ON
  ```

jr3ras

Format 1

```
jr3ras -outdir analysis-data-stored-folder or directory
        [specify the trace file stored folder]
        [-bw_trace_file The trace file name of the InfoPackage or process-cha
in control function]
        [-rfctrace destination of the RFC trace file stored directory]
```

Note

For following cases, the strings should be surrounded by double quotation (") mark, to avoid mistaken analysis on shell or command prompt.

- One or more spaces in the argument

- Symbols describes below

  ( )

Format 2

```
jr3ras -help
```

Description

This is a tool to collect the information of JP1/AJS3 for EAP when failures occurred.

The collected information contains maintenance information, system information of OS, integrated trace log of JP1/AJS3 for EAP.

This command needs to be executed by Administrator privileged user in Windows, or super user privileged in Linux.

After executing this command, the designated information is stored under the specified folder or directory. Refer the *Table 4-4* and *Table 4-5* for detailed collected information.

Additionally, further information which is manually generated can be required depending on the failure. Refer to *8.2 Data to be collected if a problem occurs* to retrieve the failure analysis information.

When you execute this command, change the current directory to the directory where `jr3ras` command exists.

The following table shows the folder structure in where the analysis data stored.

Table 4–4: The folder structure of the collected information (Windows)

Folder/File name	Description
information-stored-folder\jr3ras.log	Log messages of the collection tool (jr3ras.bat)
information-stored-folder\date.log	Date and time of the collection
information-stored-folder\os\System.evt *information-stored-folder*\os\Application.evt	Windows event log
information-stored-folder\os\os_system.txt	Windows system information
information-stored-folder\os\hosts	Hosts file

Folder/File name	Description
information-stored-folder\os\services	Services file
information-stored-folder\os\hostname.txt	Host name
information-stored-folder\os\netstat.txt *information-stored-folder*\os\ipconfig.txt *information-stored-folder*\os\firewall.txt	Communication information
information-stored-folder\os\getenv.log	Environment variable
information-stored-folder\os\proc_svc.list	Executing services/process information
information-stored-folder\product\Version.txt	JP1/AJS3 for EAP version information
information-stored-folder\product\jp1amr3.dat	JP1/AJS3 for EAP product information registry file
information-stored-folder\product\ProductInfo.txt	JP1/AJS3 for EAP product information
information-stored-folder\product\regist.txt	JP1/AJS3 for EAP registry file
information-stored-folder\product\filelist.txt	JP1/AJS3 for EAP file list
information-stored-folder\product\cacls.txt	JP1/AJS3 for EAP access control file list
information-stored-folder\product\system\version	JP1/AJS3 for EAP model name, version information
information-stored-folder\product\system\patchlog.txt	Patch information for JP1/AJS3 for EAP
information-stored-folder\product\system\jr3chrfc	RFC library status management file
information-stored-folder\product\rfctrace\dev_rfc.trc *information-stored-folder*\product\rfctrace\dev_rfc.trc.log	RFC trace
information-stored-folder\product\HCDINST*	Installation log for JP1/AJS3 for EAP
information-stored-folder\product\jp1common\jp1amr3* *information-stored-folder*\product\r3command* *information-stored-folder*\product\Log*	Trace information (job control)
information-stored-folder\product\conf\conf	Job control environment configuration file
information-stored-folder\product\Bwsta\bwcommand* *information-stored-folder*\product\Bwsta\Log*	Trace information (InfoPackage or process chain control)
information-stored-folder\product\Bwsta\conf\conf	Environment configuration file (InfoPackage or process chain control)

Table 4–5: The directory structure of the collected information (Linux)

Directory/File name	Description
information-stored-directory/jr3ras.log	Log messages of the collection tool (jr3ras.bat)
information-stored-directory/date.log	Date and time of the collection
information-stored-directory/os/messages*	System log
information-stored-directory/os/uname.txt	OS version information
information-stored-directory/os/boot.txt	Kernel version information
information-stored-directory/os/dist.txt	OS system information (Distribution information)

Directory/File name	Description
information-stored-directory/os/clock.txt *information-stored-directory*/os/timedatectl.txt	Timezonne information
information-stored-directory/os/hosts	Hosts file
information-stored-directory/os/services	Services file
information-stored-directory/os/hostname.txt	Host name
information-stored-directory/os/netstat.txt	Communication information
information-stored-directory/os/os_inst_pp.list	Installed product package list
information-stored-directory/os/kernel_param.list	Kernel parameter
information-stored-directory/os/ulimit.txt	User resource limitation
information-stored-directory/os/dmesg.txt	Kernel message
information-stored-directory/os/df.txt	Disk space usage
information-stored-directory/os/fstab	Disk mount information
information-stored-directory/os/ifconfig.txt *information-stored-directory*/os/ip_addr_show.txt *information-stored-directory*/os/firewall.txt *information-stored-directory*/os/ss.txt *information-stored-directory*/os/ip_route_show.txt	Network information
information-stored-directory/os/getenv.log	Environment variable
information-stored-directory/os/proc.list	Executing process information
information-stored-directory/os/user.txt	List of users
information-stored-directory/product/.version	JP1/AJS3 for EAP version information
information-stored-directory/product/.patch_hist	JP1/AJS3 for EAP patch information
information-stored-directory/product/jr3chrfc	RFC library status management file
information-stored-directory/product/116C.dat	JP1/AJS3 for EAP product registry information
information-stored-directory/product/ProductInfo.txt	JP1/AJS3 for EAP product list
information-stored-directory/product/pplistd	Installed Hitachi products
information-stored-directory/product/filelist.txt	JP1/AJS3 for EAP file list
information-stored-directory/product/rfctrace/dev_rfc.trc *information-stored-directory*/product/rfctrace/dev_rfc.trc.log	RFC trace file
information-stored-directory/product/inst/.hitachi.log* *information-stored-directory*/product/inst/.install.log* *information-stored-directory*/product/inst/.uninstall.log* *information-stored-directory*/product/inst/.hliclog/*	Install/Uninstall log
information-stored-directory/product/r3command/* *information-stored-directory*/product/Log/*	Trace information (Job control)
information-stored-directory/product/conf/conf	Job control environment configuration file
information-stored-directory/product/Bwsta/bwcommand/*	Trace information (InfoPackage or process chain control)

Directory/File name	Description
information-stored-directory`/product/Bwsta/Log/*`	Trace information (InfoPackage or process chain control)
information-stored-directory`/product/Bwsta/conf/conf`	Environment Configuration file (InfoPackage or process chain control)

Arguments

`-outdir` *information-stored-folder-or-directory*

Specify the folder or directory to store collected information. This argument is mandatory.

The command creates new folder or directory with specified name.

Specify a name of folder or directory which does not exists already. Specify a string that can make a directory.

Do not specify JP1/AJS3 for EAP installed directory or under directories as directory name.

In Windows, do not specify Windows device name such as `NUL`.

In Linux, do not specify special file such as `/dev/null`.

Note that you must specify the `-outdir` option.

Specify the trace file location of job control function

Specify the job control function trace file location. Specify the trace file location when `TargetDir` or `TargetFile` is specified to trace (trace section) in the job control environment configuration file.

Following is the format to specify the trace file location of job control function

```
{-r3_trace_dir trace file stored directory of job control function | -r3_t
race_file trace file name of job control function}
```

-r3_trace_dir *Job control trace file stored directory*
    Specify the job control trace file stored directory.
    Specify the trace file location when `TargetDir` is specified to trace (trace section) in the job control environment configuration file.
    Cannot specify together with `-r3_trace_file`.

-r3_trace_file *trace file name for job control function*
    Specify the job control function trace file name.
    Specify the trace file location when `TargetFile` is specified to trace (trace section) in the job control environment configuration file.
    Cannot specify together with `-r3_trace_dir`.

`-bw_trace_file` *trace file name for InfoPackage or process chain control function*

Specify the trace file stored location for InfoPackage or process chain control function.

Specify the trace file location when `TargetFile` is specified to trace (trace section) in the job control environment configuration file.

`-rfctrace` *RFC trace file stored directory*

This options is used to contains the RFC trace file in the collected information.

(the trace file that is generated when an error occurs while the command of JP1/AJS3 for EAP is in process. The trace contains communication information with the SAP system.)

RFC trace file will be generated in the working directory of JP1/AJS3 for EAP when an error occurred.

`-help`

This argument provides information on using the command.

Return values

0

    Ended normally.

1

    Specified variables are incorrect.

2

    Information collection destination directory is already exists.

3

    `jr3ras` command is not found in current directory.

4

    Cannot access to the information collection directory.

5

    Disk space is not enough.

6

    Cannot access to the installation directory.

Notes

- When the tool fails to collect the information, the remediation message is printed in the standard out. If the problem is not resolved, refer to the manual *8.2 Data to be collected if a problem occurs*, and collect the information manually. If you can not collect maintenance information because there are no commands or files, contact the system administrator that maintenance information could not be collected.

- When the information collection tool finishes without KAJM0651-I or KAJM0652-E, check whether the script syntax error is logged in jr3ras.log which is generated in the stored folder (Windows) or directory (Linux).

  See below for an example of syntax error (When Linux is used).

  - syntax error: unexpected end of file

    In that case, check whether special characters such as **"**(double quote) or **`**(back quote) are contained in the specified path as an argument of the information collection tool.

    If the special character is in the argument, refer to *Table 4-6* and *Table 4-7* and take appropriate action(s).

    Table 4–6: Troubleshoot for syntax error (Windows)

Argument	Troubleshoot
`-outdir`	Change the path which does not have a special character and run the information collection tool again.

Argument	Troubleshoot
-r3_trace_dir	1. Remove this argument and run the information collection tool again. 2. See the description under *When a directory name is specified for the TargetDir key in the trace section in the conf file:* in the *Trace information* row of *Table 8-2: Information to be collected from JP1/AJS3 for EAP (job control) (for Windows)* and collect the materials manually.
-r3_trace_file	1. Remove this argument and run the information collection tool again. 2. See the description under *When a file name is specified for the TargetFile key in the trace section in the conf file:* in the *Trace information* row of *Table 8-2: Information to be collected from JP1/AJS3 for EAP (job control) (for Windows)* and collect the materials manually.
-bw_trace_file	1. Remove this argument and run the information collection tool again. 2. See the description under *When a file name is specified for the TargetFile key in the trace section in the conf file:* in the *Trace information* row of *Table 8-8: Information to be collected from JP1/AJS3 for EAP (InfoPackage control or process chain control) (for Windows)* and collect the materials manually.
-rfctrace	1. Remove this argument and run the information collection tool again. 2. See the *RFC trace file* row of *Table 8-2: Information to be collected from JP1/AJS3 for EAP (job control) (for Windows)* or *Table 8-8: Information to be collected from JP1/AJS3 for EAP (InfoPackage control or process chain control) (for Windows)* and collect the materials manually.

Table 4–7: Troubleshoot for syntax error (Linux)

Argument	Troubleshoot
-outdir	Change the path which does not have a special character and run the information collection tool again.
-r3_trace_dir	1. Remove this argument and run the information collection tool again. 2. See the description under *When a directory name is specified for the TargetDir key in the trace section in the conf file:* in the *Trace information* row of *Table 8-5: Information to be collected from JP1/AJS3 for EAP (job control) (for Linux)* and collect the materials manually.
-r3_trace_file	1. Remove this argument and run the information collection tool again. 2. See the description under *When a file name is specified for the TargetFile key in the trace section in the conf file:* in the *Trace information* row of *Table 8-5: Information to be collected from JP1/AJS3 for EAP (job control) (for Linux)* and collect the materials manually.
-bw_trace_file	1. Remove this argument and run the information collection tool again. 2. See the description under *When a file name is specified for the TargetFile key in the trace section in the conf file:* in the *Trace information* row of *Table 8-11: Information to be collected from JP1/AJS3 for EAP (InfoPackage control or process chain control) (for Linux)* and collect the materials manually.
-rfctrace	1. Remove this argument and run the information collection tool again. 2. See the *RFC trace file* row of *Table 8-5: Information to be collected from JP1/AJS3 for EAP (job control) (for Linux)* or *Table 8-11: Information to be collected from JP1/AJS3 for EAP (InfoPackage control or process chain control) (for Linux)* and collect the materials manually.

- Do not edit the information collection tool.

Usage examples

- **When you collect the information with the following conditions in Windows**

    - Collect the information stored in or under `C:\temp\jr3rasout`

- The folder which the trace file is stored in is not changed in the environment configuration file (conf file)

Example

```
jr3ras -out C:\temp\jr3rasout
```

- **When you collect the information with the following conditions in Linux**
  - Collect the information stored in or under `/tmp/jr3rasout`
  - The `/tmp/r3log` is set to the `TargetIDir` in the trace (trace section) of the environment configuration file (conf file) for job control function.
  - The `/tmp/bwlog/bwsta.log` is set to the `TargetFile` in the trace (trace section) of the environment configuration file for InfoPackage or Process Chain control function.

Example

```
jr3ras -out /tmp/jr3rasout -r3_trace_dir /tmp/r3log -bw_trace_file /tmp/bw
log/bwsta.log
```

5

Events

This chapter describes the events issued by JP1/AJS3 for EAP for each type of OS.

5.1 When a Windows event is used

This section describes events issued by the Windows version of JP1/AJS3 for EAP.

Events issued by the Windows version of JP1/AJS3 for EAP are displayed as the contents of the application log by the Windows administrative tool Event Viewer. In this section, events that are issued by the Windows version of JP1/AJS3 for EAP are described simply as *events*.

For job control function events, JP1/AM/R3 is set as the source for the Event Viewer. For InfoPackage or process chain control function events, JP1/AM/R3/SAPBWOption is set as the source for the Event Viewer.

5.1.1 Event ID format

The event ID format for the events issued by JP1/AJS3 for EAP is given below.

Event ID format: `0xXYZZ`

The elements of an event ID are as follows:

`X`

Category code number. The code number `2` indicates an event that is related to the environment setup (common to all functions) of JP1/AJS3 for EAP. The code number `3` indicates an event related to the job control function. The code number `4` indicates an event related to the InfoPackage control function. The code number `5` indicates an event related to the process chain control function.

`Y`

Indicates a group within an individual category. For grouping purposes, hexadecimal numbers from `0` to `F` are used.

`ZZ`

Sequential number assigned to each category. Sequential numbers are hexadecimal numbers from `00` to `FF`.

5.1.2 List of events

The events issued by JP1/AJS3 for EAP are listed below for each category.

(1) Events related to the environment setup (common to all functions) for JP1/AJS3 for EAP

Table 5–1: List of events related to environment setup (common to all functions) of JP1/AJS3 for EAP

Event ID	Type	Message ID	Event name	When event issued	Maintenance information
`0x2100`	Warning	KAJM0010-W	Environment setup file (invalid key/invalid section) warning	An environment setup file key name (`key`) or section name (`section`) is invalid	No

Event ID	Type	Message ID	Event name	When event issued	Maintenance information
0x2101	Warning	KAJM0011-W	Invalid environment setup file (key value illegality) warning	An invalid value (string) was specified for an environment setup file key.	No
0x2102	Warning	KAJM0012-W	Invalid environment setup file (duplicate keys or sections) warning	An environment setup file key name (key) or section name (section) was duplicated.	No
0x2103	Warning	KAJM0013-W	Invalid environment setup file (invalid character string used) warning	The environment setup file contains an invalid character string.	No
0x2104	Warning	KAJM0103-W	Invalid environment setup file (environment setup file inaccessible) warning	The environment setup file cannot be accessed.	No
0x2105	Warning	KAJM0104-W	Invalid parameter (trace file inaccessibility) warning	The trace file cannot be accessed because of an invalid parameter.	No
0x2106	Warning	KAJM0106-W	Invalid parameter (unable to create/extend trace file) warning	The trace file cannot be created or extended because of an invalid parameter.	No
0x2107	Warning	KAJM0117-W	Invalid parameter (an error occurred in trace output) warning event.	An error occurred when output to the trace file.	No
0x2200	Error	KAJM0108-E	Character code conversion for input characters failure (incorrect characters) warning event.	When it fails to convert character code for input characters.	No

(2) Events related to job control function

Table 5–2: List of events related to the job control function of JP1/AJS3 for EAP

Event ID	Type	Message ID	Event name	When event issued	Maintenance information
0x3000	Information	KAJM1811-I	Job creation	SAP job creation was successful.	Yes
0x3001	Information	KAJM1880-I	Job copy	SAP job copy was successful.	Yes
0x3100	Error	KAJM1812-E	Job creation failure	SAP job creation failed.	Yes
0x3101	Error	KAJM1881-E	Job copy failure	SAP job copy failed.	Yes
0x3400	Information	KAJM1821-I	Job release	SAP job release was successful.	Yes

Event ID	Type	Message ID	Event name	When event issued	Maintenance information
0x3500	Error	KAJM1825-E	Job release failure	SAP job release failed.	Yes
0x3600	Information	KAJM1840-I	Job termination	SAP job termination was successful.	Yes
0x3700	Error	KAJM1844-E	Job termination failure	SAP job termination failed.	Yes
0x3800	Information	KAJM1850-I	Job deletion	SAP job deletion was successful.	Yes
0x3900	Error	KAJM1851-E	Job deletion failure	SAP job deletion failed.	Yes
0x3901	Warning	KAJM1819-W	Incomplete-job deletion failure	An incomplete SAP job failed to be deleted.	Yes
0x3A00	Information	KAJM1832-I	Job completion monitoring success (when a job has ended normally)	SAP job completion monitoring was successful when the job has ended normally.	Yes
0x3A01	Warning	KAJM1833-W	Job completion monitoring success (when a job has been terminated)	SAP job completion monitoring was successful when the job has been terminated.	Yes
0x3B00	Error	KAJM1831-E	Job completion monitoring timeout	An SAP job completion monitoring timeout occurred.	Yes
0x3C00	Error	KAJM1834-E	Job completion monitoring failure	SAP job completion monitoring failed.	Yes
0x3C01	Error	KAJM1835-E	Job completion monitoring failure because of reconnection timeout	SAP job completion monitoring failed because reconnection timeout occurs.	Yes
0x3D00	Warning	KAJM0830-W	XMI interface session audit level change failure	An XMI interface session audit level change failed.	Yes
0x3E00	Warning	KAJM1804-W	SAP job log acquisition failure	SAP job log acquisition failed.	Yes
0x3E01	Warning	KAJM1826-W	SAP job log search failure	SAP job log search failed.	Yes
0x3E02	Information	KAJM1827-I	SAP job log search success	SAP job log search was successful.	Yes
0x3F00	Warning	KAJM1836-W	Job interrupt detection	An SAP job interruption was detected.	Yes
0x3F01	Warning	KAJM1837-W	Detection of a job without confirmation	An SAP job without completion confirmation was	Yes

Event ID	Type	Message ID	Event name	When event issued	Maintenance information
`0x3F01`	Warning	KAJM1837-W	of completion (job deletion)	detected (since the job to be monitored was deleted).	Yes
`0x3F02`	Warning	KAJM1871-W	Detection of a job without confirmation of completion (child job detection failure)	An SAP job without completion confirmation was detected (since the job was deleted before any child job was detected).	Yes
`0x3F03`	Warning	KAJM1872-W	Detection of a job without confirmation of completion (number of jobs to be monitored exceeded the maximum limit)	An SAP job without completion confirmation was detected (since the number of jobs to be monitored exceeded the maximum limit).	Yes
`0x3F04`	Warning	KAJM1838-W	Unreleased-job detection	An unreleased job was detected.	Yes

(3) Events related to the InfoPackage control function

Table 5–3: List of events related to the InfoPackage control function of JP1/AJS3 for EAP

Event ID	Type	Message ID	Event name	When event issued	Maintenance information
`0x4000`	Information	KAJM2821-I	InfoPackage startup	InfoPackage startup was successful.	Yes
`0x4100`	Error	KAJM2822-E	InfoPackage startup failure	InfoPackage startup failed.	Yes
`0x4200`	Information	KAJM2826-I	InfoPackage completion monitoring success (when InfoPackage has ended normally)	InfoPackage completion monitoring was successful when InfoPackage has ended normally.	Yes
`0x4201`	Error	KAJM2827-E	InfoPackage completion monitoring success (when InfoPackage has ended abnormally)	InfoPackage completion monitoring was successful when InfoPackage has ended abnormally.	Yes
`0x4300`	Error	KAJM2824-E	InfoPackage completion monitoring timeout	An InfoPackage completion monitoring timeout occurred.	Yes
`0x4400`	Error	KAJM2825-E	InfoPackage completion monitoring failure	InfoPackage completion monitoring failed.	Yes
`0x4500`	Error	KAJM2828-E	InfoPackage completion monitoring failure	InfoPackage completion monitoring failed	Yes

Event ID	Type	Message ID	Event name	When event issued	Maintenance information
0x4500	Error	KAJM2828-E	because of reconnection timeout	because reconnection timeout occurred.	Yes

(4) Events related to the process chain control function

Table 5–4: List of events related to the process chain control function of JP1/AJS3 for EAP

Event ID	Type	Message ID	Event name	When event issued	Maintenance information
0x5000	Information	KAJM2841-I	Process chain startup	Process chain startup was successful.	Yes
0x5100	Error	KAJM2842-E	Process chain startup failure	Process chain startup failed.	Yes
0x5200	Information	KAJM2846-I	Process chain completion monitoring success (when the process chain ended normally)	Process chain completion monitoring was successful when the process chain ended normally.	Yes
0x5201	Error	KAJM2847-E	Process chain completion monitoring success (when the process chain ended abnormally)	Process chain completion monitoring was successful when the process chain ended abnormally.	Yes
0x5300	Error	KAJM2844-E	Process chain completion monitoring timeout	A process chain completion monitoring timeout occurred.	Yes
0x5400	Error	KAJM2845-E	Process chain completion monitoring failure	Process chain completion monitoring failed.	Yes
0x5500	Error	KAJM2849-E	Process chain completion monitoring failure because of a reconnection timeout	Process chain completion monitoring failed because a reconnection timeout occurred.	Yes

5.1.3 Maintenance information about events

The maintenance information about events is common within each category defined in *5.1.1 Event ID format*. There is no maintenance information about events related to the environment setup (common to all functions) of JP1/AJS3 for EAP (category code number 2). *Table 5-5* lists the maintenance information about events related to the job control function (category code number 3). *Table 5-6* lists the maintenance information about events related to the InfoPackage control function (category code number 4). *Table 5-7* lists and describes the maintenance information about events related to the process chain control function (category code number 5).

Table 5–5: Maintenance information about events related to the job control function

Position	Length (in bytes)	Item name and description
1	0 to 64	SAP destination. SAP system destination specified by the -d option. If the -d option is not used to specify the destination, the length of this item is 0.
2	0 to 100	SAP application server name. Application server name specified by the -h option. If the -h option is not used to specify the application server, the length of this item is 0.
3	0 to 2	SAP system number. System number specified by the -s option. If the system number was not specified by the -s option, the length of this item is 0.
4	1 to 3	SAP client. Client number of the SAP client to be logged on to.
5	1 to 12	SAP user. Name of the user who registered the SAP job.
6	0 to 1	SAP language. Language type specified by the -l option. If the language type was not specified by the -l option, the length of this item is 0.
7	0 to 32	SAP job name[1, 2]. Background job name registered for the application server.
8	0 to 8	SAP job count[1, 2]. Sequential number assigned to the SAP job. If a job count could not be assigned, the length of this item is 0.
9	0 to 16	External user name for SAP job registration[1, 2]. Name of the user who executed a JP1/AJS3 for EAP command. The length of this item is 0 for the child jobs that are detected during the completion monitoring of parent and child jobs.
10	0 to 32	Host on which the job is to be registered[1, 2]. If the application server executing the job is not specified by the -tgh option of the jr3bjsub command, the length of this item is 0. The length of this item is 0 for the child jobs that are detected during the completion monitoring of parent and child jobs.
11	0 to 1	Job status[1, 2]. P: Scheduled S: Released Y: Ready R: Active F: Finished A: Terminated

#1

For event 0x3F02 (detection of a job without confirmation of completion (child job detection failure)), the information about the parent job is set.

#2

For event 0x3F03 (detection of a job without confirmation of completion (number of jobs to be monitored exceeded the maximum limit)), the length of this item is 0.

Table 5–6: Maintenance information about events related to the InfoPackage control function

Position	Length (in bytes)	Item name and description
1	0 to 64	SAP BW destination. SAP BW system destination specified by the -d option. If the -d option is not used to specify the destination, the length of this item is 0.
2	0 to 100	SAP BW application server name. Application server name specified by the -h option. If the -h option is not used to specify the application server, the length of this item is 0.
3	0 to 2	SAP BW system number. System number specified by the -s option. If the system number was not specified by the -s option, the length of this item is 0.
4	1 to 3	SAP BW client. Client number of the SAP BW client to be logged on to.
5	1 to 12	SAP BW user. Name of the user who registered InfoPackage.
6	0 to 1	SAP BW language. Language type specified by the -l option. If the language type was not specified by the -l option, the length of this item is 0.
7	30	InfoPackage ID. ID of the started InfoPackage.
8	30	InfoPackage request number. This number is assigned to InfoPackage by the SAP BW system when InfoPackage is started. The length of this item is 0 if assignment of an InfoPackage request number failed.
9	1	InfoPackage status. Y: Active G: Terminated normally R: Terminated abnormally The length of this item is 0 if InfoPackage failed to be started.

Table 5–7: Maintenance information about events related to the process chain control function

Position	Length (in bytes)	Item name and description
1	0 to 64	SAP BW destination. SAP BW system destination specified by the -d option. If the -d option is not used to specify the destination, the length of this item is 0.
2	0 to 100	SAP BW application server name. Application server name specified by the -h option. If the -h option is not used to specify the application server, the length of this item is 0.
3	0 to 2	SAP BW system number. System number specified by the -s option. If the system number is not specified by the -s option, the length of this item is 0.
4	1 to 3	SAP BW client. Client number of the SAP BW client to be logged on to.
5	1 to 12	SAP BW user. Name of the user who registered the process chain.

Position	Length (in bytes)	Item name and description
6	0 to 1	SAP BW language. Language type specified by the `-l` option. If the language type is not specified by the `-l` option, the length of this item is `0`.
7	1 to 25	Process chain ID. ID of the started process chain.
8	0 to 25	Log ID. Log ID of a process chain assigned by the SAP BW system when the process chain starts. The length of this item is `0` if assignment of a log ID failed.
9	0 to 1	Process chain end status. `G`: Ended normally `R`: Ended abnormally `X`: Ended forcibly. The length of this item is `0` if the process chain is not ended.

6

Messages

This chapter describes the format of messages output by JP1/AJS3 for EAP and the remedial action to be taken when they are received.

6.1 Message format

This section describes the format of the messages output by JP1/AJS3 for EAP and the output destinations of the messages.

6.1.1 Output format of messages

Messages output by JP1/AJS3 for EAP have the same format whether Windows or Linux is used. Messages consist of a message ID and a message text that follows the message ID.

Figure 6-1 shows the format of messages output by JP1/AJS3 for EAP.

Figure 6–1: Format of messages output by JP1/AJS3 for EAP

```
KAJMnnnn-Z  Message-text
```

The elements of the message ID are explained below.

KAJM
 Indicates that the message is a JP1/AJS3 for EAP message.

nnnn
 Indicates the message number. Messages are numbered according to the following rules.

- 0*nnn*

  Indicates that the message is common to all functions of JP1/AJS3 for EAP.

- 1*nnn*

  Indicates that the message relates to the job control function.

- 2*nnn*

  Indicates that the message relates to the InfoPackage control function or the process chain control function.

When *nnn* in 0*nnn*, 1*nnn*, or 2*nnn* is between 600 and 699, the message relates to a common command. When *nnn* is between 700 and 799, the message relates to the installer.

When *nnn* is between 800 and 899, the message relates to the SAP BW system.

When *nnn* is between 900 and 999, the message (environment settings error, system error, or forced termination) relates to JP1/AJS3 for EAP.

Z
 Indicates the message type.

 E: Error. The processing is aborted.

 W: Warning. Processing continues after the message is output.

 I: Information. Imparts information to the user.

The language types available for message generation vary with the OS used. For the language types available for message generation, see *2. Installation and Setup*.

6.1.2 Format of message explanations

This manual lists the JP1/AJS3 for EAP messages in order by message ID. The format of the message in this manual is shown below:

Message ID

Message text

Message explanation

S:

System action

O:

The action that the operator should take if this message is output

6.1.3 Output destinations of messages

The destination of the messages that are output by JP1/AJS3 for EAP differs depending on the type of the message. The following table describes the output destination for each type of message.

Message type	Output destination
E (error)	Standard error output
W (warning)	Standard error output
I (information)	Standard output

6.2 Messages common to all JP1/AJS3 for EAP functions

KAJM0001-I

Usage:*format*

Display of a command format was requested.

KAJM0002-E

Invalid option. (option:*option*)

An invalid option was specified.

S:

The system aborts command execution.

O:

Specify the correct option and execute the command again.

KAJM0003-E

Argument must be specified for this option. (option:*option*)

No argument was specified for the option.

S:

The system aborts command execution.

O:

Specify an argument for the option and execute the command again.

KAJM0004-E

Value of option is invalid. (option:*option*)

The value specified for the option is invalid.

S:

The system aborts command execution.

O:

Specify the correct argument for the option and execute the command again.

KAJM0005-E

Option is duplicated. (option:*option*)

An option that cannot be duplicated has been specified twice.

S:

The system aborts command execution.

O:

Specify the option correctly and execute the command again.

KAJM0006-E

Required option is missing.

A required option was not specified.

S:

The system aborts command execution.

O:

Specify the required option and execute the command again.

KAJM0007-E

Mutually-exclusive options are specified.

Some of the specified options are mutually exclusive.

S:

The system aborts command execution.

O:

Correct the option specification and execute the command again.

KAJM0008-E

In the release of the R/3 system at the connection destination, this option is not supported. (release:*release*, option:*option*)

The specified option is invalid on the SAP system you connect to.

S:

The system aborts command execution.

O:

Check if the specified option is supported by the appropriate SAP system release.

KAJM0009-E

In the release of the R/3 system at the connection destination, this command is not supported. (release:*release*)

An attempt was made to execute a command that is not supported by the target SAP system.

S:

The system aborts command execution.

O:

Check the release of the target SAP system.

KAJM0010-W

The file that defines the environment contains an invalid key or section name. (section: *section-name*, key: *key-name*)

The environment setup file contains an invalid value entry.

S:

The system ignores the invalid value in the environment setup file and continues to execute the command.

O:

Ignore the warning or correct the contents of the environment setup file and execute the command again.

KAJM0011-W

The file that defines the environment contains an error in a key value. (section: *section-name*, key: *key-name*)

The environment setup file contains an incorrect key value.

S:

The system uses the default value specified by the `conf.model` file and continues with command execution.

O:

Ignore the warning or correct the contents of the environment setup file and execute the command again.

KAJM0012-W

The file that defines the environment contains a duplicated key or section name. (section: *section-name*, key: *key-name*)

The environment setup file contains duplicate values.

S:

The system uses the first-specified value and continues with command execution.

O:

Ignore the warning or correct the contents of the environment setup file and execute the command again.

KAJM0013-W

The file that defines the environment contains an invalid string.

The environment setup file contains an invalid character string.

S:

The system ignores the invalid character string and continues with command execution.

O:

Ignore the warning or correct the contents of the environment setup file, and execute the command again.

KAJM0014-E

This option cannot be used because the RFC library corresponding to the extended password is not set. (option: *option)*

An attempt was made to execute a command with the `-p2` option specified (or with **Use an extended password** selected during execution from a custom job) without an RFC library having been set for the extended password.

S:

The system aborts command execution.

O:

Use the `jr3chrfc` command to set an RFC library for the extended password, and then execute the command again.

KAJM0020-E

The default information file for the R/3 connection contains an invalid key or section name. (section: *section-name*, key: *key-name*)

The SAP default connection destination information file (`r3defcon` file) contains an incorrect value.

S:

The system aborts command execution.

O:

Correct the contents of the SAP default connection destination information file (`r3defcon` file) and execute the command again.

KAJM0021-E

The default information file for the R/3 connection contains an error in a key value. (section: *section-name*, key: *key-name*)

The SAP default connection destination information file (`r3defcon` file) contains an incorrect key value.

S:

The system aborts command execution.

O:

Correct the contents of the SAP default connection destination information file (`r3defcon` file) and execute the command again.

KAJM0022-E

The default information file for the R/3 connection contains a duplicated key or section name. (section: *section-name*, key: *key-name*)

The SAP default connection destination information file (`r3defcon` file) contains duplicate values.

S:

The system aborts command execution.

O:

Correct the contents of the SAP default connection destination information file (`r3defcon` file) and execute the command again.

KAJM0023-E

The default information file for the R/3 connection lacks a required section or key.

The SAP default connection destination information file (`r3defcon` file) does not contain a required key name entry or section name entry.

S:

The system aborts command execution.

O:

Correct the contents of the SAP default connection destination information file (`r3defcon` file) and execute the command again.

KAJM0024-E

The default information file for the R/3 connection contains mutually-exclusive sections or keys.

The SAP default connection destination information file (`r3defcon` file) contains mutually exclusive key name entries or section name entries.

S:

The system aborts command execution.

O:

Correct the contents of the SAP default connection destination information file (`r3defcon` file) and execute the command again.

KAJM0025-E

The default information file for the R/3 connection contains an invalid string.

The SAP default connection destination information file (`r3defcon` file) contains an invalid character string.

S:

The system aborts command execution.

O:

Correct the contents of the SAP default connection destination information file (`r3defcon` file) and execute the command again.

KAJM0026-E

The key specified in the default information file for the R/3 connection cannot be used because the RFC library corresponding to the extended password is not set. (section: *section-name*, key: *key-name*)

An attempt was made to execute a command with the `Passwd2` key specified for the SAP default connection destination information file without an RFC library having been set for the extended password.

S:

The system aborts command execution.

O:

Use the `jr3chrfc` command to set an RFC library for the extended password, and then execute the command again.

KAJM0030-W

The eapctrlconf file has invalid key or section name. (section: *section-name*, key: *key-name*)

The content of the `eapctrlconf` file is invalid.

S:

The system ignores the invalid content in the `eapctrlconf` file and continues to execute the command.

O:

Ignore the warning, or copy the model file again and replace the `eapctrlconf` file, and then execute the command again.

KAJM0031-W

There is an error in the key value of the file. (section: *section-name*, key: *key-name*)

The content of the `eapctrlconf` file is invalid.

S:

The system assumes the default value of the `eapctrlconf` file and continues to execute the command.

O:

Ignore the warning, or copy the model file again and replace the `eapctrlconf` file, and then execute the command again.

KAJM0032-W

There are duplicate key section names in the eapctrlconf file. (section: *section-name*, key: *key-name*)

The content of the `eapctrlconf` file is invalid.

S:

The system uses the initially specified value and continues to execute the command.

O:

Ignore the warning, or copy the model file again and replace the `eapctrlconf` file, and then execute the command again.

KAJM0033-W

There is an invalid character string in the eapctrlconf file.

The content of the `eapctrlconf` file is invalid.

S:

The system ignores the content of the `eapctrlconf` file and continues to execute the command.

O:

Ignore the warning, or copy the model file again and replace the `eapctrlconf` file, and then execute the command again.

KAJM0034-W

The eapctrlconf file cannot be accessed. (file: *file-name*)

An attempt to access the `eapctrlconf` file failed.

S:

The system ignores the content of the `eapctrlconf` file and continues to execute the command.

O:

　　Check the access permissions for the `eapctrlconf` file. Check that the command executing user, job executing user, or the JP1/AJS - View executing user have been granted read permissions.

KAJM0035-E

There is an inconsistency in the eapctrlconf file.

An inconsistency was found in the custom job definition and job command `eapctrlconf` file.

S:

　　The system aborts command execution.

O:

　　Check whether the `eapctrlconf` file is correctly placed in the JP1/AJS - View environment and JP1/AJS3 for EAP environment.

KAJM0100-E

Insufficient memory.

System memory was insufficient during command execution.

S:

　　The system aborts command execution.

O:

　　Ensure that sufficient system memory is available, and execute the command again.

KAJM0101-E

File cannot be accessed. (file: *filename*)

The file could not be accessed.

S:

　　The system aborts command execution.

O:

　　Ensure that the file indicated by *filename* can be accessed with the command-executing user's permission.

KAJM0102-E

There is not enough free space for creating or extending a file. (file: *filename*)

Disk space was insufficient during command execution.

S:

　　The system aborts command execution.

O:

　　Check for available space on the disk that is selected for the creation or extension of the indicated file.

KAJM0103-W

File that defines the environment cannot be accessed. (file: *filename*)

The environment setup file could not be accessed.

S:

The system uses the default value specified by the `conf.model` file and continues with command execution.

O:

Ensure that an environment settings file exists and can be accessed with the command-executing user's permission.

KAJM0104-W

Trace file cannot be accessed. (file: *filename*)

The trace file could not be accessed.

Another possibility is that the temporary file used for outputting trace files could not be accessed.

A temporary directory is used when outputting trace files.

Under Windows, the folder specified by the `TMP` environment variable is used. In the `TMP` environment variable, specify a folder that can be accessed using the permissions of the user executing the command (if the default JP1/AJS service account is used when a JP1/AJS job is executed, the folder specified in the `TMP` system environment variable is used).

S:

The system continues with command execution. However, trace information output may not be sent to the trace file.

O:

Ensure that the trace file can be accessed with the permissions of the user executing the command.

Altenatively, ensure that the folder specified by the `TMP` environment variable as the temporary folder for outputting trace files can be accessed with the permissions of the user executing the command.

KAJM0105-E

Failed to access the default information file for the R/3 connection. (file: *filename*)

The SAP default connection destination information file (`r3defcon` file) could not be accessed.

S:

The system aborts command execution.

O:

Ensure that the SAP default connection destination information file (`r3defcon` file) exists and can be accessed with the command-executing user's permission.

KAJM0106-W

There is not enough free space for creating or extending a trace file. (file: *filename*)

Disk space was insufficient while trace information was being output to the trace file.

S:

The system continues with command execution. However, the trace information may not be sent to the trace file.

O:

Check for available space on the disk containing the trace file.

KAJM0107-E

After the character code conversion, the length of the character string exceeded the range that can be specified for the option. (option: *option*, number of bytes after the conversion: *number-of-bytes-after-the-conversion*)

After the character code conversion, the length of the character string exceeded the range that can be specified for the option.

(S)

The system aborts command execution.

(O)

Ensure that the specified argument is within the range that can be specified for the character string after the Shift-JIS conversion. If *number-of-bytes-after-the-conversion* is 4,096, the number of bytes after the conversion is 4,096 bytes or more.

KAJM0108-E

An attempt to convert the character code failed. Execution will be terminated.

An attempt to convert the character code failed.

(S)

The system aborts command execution.

(O)

On the command invocation, ensure that the character code for the specified argument matches the LANG environment variable.

KAJM0109-W

An attempt to convert the character code failed. Check the contents of the job log.

An attempt to convert the character code for the job log failed.

(S)

The system continues with command execution.

(O)

Check the contents of the relevant job log on the SAP system. If part of the job log contents controls subsequent jobs, ensure that the conversion does not affect subsequent processing.

KAJM0110-W

An attempt to convert the character code failed.

An attempt to convert the character code failed.

(S)

The system continues with command execution.

(O)

Take either of the following actions.

- If there is a subsequent message:

  An attempt to convert the character code for the subsequent message failed. Check the contents of the subsequent message.

- If this message is output after the SAP system information is displayed by the `jr3bjrep` and `jr3bjsho` commands:

  An attempt to convert the character code failed because the displayed SAP system information contains a character code that does not belong to the Shift-JIS encoding supported by the command. Check the information on the SAP system.

KAJM0112-E

Preparation for character code conversion failed.

The required combination of character code conversion does not exist.

(S)

The system aborts command execution.

(O)

Ensure that there are a sufficient number of files to be opened by checking the kernel parameter regarding the number of files, and then execute the command again.

If the status still does not recover, gather the information needed to investigate the cause of the problem, and then contact the system administrator.

KAJM0113-E

An attempt to load the RFC library failed. (file: *file-name*, reason: *cause*, function: *function-name*, maintenance code: *maintenance-code*)

An error occurred while the RFC library was being loaded.

The following information is output to individual items in the message:

- *file-name*: Absolute path to the RFC library
- *cause*: Text that indicates the cause of the error

  `no such file(s):` The file or files do not exist.

  `invalid library(ies):` The library or libraries are invalid.

  `the CRT libraries are not installed:` The necessary CRT libraries are not installed.

  `system error:` A system error occurred.

- *function-name*: Name of the API of the OS in which the error occurred
- *maintenance-code*: Error code returned from the API of the OS

(S)

The system aborts command execution.

(O)

For the RFC library that was output to *file-name* in the message, remove the cause that was output to *cause* in the message, and then execute the command again.

The following shows how to handle individual causes that can be output to *cause* in the message:

- `no such file(s)`

  Ensure that the RFC library obtained from the provider is located in the path that was output to *file-name* in the message. If any problem exists, follow the procedures described in *2.5 SAP NetWeaver RFC Library setup* to locate the correct RFC library.

- `invalid library(ies)`

  Ensure that the RFC library that was output to *file-name* in the message is correct. (Ensure that the library corresponds to the OS and architecture of the running environment, and that the version of the library is the required version for operating the product.) If any problem exists, follow the procedures described in *2.5 SAP NetWeaver RFC Library setup* to locate the correct RFC library.

- `the CRT libraries are not installed`

  Ensure that the C runtime library required for RFC library operation has been installed. If any problem exists, follow the procedures described in *2.5 SAP NetWeaver RFC Library setup* to locate the correct C runtime library.

- `system error`

  Collect maintenance information, and then contact the system administrator.

If the problem still remains after performing the procedure above, collect the maintenance information, and then contact the system administrator.

For details about the version of the RFC library required for using the product and how to obtain the RFC library, see the product manual or *Release Notes*.

KAJM0114-E

The RFC library version is invalid. (file: *file-name*, version: *major-version.minor-version.patch-level*)

The version of the RFC library is not the version required for operating the product.

In *file-name* in the message, the absolute path to the RFC library is output. In *major-version . minor-version . patch-level* in the message, the version information of the RFC library is output.

(S)

The system aborts command execution.

(O)

In the path that was output to *file-name* in the message, store the RFC library whose version is required for operating the product, and then execute the command again.

For details about the versions of the RFC library required for operating the product, and how to obtain the RFC library, see the manual or *Release Notes*.

KAJM0115-E

An attempt to load the RFC library failed. (file: *file-name*, reason: *cause*, function: *function-name*)

An error occurred while the RFC library was being loaded.

The following information is output to individual items in the message:

file-name: Absolute path to the RFC library

cause: Error message returned from API of OS

function-name: Name of the API of the OS in which the error occurred

(S)

The system aborts command execution.

(O)

Check the following points and fix if there is a problem. Then try the command again.

- The RFC library is provided by SAP
- The RFC library is supported by the AJS-EAP.
- The RFC library supports for the OS and its architecture.
- Read and execute permissions (-r-xr-xr-x) are set to the RFC library.

If the problem still persists, gather the information needed to investigate the cause of the problem, and then contact the system administrator.

Refer to the manual and Release Notes for procedure to verify the version of the RFC library and to receive the RFC library.

KAJM0116-E

The sapnwrfc.ini file cannot be accessed. (file: *file-name*, maintenance code: *maintenance-code*)

An attempt to access the `sapnwrfc.ini` file failed.

In *file-name* in the message, the absolute path to the `sapnwrfc.ini` file is output. In *maintenance-code* in the message, an error code returned from the API of the OS is output.

(S)

The system aborts command execution.

(O)

Ensure that the `sapnwrfc.ini` file output to *file-name* in the message exists, and that the file can be accessed with the permissions of the user executing the command.

If the `sapnwrfc.ini` file does not exist, create the file in one of the search folders for the `sapnwrfc.ini` file, and then execute the command again. If you do not have a permission required to execute the command, obtain the permission, and then execute the command again.

KAJM0117-W

An error occurred in trace output processing. (function: *function*, message: *message*)

An error occurred in trace output processing.

S:

Command execution will be continued. But trace might not be output.

O:

Refer to the *function* and *message* in the message to check the trace file status and execute the command after extracting the problem. If the problem cannot be corrected, collect the data by using maintenance and contact the system administrator.

KAJM0600-E

You do not have permission to execute the command.

An attempt to execute the command was made by a user who does not have Administrator permissions.

If the user account control function (UAC) of the OS is enabled, execute the command from the command prompt of the standard role.

This message is output for the Windows version only.

S:

The system aborts command execution.

O:

Have a user who has Administrator permissions execute the command again.

If the user account control function (UAC) of the OS is enabled, execute the command at the command prompt using Administrator permissions.

KAJM0601-I

The RFC library setting was changed.

The RFC library setting was successfully changed by executing the `jr3chrfc` command.

S:

The command ends normally.

KAJM0602-E

An attempt to open the RFC library status management file has failed. (file: *filename*, maintenance code: *maintenance-code*)

An unrecoverable error occurred when opening the RFC library status management file.

For *filename* in the message, the absolute path to the RFC library status management file is output. For *maintenance-code* in the message, the API error code returned by the OS is output.

S:

The system aborts command execution.

O:

Verify that the path to the RFC library status management file is correct, and then execute the command again. If the status still does not recover, delete the RFC library status management file, use the `jr3chrfc` command to set up the file again, and then execute once more the command that caused the error.

KAJM0603-E

An attempt to lock the RFC library status management file has failed. (file: *filename*, maintenance code: *maintenance-code*)

The possible causes of the error are as follows:

- During installation or patch execution, or while an RFC library setting was being changed using the `jr3chrfc` command, the JP1/AJS3 for EAP command that references the RFC library settings was executed.
- During execution of the JP1/AJS3 for EAP command that references the RFC library settings, an RFC library setting was changed using the `jr3chrfc` command.

For *filename* in the message, the absolute path to the RFC library status management file is output. For *maintenance-code* in the message, the API error code returned by the OS is output.

S:

The system aborts command execution.

O:

After changing or referencing the RFC library setting is completed, execute the command again. If the status still does not recover, delete the RFC library status management file, use the `jr3chrfc` command to set up the file again, and then execute once more the command that caused the error.

KAJM0604-E

An attempt to read the RFC library status management file has failed. (file: *filename*, maintenance code: *maintenance-code*)

An unrecoverable error occurred while reading the RFC library status management file.

For *filename* in the message, the absolute path to the RFC library status management file is output. For *maintenance-code* in the message, the API error code returned from the OS is output.

S:

The system aborts command execution.

O:

Verify that the path to the RFC library status management file is correct, and then execute the command again. If the status still does not recover, delete the RFC library status management file, use the `jr3chrfc` command to set up the file again, and then execute once more the command that caused the error.

KAJM0605-E

An attempt to write to the RFC library status management file has failed. (file: *filename*, maintenance code: *maintenance-code*)

During a change to an RFC library setting using the `jr3chrfc` command, an unrecoverable error occurred while writing to the RFC library status management file.

For *filename* in the message, the absolute path to the RFC library status management file is output. For *maintenance-code* in the message, the API error code returned by the OS is output.

S:

The system aborts command execution.

O:

Verify that the path to the RFC library status management file is correct and that there is available space on the disk, and then execute the command again. If the status still does not recover, delete the RFC library status management file, use the `jr3chrfc` command to set up the file again, and then execute once more the command that caused the error.

KAJM0606-E

The contents of the RFC library status management file are invalid. (file: *filename*)

The RFC library status management file contains an error.

For *filename* in the message, the absolute path to the RFC library status management file is output.

S:

The system aborts command execution.

O:

Use the `jr3chrfc` command to set up the RFC library setting again, and then execute the command. If the status still does not recover, delete the RFC library status management file, use the `jr3chrfc` command to set up the file again, and then execute once more the command that caused the error.

KAJM0607-E

There is not enough free space to copy the RFC library file. (source: *filename*, target: *filename*)

Disk space ran out while the RFC library file was being copied.

For *filename* in the inserted source paragraph, the absolute path to the RFC library file of the copy source is output. For *filename* in the inserted target paragraph, the absolute path to the copy destination RFC library file is output.

This message is output when an RFC library setting is changed using the Windows version of the `jr3chrfc` command.

S:

The system aborts command execution.

O:

Delete unnecessary files to free up some disk space at the copy destination, and then execute the `jr3chrfc` command again.

KAJM0608-E

The RFC library file cannot be copied. (source: *filename*, target: *filename*, maintenance code: *maintenance-code*)

An error that is not attributable to a lack of disk space occurred while the RFC library file was being copied.

For *filename* in the inserted source paragraph, the absolute path to the RFC library file of the copy source is output. For *filename* in the inserted target paragraph, the absolute path to the copy destination RFC library file is output. For *maintenance-code* in the message, the API error code returned from the OS is output.

This message is output when an RFC library setting is changed using the Windows version of the `jr3chrfc` command.

S:

The system aborts command execution.

O:

Delete the file at the copy destination, and then execute the command again.

KAJM0609-E

The symbolic link file cannot be created. (file: *filename*, maintenance code: *maintenance-code*)

An error occurred during creation of the symbolic link file.

For *filename* in the message, the absolute path to the symbolic link file the system is attempting to create is output. For *maintenance-code* in the message, the API error code returned from the OS is output.

This message is output when an RFC library setting is changed using the Linux version of the `jr3chrfc` command.

S:

The system aborts command execution.

O:

Delete the symbolic link file, and then execute the command again.

KAJM0650-I

The collection of maintenance information will now start.

The collection of maintenance information tool will now start.

S:

The collection of maintenance information tool will now start.

KAJM0651-I

The collection of maintenance information ended normally.

The execution of maintenance information collection tool ended normally.

S:

Ends the execution of maintenance information collection tool.

KAJM0652-E

The collection of maintenance information ended abnormally.

The execution of maintenance information collection tool ended abnormally.

S:

Ends the execution of maintenance information collection tool.

O:

Check the latest message and re-execute the applicable command.

KAJM0653-E

The collection-destination directory is not specified.

Information collection destination directory name is not specified.

S:

Ends the execution of maintenance information collection tool.

O:

Specify the information collection destination directory name and re-execute the command.

KAJM0654-E

The specified directory already exists.

The specified information collection destination directory already exists.

S:

Ends the execution of maintenance information collection tool.

O:

Specify a not existing directory name and re-execute the command.

KAJM0655-E

An incorrect argument is specified.

An incorrect argument is specified.

S:

Ends the execution of maintenance information collection tool.

O:

Specify the correct arguments and re-execute the command.

KAJM0656-E

The current directory is not correct.

The current directory is not correct.

S:

Ends the execution of maintenance information collection tool.

O:

Re-execute the command after changing the current directory to information collection tool (`jr3ras`) result output destination directory.

KAJM0657-E

The collection-destination directory cannot be accessed.

Cannot access to the information collection destination directory.

S:

Ends the execution of maintenance information collection tool.

O:

Re-execute the command after checking the information collection destination directory or the permissions.

KAJM0658-E

The file copying failed because the disk capacity is insufficient.

Disk space insufficient error occurred while executing maintenance information collection tool.

S:

Ends the execution of maintenance information collection tool.

O:

Check whether the disk has sufficient space and specify a disk with a sufficient space. Then re-execute the command.

KAJM0659-E

The install directory cannot be accessed.

Cannot access to the JP1/AJS3 for EAP installation directory.

S:

Ends the execution of maintenance information collection tool.

O:

Re-execute the command after confirming whether the product is installed normally. If the problem cannot be corrected by re-executing, collect the information manually, referring the manual *8.2 Data to be collected if a problem occurs*.

KAJM0660-W

Information could not be acquired.

Cannot collect the information specified in the *Information* words.

S:

Without collecting *Information* in the message, the information collection tool execution will be continued.

O:

Check whether the disk has sufficient space and specify a disk with sufficient space. Then re-execute the command. If the problem cannot be corrected by re-executing, collect the information manually, referring the manual *8.2 Data to be collected if a problem occurs*.

KAJM0700-E

An attempt to open the RFC library status management file has failed. (file: *filename*, maintenance code: *maintenance-code*, maintenance message: *maintenance-message*)

An unrecoverable error occurred when opening the RFC library status management file.

For *filename* in the message, the absolute path to the RFC library status management file is output. For *maintenance-code* and *maintenance-message* in the message, the API error code returned from the OS and the corresponding error message are output.

S:

The system terminates installation or patch execution.

O:

Check whether the path to the RFC library status management file is correct, and then perform installation or patch execution. If the status still does not recover, delete the RFC library status management file and then perform installation or patch execution. After that, use the `jr3chrfc` command to set up the RFC library status management file again.

KAJM0701-E

An attempt to lock the RFC library status management file has failed. (file: *filename*, maintenance code: *maintenance-code*, maintenance message: *maintenance-message*)

Installation or patch execution was performed while using a JP1/AJS3 for EAP command to reference or change an RFC library setting.

For *filename* in the message, the absolute path to the RFC library status management file is output. For *maintenance-code* and *maintenance-message* in the message, the API error code returned from the OS, and the corresponding error message are output.

S:

The system terminates installation or patch execution.

O:

After changing or referencing the RFC library setting is completed, perform installation or patch execution again. If the status still does not recover, delete the RFC library status management file and then perform installation or patch execution. After that, use the `jr3chrfc` command to set up the RFC library status management file again.

KAJM0702-E

An attempt to read the RFC library status management file has failed. (file: *filename*, maintenance code: *maintenance-code*, maintenance message: *maintenance-message*)

An unrecoverable error occurred while reading the RFC library status management file.

For *filename* in the message, the absolute path to the RFC library status management file is output. For *maintenance-code* and *maintenance-message* in the message, the API error code returned from the OS, and the corresponding error message are output.

S:

The system terminates installation or patch execution.

O:

Check whether the path to the RFC library status management file is correct, and then perform installation or patch execution. If the status still does not recover, delete the RFC library status management file and then perform installation or patch execution. After that, use the `jr3chrfc` command to set up the RFC library status management file again.

KAJM0703-E

The contents of the RFC library status management file are invalid. (file: *filename*)

The RFC library status management file contains an error.

For *filename* in the message, the absolute path to the RFC library status management file is output.

S:

The system terminates installation or patch execution.

O:

Delete the RFC library status management file and then perform installation or patch execution. After that, use the `jr3chrfc` command to set up the RFC library status management file again.

KAJM0704-E

There is not enough free space to copy the RFC library file. (source: *filename*, target: *filename*)

Disk space ran out while the RFC library file was being copied.

For *filename* in the source message, the absolute path to the RFC library file of the copy source is output. For *filename* in the target message, the absolute path to the copy destination RFC library file is output.

S:

The system terminates installation or patch execution.

O:

Delete unnecessary files to free up some disk space at the copy destination, and then perform installation or patch execution again.

KAJM0705-E

The RFC library file cannot be copied. (source: *filename*, target: *filename*, maintenance code: *maintenance-code*, maintenance message: *maintenance-message*)

An error that is not attributable to a lack of disk space occurred while the RFC library file was being copied.

For *filename* in the source message, the absolute path to the RFC library file of the copy source is output. For *filename* in the target message, the absolute path to the copy destination RFC library file is output. For *maintenance-code* and *maintenance-message* in the message, the API error code returned from the OS and the corresponding error message are output.

S:

The system terminates installation or patch execution.

O:

Delete the RFC library status management file, and then perform installation or patch execution again.

KAJM0801-E

Cannot connect to the R/3 system. (address: *destination-name*, host: *host-name*, system No.: *system-number*)

A communication error occurred before RFC connection with the SAP system was established.

Immediately after this message, the name of the function where the error occurred and a `KAJM0802-E` error message providing detailed information are output.

The possible causes of the error are as follows:

- The RFC connection information is incorrect (for example, the system number is incorrect and the host name cannot be resolved).
- The SAP system is inactive.
- The SAP system is too busy to accept an RFC request.
- The network settings are incorrect.

S:

The system attempts to reconnect to the SAP system if retry is specified.

If retry is not specified, the system aborts command execution.

O:

Consider specifying retry if no retry is specified (version 07-00 and earlier do not retry by default).

KAJM0802-E

Operation : *function*
detailed-information ...

An error occurred when the RFC API (communication function provided by SAP) was called.

A message appears that indicates the name of the function where the error occurred and detailed information about the RFC API error. The meaning of the values in the message is as follows:

- `code`: Integer for the RFC return code
- `group`: Integer for identifying `key`
- `key`: Code for identifying the error (127 bytes or less)
- `message`: Text that describes the error (511 bytes or less)
- `abapMsgClass`: ABAP message class (20 bytes or less)
- `abapMsgType`: ABAP message type (1 byte or less)
- `abapMsgNumber`: ABAP message number (3 bytes or less)
- `abapMsgV1`: Detail field of the ABAP message (text of 50 bytes or less)
- `abapMsgV2`: Detail field of the ABAP message (text of 50 bytes or less)
- `abapMsgV3`: Detail field of the ABAP message (text of 50 bytes or less)
- `abapMsgV4`: Detail field of the ABAP message (text of 50 bytes or less)

For these values, the values of the members in the `RFC_ERROR_INFO` structure are specified without changes. This structure stores RFC API error information. (For details about the RFC, see the manual for the SAP system.)

<Supplement>

- This message is output as a detailed message of KAJM0801-E, KAJM0803-E, and KAJM0804-E.
- The number of bytes for the detailed information about the RFC API error indicates the size in which `\0` is not included.

S:

The system aborts command execution.

O:

Identify the cause of the error and correct the problem.

KAJM0803-E

A communication error occurred with the R/3 system. (address: *destination-name*, host: *host-name*, system No.: *system-number*)

An error occurred when JP1/AJS3 for EAP called the RFC API (communication function provided by SAP).

Immediately after this message, the name of the function in which the error occurred and a `KAJM0802-E` error message providing detailed information are output.

The possible causes of the error are as follows:

- The SAP system is inactive.
- The SAP system is too busy to accept an RFC request.
- The network settings are incorrect.

S:

If the communication error occurred while establishing communication or monitoring the end of a job and retry is specified, the system attempts to reconnect to the SAP system. If the error occurred in other circumstances or if no retry is specified, the system aborts command execution.

O:

Consider specifying retry if no retry is specified (version 07-00 and earlier do not retry by default).

KAJM0804-E

Cannot log on to the R/3 system. (address: *destination-name*, client: *client*, user: *user-name*, language: *language-name*)

A logon error occurred when JP/AJS3 for EAP attempted to establish an RFC connection with the SAP system.

Immediately after this message, a `KAJM0802-E` message appears indicating the name of the function where the error occurred and providing detailed information about the error.

The possible causes of the error are as follows:

- The RFC connection information is incorrect (for example, a non-existent user or incorrect password is specified).
- The user is locked out.
- The user was not granted the `S_RFC` permission correctly.
- An extended password containing lower-case characters is defined in the SAP system based on SAP NetWeaver 7.0 and later, but connection information (`-p` option or `Passwd` key of the `r3defcon` file) that does not correspond to the extended password is specified.

S:

The system aborts command execution.

O:

Check the logon information used to log on to the SAP system specified by the command.

KAJM0805-I

Now recovering connection with the R/3 system. (address: *destination-name*, host: *host-name*, system No.: *system-number*, retry-time: *retry-time-in-minutes* min., retry-count: *number-of-retries* times)

The connection with the SAP system is now being recovered.

retry-time in the message is output when the `RetryTime` key specified in the command section of the environment setup file is valid. *number-of-retries* in the message is output when the `RetryCount` key in the command section of the environment setup file is valid.

S:

JP1/AJS3 for EAP reconnects with the SAP system. If reconnection is performed within the *retry-time* or *number-of-retries* limit, JP1/AJS3 for EAP continues command processing. Otherwise, the system aborts command execution.

KAJM0806-I

Connection was recovered with the R/3 system. (address: *destination-name*, host: *host-name*, system No.: *system-number*)

JP1/AJS3 for EAP has reconnected with the SAP system.

KAJM0807-E

Time-out occurred in the connection with the R/3 system. (address: *destination-name*, host: *host-name*, system No.: *system-number*)

JP1/AJS3 for EAP could not restore a connection with the SAP system within the specified reconnection retry time.

S:

The system aborts command execution.

O:

Read the messages that are output before this message and the SAP system log to determine the cause of the error. Check whether the value of the retry count or retry time (`RetryCount` key or `RetryTime` key in the command section of the environment setup file) is appropriate.

KAJM0810-E

The external management interface is not supported. (interface: *interface-name*, version: *version*)

The external management interface version of the destination SAP system does not agree with the version asumed by JP1/AJS3 for EAP.

For *interface-name* and *version* in the message, the interface name and version of the external management interface are output. However, the version is not output if the version of the external management interface is not set.

S:

The system aborts command execution.

O:

Check the external management interface version of the destination SAP system.

Note

The interface name and version number are provided with the message only when they can be determined.

KAJM0811-E

Cannot log on to an external management interface. (interface: *interface-name*, version: *version*)

An attempt to log on to the SAP system external management interface was denied (BAPI error).

The possible causes of the error are as follows:

- The connection destination SAP system does not support the interface.
- The user was not granted the `S_XMI_PROD` permission correctly.

S:

The system aborts command execution.

O:

Check the following:

- Check whether the release and patch level of SAP Basis (SAP WebAS) of the connection destination SAP system satisfy the prerequisites.

- Check whether the user specified in the SAP logon information is authorized to log on to the external management interface.

Note

The interface name and version number are provided with the message only when they can be determined.

KAJM0812-E

Error occurred at the external management interface. (interface: *interface-name*, version: *version*)

The SAP system external management interface returned an error. Immediately after this message, a `KAJM0813-E` message appears indicating the name of the function where the error occurred and the exception code.

S:

If more than one process was requested, the system continues with the subsequent process.

O:

Check the SAP system log to identify the cause of the error, fix the problem, and then execute the command again.

Note

The interface name and version number are provided with the message only when they can be determined.

KAJM0813-E

Function: *function*, Exception: *exception*
detailed-information

A general-purpose module of the SAP system returned an error.

The name of the function where the error occurred and the exception code are output.

For BAPI, the detailed information about the external management interface error is output after `Detail`. The language used for the message depends on the language (`-l` option specification value) specified during logon to the SAP BW system. The meaning of the values in the message is as follows:

- `Type`: One of the following characters (one byte) that indicates the importance of the message
  `S`: Normal
  `E`: Error
  `W`: Warning
  `I`: Information
  `A`: Forced termination
- `Id`: Message class (20 bytes or less)
- `Number`: Error code for identifying the error (three bytes or less)
- `Message`: Description of the error (220 bytes or less)
- `LogNo`: Log number for identifying the application log (20 bytes or less)
- `LogMsgNo`: Message number for identifying the message output to the application log (six bytes or less)

For these values, the values of the members in the BAPIRET2 structure that contains the BAPI error are specified without changes. For details about BAPI, see the SAP system documentation. For details about the specifications of the BAPI that is called, see the object navigator (SE80) documentation of the SAP system, the BAPI browser documentation (BAPI), or the SAP documentation.

S:

If more than one process was requested, the system continues with the subsequent process. If only one process is requested, the system aborts the process.

O:

Check the SAP system log to identify the cause of the error, fix the problem, and then execute the command again.

KAJM0820-E

There is no authority to perform this operation.

The specified SAP user is not authorized to execute this operation.

S:

If more than one process was requested, the system continues with the subsequent process.

O:

If more than one process was requested, the system continues with the subsequent process. If only one process was requested, the system aborts the process.

KAJM0830-W

Failed to change an audit-level.

The audit level was not changed.

S:

The system continues processing without changing the audit level.

O:

Check the SAP system log and other relevant information to investigate the cause of the problem.

KAJM0900-E

Command terminated abnormally. (command: *command-name*)

An error occurred in JP1/AJS3 for EAP during command processing.

S:

The system aborts command execution.

O:

Gather the information needed to investigate the cause of the problem, and then contact the system administrator.

KAJM0901-E

The user canceled the command. (command: *command-name*)

Command processing was aborted due to a `Ctrl-C` signal sent from the user or for some other reason during command execution.

S:

The system aborts command execution.

KAJM0902-E

The product is not installed correctly.

JP1/AJS3 for EAP is not correctly installed.

S:

The system aborts command execution.

O:

Reinstall JP1/AJS3 for EAP.

KAJM0990-E

The evaluation period of (*p.p.name*) Evaluation Version expired.

An attempt to execute the command failed because the trial version is expired.

S:

The system aborts command execution.

KAJM0992-E

The product information could not be acquired. (Detailed information: *function-name*, *return-value*)

Command execution failed because of insufficient resources or because the environment is invalid.

S:

The system aborts command execution.

O:

Check whether system resources are insufficient.

If so, secure sufficient resources, and then execute the command again. If the problem cannot be resolved, uninstall and then reinstall JP1/AJS3 for EAP, and then execute the command again. If the problem is still not resolved, collect data, and then contact the system administrator.

6.3 Messages specific to the job control function

KAJM1001-E

100 or more items of job step information were specified.

More than 99 items of job step information were specified.

S:

The system aborts command execution.

O:

Decrease the number of job step information items to 99 or fewer, and then execute the command again.

KAJM1002-E

Job name cannot be omitted.

The job name -jn *job-name* was not specified.

S:

The system aborts command execution.

O:

Specify the job name -jn *job-name*, and then execute the command again.

KAJM1003-E

Program name cannot be omitted.

Required job step information was not specified.

S:

The system aborts command execution.

O:

Specify the required job step information, and then execute the command again.

KAJM1004-E

Job count cannot be omitted.

No job count was specified. When monitoring job completion, make sure to specify a job count.

S:

The system aborts command execution.

O:

Specify the job count and then execute the command again.

KAJM1005-E

The name of the host that executes an external program cannot be omitted.

The host name was not specified by the job step information for external program execution.

S:

  The system aborts command execution.

O:

  Specify the host name and then execute the command again.

KAJM1006-E

  The specified monitoring time is shorter than the monitoring interval.

The job completion monitoring time is shorter than the job monitoring interval setting.

S:

  The system aborts command execution.

O:

  Specify the correct value and then execute the command again.

KAJM1007-E

  The specified archive parameter is incomplete.

If you specify **Archive** or **Print and archive** for **Archiving mode**, you must also specify **Object type**, **Document type**, and **Information ID.**

S:

  The system aborts command execution.

O:

  Revise **Archiving mode** and the archive parameters settings, and then execute the command again.

KAJM1009-E

  To specify this option, a new version of the XBP interface is required. (option: *option*)

To specify the following options of the `jr3bjsub` or `jr3bjrel` command, you must enable the external management interface, which is XBP version 2.0 (XBP 2.0 interface):

`-with_child, -class, -title, -dpt, -fmt, -text`

For details, see the description of the `jr3bjsub` or `jr3bjrel` command in *4. Commands*.

S:

  The system aborts command execution.

O:

  Enable the XBP 2.0 interface at the connection destination SAP system. For details, see *2.3.8(1) Enabling the XBP 2.0 interface*.

KAJM1010-E

  The parent-child function is set to OFF in the connected SAP system.

Although completion monitoring for parent and child jobs (`-with_child` option) is specified, the parent and child function is disabled in the SAP system.

S:

The system aborts command execution.

O:

Enable the parent and child function in the connection destination SAP system.

For details, see *2.3.8(2) Enabling the parent and child function*.

KAJM1011-E

To specify this option, the XBP 3.0 interface is required. (option:*option*)

To specify the `-tv` option of the `jr3bjsub` command, you must enable the external management interface, which is XBP version 3.0 (XBP 3.0 interface).

For details, see the description of the `jr3bjsub` command in *4. Commands*.

S:

The system aborts command execution.

O:

Enable the XBP 3.0 interface at the connection destination SAP system.

KAJM1012-E

33 or more items of temporary variants information were specified.

There are 33 or more items of temporary variants information specified.

S:

The system aborts command execution.

O:

Reduce the number of specified temporary variants information items to 32 items or less and try again.

KAJM1800-E

No job satisfies the specified conditions.

There is no job that meets the specified conditions.

S:

The system aborts command execution.

O:

Specify the correct job and then execute the command again.

KAJM1801-E

This program does not exist. (program: *program-name*)

The specified program is not defined in the SAP system.

S:

The system aborts command execution.

O:

    Check whether the program name specified in the command is valid for the SAP system. If necessary, define the specified program for the SAP system, and then execute the command again.

KAJM1802-E

A step required for execution is not defined.

The job step definition for the job is not complete.

S:

    The system aborts command execution. If more than one process was requested, the system continues with the subsequent process.

O:

    Check the job step information definition.

KAJM1803-E

The job has already finished.

The specified job has already ended.

S:

    The system aborts command execution. If more than one process was requested, the system continues with the subsequent process.

O:

    Check the job name and job count specified for the command.

KAJM1804-W

Failed to acquire an R/3 job log. (job name: *job-name*, job count: *job-count*)

Job log acquisition was not successful.

job-name and *job-count* in the message are output only for JP1/AJS2 for EAP 07-50 or later.

S:

    The system continues with command execution.

O:

    Check the messages that are output before this message and the SAP system log to determine the cause of the error. If `KAJM0101-E` was output immediately before this message, it is possible the path specified as the job log output destination contains an error.

    Check with the JP1/AJS3 for EAP host as to whether any of the following factors exist:

- A nonexistent folder or directory is specified.
- The specified file is read-only (for the Windows version).
- The user does not have command execution write permission for the specified file.

KAJM1805-E

The job log no longer exists.

The job log file for the specified job was not found in the SAP system (it was illegally deleted). Another possibility is that the job log file for the job specified in the SAP system has not been created.

S:

The system aborts the job log acquisition/display operation. If more than one process was requested, the system continues with the subsequent process.

O:

Execute the command again after execution of the specified job is completed. If the situation does not change when the command is executed again, contact the SAP system administrator.

KAJM1806-E

Condition: *Condition*

Displays the condition for the preceding on-screen message.

KAJM1807-E

A log does not yet exist for the specified job.

A job log file for the specified job was not created in the SAP system.

S:

The system aborts the job log acquisition/display operation. If more than one process was requested, the system continues with the subsequent process.

O:

Execute the command again after the specified job is completed. If the situation does not change when the command is executed again, contact the SAP system administrator.

KAJM1808-E

Job log is empty.

The job log was not output to the job log file for the specified job.

S:

The system aborts the job log acquisition/display operation. If more than one process was requested, the system continues with the subsequent process.

O:

Wait for a while, and then execute the command again. If the situation does not change when the command is executed again, contact the SAP system administrator.

KAJM1811-I

Job was created. (job name: *job-name*, job count: *job-count*)

The job was created in the SAP system.

KAJM1812-E

Could not create the job. (job name: *job-name*, job count: *job-count*)

The job was not registered in the SAP system.

S:

The system aborts command execution.

O:

Note any other on-screen messages, check the SAP system log, and investigate the cause of the problem. If the job count is displayed, it is possible that an incomplete job (unexecutable job) may have been registered in the SAP system.

KAJM1813-E

This variant does not exist. (variant: *variant-name*)

The specified variant was not found in the SAP system.

S:

The system aborts command execution.

O:

Specify a correct variant name and then re-execute the command.

If this message appears even though a correct variant name has been specified, a variant without a name may be registered in the specified program.

If a variant without a name is registered, take either of the following actions:

- Delete the variant without a name from the `VARI` table of the SAP system.

- Change the setting (change the value of the `CheckLevel` key in the command section of the environment setup file to `0`) so that the validity of the ABAP program and the values specified for variants are not checked, and then re-execute the command.

If no variant without a name is registered, check the variant name and then re-execute the command.

KAJM1814-E

This program is not executable. (program: *program-name*)

The specified program cannot be executed.

S:

The system aborts command execution.

O:

Check the status of the program specified by the command and the variant information for the program.

KAJM1815-E

A variant required for executing this program is not specified. (program: *program-name*)

The variant required for the specified program was not specified when the job was registered.

S:

The system aborts command execution.

O:

Check whether the specified program runs normally without specifying variants.

If the program requires variants, specify the necessary variants and then re-execute the command.

If the program does not require variants, change the setting (change the value of the `CheckLevel` key in the command section of the environment setup file to `0`) so that the validity of the ABAP program and the values specified for variants are not checked, and then re-execute the command.

KAJM1816-E

A program in ABAP cannot be assigned to a job step. (program: *program-name*)

The job step for executing the indicated ABAP program could not be assigned.

S:

The system aborts command execution.

O:

Review the job step information.

KAJM1817-E

An external program cannot be assigned to a job step. (program: *program-name*)

An external program was not assigned a job step for execution.

S:

The system aborts command execution.

O:

Review the job step information.

KAJM1818-E

No variant is defined to the program.(program: *program-name*)

No variant is defined for the specified program.

S:

The system aborts command execution.

O:

Check whether the specified program runs normally without specifying variants.

If the program requires variants, define the necessary variants in the program, specify the defined variants, and then re-execute the command.

If the program does not require variants, change the setting (change the value of the `CheckLevel` key in the command section of the environment setup file to `0`) so that the validity of the ABAP program and the values specified for variants are not checked, and then re-execute the command.

KAJM1819-W

The incomplete job cannot be deleted. (job name: *job-name*, job count: *Job-count*)

JP1/AJS3 for EAP could not delete the job that was being created with an incomplete definition when registration of another job failed.

S:

The system continues command execution without deleting the job indicated by *job-name* and *job-count*.

O:

Execute the `jr3bjdel` command to delete the job indicated by *job-name* and *job-count*.

KAJM1820-E

The job was already released.

The specified job has already been released. You cannot release a job that has already been released.

S:

If no job count was specified, the system continues processing subsequent jobs. If there is no subsequent job or if a job count was specified, the system aborts command execution.

O:

Check the job name and job count specified by the command.

KAJM1821-I

Job was released. (job name: *job-name*, job count: *job-count*)

The specified job was released.

KAJM1822-E

No background work processes are free.

The SAP system background work processes are not free.

S:

If no job count was specified, the system continues processing subsequent jobs. If there is no subsequent job or if a job count was specified, the system aborts command execution.

O:

Wait for a while, and then execute the command again.

KAJM1825-E

The job cannot be released. (job name: *job-name*, job count: *job-count*)

The specified job was not released.

S:

The system aborts command execution.

O:

Note the preceding on-screen messages, check the SAP system log, and investigate the cause of the problem.

KAJM1826-W

The job log search failed. (job name: *job-name*, job count: *job-count*)

The job log with the specified job name and job count was not found.

S:

The system continues with command execution.

O:

Carry out an investigation based on the information, such as job logs on the SAP system.

KAJM1827-I

The job log matched the search condition. (job name: *job-name*, job count: *job-count*, line number: *line-number*)

The job log with the specified job name and job count exists.

S:

The system continues with command execution.

O:

Check the job log on the SAP system.

KAJM1830-I

Now monitoring job-end. (monitoring time: *monitoring-time-in-minutes* min.)

Job execution completion monitoring has been started.

S:

The system continues with job execution completion monitoring.

KAJM1831-E

Job-end monitoring is canceled because a timeout occurred. (job name: *job-name*, job count: *job-count*)

Since the job did not end within the monitoring limit, job completion monitoring was terminated.

S:

If an option for SAP job cancellation was selected, the SAP job is canceled when a timeout occurs. If the option for SAP job cancellation was not selected, command execution is canceled when a timeout occurs.

O:

Check the SAP job status and, if necessary, abort SAP job execution.

KAJM1832-I

Job has finished. (job name: *job-name*, job count: *job-count*, status: *Finished*)

The job has ended.

KAJM1833-W

The job was terminated. (job name: *job-name*, job count: *job-count*, status: *Terminated*)

Job execution was terminated in the SAP system.

O:

Investigate the cause of job execution termination from the information in the SAP system's job logs.

KAJM1834-E

Could not monitor job-end. (job name: *job-name*, job count: *job-count*)

Job completion monitoring failed.

S:

The system aborts command execution.

O:

Note any preceding on-screen messages, check the SAP system log, and investigate the cause of the problem.
Use the SAP front-end software to check the status of the SAP job. Cancel the SAP job if necessary.

KAJM1835-E

Job-end monitoring is canceled because a reconnection timeout occurred. (job name: *job-name*, job count: *job-count*)

Job completion monitoring has been canceled because the connection with the SAP system could not be restored within the reconnection retry time.

S:

The system aborts command execution.

O:

Check the messages that were output before this message and the SAP system log to determine the cause of the error. Check whether the value of the retry count or the retry time (`RetryCount` key or `RetryTime` key in the command section of the environment setup file) is appropriate.
Use the SAP front-end software to check the status of the SAP job. Cancel the SAP job if necessary.

KAJM1836-W

The job was intercepted. (job name: *job-name*, job count: *job-count*)

A job whose completion is being monitored by JP1 has been interrupted by the SAP system.

An interrupt occurs when the following conditions are satisfied:

- The XBP 2.0 interface is installed.
- The interrupt function is enabled using the `INITXBP2` report program.
- Interrupt criteria that cause the job to be interrupted are set in the `TBCICPT1` table.

S:

The system continues command execution (continues completion monitoring for jobs, including the interrupted job).

O:

Release the interrupted job again. (Completion monitoring by JP1 is not completed because the interrupted job is returned to Scheduled status by the SAP system.)

KAJM1837-W

The job was deleted or state is unknown. (job name: *job-name*, job count: *job-count*)

A job whose completion is being monitoring by JP1 is deleted (or the status of the job is unknown).

If this message appears for a child job that is detected during completion monitoring of parent and child jobs, the parent job may have been set at registration so that it is automatically deleted at normal end.

S:

The system continues completion monitoring and returns 1, indicating that the result of at least one job could not be checked.

O:

Register the target job so that it will not be deleted during completion monitoring.

If this message appears when there are jobs in the SAP system, check the SAP system log for the cause.

KAJM1838-W

The job is not released. (job name*: job-name*, job count: *job-count*)

A scheduled child job was detected during job completion monitoring. The child job may have been registered without specifying the start attribute, or a user without release permissions may have registered the child job.

S:

The system continues command execution (continues completion monitoring for jobs, including the scheduled job).

O:

First, to complete completion monitoring, release the scheduled job.

Next, check whether the job start attribute is specified in the program that is specified for the parent job of the registered child job. If the authorized user of the ABAP program is changed using the -auth option, check whether the specified user has release permissions for the job.

If you do not require completion monitoring of jobs including this job, consider not specifying the -with_child option.

KAJM1840-I

The job was canceled. (job name: *job-name*, job count: *job-count*)

SAP job execution was canceled.

KAJM1841-E

Job cannot be canceled because it is not active.

Although an attempt was made to cancel a job, it was not active.

S:

If no job count was specified, the system continues processing subsequent jobs. If there is no subsequent job or if a job count was specified, the system aborts command execution.

O:

Check the status of the job to be canceled. Execute the jr3bjcan command after the job becomes active.

KAJM1844-E

The job cannot be canceled. (job name: *job-name*, job count: *job-count*)

The specified job was not canceled.

S:

The system aborts command execution.

O:

Note any preceding on-screen messages, check the SAP system log, and investigate the cause of the problem.

KAJM1845-E

Unable to determine available server from execution host.

The server on which the job is to be run cannot be determined from the host name assigned to the -tgh option.

S:

The system aborts command execution.

O:

Check whether the specified host name is correct, and whether a SAP instance is correctly allocated to the host.

The -tgh option is a compatible parameter of the job definition created for Releae 4.0 and earlier SAP systems. To define a job for Release 4.5 and later SAP systems, use the -tgs option.

KAJM1850-I

The job was deleted. (job name: *job-name*, job count: *job-count*)

The SAP job specified by the jr3bjdel command was deleted.

KAJM1851-E

The job cannot be deleted. (job name: *job-name*, job count: *job-count*)

An attempt to delete the specified job failed.

S:

The system aborts command execution.

O:

Determine the cause by reading the messages that precede this one, and by checking the SAP system log.

KAJM1852-E

The job cannot be deleted because it is active or ready.

The specified job is *active* or *ready*.

S:

If no job count was specified, the system continues processing subsequent jobs. If no subsequent job exists or if a job count is specified, the system aborts command execution.

O:

Check the status of the job to be deleted. When the job is finished or terminated, execute the jr3bjdel command. If you want to delete an active or ready job, wait until job execution ends or use the jr3bjcan command to cancel the job, and then delete it.

KAJM1870-I

The child job was detected. (job name: *job-name*, job count: *job-count*, child job name: *child-job-name*, child job count: *child-job-count*)

JP1/AJS3 for EAP detected a child job of a finished or terminated job during completion monitoring of parent and child jobs.

S:

The system executes completion monitoring of the detected child job (completion monitoring is extended).

KAJM1871-W

The child job was undetectable. (job name: *job-name*, job count: *job-count*)

JP1/AJS3 for EAP failed to detect the child job of a job that is deleted. Immediately before this message, a `KAJM0812-E` or `KAJM0813-E` message appears indicating the cause of the error.

If this message appears for a child job that is detected during completion monitoring of parent and child jobs, the parent job may have been set at registration so that it is automatically deleted at normal end.

S:

The system continues completion monitoring and returns `1` to indicate that the result of at least one job could not be checked.

O:

Register the target job so that it will not be deleted during completion monitoring.

KAJM1872-W

The maximum number of monitored jobs was exceeded. (maximum number: *maximum-number*)

When *maximum-number* is `100`, JP1/AJS3 for EAP can monitor the completion of one job that is released from JP1 and 99 child jobs generated during its execution.

S:

The system does not detect any subsequent child jobs. The system continues completion monitoring and returns `1` to indicate that the result of at least one job could not be checked.

O:

Divide jobs or take other measures to ensure that the number of jobs being monitored does not exceed the maximum limit.

KAJM1880-I

The job was copied. (source job name: *source-job-name*, source job count: *source-job-count*, start job step: *start-job-step*, destination job name: *destination-job-name*, destination job count : *destination-job-count*)

The job was copied to the SAP system.

KAJM1881-E

The job cannot be copied. (source job name: *source-job-name*, source job count: *source-job-count*)

The copy of the job to the SAP system failed.

S:

The system aborts command execution.

O:

Note any other on-screen messages, check the SAP system log, and investigate the cause of the problem. If the job count is displayed, it is possible that an incomplete job (unexecutable job) may have been copied to the SAP system.

6.4 Messages specific to the InfoPackage control function and the process chain control function

KAJM2001-E

> InfoPackage-ID or process-chain-ID cannot be omitted.

The required InfoPackage ID or process chain ID is not specified.

S:

   The system aborts command execution.

O:

   Specify the required InfoPackage ID or process chain ID and re-execute the command.

KAJM2002-E

> In the release of the SAP BW system at the connection destination, this command is not supported. (release: *release*)

The executed command is invalid on the SAP BW system to which you want to connect.

For *release* in the message, the release of SAP Basis included in the connection destination SAP BW system is output.

S:

   The system aborts command execution.

O:

   Verify that the release of the SAP BW system at the connection destination supports the executed command.

KAJM2801-E

> Cannot connect to the SAP BW system. (address: *destination-name*, host: *host-name*, system No.: *system-number*)

A communication error occurred when JP1/AJS3 for EAP attempted to establish an RFC connection with the SAP BW system.

Immediately after this message, a `KAJM2802-E` message appears indicating the name of the function where the error occurred and providing detailed information about the error.

The possible causes of the error are as follows:

- The RFC connection information is incorrect (for example, the system number is incorrect and the host name cannot be resolved).
- The SAP BW system is inactive.
- The SAP BW system is too busy to accept an RFC request.
- The network settings are incorrect.

S:

   If retry is specified, the system attempts to reconnect to the SAP BW system.
   If retry is not specified, the system aborts command execution.

O:

   Consider specifying retry if no retry is specified (version 07-00 and earlier do not retry by default).

KAJM2802-E

Operation : *function*
detailed-information ...

An error occurred when the RFC API (communication function provided by SAP) was called.

A message appears that indicates the name of the function where the error occurred and detailed information about the RFC API error. The language used for the message depends on the language (`-l` option specification value) specified during the logon to the SAP BW system.

The meanings of the values in the message are as follows:

- `code`: Integer for the RFC return code
- `group`: Integer for identifying `key`
- `key`: Code for identifying the error (127 bytes or less)
- `message`: Text that describes the error (511 bytes or less)
- `abapMsgClass`: ABAP message class (20 bytes or less)
- `abapMsgType`: ABAP message type (1 byte or less)
- `abapMsgNumber`: ABAP message number (3 bytes or less)
- `abapMsgV1`: Detail field of the ABAP message (text of 50 bytes or less)
- `abapMsgV2`: Detail field of the ABAP message (text of 50 bytes or less)
- `abapMsgV3`: Detail field of the ABAP message (text of 50 bytes or less)
- `abapMsgV4`: Detail field of the ABAP message (text of 50 bytes or less)

For these values, the values of the members in the `RFC_ERROR_INFO` structure are specified without changes. This structure stores RFC API error information. (For details about the RFC, see the manual for the SAP system.)

\<Supplement\>

- This message is output as a detailed message of KAJM2801-E, KAJM2803-E, and KAJM2804-E.
- The number of bytes for the detailed information about the RFC API error indicates the size in which `\0` is not included.

S:

The system aborts command execution.

O:

Identify the cause of the error and correct the problem.

KAJM2803-E

A communication error occurred with the SAP BW system. (address: *destination-name*, host: *host-name*, system No.: *system-number*)

An error occurred when JP1/AJS3 for EAP called the RFC API (communication function provided by SAP).

Immediately after this message, a `KAJM2802-E` message appears indicating the name of the function where the error occurred and providing detailed information about the error.

The possible causes of the error are as follows:

- The SAP BW system is inactive.
- The SAP BW system is too busy to accept an RFC request.
- The network settings are incorrect.

S:

The system attempts to reconnect to the SAP BW system if a communication error retry is specified. The system aborts command execution if no communication error retry is specified.

O:

Consider specifying retry if no retry is specified (version 07-00 and earlier do not retry by default).

KAJM2804-E

Cannot log on to the SAP BW system. (address: *destination-name*, client: *client*, user: *user-name*, language: *language-name*)

A logon error occurred when JP1/AJS3 for EAP attempted to establish an RFC connection with the SAP BW system.

Immediately after this message, a `KAJM2802-E` message appears indicating the name of the function where the error occurred and providing detailed information about the error.

The possible causes of the error are as follows:

- The RFC connection information is incorrect (for example, a non-existent user or an incorrect password is specified).
- The user is locked out.
- The user was not granted `S_RFC` permission correctly.
- An extended password containing lower-case characters is defined in the SAP system based on SAP NetWeaver 7.0 and later, but connection information (the `-p` option or `Passwd` key of the `r3defcon` file) that does not correspond to the extended password is specified.

S:

The system aborts command execution.

O:

Check the SAP BW system logon information that was specified by the command.

KAJM2805-I

Now recovering connection with the SAP BW system. (address: *destination-name*, host: *host-name*, system No.: *system-number*, retry-time: *retry-time-in-minutes* min., retry-count: *number-of-retries* times)

The connection with the SAP BW system is now being recovered.

retry-time in the message is output when the `RetryTime` key specified in the command section of the environment setup file is valid. *number-of-retries* in the message is output when the `RetryCount` key in the command section of the environment setup file is valid.

S:

The system tries to reestablish connection with the SAP BW system. If reconnection is performed within the *retry-time* or *number-of-retries* limit, JP1/AJS3 for EAP continues command processing. Otherwise, the system aborts command execution.

KAJM2806-I

Connection was recovered with the SAP BW system. (address: *destination-name*, host: *host-name*, system No.: *system-number*)

Connection with the SAP BW system was recovered.

KAJM2807-E

Time-out occurred in the connection with the SAP BW system. (address: *destination-name*, host: *host-name*, system No.: *system-number*)

The connection with the SAP BW system could not be restored within the reconnection retry time.

S:

The system aborts command execution.

O:

Read the messages that are output before this message and the SAP BW system log to determine the cause of the error. Check whether the value of the retry count or the retry time (`RetryCount` key or `RetryTime` key in the command section of the environment setup file) is appropriate.

KAJM2808-E

This InfoPackage does not exist. (InfoPackage: *InfoPackage-ID*)

The specified InfoPackage is not defined in the SAP BW system.

S:

The system aborts command execution.

O:

Check whether the InfoPackage specified in the command is valid for the SAP BW system. If necessary, define the specified InfoPackage for the SAP BW system, and then execute the command again.

KAJM2821-I

The InfoPackage was started. (InfoPackage: *InfoPackage-ID*, request: *request-number*)

A request to start InfoPackage was successful and a request number was assigned in the SAP BW system. The InfoPackage request is registered on the SAP BW system side after this message is output.

JP1/AJS3 for EAP monitors completion of InfoPackage request registration and the end of execution according to the request registration monitoring time (default: completion monitoring time) and the completion monitoring time (default: unlimited) if completion monitoring is specified.

To check whether request registration is completed, use the administrator workbench of the SAP BW system.

KAJM2822-E

The InfoPackage cannot be started. (InfoPackage: *InfoPackage-ID*)

The specified InfoPackage could not be started.

S:

The system aborts command execution.

O:

Determine the cause by reading the messages displayed before this message as well as the SAP BW system log. If `job XXX is not started (yet)` appears in the detailed information of the `KAJM0813-E` message that appears before this message, the SAP BW system may have a problem. Check whether SAP Note `693703` has been applied to the connection destination SAP BW system. If not, apply it.

KAJM2823-I

Now monitoring InfoPackage-end. (monitoring time: *monitoring-time-in-minutes* min.)

InfoPackage execution completion monitoring has been started.

S:

The system continues with InfoPackage execution completion monitoring.

KAJM2824-E

InfoPackage-end monitoring is canceled because a timeout occurred. (InfoPackage: *InfoPackage-ID*, request: *request-number*)

InfoPackage completion monitoring is aborted because InfoPackage did not end within the monitoring time.

S:

The system aborts command execution.

O:

Use the SAP front-end software to check the status of InfoPackage. Abort execution of InfoPackage if necessary.

KAJM2825-E

Could not monitor InfoPackage-end. (InfoPackage: *InfoPackage-ID*, request: *request-number*)

InfoPackage completion monitoring failed.

S:

The system aborts command execution.

O:

Determine the cause by reading the messages displayed before this message as well as the SAP BW system log. Use the SAP front-end software to check the status of InfoPackage. Abort the execution of InfoPackage if necessary.

If `request XXX could not be generated` appears in the `KAJM0813-E` message that appears before this message, a timeout error has occurred in registration monitoring of the data load request. Check whether the registration monitoring time value of the data load request (`RequestMonitorTime` key in the command section of the environment setup file) is appropriate.

KAJM2826-I

The InfoPackage has finished. (InfoPackage: *InfoPackage-ID*, request: *request-number*)

The InfoPackage has ended.

KAJM2827-E

Error occurred while executing the InfoPackage. (InfoPackage: *InfoPackage-ID*, request:*request-number*)
Detail: *detailed-text*

An error occurred during InfoPackage execution.

For *detailed-text*, a message appears indicating the error factor returned from SAP BW. The language used for the message depends on the language (`-l` option specification value) specified during logon to the SAP BW system.

S:

The system aborts command execution.

O:

Check the Details line to identify the cause of the error, and check the status of the InfoPackage with the SAP front-end software. Solve the problem and then execute the command again.

If `Processing exceeded the specified time` appears in *detailed-text* immediately after InfoPackage is executed, the SAP BW system may have a problem. Check whether SAP Notes `633981`, `641466`, `647855`, and `655528` have been applied to the connection destination SAP BW system. If not, apply them.

KAJM2828-E

InfoPackage-end monitoring is canceled because a reconnection timeout occurred. (InfoPackage: *InfoPackage-ID*, request: *request-number*)

InfoPackage completion monitoring is aborted because the connection with the SAP BW system could not be restored within the reconnection retry time.

S:

The system aborts command execution.

O:

Read the messages that are output before this message and the SAP BW system log to determine the cause of the error. Check whether the value of the retry count or the retry time (`RetryCount` key or `RetryTime` key in the command section of the environment setup file) is appropriate.

Use the SAP front-end software to check the status of InfoPackage. Abort the execution of InfoPackage if necessary.

KAJM2829-I

Now waiting for the end of subsequent process of the InfoPackage. (waiting time: *waiting-time* sec.)

JP1/AJS3 for EAP delays termination of the command for the specified number of seconds (waiting time) set between the normal end of InfoPackage and the end of the job that executes InfoPackage.

S:

The system delays termination of the command for the specified number of seconds.

KAJM2841-I

The process chain was started. (process chain: *process-chain-ID*, log: *log-ID*)

The process chain has been started.

KAJM2842-E

The process chain cannot be started. (process chain: *process-chain-ID*)

The specified process chain does not exist or the definition is invalid.

S:

The system aborts command execution.

O:

Use the SAP front-end software to check the definition of the process chain.

Specify a correct process chain ID, and then re-execute the command. If the correct process chain is specified, use the SAP front-end software to check the definition of the process chain, correct any problems in the definition, and then re-execute the command.

KAJM2843-I

Now monitoring process-chain-end. (monitoring time: *monitoring-time* min.)

Completion monitoring for execution of the process chain started.

S:

The system continues startup of the process chain.

KAJM2844-E

Process-chain-end monitoring is canceled because a timeout occurred. (process chain: *process-chain-ID*, log: *log-ID*)

Monitoring is aborted because the process chain did not end during the specified monitoring time.

S:

The system aborts command execution.

O:

Use the SAP front-end software to check the status of the process chain. Abort execution of the process chain if necessary.

KAJM2845-E

Could not monitor process-chain-end. (process chain: *process-chain-ID*, log: *log-ID*)

Completion monitoring of the process chain failed.

S:

The system aborts command execution.

O:

Read the process chain log and the SAP BW system log to determine the cause of the error.

Use the SAP front-end software to check the status of the process chain. Abort execution of the process chain if necessary.

KAJM2846-I

The process chain has finished. (process chain: *process-chain-ID*, log: *log-ID*)

The process chain has ended.

KAJM2847-E

Error occurred while executing the process chain. (process chain: *process-chain-ID*, log: *log-ID*, status: *status*)

An error occurred during execution of the process chain. For *status* in the message, `Completed but errors occurred` or `Cancelled` is set.

S:

The system aborts command execution.

O:

Use the SAP front-end software to determine the cause of the process error indicated in the next message. Correct the error and then re-execute the command.

KAJM2848-E

message-class-message-number: message-text

JP1/AJS3 for EAP outputs the log (process chain log) that indicates the process containing the error returned from SAP BW.

The language used for the log depends on the language (`-l` option specification value) specified during logon to the SAP BW system.

S:

The system aborts command execution.

O:

Use the SAP front-end software to determine the cause of the process error indicated in the message. Correct the error and then re-execute the command.

KAJM2849-E

Process-chain-end monitoring is canceled because a reconnection timeout occurred. (process chain: *process-chain-ID*, log: *log-ID*)

Monitoring is aborted because reconnection was not performed during the specified reconnection retry time.

S:

The system aborts command execution.

O:

Read the messages that are output before this message and the SAP BW system log to determine the cause of the error. Check whether the value of the retry count or the retry time (`RetryCount` key or `RetryTime` key in the command section of the environment setup file) is appropriate.

Use the SAP front-end software to check the status of the process chain. Abort execution of the process chain if necessary.

KAJM2850-W

Failed to acquire a process chain log. (process chain: *process-chain-ID*, log: *log-ID*)

Acquisition of the process chain log failed.

S:

The system aborts command execution.

O:

Use the SAP front-end software to check the process where the error occurred.
Correct the error and then re-execute the command.

KAJM2852-E

message-class-message-number: *message-to-be-inserted...*

Conversion of the message text in the process chain log failed. The message shows the data (*message-class*, *message-number*, *message-to-be-inserted*) before the conversion.

S:

The system aborts command execution.

O:

Use the SAP front-end software (transaction `SE91`) to check the contents of the AP BW system message indicated in this message. Correct the error and then re-execute the command.

7

syslog Messages (When Linux Is Used)

This chapter describes the syslog messages issued by Linux compliant JP1/AJS3 for EAP.

7.1 syslog message format

This section shows the format of syslog messages that are output to the `syslog` file.

- Format of syslog messages of the job control function

  date-and-time host-name `JP1/AM/R3[`*process-ID*`]:` *message-ID message-text*

- Format of syslog messages of the InfoPackage control function

  date-and-time host-name `JP1/AM/R3/SAPBWOption[`*process-ID*`]:` *message-ID message-text*

- Format of syslog messages of the process chain control function

  date-and-time host-name `JP1/AM/R3/SAPBWOption[`*process-ID*`]:` *message-ID message-text*

The maximum length of a message text is 512 bytes. Any text beyond 512 bytes is discarded.

An example of syslog message output is given below.

Example

```
Oct 8 22:01:10 host1 JP1/AM/R3[377]: KAJM0006-E Required option is missing.
```

7.2 List of syslog messages

The following table describes the syslog messages that are issued by JP1/AJS3 for EAP.

Table 7–1: List of syslog messages

Message ID	syslog message type	syslog message issuance level
KAJM0010-W	Invalid parameter warning	LOG_WARNING
KAJM0011-W	Invalid parameter warning	LOG_WARNING
KAJM0012-W	Invalid parameter warning	LOG_WARNING
KAJM0013-W	Invalid parameter warning	LOG_WARNING
KAJM0103-W	Invalid parameter warning	LOG_WARNING
KAJM0104-W	Invalid parameter warning	LOG_WARNING
KAJM0106-W	Invalid parameter warning	LOG_WARNING
KAJM0107-E	Invalid program	LOG_ERR
KAJM0108-E	Invalid program	LOG_ERR
KAJM0109-W	Invalid program	LOG_WARNING
KAJM0112-E	Invalid program	LOG_ERR
KAJM0117-W	Invalid parameter warning	LOG_WARNING
KAJM0830-W	XMI interface session audit level change failure	LOG_WARNING
KAJM1804-W	SAP job log acquisition failure	LOG_WARNING
KAJM1811-I	Job creation	LOG_DEBUG
KAJM1812-E	Job creation failure	LOG_ERR
KAJM1819-W	Incomplete-job deletion failure	LOG_WARNING
KAJM1821-I	Job release	LOG_DEBUG
KAJM1825-E	Job release failure	LOG_ERR
KAJM1826-W	Job log search failure	LOG_WARNING
KAJM1827-I	Job log search success	LOG_DEBUG
KAJM1831-E	Job completion monitoring timeout	LOG_ERR
KAJM1832-I	Job completion monitoring success (when a job has ended normally)	LOG_DEBUG
KAJM1833-W	Job completion monitoring success (when a job has been terminated)	LOG_INFO
KAJM1834-E	Job completion monitoring failure	LOG_ERR
KAJM1835-E	Job completion monitoring failure (reconnection timeout)	LOG_ERR
KAJM1836-W	Job interrupt detection	LOG_WARNING
KAJM1837-W	Detection of a job without confirmation of completion (job deletion)	LOG_WARNING
KAJM1838-W	Unreleased-job detection	LOG_WARNING

Message ID	syslog message type	syslog message issuance level
KAJM1840-I	Job termination	LOG_DEBUG
KAJM1844-E	Job termination failure	LOG_ERR
KAJM1850-I	Job deletion	LOG_DEBUG
KAJM1851-E	Job deletion failure	LOG_ERR
KAJM1871-W	Detection of a job without confirmation of completion (child job detection failure)	LOG_WARNING
KAJM1872-W	Detection of a job without confirmation of completion (number of jobs to be monitored exceeded the maximum limit)	LOG_WARNING
KAJM1880-I	Job copy	LOG_DEBUG
KAJM1881-E	Job copy failure	LOG_ERR
KAJM2821-I	InfoPackage startup	LOG_DEBUG
KAJM2822-E	InfoPackage startup failure	LOG_ERR
KAJM2824-E	InfoPackage completion monitoring timeout	LOG_ERR
KAJM2825-E	InfoPackage completion monitoring failure	LOG_ERR
KAJM2826-I	InfoPackage completion monitoring success (when an InfoPackage has ended normally)	LOG_DEBUG
KAJM2827-E	InfoPackage completion monitoring success (when an InfoPackage has ended abnormally)	LOG_ERR
KAJM2828-E	InfoPackage completion monitoring failure (reconnection timeout)	LOG_ERR
KAJM2841-I	Process chain startup	LOG_DEBUG
KAJM2842-E	Process chain startup failure	LOG_ERR
KAJM2844-E	Process chain completion monitoring timeout	LOG_ERR
KAJM2845-E	Process chain completion monitoring failure	LOG_ERR
KAJM2846-I	Process chain completion monitoring success (when a process chain ended normally)	LOG_DEBUG
KAJM2847-E	Process chain completion monitoring success (when a process chain ended abnormally)	LOG_ERR
KAJM2849-E	Process chain completion monitoring failure (reconnection timeout)	LOG_ERR

8

Troubleshooting Guide for JP1/AJS3 for EAP

This chapter describes the procedures for solving the problems that may occur in JP1/AJS3 for EAP and explains the data (maintenance information) that needs to be collected if a problem occurs. The chapter also describes the causes of the problems that may occur while you are using JP1/AJS3 for EAP and the actions to be taken for such problems.

8.1 Troubleshooting procedure

Perform the following procedure if a problem occurs in JP1/AJS3 for EAP:

1. Check the situation.

   Note the circumstances when the problem occurred. If a message is output, check the contents of the message. For the contents of messages (causes and actions to be taken), see *6. Messages*.

2. Collect data.

   Collect data (maintenance information) that can be used to determine the cause of the problem. For details about the data to be collected, see *8.2 Data to be collected if a problem occurs*.

3. Determine the cause of the problem.

   Determine the cause of the problem based on the collected data. Isolate the part with the problem or determine the scope of the problem.

4. Take the necessary action.

   Take appropriate action based on the cause.

8.2 Data to be collected if a problem occurs

You can encounter errors from JP1/AJS3 for EAP, from the SAP system, and from the SAP BW system. If you can identify the cause of an error by referring to messages and events relating to the error, you can correct the error.

If you cannot identify the cause from messages or events, collect the following data (maintenance information) and contact the system administrator. If you can not collect maintenance information because there are no commands or files, contact the system administrator that maintenance information could not be collected.

The data to be collected when a problem occurs is explained below for each function. The data to be collected varies depending on whether Windows or Linux is used.

8.2.1 Data to be collected about the job control function

If a problem occurs while you are using the job control function, collect the data described below.

(1) When Windows is used

Collect the following data as maintenance information.

(a) OS log information

Table 8–1: OS log information (for Windows)

Type of information to be collected	Procedure
Windows event log	Obtain the application log and the system log collected by Windows for the period of time during which the problem occurred (contents of **System Log** and **Application Log** in the Event Viewer window of Windows).
System information	Collect the system information managed by Windows (choose **Accessories** and then **System Tools**, and collect the contents of **System Information**).
Dump information	If an application error occurs during execution of a custom job for the SAP system or a command provided by JP1/AJS3 for EAP: Collect the following log file (`*.log`) and dump file (`*.dump`): Collect the following problem report and user dump. **(1) Problem report** If the JP1/AJS3 for EAP process stops due to an application error, use the following procedure to collect the problem report. 1. In the **System and Security** category of the Control Panel, click **Review your computer's status**. The **Action Center** window opens. 2. From the right-hand side of the window, click **Maintenance**. Options including **Check for solutions to problem reports** are displayed. 3. Under **Check for solutions to problem reports**, click **View reliability history**. The **Reliability Monitor** window opens. 4. From the bottom of the window, click **View all problem reports**. The **Problem Reports** window opens, and the problem history is displayed in a list. 5. Double-click the relevant problem. A report detailing the problem is displayed. 6. Select **Copy to clipboard**. 7. Copy and save the copied content to a text file. 8. The saved problem report is collected as data for problem investigation.

Type of information to be collected	Procedure
Dump information	**(2) User dump** If the JP1/AJS3 for EAP process stops due to an application error and an error dialog box appears, use the following procedure to collect the problem report. *Note* Collect the problem report while the error dialog box is displayed. 1. Start Task Manager. 2. From the Task Manager dialog box, click **Process**. 3. Right-click the JP1/AJS3 for EAP process name that stopped due to an application error, and then select **Create dump file**. 4. When a dialog box appears asking you to specify the path to the user dump output destination, collect data from there.
Hosts file, Services file	Following files • `%systemroot%/system32/drivers/etc/hosts` • `%systemroot%/system32/drivers/etc./services`
Host name	Execution result of `hostname` command.
Communication status	Execution result of following commands • Output of `netstat -a` • Output of `netstat -r` • `netsh interface ip address` • `netsh interface ipv6 address` • Execution result of `ipconfig /all` • `netsh advfirewall show currentprofile` • `netsh advfirewall firewall show rule name=all verbose`
List of environment variable	Execution result of following command • `set`
Process information	Execution result of following commands • `tasklist /svc` • `tasklist /v`

(b) Information to be collected from JP1/AJS3 for EAP (job control)

Table 8–2: Information to be collected from JP1/AJS3 for EAP (job control) (for Windows)

Type of information to be collected	Procedure

Trace information	Collect the following files:
	When a directory name is specified for the `TargetDir` key in the `trace` section in the `conf` file:
	    Files in the directory specified by the `TargetDir` key
	When a file name is specified for the `TargetFile` key in the `trace` section in the `conf` file:
	    File specified by the `TargetFile` key
	When a directory name or file name is not specified for the `TargetDir` or `TargetFile` key in the `trace` section in the `conf` file:
	    Files in *installation-folder*`\Log`
	In addition to the above files, collect all the files in the following folders regardless of the `conf` file setting:
	    Files in *installation-folder*`\Log`
	    Files in *Windows-folder*`\Temp\jp1common\jp1amr3`

Type of information to be collected	Procedure

Trace information	If a KAJM0992-E error occurs during the execution of a custom job for the SAP system or a command of JP1/AJS3 for EAP:
	
	    Files in *temporary-folder**\HLICLIB
	
	    *: %TMP%, %TEMP%, or %USERPROFILE%

Standard error output information	If a command provided by JP1/AJS3 for EAP ends abnormally:
	
	Obtain the error message text that is output to the standard error output.
	
	Standard error output
	    When a command is executed from the command line:
	    File specified in the window where the command is executed or file specified by the -se option
	    When a command is executed by JP1/AJS:
	    File defined as the standard error output by JP1/AJS, file defined as the standard error output by a JP1/AJS custom job, or file specified in the -se option of the command

Model, version, and patch information	Collect the following version, patchlog.txt, and Version.txt files: *installation-folder*\system\version *installation-folder*\system\patchlog.txt *installation-folder*\Version.txt
Environment setup file	Collect the following conf file: *installation-folder*\conf\conf
RFC trace file	If an error occurs during the execution of a custom job for the SAP system or a command of JP1/AJS3 for EAP: Collect the file named dev_rfc* (The * part depends on the version of the RFC library) containing the trace information about the communication with the SAP system. This file is created in the work directory of JP1/AJS3 for EAP.
RFC library status management file	Collect the following jr3chrfc file: *installation-folder*\system\jr3chrfc
Product information file	Collect the following jp1amr3.dat file: *system-drive*\Program Files (x86)\Hitachi\jp1common\jp1amr3\jp1amr3.dat
Product information	Collect the following ProductInfo.txt file: *installation-folder*\ProductInfo.txt
Product file, List of access permissions	Execution result of following commands: • dir /A:- /S *installation-folder* • cacls *installation-folder* /T

Configuration file of RFC library	Following files:
	
	When sapnwrfc.ini has specified to RFC_INI environment value
	    sapnwrfc.ini specified to RFC_INI environment value
	
	When sapnwrfc.ini has not specified to RFC_INI environment value
	    sapnwrfc.ini file located in JP1/AJS3 for EAP working directory

Install log	Following files: Files located under • *Windows-folder*\Temp\jp1common\jp1amr3 All files located under • *Windows-folder*\temp\HCDINST
eapctrlconf file	Following file: *installation-folder*\Conf\eapctrlconf

(c) Information to be collected from the SAP system

Table 8–3: Information to be collected from the SAP system (for Windows)

Type of information to be collected	Procedure
System log	Run transaction SM21 via the SAP front-end software to collect the data matching the following criteria: • User: Not specified • Transaction code: Not specified • SAP process: Not specified • Error class: All messages • Starting and ending dates and times: Period during which the target error occurred For details about the system log, see the SAP documentation and the online help.
XMI log	Run transaction RZ15 via the SAP front-end software and collect the data matching the following criteria: • Interface: * • Object: * • Session ID: * • External user: * • Period: Period during which the target error occurred Legend: *: Asterisk For details about the XMI log, see the SAP documentation and the online help.
Release and patch information	• Start the SAP front-end software and choose **System -> Status** from the menu. Obtain a hard copy of the displayed window. • Obtain hard copies of the following windows that can be opened from the above window: System: Status window System: Component Information window System: Kernel Information window
Developer trace	If an error occurs during the execution of a custom job for the SAP system or a command provided by JP1/AJS3 for EAP: Obtain the developer trace in the SAP system (`dev_w*`, `dev_rfc*`, and `dev_rd` files that are collected by running transaction ST11 via the SAP front-end software).
Job execution status (Result of Trcd:SM37)	Collect the detail information of job execution and failure jobs by using job list of SM37 transaction from SAP front end software.
BAPI execution permissions list (Result of Trcd:UCONCOCKPIT)	Obtain a hard copy of the BAPI execution permissions list (RFM Whitelist) that appears when selecting Websocket RFC Scenario for transaction UCONCOCKPIT from the SAP front-end software.

(d) Operational details

Check the following information about the operation that was being performed when the problem occurred:

- Detailed contents of the operation
- Time when the problem occurred
- Job in which the problem occurred (jobnet name and job name in JP1/AJS)
- Machine configuration (version of each OS, host name, and the configuration of JP1/AJS and the SAP system)
- Whether the problem is reproducible, how often the problem occurs

(2) When Linux is used

Collect the following data as maintenance information.

(a) OS log information

Table 8–4: OS log information (for Linux)

Type of information to be collected	Procedure
syslog file	`/var/log/messages*`
Version information	Collect the execution result of the `uname -a` command.
Information about installed Hitachi products	Collect the `/etc/.hitachi/pplistd/pplistd` file.
Kernel version information	Execution result of following command. • `ls -l /boot`
Linux distribution name	Execution result of following command. • `ls -l /etc./*-release`
Time zone information	Execution result of following commands. • `cat /etc/sysconfig/clock` • `timedatectl`
Hosts file, Services file	Following files. • `/etc/hosts` • `/etc/services`
Host name	Execution result of following commands. • `hostname` • `uname -a`
Communication Status	Execution result of following commands. • `netstat -a` • `netstat -r` • `ip addr` • `ip route` • `ss -x46a`
List of installed PP	Execution result of following command. • `/bin/rpm -qa`
Kernel parameter	Execution result of following command. • `/sbin/sysctl -a`
User resource restriction	Execution result of following command. • `ulimit -a`
Kernel message	Execution result of following command. • `dmesg`
Disk capacity	Execution result of following command. • `df -k`
Disk mount information	The following file. • `/etc/fstab`
Network interface information	Execution result of following commands.

Type of information to be collected	Procedure
Network interface information	• `ifconfig -a` • `ip addr show`
Firewall information	Execution result of following commands. • `iptables -v -n -L --line-numbers` • `firewall-cmd --list-all-zones` • `SuSEfirewall2 status` (SUSE Linux only)
Environment variable	Execution result of following command. • `env`
Process information	Execution result of following command. • `ps -elfa`
User list	The following file. • `/etc/passwd`
Core information	Collect the following files. • Output core file • OS shared library files appeared by executing following file `ldd /opt/jp1_am_r3/bin/`<core that output the command>

(b) Information to be collected from JP1/AJS3 for EAP (job control)

Table 8–5: Information to be collected from JP1/AJS3 for EAP (job control) (for Linux)

Type of information to be collected	Procedure

Trace information	Collect the following files:
	When a directory name is specified for the `TargetDir` key in the trace section in the `conf` file:
	  Files in the directory specified by the `TargetDir` key
	When a file name is specified for the `TargetFile` key in the trace section in the `conf` file:
	  File specified by the `TargetFile` key
	When no directory name is specified for the `TargetDir` key and no file name is specified for the `TargetFile` key in the trace section in the `conf` file:
	  Files in `/var/opt/jp1_am_r3/log`
	In addition to the above files, collect the following file:
	  Files in `/var/opt/jp1_am_r3/log`

Standard error output information	If a command provided by JP1/AJS3 for EAP ends abnormally: Collect the error message text that is output to the standard error output.

Model, version, and patch information	Collect the following `.version` and `.patch_hist` files:
	`/etc/opt/jp1_am_r3/.version`
	`/etc/opt/jp1_am_r3/.patch_hist`

Environment setup file	Collect the following `conf` file: `/etc/opt/jp1_am_r3/conf/conf`
RFC trace file	If an error occurs during the execution of a custom job for the SAP system or a command of JP1/AJS3 for EAP: Collect the file named `dev_rfc*` (The * part depends on the version of the RFC library) containing the trace information about the communication with the SAP system. This file is created in the work directory of JP1/AJS3 for EAP.

Type of information to be collected	Procedure
RFC library status management file	Collect the following `.jr3chrfc` file: `/etc/opt/jp1_am_r3/.jr3chrfc`

Install log	Collect the following files.
	`/etc/.hitachi/.hitachi.log{01|02|03|04|05}`
	`/etc/.hitachi/.install.log{01|02|03|04|05}`
	`/etc/.hitachi/.uninstall.log{01|02|03|04|05}`
	Files in `/etc/.hitachi/.hliclog`

Product information file	Collect the following file: `/etc/opt/.hlic/116C.dat`
Product information	Collect the following `ProductInfo.txt` file: `/etc/opt/jp1_am_r3/ProductInfo.txt`
Product file, List of access permissions	Execution results of following commands: • `ls -lR /etc/.hitachi/` • `ls -lR /etc/opt/jp1_am_r3/` • `ls -lR /opt/jp1_am_r3/` • `ls -lR /var/opt/jp1_am_r3/`
Configuration file of RFC library	Following files: When sapnwrfc.ini has specified to RFC_INI environment value 　sapnwrfc.ini specified to RFC_INI environment value When sapnwrfc.ini has not specified to RFC_INI environment value 　sapnwrfc.ini file located in JP1/AJS3 for EAP working directory
`eapctrlconf` file	Following file: `/etc/opt/jp1_am_r3/conf/eapctrlconf`

(c) Information to be collected from the SAP system

Table 8–6: Information to be collected from the SAP system (for Linux)

Type of information to be collected	Procedure
System log	Run transaction SM21 via the SAP front-end software and collect the data matching the following criteria: • User: Not specified • Transaction code: Not specified • SAP process: Not specified • Error class: All messages • Starting and ending dates and times: Period during which the target error occurred For details about the system log, see the SAP documentation and the online help.
XMI log	Run transaction RZ15 via the SAP front-end software and collect the data matching the following criteria: • Interface: * • Object: * • Session ID: * • External user: * • Period: Period during which the target error occurred Legend: *: Asterisk For details about the XMI log, see the SAP documentation and the online help.

Type of information to be collected	Procedure
Release and patch information	• Start the SAP front-end software and choose **System** and then **Status** from the menu. Obtain a hard copy of the displayed window. • Obtain hard copies of the following windows that can be opened from the above window: System: Status window System: Component Information window System: Kernel Information window
Developer trace	If an error occurs during the execution of a custom job for the SAP system or a command provided by JP1/AJS3 for EAP: Obtain the developer trace in the SAP system (`dev_w*`, `dev_rfc*`, and `dev_rd` files that are collected by running transaction ST11 via the SAP front-end software).
Job execution status (Result of Trcd:SM37)	Collect the detail information of job execution and failure jobs by using job list of SM37 transaction from SAP front end software.
BAPI execution permissions list (Result of Trcd:UCONCOCKPIT)	Obtain a hard copy of the BAPI execution permissions list (RFM Whitelist) that appears when selecting Websocket RFC Scenario for transaction UCONCOCKPIT from the SAP front-end software.

(d) Operational details

Check the following information about the operation that was being performed when the problem occurred:

- Detailed description of the operation
- Time when the problem occurred
- Job in which the problem occurred (jobnet name and job name in JP1/AJS)
- Machine configuration (version of each OS, host name, and the configuration of JP1/AJS and the SAP system)
- Whether the problem is reproducible, how often the problem occurs

8.2.2 Data to be collected about the InfoPackage control function or the process chain control function

If a problem occurs while you are using the InfoPackage control function or the process chain control function, collect the data described below.

(1) When Windows is used

Collect the following data as maintenance information.

(a) OS log information

Table 8–7: OS log information (for Windows)

Type of information to be collected	Procedure
Windows event log	Obtain the application log and the system log collected by Windows for the period of time during which the problem occurred (contents of **System Log** and **Application Log** in the Event Viewer window of Windows).
System information	Collect the system information managed by Windows (choose **Accessories** and then **System Tools**, and collect the contents of **System Information**).

Type of information to be collected	Procedure
Dump information	If an application error occurs during execution of a custom job for the SAP BW system or a command provided by JP1/AJS3 for EAP: Collect the following log file (`*.log`) and dump file (`*.dump`): Collect the following problem report and user dump. **(1) Problem report** If the JP1/AJS3 for EAP process stops due to an application error, use the following procedure to collect the problem report. 1. In the **System and Security** category of the Control Panel, click **Review your computer's status**. The **Action Center** window opens. 2. From the right-hand side of the window, click **Maintenance**. Options including **Check for solutions to problem reports** are displayed. 3. Under **Check for solutions to problem reports**, click **View reliability history**. The **Reliability Monitor** window opens. 4. From the bottom of the window, click **View all problem reports**. The **Problem Reports** window opens, and the problem history is displayed in a list. 5. Double-click the relevant problem. A report detailing the problem is displayed. 6. Select **Copy to clipboard**. 7. Copy and save the copied content to a text file. 8. The saved problem report is collected as data for problem investigation. **(2) User dump** If the JP1/AJS3 for EAP process stops due to an application error and an error dialog box appears, use the following procedure to collect the problem report. *Note* Collect the problem report while the error dialog box is displayed. 1. Start Task Manager. 2. From the Task Manager dialog box, click **Process**. 3. Right-click the JP1/AJS3 for EAP process name that stopped due to an application error, and then select **Create dump file**. 4. When a dialog box appears asking you to specify the path to the user dump output destination, collect data from there.
Hosts file, Services file	Following files • `%systemroot%/system32/drivers/etc/hosts` • `%systemroot%/system32/drivers/etc./services`
Host name	Execution result of hostname command.
Communication status	Execution result of following commands • Output of `netstat -a` • Output of `netstat -r` • `netsh interface ip address` • `netsh interface ipv6 address` • Execution result of `ipconfig /all` • `netsh advfirewall show currentprofile` • `netsh advfirewall firewall show rule name=all verbose`
List of environment variable	Execution result of following command • `set`
Process information	Execution result of following commands • `tasklist /svc` • `tasklist /v`

(b) Information to be collected from JP1/AJS3 for EAP (InfoPackage control or process chain control)

Table 8–8: Information to be collected from JP1/AJS3 for EAP (InfoPackage control or process chain control) (for Windows)

Type of information to be collected	Procedure

Trace information	Collect the following files:
	
	When a file name is specified for the `TargetFile` key in the `trace` section in the `conf` file:
	    File specified by the `TargetFile` key
	
	When a file name is not specified for the `TargetFile` key in the `trace` section in the `conf` file:
	    Files in *installation-folder*`\Bwsta\Log`
	
	In addition to the above files, collect all the files in the following folders regardless of the `conf` file setting:
	    Files in *installation-folder*`\Log`
	    Files in *Windows-folder*`\Temp\jp1common\jp1amr3`
	
	If a KAJM0992-E error occurs during the execution of a custom job for the SAP system or a command of JP1/AJS3 for EAP:
	    Files in *temporary-folder**`\HLICLIB`
	    *: `%TMP%`, `%TEMP%`, or `%USERPROFILE%`
	
	If a KAJM0992-E error occurs during the execution of a custom job for the SAP BW system or a command of JP1/AJS3 for EAP:
	    Files in *temporary-folder**`\HLICLIB`
	    *: `%TMP%`, `%TEMP%`, or `%USERPROFILE%`

Standard error output information	If a command provided by JP1/AJS3 for EAP ends abnormally:
	Obtain the error message text that is output to the standard error output.
	
	Standard error output
	    When a command is executed from the command line:
	    File specified in the window where the command is executed or file specified by the `-se` option
	    When a command is executed by JP1/AJS:
	    File defined as the standard error output by JP1/AJS, file defined as the standard error output by a JP1/AJS custom job, or file specified in the `-se` option of the command

Model, version, and patch information	Collect the following `version`, `patchlog.txt`, and `Version.txt` files: *installation-folder*`\system\version` *installation-folder*`\system\patchlog.txt` *installation-folder*`\Version.txt`
Environment setup file	Collect the following `conf` file: *installation-folder*`\bwsta\conf\conf`
RFC trace file	If an error occurs during the execution of a custom job for the SAP BW system or a command of JP1/AJS3 for EAP: Collect the file named `dev_rfc`* (The * part depends on the version of the RFC library) containing the trace information about the communication with the SAP BW system. This file is created in the work directory of JP1/AJS3 for EAP.
RFC library status management file	Collect the following `jr3chrfc` file: *installation-folder*`\system\jr3chrfc`
Product information file	Collect the following `jp1amr3.dat` file: *system-drive*`\Program Files (x86)\Hitachi\jp1common\jp1amr3\jp1amr3.dat`
Product information	Collect the following `ProductInfo.txt` file: *installation-folder*`\ProductInfo.txt`

Type of information to be collected	Procedure
Product information file	Collect the following file: `/etc/opt/.hlic/116C.dat`
Product information	Collect the following `ProductInfo.txt` file: `/etc/opt/jp1_am_r3/ProductInfo.txt`
Product file, List of access permissions	Execution result of following commands: • `dir /A:- /S` *installation-folder* • `cacls` *installation-folder* `/T`

Configuration file of RFC library	Following files:
	When sapnwrfc.ini has specified to RFC_INI environment value
	    sapnwrfc.ini specified to RFC_INI environment value
	When sapnwrfc.ini has not specified to RFC_INI environment value
	    sapnwrfc.ini file located in JP1/AJS3 for EAP working directory

Install log	Following files: Files located under • *Windows-folder*`\Temp\jp1common\jp1amr3` All files located under • *Windows-folder*`\temp\HCDINST`
`eapctrlconf` file	Following file: *installation-folder*`\Conf\eapctrlconf`

(c) Information to be collected from the SAP BW system

Table 8–9: Information to be collected from the SAP BW system (for Windows)

Type of information to be collected	Procedure
System log	Run transaction SM21 via the SAP front-end software to collect the data matching the following criteria: • User: Not specified • Transaction code: Not specified • SAP process: Not specified • Error class: All messages • Starting and ending dates and times: Period during which the target error occurred For details about the system log, see the SAP BW documentation and the online help.

Release and patch information	• Start the SAP front-end software and choose **System** and then **Status** from the menu. Obtain a hard copy of the displayed window.
	• Obtain hard copies of the following windows that can opened from the above window:
	    System: Status window
	    System: Component Information window
	    System: Kernel Information window

Execution result of InfoPackage (for InfoPackage control)	If an error occurs during the execution of a custom job for the SAP BW system or InfoPackage using the `jbwipsta` command: Run transaction RSA1 via the SAP front-end software and display the monitor window. Obtain the execution result of the InfoPackage with the problem (header, status, contents of the **Details** page) from the window.
Execution result of a process chain (for process chain control)	If an error occurs during the execution of a custom job for the SAP BW system or a process chain using the `jbwipsta` command:

Type of information to be collected	Procedure
Execution result of a process chain (for process chain control)	Run transaction RSPC via the SAP front-end software and display the log view. Obtain the execution result of the process chain and the execution logs of the process with the problem (process log (contents of the **Process** page) and the job log of the process (contents of the **Backg** page)).
Developer trace	If an error occurs during the execution of a custom job for the SAP BW system or a command provided by JP1/AJS3 for EAP: Obtain the developer trace in the SAP BW system (`dev_w*`, `dev_rfc*`, and `dev_rd` files that are collected by running transaction ST11 via the SAP front-end software).
Job execution status (Result of Trcd:SM37)	Collect the detail information of job execution and failure jobs by using job list of SM37 transaction from SAP front end software.
BAPI execution permissions list (Result of Trcd:UCONCOCKPIT)	Obtain a hard copy of the BAPI execution permissions list (RFM Whitelist) that appears when selecting Websocket RFC Scenario for transaction UCONCOCKPIT from the SAP front-end software.

(d) Operational details

Check the following information about the operation that was being performed when the problem occurred:

- Detailed contents of the operation
- Time when the problem occurred
- Job in which the problem occurred (jobnet name and job name in JP1/AJS, InfoPackage ID, process chain ID)
- Machine configuration (version of each OS, host name, and the configuration of JP1/AJS and the SAP BW system)
- Whether the problem is reproducible, how often the problem occurs

(2) When Linux is used

Collect the following data as maintenance information.

(a) OS log information

Table 8–10: OS log information (for Linux)

Type of information to be collected	Procedure
syslog file	`/var/log/messages*`
Version information	Obtain the execution result of the `uname -a` command.
Information about the installed Hitachi products	Collect the `/etc/.hitachi/pplistd/pplistd` file.
Kernel version information	Execution result of following command. • `ls -l /boot`
Linux distribution name	Execution result of following command. • `ls -l /etc./*-release`
Time zone information	Execution result of following commands. • `cat /etc/sysconfig/clock` • `timedatectl`
Hosts file, Services file	Following files.

Type of information to be collected	Procedure
Hosts file, Services file	• `/etc/hosts` • `/etc/services`
Host name	Execution result of following commands. • `hostname` • `uname -a`
Communication Status	Execution result of following commands. • `netstat -a` • `netstat -r` • `ip addr` • `ip route` • `ss -x46a`
List of installed PP	Execution result of following command. • `/bin/rpm -qa`
Kernel parameter	Execution result of following command. • `/sbin/sysctl -a`
User resource restriction	Execution result of following command. • `ulimit -a`
Kernel message	Execution result of following command. • `dmesg`
Disk capacity	Execution result of following command. • `df -k`
Disk mount information	The following file. • `/etc/fstab`
Network interface information	Execution result of following commands. • `ifconfig -a` • `ip addr show`
Firewall information	Execution result of following commands. • `iptables -v -n -L --line-numbers` • `firewall-cmd --list-all-zones` • `SuSEfirewall2 status` (SUSE Linux only)
Environment variable	Execution result of following command. • `env`
Process information	Execution result of following command. • `ps -elfa`
User list	The following file. • `/etc/passwd`
Core information	Collect the following files. • Output core file • OS shared library files appeared by executing following file `ldd /opt/jp1_am_r3/bin/`<core that output the command>

(b) Information to be collected from JP1/AJS3 for EAP (InfoPackage control or process chain control)

Table 8–11: Information to be collected from JP1/AJS3 for EAP (InfoPackage control or process chain control) (for Linux)

Type of information to be collected	Procedure

Trace information	Collect the following files:
	When a file name is specified for the `TargetFile` key in the trace section in the `conf` file:
	    File specified by the `TargetFile` key
	When no file name is specified for the `TargetFile` key in the trace section in the `conf` file:
	    Files in `/var/opt/jp1_am_r3/bwsta/log`
	In addition to the above files, collect the following file:
	    `/var/opt/jp1_am_r3/log/jr3chrfc.log`
	    Files in `/var/opt/jp1_am_r3/bwsta/log`

Standard error output information	If a command provided by JP1/AJS3 for EAP ends abnormally: Obtain the error message text that is output to the standard error output.

Model, version, and patch information	Collect the following `.version` and `.patch_hist` files:
	`/etc/opt/jp1_am_r3/.version`
	`/etc/opt/jp1_am_r3/.patch_hist`

Environment setup file	Collect the following `conf` file: `/etc/opt/jp1_am_r3/bwsta/conf/conf`
RFC trace file	If an error occurs during the execution of a custom job for the SAP BW system or a command of JP1/AJS3 for EAP: Collect the file named `dev_rfc*` (The * part depends on the version of the RFC library) containing the trace information about the communication with the SAP BW system. This file is created in the work directory of JP1/AJS3 for EAP.
RFC library status management file	Collect the following `.jr3chrfc` file: `/etc/opt/jp1_am_r3/.jr3chrfc`

Install log	Collect the following files.
	`/etc/.hitachi/.hitachi.log{01|02|03|04|05}`
	`/etc/.hitachi/.install.log{01|02|03|04|05}`
	`/etc/.hitachi/.uninstall.log{01|02|03|04|05}`
	Files in `/etc/.hitachi/.hliclog`

Product file, List of access permissions	Execution results of following commands: • `ls -lR /etc/.hitachi/` • `ls -lR /etc/opt/jp1_am_r3/` • `ls -lR /opt/jp1_am_r3/` • `ls -lR /var/opt/jp1_am_r3/`

Configuration file of RFC library	Following files:
	When sapnwrfc.ini has specified to RFC_INI environment value
	    sapnwrfc.ini specified to RFC_INI environment value
	When sapnwrfc.ini has not specified to RFC_INI environment value
	    sapnwrfc.ini file located in JP1/AJS3 for EAP working directory

`eapctrlconf` file	Following file: `/etc/opt/jp1_am_r3/conf/systemconf`

(c) Information to be collected from the SAP BW system

Table 8–12: Information to be collected from the SAP BW system (for Linux)

Type of information to be collected	Procedure
System log	Run transaction SM21 via the SAP front-end software to collect the data matching the following criteria: • User: Not specified • Transaction code: Not specified • SAP process: Not specified • Error class: All messages • Starting and ending dates and times: Period during which the target error occurred For details about the system log, see the SAP BW documentation and the online help.
Release and patch information	• Start the SAP front-end software and choose **System** and then **Status** from the menu. Obtain a hard copy of the displayed window. • Obtain hard copies of the following windows that can be opened from the above window: System: Status window System: Component Information window System: Kernel Information window
Execution result of InfoPackage (for InfoPackage control)	If an error occurs during the execution of a custom job for the SAP BW system or InfoPackage using the `jbwipsta` command: Run transaction RSA1 via the SAP front-end software and display the monitor window. Obtain the execution result of the InfoPackage with the problem (header, status, contents of the **Details** page) from the window.
Execution result of a process chain (for process chain control)	If an error occurs during the execution of a custom job for the SAP BW system or a process chain using the `jbwipsta` command: Run transaction RSPC via the SAP front-end software and display the log view. Obtain the execution result of the process chain and the execution logs of the process with the problem (process log (contents of the **Process** page) and the job log of the process (contents of the **Backg** page)).
Developer trace	If an error occurs during the execution of a custom job for the SAP BW system or a command provided by JP1/AJS3 for EAP: Obtain the developer trace in the SAP BW system (`dev_w*`, `dev_rfc*`, and `dev_rd` files that are collected by running transaction ST11 via the SAP front-end software).
Job execution status (Result of Trcd:SM37)	Collect the detail information of job execution and failure jobs by using job list of SM37 transaction from SAP front end software.
BAPI execution permissions list (Result of Trcd:UCONCOCKPIT)	Obtain a hard copy of the BAPI execution permissions list (RFM Whitelist) that appears when selecting Websocket RFC Scenario for transaction UCONCOCKPIT from the SAP front-end software.

(d) Operational details

Check the following information about the operation that was being performed when the problem occurred:

- Detailed description of the operation
- Time when the problem occurred
- Job in which the problem occurred (jobnet name and job name in JP1/AJS, InfoPackage ID, process chain ID)
- Machine configuration (version of each OS, host name, and the configuration of JP1/AJS and the SAP BW system)
- Whether the problem is reproducible, how often the problem occurs

8.3 Actions to be taken for problems

This section explains the cause of trouble that may occur while JP1/AJS3 for EAP is being used and the troubleshooting procedures to be performed in such a case.

8.3.1 Trouble related to the job control function

This section explains trouble that may occur while the job control function is being used.

(1) Trouble with connection to the SAP system

This section deals with the troubles that may occur with the connection to the SAP system.

If you cannot find the cause of a problem here, the problem may be caused by the RFC API provided by SAP. When detailed information about the RFC API error is output in a KAJM0802-E message, keep this information and contact the SAP system administrator.

(a) The SAP system cannot be connected or an error occurs during communication with the SAP system.

The probable causes are described below.

- The SAP system definition information is incorrect.

  First, check whether the specified SAP system IP address (or host name or SAP router address) is valid. If the specified IP address is invalid, specify a valid IP address and reconnect the SAP system.

  If the specified IP address is valid, there may be a problem with the setup. Check whether correct setup data was entered.

- The communication port is defined incorrectly.

  Check whether a port number corresponding to the system ID is defined in the `services` file. If no port number corresponding to the system ID is defined in the `services` file, define a port number that corresponds to the system ID.

- A temporary communication error has occurred.

  A temporary communication error may have occurred because the network load was increased or no more communication ports were available. You can resolve a temporary communication error and restore the connection with the SAP system by retrying.

  If retries are not specified for communication errors, use the `RetryCount` key or the `RetryTime` key in the command section of the environment setup file to execute retries.

- The WebSocket RFC communication environment is configured incorrectly.

  Check the following:

  - Whether there are no errors in the location of cryptography libraries when communicating via WebSocket
  - Whether client and server certificates have been configured correctly
  - Whether the protocol specified in profile parameters is configured correctly
  - Whether the port number specified in profile parameters has been defined in the `services` file

(b) The logon to the SAP system fails.

The probable causes are described below.

- The user information for logging on to the SAP system is incorrect.

  Check whether the user information (client number, user name, and password) entered in the logon process is valid for the SAP system. If the user information entry for logon is invalid, log on again to the SAP system using user information valid for the SAP system.

- The specified user is not authorized to log on from an external system.

  Use either of the following procedures to acquire authorization (S_RFC) to log on from an external system.

    - Log on again with the name of a user who is authorized to log on from an external system.

    - Ask the SAP system administrator to grant authority to log on from an external system.

- The release of the SAP system you attempted to log on to is not valid.

  Check whether the release of the SAP system you tried to log on to is a supported version.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(2) Trouble with SAP job control

The following problems may occur while you are controlling SAP jobs.

If you cannot find the cause of your problem here, the problem may be caused by the external management interface provided by SAP. If a KAJM0812-E message appears, a problem with the external management interface is likely. Obtain the name of the function of the external management interface with the problem and the exception code from the message, and contact the SAP system administrator.

(a) A job cannot be created in the SAP system.

The probable causes are described below.

- The job step definition information is incorrect.

    - When an ABAP program is specified as the job step

      Check whether the ABAP program exists in the SAP system. Also, check whether the specified program name, authorized user name, and language type are valid for the SAP system.

      If the ABAP program is not found in the SAP system and the definition is invalid, define an ABAP program that can be used in the SAP system as the job step.

    - When an external program is specified as the job step

      Check whether the external program exists on the host. Also, check whether the program name, authorized user name, and execution target host specifications are correct. If the external program is not found on the host or the definition information is invalid, define a valid external program as the job step.

- The job execution destination host is specified incorrectly.

  Check whether the job execution destination host name specified in the -tgh option is the same as the host name displayed by transaction SM51 (upper-case and lower-case characters are differentiated). In addition, check whether an application server for providing background processing services is active on the specified host.

- The job execution destination server is specified incorrectly.

  Check whether the job execution destination server name or the job server group name specified in the -tgs option is correct.

  When you specify a server name in the option, check whether the specified server name is the same as the server name displayed by transaction SM51 (upper-case and lower-case characters are differentiated). In addition, check whether background processing services are active on the specified server.

When you specify a job server group name in the option, check whether the specified job server group name is the same as the job server group name displayed by transaction SM61 (upper-case and lower-case characters are differentiated). In addition, check whether the specified job server group contains an application server for providing background processing services.

- The variant definition contains an error.

  Specify a correct variant name and re-execute the command.

  If this message appears even though a correct variant name is specified, a variant whose name is blank may be registered for the specified program. Open the variant list of the SAP system and check whether there is a variant whose name is blank. If such a variant is registered, take either of the following actions:

  - From the VARI table of the SAP system, delete the variant whose name is blank. If such a variant is not registered, check the variant name and re-execute the command.

  - Change the setting (change the value set for the `CheckLevel` key in the command section in the environment setup file to `0`) so that the validity of the ABAP program and the values specified for variants is not checked. Then re-execute the command.

- The required variant is not specified in the program.

  Check whether the specified program runs correctly without specifying variants. If the program requires variants, specify necessary variants and re-execute the command.

  If the program does not require variants, change the setting (change the value set for the `CheckLevel` key in the command section in the environment setup file to `0`) so that the validity of the ABAP program and the values specified for variants is not checked. Then re-execute the command.

- No variant is defined in the program.

  Check whether the specified program runs correctly without specifying variants. If the program requires variants, define necessary variants in the program, specify the variants, and re-execute the command.

  If the program does not require variants, change the setting (change the value set for the `CheckLevel` key in the command section in the environment setup file to `0`) so that the validity of the ABAP program and the values specified for variants is not checked. Then re-execute the command.

- The user who has logged on is not authorized to create a job.

  Use either of the following procedures to acquire authority to create a job.

  - Log on again with the name of a user who is authorized to create a job.

  - Ask the SAP system administrator to grant authority to create a job.

- The name of the authorized user is in lower case.

  Check whether the authorized user name specified in the `-auth` option is lower case, or, if the `-auth` option is omitted, check whether the user name specified as the authorized user in the logon information is lower case. *authorized-user is case-sensitive*.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(b) The SAP system job cannot be released.

The probable causes are described below.

- The specified job has already been released.

  An already released job cannot be released again from JP1/AJS3 for EAP.

- The job execution destination host is specified incorrectly.

Check whether the job execution destination host name specified in the -tgh option is the same as the host name displayed by transaction SM51 (upper-case and lower-case characters are differentiated). In addition, check whether an application server for providing background processing services is active on the specified host.

- The job execution destination server is specified incorrectly.

  Check whether the job execution destination server name or the job server group name specified in the -tgs option is correct.

  When you specify a server name in the option, check whether the specified server name is the same as the server name displayed by transaction SM51 (upper-case and lower-case characters are differentiated). In addition, check whether background processing services are active on the specified server.

  When you specify a job server group name in the option, check whether the specified job server group name is the same as the job server group name displayed by transaction SM61 (upper-case and lower-case characters are differentiated). In addition, check whether the specified job server group contains an application server for providing background processing services.

- The user who has logged on is not authorized to release a job.

  Use either of the following procedures to acquire authority to release a job.

  - Log on again with the name of a user who is authorized to release a job.

  - Ask the SAP system administrator to grant authority to release a job.

- The designated job is not created by the user who has logged on.

  You are not authorized to release jobs that were created by the other users. If necessary, ask the SAP system administrator to grant authority to release jobs created by the other users.

- SAP system resources are insufficient.

  Release the job after SAP system resources have been allocated.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(c) Job control completion monitoring fails.

The probable causes are described below.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(d) The SAP system job cannot be canceled.

The probable causes are described below.

- The specified job is not being executed (it is not *active*).

  Inactive jobs (*scheduled*, *released*, *ready*, *finished*, or *terminated* jobs) cannot be canceled.

- The user who has logged on is not authorized to cancel a job.

  Use either of the following procedures to acquire authority to cancel a job.

  - Log on again with the name of a user who is authorized to cancel a job.

  - Ask the SAP system administrator to grant authority to cancel a job.

- The specified job was not created by the user who has logged on.

  Jobs cannot be canceled if they were created by other users. If necessary, ask the SAP system administrator to grant authority to cancel jobs created by other users.

- The job steps include an external program.

You cannot cancel the job while the external program is running. Cancel the job after the external program ends.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(e) A job on the SAP system cannot be deleted.

The probable causes are described below.

- The specified job is *active* or *ready*.

  You cannot delete an *active* or *ready* job. You can delete *scheduled*, *released*, *finished*, and *terminated* jobs. If you want to delete an *active* or *ready* job, wait until the job execution ends or use the jr3bjcan command to cancel the job, and then delete the job.

- The user who has logged on is not authorized to delete the job.

  Use one of the following method to obtain job deletion permission.

  - Log on under the name of a user who is authorized to delete the job.

  - Ask the SAP system administrator to grant you job deletion permission.

- The specified job was not scheduled by the user who has logged on.

  You cannot delete jobs that have been scheduled by another user. If necessary, ask the SAP system administrator to grant you permission to delete jobs scheduled by other users.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(f) The SAP system job information (job status and job log) cannot be displayed.

The probable causes are described below.

- The user who has logged on is not authorized to view the job information (job status and job log).
  Use either of the following procedures to acquire authority to view the job information (job status and job log).

  - Log on again with the name of a user who is authorized to view the job information (job status and job log).

  - Ask the SAP system administrator to grant authority to view the job information (job status and job log).

- The specified job was not created by the user who has logged on.

  The information (job status and job log) about jobs cannot be viewed if they were created by other users. If necessary, ask the SAP system administrator to grant authority to view the information (job status and job log) about jobs created by other users.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(g) The SAP system resource information cannot be acquired.

The probable causes are described below.

- The specified ABAP program is not found in the SAP system.
  Specify an ABAP program that exists in the SAP system.

- The specified ABAP program does not have any variant.
  There is no variant in the specified ABAP program.

- No variant is defined in the specified ABAP program.

Although the specified ABAP program requires variants, no variant is defined. Define necessary variants in the ABAP program.

- The user who has logged on is not authorized to view the SAP system resource information.

  Use either of the following procedures to acquire authority to view the SAP system resource information.

    - Log on again with the name of a user who is authorized to view the SAP system resource information.

    - Ask the SAP system administrator to grant authority to view the SAP system resource information.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(h) A file named dev_rfc* (The * part depends on the version of the RFC library) was created in the JP1/AJS3 for EAP work directory.

If an error occurs during SAP system custom job execution or JP1/AJS3 for EAP command execution, the RFC trace file (`dev_rfc*` (The * part depends on the version of the RFC library)) is created in the JP1/AJS3 for EAP work directory. The RFC trace file records the trace information (error information) about the communications with the SAP system.

The RFC trace file is needed only when a serious error occurs. We recommend that you periodically delete the RFC trace file when no serious error has been encountered.

8.3.2 Trouble related to the InfoPackage control function or the process chain control function

This subsection explains problems that may occur while you are using the InfoPackage control function or the process chain control function.

(1) Trouble with connection to the SAP BW system

This section deals with the trouble that may occur with the connection to the SAP BW system.

If you cannot find the cause of a problem here, the problem may be caused by the RFC API provided by SAP. If detailed information about the RFC API error is output in a KAJM2802-E message, collect the information and contact the SAP BW system administrator.

(a) The SAP BW system cannot be connected or an error occurs during the communication with the SAP BW system.

The probable causes are described below.

- The SAP BW system definition information is incorrect.

  First, check whether the specified SAP BW system IP address (or host name or SAP router address) is valid. If the specified IP address is invalid, specify a valid IP address and reconnect the SAP BW system.

  If the specified IP address is valid, there may be a problem with the setup. Check whether correct setup data was entered.

- The communication port is defined incorrectly.

  Check whether a port number corresponding to the system ID is defined in the `services` file. If no port number corresponding to the system ID is defined in the `services` file, define a port number that corresponds to the system ID.

- A temporary communication error has occurred.

A temporary communication error may have occurred because the network load was increased or no more communication ports were available. You can resolve a temporary communication error and restore the connection with the SAP BW system by retrying.

If retries are not specified for communication errors, use the `RetryCount` key or the `RetryTime` key in the command section of the environment setup file to execute retries.

(b) Logon to the SAP BW system fails.

The probable causes are described below.

- The user information for logging on to the SAP BW system is incorrect.

  Check whether the user information (client number, user name, and password) entered in the logon process is valid for the SAP BW system. If the user information entry for logon is invalid, log on again to the SAP BW system using user information valid for the SAP BW system.

- The specified user is not authorized to log on from an external system.

  Use either of the following procedures to acquire authorization to log on from an external system.

  - Log on again with the name of a user who is authorized to log on from an external system.

  - Ask the SAP BW system administrator to grant authority to log on from an external system.

- The release of the SAP BW system you attempted to log on to is not valid.

  Check whether the release of the SAP BW system you tried to log on to is a supported version.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(2) Trouble with InfoPackage control

This subsection describes the problems that may occur while you are controlling InfoPackage.

If you cannot find the cause of a problem here, the problem may be caused by the external management interface provided by SAP. If a KAJM0812-E message appears, a problem with the external management interface is likely. Obtain the name of the function of the external management interface with the problem and the exception code from the message, and contact the SAP BW system administrator.

(a) InfoPackage cannot be started in the SAP BW system.

The probable causes are described below.

- InfoPackage has not been scheduled to be executable by background processing.

  Check whether the InfoPackage definition in the SAP BW system (**Schedule** page) allows InfoPackage to be executed by background processing. To start InfoPackage in the background, set immediate execution as the startup condition.

- The destination to which InfoPackage external data is to be read is not an application server.

  When you execute InfoPackage in the background, you need to set an application server to read the data. Check whether the InfoPackage definition in the SAP BW system (**External Data** page) defines an application server as the destination to which InfoPackage external data is to be read.

- The InfoPackage definition is being updated.

  Use the SAP front-end software to check whether the definition of InfoPackage you wish to start is not being updated.

- The user who has logged on is not authorized to execute InfoPackage.

  When you create a user that executes InfoPackage, create the user based on the permission profile (`S_BI-WHM_RFC`) for background users that is prepared by the SAP BW system.

Use either of the following procedures to obtain permission to execute InfoPackage:

- Log on again with a user name that is allowed to execute InfoPackage.
- Ask the SAP BW system administrator to grant permission to execute InfoPackage.

- SAP BW system resources are insufficient.

  To execute InfoPackage, you need one background work process (BGD) and one dialog work process (DIA). Make sure that a work process for executing InfoPackage in the SAP BW system is allocated and then restart InfoPackage.

- The SAP BW system has a known problem.

  If `Job XXX is not started (yet)` appears as the detailed information in a KAJM0813-E message that appears before KAJM2822-E message, there may be a problem with the SAP BW system. Check whether SAP Note 693703 has been applied to the connection destination SAP BW system. If not, apply the note.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(b) Completion monitoring of InfoPackage fails.

The probable causes are described below.

- The request registration monitoring time is too short.

  If `Request XXX could not be generated` appears in a KAJM0813-E message that appears before KMJM2825-E message, a timeout error has occurred in the monitoring of the registration of a data load request. Check whether the value of the registration monitoring time for data load requests (`RequestMonitorTime` key in the command section in the environment setup file) is appropriate.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(c) The started InfoPackage ends abnormally in the SAP BW system.

The probable causes are described below.

- The display setting is incorrect for the end of InfoPackage with a warning.

  If `Processing exceeded the specified time` appears as the detailed text in a KAJM2827-E message, a timeout error may have occurred in the monitoring of the request that was generated by InfoPackage in the SAP BW system after InfoPackage ended with a warning. The InfoPackage probably ended abnormally.

  If InfoPackage ends with a warning, check whether the signal color changes to green or red. Open the Monitor window of the administrator workbench, and choose **Settings -> Evaluation of requests (traffic lights)**. In the opened dialog box, check whether **is judged to be successful (green lights)** or **is thought to have errors (red lights)** is selected in **If no data is available in the system, the request** and **If warning arise during processing, the request**.

- The SAP BW system has a known problem.

  If `Processing exceeded the specified time` appears as the detailed text in a KAJM2827-E message immediately after execution of InfoPackage, there may be a problem with the SAP BW system. Check whether SAP Notes 633981, 641466, 647855, and 655528 have been applied to the connection destination SAP BW system. If not, apply the notes.

(d) The job following InfoPackage ends abnormally.

JP1/AJS3 for EAP cannot monitor the completion of a QM action (enables the loaded data) that is executed after loading of the InfoPackage data or the completion of subsequent InfoPackage processing (such as deleting duplicated requests). If resource contention occurs between these types of processing and the succeeding job, the succeeding job may end abnormally.

To prevent an abnormal end, you need to set the job that executes InfoPackage so that it ends after a QM action or the subsequent InfoPackage processing. To do so, use the `-qmwait_time` option of the `jbwipsta` command to set a period of time (wait time) between the normal end of InfoPackage and the end of the job that executes InfoPackage.

(e) A file named dev_rfc* (The * part depends on the version of the RFC library) was created in the JP1/AJS3 for EAP work directory.

If an error occurs during SAP BW system custom job execution or JP1/AJS3 for EAP command execution, the RFC trace file (`dev_rfc*` (The * part depends on the version of the RFC library)) is created in the JP1/AJS3 for EAP work directory. The RFC trace file records the trace information (error information) about the communications with the SAP BW system.

The RFC trace file is needed only when a serious error occurs. We recommend that you periodically delete the RFC trace file when no serious error has been encountered.

(3) Trouble with process chain control

This subsection describes the problems that may occur while you are controlling process chains.

If you cannot find the cause of a problem here, the problem may be caused by the external management interface provided by SAP. If a KAJM0812-E message appears, a problem with the external management interface is likely. Obtain the name of the function of the external management interface with the problem and the exception code from the message, and contact the SAP BW system administrator.

(a) The process chain for the SAP BW system cannot be started.

The probable causes are described below.

- The user who has logged on does not have permission to execute the process chain.
  To execute a process chain using the `jbwipsta` command, you need permission to log on from an external system (`S_RFC`) as well as permission to execute each process in each process chain in the background.
  Perform either of the following procedures to obtain permission to execute process chains:
  - Log on again with a user name that is allowed to execute process chains.
  - Ask the SAP BW system administrator to grant a permission to execute process chains.
- The definition of the process chain is incomplete.
  Check the definition of the process chain you attempted to start in the SAP BW system. Check whether the process chain is defined so it can be started correctly. Then re-execute the command.
- The WebSocket RFC communication environment is configured incorrectly.
  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

(b) The started process chain ends abnormally in the SAP BW system.

The probable causes are described below.

- The user who has logged on does not have permission to execute the process chain.
  To execute a process chain using the `jbwipsta` command, you need permission to log on from an external system (`S_RFC`) as well as permission to execute each process in each process chain in the background.
  Perform either of the following procedures to obtain permission to execute process chains:
  - Log on again with a user name that is allowed to execute process chains.
  - Ask the SAP BW system administrator to grant permission to execute process chains.

- The process chain is being updated.

  Use the SAP front-end software to check whether the definition of the processes in the process chain is being updated.

If a process chain executed by JP1/AJS ends abnormally, perform either of the following procedures to restore the job:

- Re-execute processing from the beginning of the process chain.

  Re-execute the job for the abnormally ended process chain from JP1/AJS.

- Re-execute processing from the process where the error occurred.

  Use the SAP front-end software to check the status of the process chain that ended abnormally and re-execute the processing from the process where the error occurred. Allow JP1/AJS to execute the subsequent jobs when the re-executed process chain is completed.

(c) A file named dev_rfc* (The * part depends on the version of the RFC library) was created in the JP1/AJS3 for EAP work directory.

If an error occurs during the execution of a custom job for the SAP BW system or a JP1/AJS3 for EAP command, an RFC trace file (`dev_rfc`* (The * part depends on the version of the RFC library)) is created in the work directory of JP1/AJS3 for EAP. The RFC trace file contains the trace information about the communication with the SAP BW system (information about the item that caused the error).

The RFC trace file is required for serious errors. If no serious errors occur, we recommend that you delete the RFC trace file periodically.

(d) Process chain completion monitoring fails.

The probable causes are described below.

- The WebSocket RFC communication environment is configured incorrectly.

  Check for errors in WebSocket RFC scenario settings in UCONCOCKPIT.

Appendixes

A. Directory List

The directories created when JP1/AJS3 for EAP is installed are listed below for each type of OS.

A.1 Folder list (Windows)

This manual uses the term *installation folder* to refer to the installation folder for the Windows edition of JP1/AJS3 for EAP.

The default installation folder for the Windows edition of JP1/AJS3 for EAP is one of the following folders, depending on the Windows version used:

system-drive`\Program Files (x86)\Hitachi\JP1AMR3\`

The following table describes some of the folders that are created after JP1/AJS3 for EAP is installed.

Table A–1: JP1/AJS3 for EAP folder list (Windows)

Folder name	Description
`Program\`	This folder contains program files and other files.
`System\`	This folder contains system data files.
`Conf\`	This folder contains environment setup files.
`Sample\`	This folder contains sample files.
`Log\`	This folder contains default trace files.
`Bwsta\`	This folder is created for the InfoPackage control function or the process chain control function.
`Bwsta\Program\`	This folder contains program files and other files.
`Bwsta\Image\`	This folder contains icon files.
`Bwsta\Conf\`	This folder contains environment setup files.
`Bwsta\Log\`	This folder contains default trace files.
`Image\`	This folder contains custom job icon files.
`Lib\`	This folder contains library files.
`Lib\Rfc\`	This folder contains RFC library files.
`Lib\Hliclib\`	This folder contains product information library files.
`Tools\`	This folder contains common commands.

A.2 Directory list (Linux)

The following table describes some of the directories that are created after JP1/AJS3 for EAP is installed.

Table A–2: JP1/AJS3 for EAP directory list (Linux)

Directory name	Description
`/etc/opt/jp1_am_r3/`	This directory contains environment setup information.
`/etc/opt/jp1_am_r3/conf/`	This directory contains environment setup files.
`/etc/opt/jp1_am_r3/bwsta/`	This directory is created for the InfoPackage control function or the process chain control function.
`/etc/opt/jp1_am_r3/bwsta/conf/`	This directory contains environment setup files.
`/opt/jp1_am_r3/`	This directory contains execution context information.
`/opt/jp1_am_r3/bin/`	This directory contains commands.
`/opt/jp1_am_r3/image/`	This directory contains custom job icon files.
`/opt/jp1_am_r3/lib/`	This directory contains RFC library files.
`/opt/jp1_am_r3/lib/rfc/`	This directory contains REF library files.
`/opt/jp1_am_r3/sample/`	This directory contains sample files.
`/opt/jp1_am_r3/bwsta/`	This directory is created for the InfoPackage control function or the process chain control function.
`/opt/jp1_am_r3/bwsta/bin/`	This directory contains commands.
`/opt/jp1_am_r3/bwsta/image/`	This directory contains custom job icon files.
`/opt/jp1_am_r3/bwsta/lib/`	This directory contains RFC library files.
`/var/opt/jp1_am_r3/`	This directory contains data.
`/var/opt/jp1_am_r3/log/`	This directory contains default trace files.
`/var/opt/jp1_am_r3/bwsta/`	This directory is created for the InfoPackage control function or the process chain control function.
`/var/opt/jp1_am_r3/bwsta/log/`	This directory contains default trace files.
`/opt/jp1_am_r3/tools/`	This directory contains common commands.

B. Port Numbers

This appendix explains the port numbers JP1/AJS3 for EAP uses, the communication directions in a firewall environment, and the firewalls that are supported.

B.1 List of port numbers

JP1/AJS3 for EAP does not use any standby ports.

This appendix explains the port numbers to which JP1/AJS3 for EAP connects when communicating with an SAP system or SAP BW system.

JP1/AJS3 for EAP operates as a client program of an SAP system or SAP BW system, and uses Remote Function Call (RFC), a communication program provided by SAP, to communicate with the SAP system or SAP BW system.

JP1/AJS3 for EAP uses the commands used by the job control function and the commands used by InfoPackage or process chain control function to communicate with the SAP system or SAP BW system.

For details about the commands used by the job control function and the commands used by InfoPackage or process chain control function, see *4. Commands*.

The connection destination port number at the SAP system or SAP BW system differs depending on the method used for connecting to the SAP system or SAP BW system.

Table B–1: Connection destination port number at the SAP system or SAP BW system

Type of device for connection	Service name	Port number
Application server	`sapgwnn`[1, 2]	`33nn/tcp`[1]
Message server (load balancing)	`sapmssid`[3]	*Any*`/tcp` (Default: `3600/tcp`)
SAP router	Any (Default: `sapdp99`)	*Any*`/tcp` (Default: `3299/tcp`)
WebSocket RFC	Any	*Any*`/tcp`

#1
> *nn* indicates the system number of the connection destination SAP system or SAP BW system.

#2
> If you use secure network communication (SNC), use `sapgwnns` (port number range: `4800` to `4899/tcp` (`48nn/tcp`).

#3
> *sid* indicates the system ID of the connection destination SAP system or SAP BW system. You must specify this service name and port number in the host of the connection destination SAP system or SAP BW system, as well as in the `services` file of the host on which JP1/AJS3 for EAP is installed.

B.2 Firewall passage direction and supported firewalls

The following table shows the supported firewalls and the directions for passing through the firewall:

Table B–2: Firewall passage direction and supported firewalls

Service name	Port number	Direction of traffic	Supported firewalls
sapgw*nn*	33*nn*/tcp	JP1/AJS3 for EAP → SAP system or SAP BW system	Packet filtering type, and NAT (static mode) type address conversion
sapms*sid*	*Any*/tcp (Default: 3600/tcp)	JP1/AJS3 for EAP → SAP system or SAP BW system	Packet filtering type
Any (Default: sapdp99)	*Any*/tcp (Default: 3299/tcp)	JP1/AJS3 for EAP → SAP system or SAP BW system	Packet filtering type, and NAT (static mode) type address conversion
Any	*Any*/tcp	JP1/AJS2 for EAP → SAP system or SAP BW system	Packet filtering type, and NAT (static mode) type address conversion

Legend:

→ : Direction of traffic when a connection is established

C. Modifications Made in Each Version

This section lists the modifications made in each version.

C.1 Modifications made for upgrading from version 12-00 to 13-00

- Supported the following OS:
  - Red Hat(R) Enterprise Linux(R) Server 9
  - Oracle Linux(R) Operating System 9
- Removed the following OS from the supported OSs:
  - Microsoft(R) Windows Server(R) 2012
  - Microsoft(R) Windows Server(R) 2012 R2
- Added the `eapctrlconf` file for customizing the JP1/AJS3 for EAP operating environment.
- Added descriptions of settings and troubleshooting methods when connecting with WebSocket RFC.
- Added the custom job definition program for Linux.
- Changed the upper size limit for environment variables.
- The following message was added:
  KAJM0030-W, KAJM0031-W, KAJM0032-W, KAJM0033-W, KAJM0034-W, KAJM0035-E
- Added the following materials as materials collected when a problem occurs:
  - `eapctrlconf` file
  - BAPI execution permissions list

C.2 Modifications made for upgrading from version 11-00 to 12-00[#]

#:

Includes corrections in the version 12-00 manual.

- Supported the following OS:
  - Microsoft(R) Windows Server(R) 2016
  - Microsoft(R) Windows Server(R) 2019
  - Microsoft(R) Windows Server(R) 2022
  - SUSE Linux(R) Enterprise Server 15
  - Red Hat(R) Enterprise Linux(R) Server 8
  - Oracle Linux(R) Operating System 8
- Removed the following OS from the supported OSs:
  Microsoft(R) Windows Server(R) 2008
- Limited the version of the supported RFC library to 7.50 only.
- Added the function to copy a created R/3 job.
- Added the function to specify a temporary variant as the job step information.

- Added the function to search job logs by message type.

- Added new command, jr3ras, to collect the information for failure analysis.

- The following message was added:
  KAJM0117-W, KAJM0650-I, KAJM0651-I, KAJM0652-E, KAJM0653-E, KAJM0654-E, KAJM0655-E, KAJM0656-E, KAJM0657-E, KAJM0658-E, KAJM0659-E, KAJM0660-W, KAJM1011-E, KAJM1012-E, KAJM1826-W, KAJM1827-I, KAJM1880-I, KAJM1881-E

C.3 Modifications made for upgrading from version 10-51 to 11-00

(1) Modifications made in material number 3021-3-B27-10

- Linux is now supported.

- The following message was added:
  KAJM0609-E

(2) Modifications made in material number 3021-3-B27

- The following OS were abolished support.
  HP-UX, Solaris, AIX

- The following messages were changed:
  KAJM0990-E

- The following message was deleted:
  KAJM0609-E

C.4 Modifications made for upgrading from version 10-00 to 10-51

- SAP NetWeaver RFC Library is now supported.

- The help function for the custom job definition program was depreciated.

- The following messages were added:
  KAJM0107-E, KAJM0108-E, KAJM0109-W, KAJM0110-W, KAJM0112-E, KAJM0113-E, KAJM0114-E, KAJM0116-E, KAJM0903-E

- The following messages were changed:
  KAJM0802-E, KAJM2802-E

C.5 Modifications made for upgrading from version 09-00 to 10-00

There are no modifications.

C.6 Modifications made for upgrading from version 08-00 to 09-00

The following modifications were made relative to upgrading from version 08-00 to 09-00:

- JP1/SES format events are no longer issued.
- The version of the provided RFC library is now limited to 7.00.
- SAP NetWeaver Process Integration 7.1 is now supported.
- The custom job function is now compatible with JP1/AJS3.
- The product name has been changed.
- The default value of the code page number can now be specified in the environment setup file.
- SAP user setting-related explanations have been added.
- The password rule (extended password) extended in the SAP system based on SAP NetWeaver 7.0 and later is now supported.

D. Reference Material for this Manual

This appendix provides reference material for readers of this manual.

D.1 Related publications

This manual is part of a comprehensive set of manuals for the JP1 series of software products.

JP1/AJS manuals

- *JP1 Version 13 JP1/Automatic Job Management System 3 Overview* (3021-3-L42(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 System Design (Configuration) Guide* (3021-3-L43(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 System Design (Work Tasks) Guide* (3021-3-L44(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 Configuration Guide* (3021-3-L45(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 Administration Guide* (3021-3-L46(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 Troubleshooting* (3021-3-L47(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 Operator's Guide* (3021-3-L48(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 Command Reference* (3021-3-L49(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 Linkage Guide* (3021-3-L50(E))
- *JP1 Version 13 JP1/Automatic Job Management System 3 Messages* (3021-3-L51(E))

JP1/IM manuals

- *JP1 Version 13 JP1/Integrated Management2 - Manager Overview and System Design Guide* (3021-3-L02(E))
- *JP1 Version 13 JP1/Integrated Management2 - Manager Configuration Guide* (3021-3-L03(E))
- *JP1 Version 13 JP1/Integrated Management2 - Manager Administration Guide* (3021-3-L04(E))
- *JP1 Version 13 JP1/Integrated Management2 - Manager GUI Reference* (3021-3-L05(E))
- *JP1 Version 13 JP1/Integrated Management2 - Manager Command and Definition File Reference* (3021-3-L06(E))
- *JP1 Version 13 JP1/Integrated Management2 - Manager Messages* (3021-3-L07(E))

JP1/Base manuals

- *JP1 Version 13 JP1/Base User's Guide* (3021-3-L09(E))
- *JP1 Version 13 JP1/Base Messages* (3021-3-L10(E))
- *JP1 Version 13 JP1/Base Function Reference* (3021-3-L11(E))

Other manuals

- *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 Administrator's Guide Volume 1* (3020-3-S81(E)), for Windows systems
- *Job Management Partner 1/Software Distribution Administrator's Guide Volume 2* (3020-3-S82(E)), for Windows systems

- *Job Management Partner 1/Script Description and Reference* (3020-3-K55(E))

D.2 Conventions: Abbreviations

This manual uses the following abbreviations for product names:

Abbreviation		Full name
IPF		Itanium(R) Processor Family
JP1/AJS	JP1/AJS3	JP1/Automatic Job Management System 3 - Agent JP1/Automatic Job Management System 3 - Manager JP1/Automatic Job Management System 3 - View
JP1/AJS - Agent	JP1/AJS3 - Agent	JP1/Automatic Job Management System 3 - Agent
JP1/AJS - Manager	JP1/AJS3 - Manager	JP1/Automatic Job Management System 3 - Manager
JP1/AJS - View	JP1/AJS3 - View	JP1/Automatic Job Management System 3 - View
JP1/AJS2 for EAP		JP1/Automatic Job Management System 2 for Enterprise Applications
JP1/AJS3 for EAP		JP1/Automatic Job Management System 3 for Enterprise Applications
JP1/IM	JP1/IM - Manager	JP1/Integrated Management - Manager
		JP1/Integrated Management 2 - Manager
		JP1/Integrated Management 3 - Manager
	JP1/IM - View	JP1/Integrated Management - View
		JP1/Integrated Management 2 - View
		JP1/Integrated Management 3 - View
	JP1/IM - Agent	JP1/Integrated Management 3 - Agent
JP1/Power Monitor		JP1/Power Monitor
JP1/Script		JP1/Script
R/3		SAP's product SAP R/3(R)
SAP BW		SAP's product SAP Business Information Warehouse
Linux	Linux 6.1 (x86) Linux 6.1 (x64) Linux 7.1 Linux 8.1 Linux 9 Oracle Linux 6 (x64) Oracle Linux 7 Oracle Linux 8 Oracle Linux 9 SUSE Linux 12 SUSE Linux 15	Red Hat(R) Enterprise Linux(R) Server 6.1 (32-bit x86) Red Hat(R) Enterprise Linux(R) Server 6.1 (64-bit x86_64) Red Hat(R) Enterprise Linux(R) Server 7.1 Red Hat(R) Enterprise Linux(R) Server 8.1 Red Hat(R) Enterprise Linux(R) Server 9 Oracle Linux(R) Operating System 6 (x64) Oracle Linux(R) Operating System 7 Oracle Linux(R) Operating System 8 Oracle Linux(R) Operating System 9 SUSE Linux(R) Enterprise Server 12 SUSE Linux(R) Enterprise Server 15

D.3 Acronyms

This manual also uses the following abbreviations:

Abbreviation	Full name or meaning
ABAP	Advanced Business Application Programming
API	Application Programming Interface
EUC	Extended UNIX Code
FAT	File Allocation Table
ID	IDentification
JIS	Japanese Industrial Standards
LAN	Local Area Network
NAT	Network Address Translator
NTFS	New Technology File System
OS	Operating System
PC	Personal Computer
RFC	Remote Function Call
SNC	Secure Network Communications
TCP/IP	Transmission Control Protocol/Internet Protocol
UAC	User Account Control
UNC	Universal Naming Convention
XBP	eXternal Background Processing
XMI	eXternal Monitor Interface

D.4 Conventions: KB, MB, GB, and TB

This manual uses the following conventions:

- 1 KB (kilobyte) is 1,024 bytes.
- 1 MB (megabyte) is $1,024^2$ bytes.
- 1 GB (gigabyte) is $1,024^3$ bytes.
- 1 TB (terabyte) is $1,024^4$ bytes.

E. Glossary

This chapter explains JP1/AJS3 for EAP terminology, SAP system terminology, and other related specialized words.

A

ABAP
Fourth-generation language used with the SAP system.

ABAP program
Report program created with a fourth-generation language (ABAP). Used with the SAP system.

application server
Server that executes a process from a machine running SAP front-end software.

authorized user
User who is authorized to execute an SAP program (ABAP program or external program).

B

background job
Job that is executed by the background processing function of the SAP system. In this manual, it is sometimes referred to as an SAP job or a job.

BW - SCH interface
A SAP open interface used to control process chains in the SAP BW system from an external system.

BW - STA interface
A SAP open interface used to control InfoPackage in the SAP BW system from an external system.

C

custom job
Job that has a specific function (SAP job in the case of JP1/AJS3 for EAP) and is defined as a job that is executable by JP1/AJS. To use the JP1/AJS custom job function from JP1/AJS3 for EAP, the custom job component for the SAP system is required. The SAP system custom job component is automatically installed when JP1/AJS3 for EAP is installed.

E

event
Specific event that occurs in the system.

For Windows, a JP1/AJS3 for EAP event that is displayed as an application log by the Windows Event Viewer administrative tool.

extended password

Password that is extended in SAP NetWeaver 7.0. The password can be up to 40 bytes long. Alphabetic characters are case-sensitive.

external management interface

A generic term for the open interfaces provided by SAP. These include the XBP, BW - STA, and BW - SCH interfaces.

external program

General program (batch program or OS command) that can be executed by the SAP system.

I

InfoPackage

Definition used for transferring data to a SAP BW system. It indicates from which system data is to be fetched and to which system the data is to be transferred.

Data can be transferred to a SAP BW system by executing InfoPackage.

J

job

Unit of processing that is executed by the background processing function of the SAP system. In this manual, it is sometimes referred to as an SAP job or a background job.

job count

Count assigned by the SAP system to a created job.

job step

Element of a job. One job step consists of an ABAP program (or an external program).

jobnet

A set of jobs whose execution order is defined. Jobs within the jobnet are automatically executed in a predefined order. The jobnet is a function provided by JP1/AJS.

JP1/Automatic Job Management System (JP1/AJS)

JP1/AJS is a program for running jobs automatically. JP1/AJS enables you to execute processes in order routinely and to start process when a specific event occurs. After jobs are created, processes are executed automatically so that jobs are performed by regular personnel, or are performed by substitutes when the regular personnel are absent. In this way the job still gets accomplished.

JP1/Base

JP1/Base is a program that provides the event service function. JP1/Base enables you to control the order of startup of services, and lets you send and receive JP1 events. JP1/Base is also a prerequisite program

for JP1/IM, JP1/AJS, and JP1/Power Monitor. When a system using JP1/IM and JP1/AJS is implemented, JP1/Base provides the function for restricting of JP1 users' operations.

When JP1/IM and JP1/AJS system is introduced, JP1/Base provides the function for restricting of JP1 users' operations.

JP1/IM

A program that centrally monitors a distributed system. You can monitor JP1 events that express information, such as job-processing status or trouble in the distributed system.

JP1/Script

A program for making and executing scripts that control jobs. By using JP1/Script, you can implement a high-speed batch-processing execution environment in Windows.

P

process chain

A method of automatically executing jobs in the SAP BW system. A process chain consists of a series of processes (jobs) that are executed in the background. When a process chain is executed, a series of processes is automatically executed based on a predetermined execution sequence.

R

SAP client

Virtual user environment in the SAP system. In the SAP system, users and jobs are managed on an individual client basis.

SAP destination information

Common argument for JP1/AJS3 for EAP commands. It is used for establishing a connection to the SAP system.

SAP job

Job that is executed by the background processing function of the SAP system or the SAP BW system. In this manual, it is sometimes referred to as a background job or a job.

SAP job log

Job log managed by the SAP system.

SAP logon information

Common argument for JP1/AJS3 for EAP commands. It is used to specify user information for logging on to an SAP system.

request number

Number assigned by the SAP BW system when InfoPackage is started.

S

SAP BW client

Virtual user environment in the SAP BW system that is called a *client*. In the SAP BW system, users and jobs are managed on an individual client basis.

SAP BW destination information

Common argument of JP1/AJS3 for EAP commands. It is used for establishing a connection to the SAP BW system.

SAP BW logon information

Common argument of JP1/AJS3 for EAP commands. It is used to specify user information for logging on to a SAP BW system.

SAP front-end software

SAP client software that requests processing from an application server.

T

trace information

When a fault occurs in JP1/AJS3 for EAP, trace information is collected to identify the cause of the problem.

V

variant

Argument that can be used in an ABAP program.

X

XBP interface

The XBP (eXternal Background Processing) interface is a SAP open interface used to control background jobs in the SAP system from an external system.

XMI interface session

The XMI (eXternal Monitor Interface) interface session is an SAP system session that monitors and records access between an external system (system external to the SAP system) and an SAP system.

Index

X