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uCosminexus Application Server

Command Reference Guide

3021-3-J15-10(E)

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Preface

For details on the prerequisites before reading this manual, see the *Release Notes*.

■ Non-supported functionality

Some functionality described in this manual is not supported. Non-supported functionality includes:

- Audit log functionality
- Compatibility functionality
- Cosminexus Component Transaction Monitor
- Cosminexus Reliable Messaging
- Cosminexus TPBroker and VisiBroker
- Cosminexus Web Service - Security
- Cosminexus XML Security - Core functionality
- JP1 linkage functionality
- Management Server management portal
- Remote installation functionality for the UNIX edition
- SOAP applications complying with specifications other than JAX-WS 2.1
- uCosminexus OpenTP1 linkage functionality
- Virtualized system functionality
- XML Processor high-speed parse support functionality

■ Non-supported compatibility functionality

"Compatibility functionality" in the above list refers to the following functionality:

- Basic mode
- Check of JSP source compliance (cjjsp2java) with JSP1.1 and JSP1.2 specifications
- Database connection using Cosminexus DABroker Library
- EJB client application log subdirectory exclusive mode
- J2EE application test functionality
- Memory session failover functionality
- Servlet engine mode
- Simple Web server functionality
- Switching multiple existing execution environments
- Using EJB 2.1 and Servlet 2.4 annotation

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1 Command Overview

This chapter describes the format for describing types, input formats, and syntaxes of the commands used with Application Server.

1.1 Command types

This section describes the types of commands used with Application Server.

On Application Server, the usable commands differ according to the types of applications to be executed. In this section, commands are classified into the following five types:

- *Commands used in systems that execute J2EE applications*
- *Commands used in systems that execute batch applications*
- *Commands used in systems that execute Java applications*
- *Commands used in systems that execute Web applications*
- *Commands used in systems that execute Web Services*

The following table describes these commands.

Table 1–1: Commands used in systems that execute J2EE applications

Command type	Command explanation	Reference location
Commands used with a J2EE server	Use these commands to start and stop J2EE servers and to set up J2EE applications. These commands begin with `cj`. Examples: `cjstartsv`, `cjenvupdate`	*Chapter 2*
Commands used for performance analysis trace	When you are using performance analysis trace to analyze the processing performance for systems on the Application Server, you use these commands to start and stop the PRF daemon and to output the trace information. These commands begin with `cprf`. Examples: `cprfstart`, `cprfed`	*Chapter 4*
Commands used with Cosminexus JMS Provider	Use these commands with Cosminexus JMS Provider to send and receive messages.	*Chapter 5*
Commands used in CTM	When you use CTM for scheduling requests and load balancing, you use these commands to start and stop the CTM domain, to output the CTM information, and to block a queue. These commands begin with `ctm`. Examples: `ctmstart` and `ctmholdque`	*Chapter 6*
Commands used with Management Server	When you are using Management Server, use these commands to check the operations of the Administration Agent, to start or stop the Administration Agent, or to start or stop Management Server. Examples: `adminagentcheck`, `mngsvrctl`	*Chapter 7*
Commands used with the Smart Composer functionality	When you use the Smart Composer functionality, you use these commands to set up the management user account of Management Server and to build Web systems on Management Server. Examples: `cmx_admin_passwd`, `cmx_build_system`	*Chapter 8*
Commands used with Virtual Systems	You use these commands to acquire and update the information from virtual server manager.ng	*Chapter 9*
Commands used in JavaVM	You use these commands to acquire a core file, perform GC, or perform other operations for a Java VM. Examples: `javacore`, `javagc`	*Chapter 10*

Command type	Command explanation	Reference location
Commands used in log operations	When you are acquiring the Application Server log, you use these commands to acquire the snapshot log. Example: `snapshotlog`	*Chapter 11*
Commands used for setting Audit Log	You use these commands to set the audit log. Example: `auditsetup`	*Chapter 12*
Commands used with integrated user management	When you are using the integrated user management functionality, use these commands to encrypt the user information and to create the encryption key file. Examples: `convpw`, `ssogenkey`	#

#

For details, see *13. Commands Used in Integrated User Management* in the *uCosminexus Application Server Security Management Guide*.

Table 1–2: Commands used in systems that execute batch applications

Command type	Command explanation	Reference location
Commands used with a batch server	You use these commands to start and stop batch servers and to execute and forcibly terminate batch applications. These commands begin with `cj`. Examples: `cjstartsv` and `cjexecjob`	*Chapter 3*
Commands used for performance analysis trace	When you are using performance analysis trace to analyze the processing performance for systems of the Application Server, you use these commands to start and stop the PRF daemon and to output the trace information. These commands begin with `cprf`. Examples: `cprfstart`, `cprfed`	*Chapter 4*
Commands used in CTM	When you use CTM for scheduling requests and load balancing, you use these commands to start and stop the CTM domain, to output the CTM information, and to block a queue. These commands begin with `ctm`. Examples: `ctmstart`, `ctmholdque`	*Chapter 6*
Commands used with Management Server	When you are using Management Server, use these commands to check the operations of the Administration Agent, to start or stop the Administration Agent, or to start or stop Management Server. Examples: `adminagentcheck`, `mngsvrctl`	*Chapter 7*
Commands used with the Smart Composer functionality	When you use the Smart Composer functionality, you use these commands to set up the management user account of Management Server and to build Web systems on Management Server. Examples: `cmx_admin_passwd`, `cmx_build_system`	*Chapter 8*
Commands used in JavaVM	You use these commands to acquire a core file, perform GC, or perform other operations for a Java VM. Examples: `javacore`, `javagc`	*Chapter 10*
Commands used in log operations	When you are acquiring logs of the Application Server, you use these commands to acquire the snapshot log. Example: `snapshotlog`	*Chapter 11*
Commands used for setting Audit Log	You use these commands to set the audit log. Example: `auditsetup`	*Chapter 12*

Table 1–3: Commands used in systems that execute Java applications

Command type	Command explanation	Reference location
Commands used in Java applications	You use these commands to start Java applications and to delete the output destination subdirectory of log. Examples: `cjclstartap` and `cjcldellog`	*Chapter 13*

Table 1–4: Commands used in systems that execute Web applications

Command type	Command explanation	Reference location
Commands used in Web applications	Use these commands to check JSP sources. Example: `cjjspc`	*Chapter 14*

Table 1–5: Commands used in systems that execute Web Services

Command type	Command explanation	Reference location
Commands used in Web Services	Use this command to generate SEI and JavaBean classes required for SOAP Web Services and generate a WSDL from the compiled Java sources. Examples: `cjwsimport`, `hwsgen`	#

#

See *14. Commands* in the *uCosminexus Application Server Web Service Development Guide*.

Reference note

You use the following commands to develop SOAP applications and programs for operating XML documents, and to ensure the security of Web Services.

- In the development of SOAP applications, you use commands for generating a WSDL, source code, and service deployment definitions. For details on the commands, see *9. Development support commands* in the *uCosminexus Application Server SOAP Application Development Guide*.
- With the functionality for developing a program that operates XML documents, you use commands for using a schema compiler and a schema generator. For details on the commands, see *2.5 JAXB commands* in the *uCosminexus Application Server XML Processor User Guide*.
- With the Web Services security functionality, you use commands for using the security functionality and for checking whether the XML syntax is correct. For details on the commands, see *4.1 Commands provided by the Web Services security functionality* in the *uCosminexus Application Server Web Service Security Users Guide*.

1.2 Description format of the command syntax

1.2.1 Description format details

This section describes the format of command syntax and the symbols to be used.

(1) Description format

Command syntaxes are described in the following format. Note that the commands are described in alphabetical order.

Format
: Shows the command's input format.

Function
: Explains the command's function.

Arguments
: Explains the command's arguments and options.

Output format
: Shows the command's output format.

Input/output examples
: Shows input and output examples of the command.

Return values
: Explains the command's return values.

Notes
: Provides notes about executing the command.

Reference
: Of the items mentioned above, only the required items are described for each command. In addition to the above-mentioned items, the command-specific information is provided for each command.

(2) Symbols to be used

Command syntax is described by using symbols and syntax elements shown in the following table.

Table 1–6: Symbols used in the syntax

Symbol	Meaning
`|`	In syntax explanations, a vertical bar separates multiple items, and has the meaning of OR. For example: `A|B|` means `A` or `B`.
`{ }`	In syntax explanations, curly brackets indicate that only one of the enclosed items is to be selected. For example: `{A|B|C}` means any 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.

Symbol	Meaning
`...`	Indicates that description is omitted. For example: `ABC...` means that there is a description after `ABC`, and that this description is omitted.
`< >`	In syntax explanations, angle brackets indicate that the enclosed item or items specify the corresponding components or files, and display the corresponding components. For example: `<Property>` means that the user enters a property name or a property name is displayed. `<File Name>` means that the user enters a file name.
`...`	In syntax explanations, an ellipsis indicates that the immediately preceding item can be repeated as many times as necessary. For example: `<Property>...` means that you can specify as many properties as necessary.

Table 1–7: Elements used in syntax

Syntax Element	Definition
Alphabetic character	`A` to `Z`, `a` to `z`
Lower-case alphabetic characters	`a` to `z`
Upper-case alphabetic characters	`A` to `Z`
Numeric characters	`0` to `9`
Alphanumeric characters	`A` to `Z`, `a` to `z`, `0` to `9`
Symbols	`! " # $ % & ' ( ) + , _ · . / : ; < = > @ [ ] ^ - {} ~` tabs spaces

Note: Use all single-byte characters.

1.3 Command input format

1.3.1 Input format details

The command input format is as follows:

command-name [*options*...]

Each item is explained below. In the examples, $ represents the command prompt, and *cmd* represents the command name.

(1) Command name

Specify the file name of the command to be executed.

If you execute a command by specifying a path that contains a space character, you must enclose the entire path in double quotation marks (").

In Windows

- Example of an invalid specification: $ C:\Program Files\Hitachi\Cosminexus\CC\server\bin\cmd
- Example of a valid specification: $ "C:\Program Files\Hitachi\Cosminexus\CC\server\bin\cmd"

In UNIX

- Example of an invalid specification: $ /opt/program path/bin/command
- Example of a valid specification: $ "/opt/program path/bin/command"

(2) Arguments

The arguments consist of options. The input format and specification rules for options are shown below.

(a) Option input format

An option is a character string that begins with a hyphen (-). The input formats for options include a format in which no option argument is specified and a format in which one option argument is specified.

Format when no option arguments are specified

$ *cmd* -*option-flag*

Format for specifying option arguments

$ *cmd* -*option-flag*<space or tab>*option-arguments*

Legend:

- *option-flag*
  Single-byte alphanumeric characters. Alphabetic characters are case sensitive.
- *option-arguments*
  Arguments for the option flag.

(b) Option specification rules

- You cannot use a single hyphen to specify multiple option flags.
  Example of an invalid specification: `$ cmd -abc`
  Example of a valid specification: `$ cmd -a -b -c`
- If an option flag requires an option argument, you cannot omit the option argument.
- You must specify a space or tab character between the option flag and the option arguments.
  Example of an invalid specification: `$ cmd -afile`
  Example of a valid specification: `$ cmd -a file`
- You cannot specify the same option flag more than once.
  Example of an invalid specification: `$ cmd -a 1 -a 2`
- If an option argument includes a space character, you must enclose the entire option arguments in double quotation marks (").
  Example of an invalid specification: `$ cmd -a file 1`
  Example of a valid specification: `$ cmd -a "file 1"`

1.4 Precautions for using commands

This section describes the precautions you must take for using commands.

1.4.1 Notes on using commands provided by the application server in Windows

Execute commands as a user with administrator privileges.

1.4.2 Precautions for using server management commands

- If an insufficient memory error occurs during the command execution, and the command cannot be executed normally, specify the JavaVM option `-Xmx<size>` with the `USRCONF_JVM_ARGS` key in the option definition file (`usrconf.bat`) used for the server management command, and extend the maximum size of the memory allocation pool. '64 MB' is the default value when `-Xmx<size>` is not specified.

  Example:

  In Windows

  ```
  set USRCONF_JVM_ARGS=-Xmx512m
  ```

  In UNIX

  ```
  set USRCONF_JVM_ARGS="-Xmx512m"
  ```

- If a large file is to be operated, the `java.lang.OutOfMemoryError` message might be displayed in the console in which the server management commands are activated. In such cases, change the memory allocation size of JavaVM by using the `-Xms` and `-Xmx` options of the `USRCONF_JVM_ARGS` key used in the option definition file (`usrconf.bat` in Windows and `usrconf` in UNIX) for the server management commands.

  Coding example:

  ```
  set USRCONF_JVM_ARGS="-Xms64m -Xmx256m"
  ```

- The encoding specified in the XML declaration part of the property file determines the applicable property file and does not affect the encoding of the Deployment Descriptor file on the server-side (the encoding of the server-side Deployment Descriptor file is always `UTF-8`).
- In Windows, make sure that you open the Command Prompt window as a user with administrator privileges. If you do not open the Command Prompt window as a user with administrator privileges, an administrator privilege error occurs and the end code `9` is returned.
- In UNIX, if the Component Container administrator is set up, apart from the superuser even the general users can execute the command.

  In Windows, make sure that you open the Command Prompt window as a user with administrator privileges. If you do not open the Command Prompt window as a user with administrator privileges, you cannot execute commands even if you are a member of the Administrators group.
- You cannot use the supplementary characters of Unicode in the directory and file names.

  If characters that cannot be converted to character encoding at runtime are output in the log file, such characters are converted to `?`.
- The execution permission setup in the Bean method is valid only in the `create` method, `business` method, and `remove` method. The execution permission setup using the server management command for other methods is ignored.

- If you establish a remote connection with J2EE servers or batch servers using commands, the KDJE30045-E message might be displayed in the console and in the dialog box. In such cases, you match the versions of server management commands and J2EE servers, or the version of Cosminexus Component Container.
- If you execute a delete node command and display list node command simultaneously for a same resource, the KDJE39057-E message might be displayed on the console where the J2EE server or batch server is running, however, there will be no impact on the operations of the J2EE server or batch server.

  The delete node commands and display list node commands are as follows:

  Delete node server management commands

  `cjdeleteapp`

  `cjdeleteres`

  `cjundeployrar`

  `cjdeletelibjar`

  Display list node server management commands

  `cjlistapp`

  `cjlistres`

  `cjlistrar`

  `cjlistlibjar`
- If you want to include a space in the command option of server management commands, specify the space as follows:

  In Windows

  Enclose the command option with a space within double quotation marks ("").

  Example: When `Display name` acquires the resource adapter information of `TP1/Message Queue - Access`

```
cjgetresprop -type rar -resname "TP1/Message Queue - Access" -c C:\temp\rar.xml
```

  In AIX

  Enclose the command option with a space within double quotation marks ("").

  Example: When `Display name` acquires the resource adapter information of `TP1/Message Queue - Access`

```
cjgetresprop -type rar -resname "TP1/Message Queue - Access" -c /home/rar.xml
```

  Other UNIX

  Enclose the entire command option within double quotation marks ("") and also enclose the command option containing the space within single quotation mark (').

  Example: When `Display name` acquires the resource adapter information of `TP1/Message Queue - Access`

```
cjgetresprop "-type rar -resname 'TP1/Message Queue - Access' -c /home/rar.xml"
```

  However, the command might not function properly in the following cases:

  - There are two or more consecutive spaces in the option enclosed within single quotation mark.
  - There is a space immediately after the first single quotation mark or there is a space just before the last single quotation mark.
- In UNIX, when a command option of the server management commands includes an exclamation mark (!), enclose the command option that includes an exclamation mark (!) within single quotation marks (').

Example: When displaying a list of Connection Pools for Connector 1.5

```
cjlistpool server-name -nameserver provider-URL resource-adapter-display-name!connection-definition-identifier
```

- Do not specify a string beginning with an underscore "_" or a string with consecutive underscores "__" in *display-name-of-queue* specified in the tag (<linked-to> tag in the <resource-env-ref> tag) for the resource environment variable in the attribute file to be used with the server management commands.
- In the application, do not include the CLASSPATH environment variable or the classes referenced from the classes included in the class path that are specified in the option definition file for server management commands.
- When you are executing the server management commands in Windows, do not use strings containing ^ or & in the path to be setup in the PATH environment variable or CLASSPATH environment variable.
- If vbroker.se.iiop_tp.scm.iiop_tp.listener.port is specified in the usrconf.properties (system property file for server management commands), you cannot use Server Plug-in or HCSC commands and the server management commands together.
- When you are operating a J2EE server of another host or using multiple NICs, you must define the webserver.connector.http.permitted.hosts key beforehand, in usrconf.properties (user property file for J2EE servers). For details on the webserver.connector.http.permitted.hosts key, see *2.2.3 usrconf.properties (User property file for J2EE servers)* in the *uCosminexus Application Server Definition Reference Guide*.

1.4.3 Precautions for enabling the functionality for omitting the admin user account

Among the commands used with the Manager Server and Smart Composer, there are some commands that operate differently when the functionality for omitting the admin user account is enabled. The following table lists and describes the commands:

Table 1–8: Commands that operate differently when the functionality for omitting the admin user account is enabled

Function	Command name	Operation when the functionality for omitting the admin user account is enabled
Commands used with Manager Server	mngsvrctl command	The following setup of the argument setup is disabled: • -u *admin-user-ID* • -p *admin-password* • -nu *admin-user-ID* • -np *admin-password* Even the message is output, the setup process is executed as usual. The setup of the arguments start and stop is disabled. You cannot set up or change the admin user account and the password.
	mngsvrutil command	The setup of the following arguments is disabled: • -u *admin-user-ID* • -p *admin-password*
Commands used with Smart Composer	Other than the cmx_admin_passwd command	

Function	Command name	Operation when the functionality for omitting the admin user account is enabled
	`cmx_admin_passwd` command	The setup value is disabled and the message is output. You cannot set up or change the admin user account and the password.

You can set up the default value for the options of the command as common definition files. These files operate differently when the functionality for omitting the admin user account is enabled. The following table lists and describes the files in which the operations are different:

Table 1–9: Files in which the operations are different when enabling the functionality for omitting the admin user account

File name	Command definition file type	Operation when the functionality for omitting the admin user account is enabled
`.mngsvrutilrc` `mngsvrutilcl.properties`	`mngsvrutil` command definition file	The settings of the following properties are disabled: • `mngsvrutil.connect.userid` • `mngsvrutil.connect.password`
`.cmxrc` `cmxclient.properties`	Command definition file used with Smart Composer	The settings of the following properties are disabled: • `cmx.connect.userid` • `cmx.connect.passwd`
`.mngsvrmonitorrc`	`mngsvrmonitor` command definition file	The settings of the following properties are disabled: • `mngsvrmonitor.connect.userid` • `mngsvrmonitor.connect.password`

1.4.4 Precautions for using the virtual server manager commands

- You can execute the virtual server manager commands when the virtual server manager is running. If a command is executed when the virtual server manager is not running, a message is output and the operation terminates with an error.
- The start and stop messages of the virtual server manager commands and the command execution results are output to the standard output.
- Before you execute a command, make sure that the log output directory and the log file are writable. A log is not output if the log output directory and the log file are not writable.
- The virtual server manager commands do not have executing user restrictions. However, in Windows, you must note the following items depending on the type and the executing user of the OS in which the command is executed:
  - For an OS with disabled UAC (user account control)

    If a user who does not have Administrator permissions executes the virtual server manager commands, make sure that the log output directory and the log file are writable before the command is executed. A log is not output if the log output directory and the log file are not writable.

    If a user with Administrator permissions executes the virtual server manager commands, no specific precautions need be taken.
  - For an OS with enabled UAC (user account control)

    If a user who does not have Administrator permissions executes the virtual server manager commands, the log might be output to a directory different from the log output directory specified in `manager.cfg` (Manager

configuration file), depending on the virtualization of the files for UAC (user account control), which is an OS functionality.

If a user with Administrator permissions executes the virtual server manager commands, no specific precautions need be taken.

1.4.5 Display name containing characters other than single-byte alphanumeric characters

The J2EE servers use the display names set up for J2EE applications or resources (value of the `<display-name>` tag of DD) as identifiers. If the display name contains a character other than universal characters and single-byte alphanumeric characters (0 to 9, A to Z, and a to z), the character is converted to an underscore (_), and an identifier is generated. Depending on the set value, the identifier generated during the conversion might be repeated and the operation might fail. Do not use the characters other than single byte alphanumeric characters or underscores, in the display name.

If the display name contains characters other than single byte alphanumeric characters, the J2EE server outputs a warning message (KDJE42374-W).

1.4.6 File and directory name to be specified in command arguments

Do not use a hash mark (#), percent mark (%), or question mark (?), in the file name and the name of the directory that stores that file that is to be specified in the arguments of the command used with the Smart Composer functionality or Management Server.

If you use a hash mark, percent mark, or question mark, the following message is output and the command processing is aborted:

`KEOS24007-E The definition file is invalid. file name =`*file-name* `line number = 1 column number = 1 details = KECX01024-E Content is not allowed in prolog.`

1.4.7 Precautions related to the commands used with JavaVM (In Windows)

The following commands provided with Application Server create temporary files in a directory acquired by the `GetTempPath()` function of Windows API:

- `javagc` command
- `jheapprof` command
- `eheapprof` command

You must have write permission for the directory acquired using the `GetTempPath()` function to operate the commands properly. Also, do not delete this directory when the JavaVM process is being executed.

Make sure that this directory is not located under the Windows system directory.

1.4.8 Precautions related to the commands used with CTM (In Windows)

A user, belonging to the Administrators group, must execute the commands used with CTM.

1.4.9 Precautions related to the commands used with the performance analysis trace (In Windows)

A user who executes the `cprfstart` command must execute the commands used with the performance analysis trace.

2 Commands Used with a J2EE Server

This chapter describes the input formats and functions of the commands used with a J2EE server.

2.1 Overview of commands used with J2EE servers

This section describes the types of commands used with J2EE servers, and their provider URLs.

2.1.1 Types of commands used with J2EE servers

The types of commands used with J2EE servers are described here.

The following table describes the types of commands used with J2EE servers, and their corresponding storage destinations:

Table 2–1: Types of commands used with J2EE servers and their corresponding storage destinations

Types of commands used with J2EE server	Storage destination of commands
Commands used for operating J2EE servers	• In Windows *Cosminexus-installation-directory*\CC\server\bin\ • In UNIX /opt/Cosminexus/CC/server/bin/
Commands used in J2EE applications	• In Windows *Cosminexus-installation-directory*\CC\admin\bin\ • In UNIX /opt/Cosminexus/CC/admin/bin/
Resource operation commands used with J2EE servers	
Other commands used with J2EE servers	

2.1.2 Provider URL

The access protocol for the CORBA Naming Service, the name of the host on which the CORBA Naming Service is running, and the port number used by the host are specified in the following format:

```
protocol-name::host-name:port-number
```

Note that the connection destination J2EE server is used as the corresponding CORBA Naming Service. Only `corbaname` is supported as the access protocol.

If `iioploc` or `iiopname` is specified in the earlier versions, substitute `iioploc` or `iiopname` for `corbaname`.

Specify `iioploc` or `iiopname` in the following format:

```
protocol-name://host-name:port-number
```

In the *host-name*, specify name of the host on which the CORBA Naming Service is running. However, in the following cases, a value specified in the `vbroker.se.iiop_tp.host` key will be the value to be specified in *host-name*:

- When `ejbserver.naming.startupMode=inprocess` is specified in `usrconf.properties` (user property file for J2EE servers) of the connection destination J2EE server, and the value is specified in the `vbroker.se.iiop_tp.host` key.

- When `ejbserver.naming.startupMode=manual` or `automatic` is specified in `usrconf.properties` (user property file for J2EE servers) of the connection destination J2EE server, and the value is specified in the `vbroker.se.iiop_tp.host` key with the runtime option of the CORBA Naming Service.

The *host-name* is omitted in the following cases:

- When a value of the `ejbserver.naming.protocol` key of `usrconf.properties` (system property file for server management commands) is used as the access protocol.
- When a value of the `ejbserver.naming.host` key is used as the host name.
- When a value of the `ejbserver.naming.port` key is used as the port number.

The default values of *host-name* are as follows:

- `ejbserver.naming.protocol` key: `corbaname`
- `ejbserver.naming.host` key: `localhost`
- `ejbserver.naming.port` key: `900`

2.2 Commands used for operating J2EE servers

This section describes the commands used for operating J2EE servers.

The following table describes the commands used for operating J2EE servers:

Table 2–2: List of commands used for operating J2EE servers

Command name	Function	Description	Command group
cjdumpsv	Get thread dump of J2EE server	Obtains a JavaVM thread dump when a failure occurs in a J2EE server.	--
cjenvsetup	Set up Component Container Administrator	Changes the attributes of installation files so that users other than those who have root permission can operate them. This command is for UNIX.	--
cjenvupdate	Convert work directory and user definition files	Converts the work directory and user definition files that were used in the old environment of Cosminexus Component Container to a format that operates in the new environment.	--
cjgetsysinfo	Get OS status	Obtains OS status information.	--
cjrarupdate	Update resource adapter version	Updates the version of resource adapter imported or deployed on Cosminexus Component Container.	--
cjsetup	Set up or delete J2EE server environment	Sets up an environment for a J2EE server and creates default user definitions.	--
cjsleep	Set J2EE server startup delay	Delays execution for a specified number of seconds only. Use this command in a batch file to set a server startup delay. This command is for Windows.	--
cjstartrecover	Recover J2EE server transaction	Recovers a transaction of a J2EE server.	--
cjstartsv	Start J2EE server	Starts a J2EE server.	--
cjstopsv	Stop J2EE server	Stops a J2EE server.	Update#

Legend:

Update: The command is an update command, which updates the J2EE server contents or retrieves configuration information.

--: Does not apply.

#

When the -f option is specified, the command belongs to none of the command groups.

For details on the system-wise mutual exclusion control of the server management commands, see *3.2 Exclusive access control of server management commands* in the *uCosminexus Application Server Application Setup Guide*.

You must execute the setup commands (cjenvsetup, cjenvupdate, cjrarupdate, and cjsetup) one at a time; do not execute two setup commands concurrently.

cjdumpsv (get thread dump of J2EE server)

Format

```
cjdumpsv [server-name]
```

Function

This command obtains a JavaVM thread dump when no response is returned to the Web browser or EJB client, or when a failure occurs in a J2EE server, or when the behavior of an application is to be examined.

This command outputs a thread dump to the server's standard output log (`cjstdout.log`) and to the following file:

- In Windows
  Cosminexus-work-directory`\ejb\`*server-name*`\javacore*.txt`
- In UNIX
  Cosminexus-work-directory`/ejb/`*server-name*`/javacore*.txt`

Cosminexus-work-directory is the directory that was specified for the `ejb.public.directory` key in `usrconf.cfg` (option definition file for the J2EE server).

Arguments

server-name
Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

Return values

`0`:
The command terminated normally.

`1`:
The command terminated abnormally.

Notes

- To execute the `cjdumpsv` command in UNIX, you must have root permission or Component Container Administrator permission.
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If you start the J2EE server from Manager or as a Windows service, the thread dump acquisition might fail.
- The `cjdumpsv` command fails to obtain a thread dump if executed while the `cjstopsv` command is waiting for another server management command to end.

cjenvsetup (set up Component Container Administrator)

Format

```
cjenvsetup
```

Function

This command changes the attributes (owner, group, and permissions) of the installation files. This command is for UNIX.

The attributes (owner and group) of the installation directory (`/opt/Cosminexus/CC`) are set as the Component Container Administrator and the Component Container Administrator group.

The execution information of this command is output to a message log and a text file. For details on the output contents and the output destination of the execution information, see *4.1.4 Notes on setting Component Container administrator (For UNIX)* in the *uCosminexus Application Server System Setup and Operation Guide*.

Arguments

None

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

Notes

- Before you execute the `cjenvsetup` command, you must change attributes (`owner` and `group`) of the installation directory (link destination directory when `/opt/Cosminexus/CC` is a symbolic link) to the Component Container Administrator and the Component Container Administrator group.
- You do not perform the following operations when the `cjenvsetup` command is running. If performed, the operations might not function properly.
  - Manipulation of a file in the installation directory (`/opt/Cosminexus/CC`)
  - Starting or stopping the server
- When a symbolic link is being used in the installation directory, you do not execute the `cjenvsetup` command if no file or directory exists for the specified link. Be sure to check that the link destination exists before you execute this command.
- This command does not change the attributes of the directory specified in the `ejb.server.log.directory` key of `usrconf.cfg` (option definition file for J2EE servers). Change the attributes of the directory specified in the `ejb.server.log.directory` key manually.

cjenvupdate (convert work directory and user definition files)

Format

```
cjenvupdate [-f]
```

Function

When the J2EE server is using an earlier version of Cosminexus Component Container, this command converts the earlier format of work directory and the following user-defined files to the format used in the current version:

- `usrconf.properties` (user properties file for the J2EE server)
- `usrconf.cfg` (option definition file for the J2EE server)
- `server.policy` (security policy file for the J2EE server)
- `usrconf.properties` (system properties file for server administrator commands)
- `usrconf.bat`#1 (operation definition file for server administrator commands)
- `usrconf.properties` (user properties file for the Web container server)#2
- `usrconf.cfg` (option definition file for the Web container server)#2
- `web.policy` (SecurityManager definition file)

#1

In UNIX, this is `usrconf`.

#2

A file used with compatible functionality.

This command must be executed immediately after completion of an upgrade installation from an older version. When the work directory is to be converted, the drive containing the work directory must have about twice as much unused space as the disk size actually used by the work directory.

work-directory is the directory that was specified for the `ejb.public.directory` key of `usrconf.cfg` (option definition file for the J2EE server).

When this command is executed, backup files of the definition files to be converted are created in the same directory as the definition files. Each backup file that is created is given the name *name-of-converted-definition-file*`.envupdate_bak`. If a file with that name already exists when the backup file is to be created, the backup file name is set to *name-of-converted-definition-file*`.envupdate_bak_`*?* (*?* is a sequential number from `1` to `2147483647`). Backup files are not deleted automatically when this command is completed.

For the Application Server migration, see *10. Migrating from Application Server of Earlier Versions (In the J2EE Server Mode)* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Arguments

`-f`

Forcibly converts, even if there are some DD files that cannot be converted.

Post-conversion operations

When the work directory is converted by this command, after the conversion is completed, a backup work directory is created[#1] immediately under the work directory of each J2EE server. The work directory stores the post-conversion information (files), and the backup work directory stores the pre-conversion information (files). If the name of the work directory is `...\`*directory-name* or `.../`*directory-name*, the name of the backup work directory becomes `...\`*directory-name*`\`*directory-name*`_old\` or `.../`*directory-name*`/`*directory-name*`_old/`.[#2] After conversion, you should perform a startup check of the J2EE server, an operation check of the J2EE applications, and a termination check of the J2EE server. After the checks have been completed, you can delete the backup work directory if the pre-conversion work directory information files are no longer required. However, it is recommended that you save the backup work directory to another location.

#1

If the work directory is not converted, the backup work directory is not created.

#2

If a backup work directory already exists, `...\`*directory-name*`\`*directory-name*`_old\` or `.../`*directory-name*`/`*directory-name*`_old/` is renamed to `...\`*directory-name*`\`*directory-name*`_old`*?*`\` or `.../`*directory-name*`/`*directory-name*`_old`*?*`/` (*?* is a sequential number from `1` to `2147483647`).

Action when an error occurs

If execution of the work directory conversion command fails, you can identify the file path on which the failure occurred from the messages output by the command. An example of the output messages is shown below:

```
KDJE30220-I Migration of the definition files of the old version is in progr
ess.
KDJE30221-I The definition files of the old version have been migrated succe
ssfully.
KDJE30204-I The server checking is in progress. Server name = [server-name]
KDJE30202-E The Deployment Descriptor cannot be converted. File = [file-path
], Reason = [detailed-information]
KDJE30205-E The server will not be migrated because a problem occurred in th
e Deployment Descriptor. Server name = [server-name]
```

Exception information is output as *detailed-information*. Refer to this *detailed-information*, eliminate the problem, check that the disk has sufficient unused space, and then re-execute the command.

If you cannot identify the cause from *detailed-information* or if an error occurs even when you re-execute the command after checking and revising the condition, contact a maintenance engineer.

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

Notes

- To execute the `cjenvupdate` command in UNIX, you must have root permission (if Component Container Administrator is not set) or the Component Container Administrator permission (if Component Container Administrator is set).

- If the extension DD file (`hitachi-ra.xml`) for the resource adapter of J2EE resources and the J2EE resource adapter is scrambled, the unscrambled Java EE-compliant DD file (`ra.xml`) will be scrambled.
- This command might fail if files under the following directories are accessed while the command is running. Note that these files might be unintentionally accessed by a virus scan engine.

  Windows:

  - *Application-Server-installation-directory*`\CC`
  - *work-directory*

  UNIX:

  - `/opt/Cosminexus/CC`
  - *work-directory*

cjgetsysinfo (get OS status)

Format

```
cjgetsysinfo [-f path-of-OS-status-information-output-file]
```

Function

This command obtains information about the status of the OS. The execution results of the OS status information acquisition commands are output to the standard output or to the file specified by the `-f` option.

The following are the OS status information acquisition commands for Windows:

```
netstat -e
netstat -s
netstat -an
set
```

The OS status information acquisition commands for UNIX are shown in the table below.

Table 2–3: List of OS status information acquisition commands

AIX	Linux

`df -k`
`ps -elf`
`ps -A -m -o THREAD`
`vmstat -t 1 1`
`vmstat -s`
`lsps -s`
`netstat -i`
`netstat -m`
`netstat -an`
`iostats`
`svmon -P`
`svmon -G`
`sar -A 1`
`instfix -i`
`lslpp -hac`
	`df`
	`ps -eflm`
	`vmstat`
	`netstat -s`
	`netstat -an`
	`iostat`#
	`top -b -n 1`
	`sysctl -a`
	`sar -A 1 1`#
	`rpm -qa`
	`rpm -qai`
	`uname -a`
	`env`
	`set`
	`ipcs`

AIX	Linux

`uname -a`
`env`
`set`
`ipcs -a`
	`ipcs -t`
	`ipcs -p`
	`ipcs -c`
	`ipcs -u`
	`ipcs -l`

#

The `sysstat` package must be installed.

Arguments

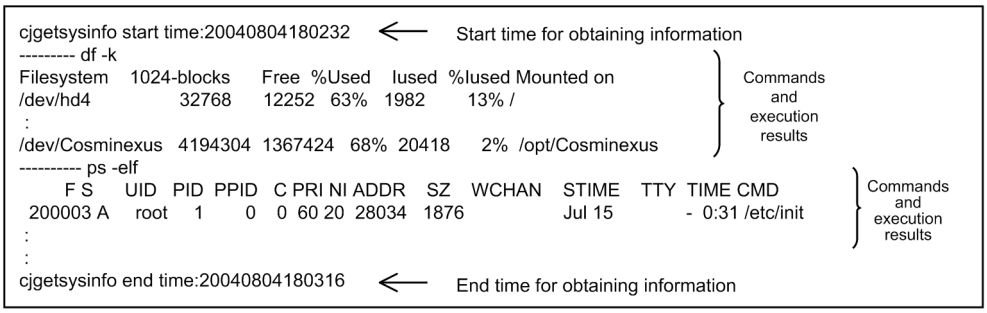
`-f` *path-of-OS-state-information-output-file*

Specifies the file path used to output the OS state information.

In UNIX, you cannot specify a file path that includes a single-byte space.

Output examples

An example for AIX is shown below:



Return values

`0`:

The command terminated normally.

`1` or higher:

The command terminated abnormally.

Notes

- If the specified path does not exist, an error results.
- If an OS status information acquisition command cannot be found because of the environment, the execution results of that command are not output.
- The processing time expended for this command depends on the processing time for the OS status information acquisition commands.

cjrarupdate (update resource adapter version)

Format

For updating the resource adapter version

```
cjrarupdate -type {dbconnector|rar} [-force] [-f file-path ...]
      [-backupto backup-storage-destination-directory]
```

For restoring the work directory environment

```
cjrarupdate -recoverfrom backup-RAR-directory
```

Function

For updating the resource adapter version

This command updates the version of resource adapter imported or deployed on Cosminexus Component Container.

The conversion of resource adapter requires unused space that is at least twice# the disk usage space required for the work directory. Moreover, during upgrade installation, before you execute this command, you must use the conversion command *cjenvupdate* for checking that the conversion processing was completed without any problems.

The work-directory is the directory specified by the `ejb.public.directory` key in `usrconf.cfg` (option definition file for J2EE server).

#

The amount of required unused disk space depends on the number of resource adapters to be converted and the number of executions of the command. For the disk space required for conversion, you confirm the Application Server migration procedure. For the Application Server migration, see *10. Migrating from Application Server of Earlier Versions (In the J2EE Server Mode)* in the *uCosminexus Application Server Maintenance and Migration Guide*.

For recovering the work directory environment

If an attempt to update the version of resource adapter imported or deployed on Cosminexus Component Container fails, this command recovers the work directory environment.

Arguments

`-type {dbconnector|rar}`

Specifies the type of resource adapter to be upgraded:

- `dbconnector`

  DB Connector.

- `rar`

  Resource adapter that is supported by Cosminexus Component Container; however, is not the DB Connector.

`-force`

Forcibly upgrades the version. When this argument is specified, the version of the resource adapter is upgraded regardless of the current version of the resource adapter.

`-f` *file-path*

- When a resource adapter other than the DB Connector is specified as the conversion target (when `-type rar` is specified)

  Specifies the file path of the resource adapter that replaces the existing old version resource adapter. Although multiple file paths can be specified, the `-f` option cannot be specified more than once.

If a resource adapter conforming to the Connector 1.5 specifications other than TP1 inbound adapter or FTP inbound adapter is specified in the `-f` option, the message KDJE42356-E is displayed.

- When a DB Connector is specified as the conversion target (when `-type dbconnector` is specified)

  This argument is ignored.

`-backupto` *backup-storage-destination-directory*

Specifies the storage destination of the work directory backup. If this option is omitted, the backup directory is created in *work-directory*.

You specify this option when the disk containing the work directory does not have enough unused space or when the backup cannot be created because of a path length limitation associated with the file system. When you use this option to specify the backup storage destination directory, you should note the following items:

- To execute the `cjrarupdate` command multiple times, you specify the same directory.
- Backup creation might fail if a long path name is specified. If this happens, delete the failed backup and re-execute the command with a shorter path name specified.
- Specify a directory that does not include the installation directory of Cosminexus Component Container.

`-recoverfrom` *backup-RAR-directory*

Specifies the backup RAR directory for the work directory that becomes the recovery source.

Post-conversion operations

Once conversion has been completed, a backup work directory is created directly under the work directory of each J2EE server or the directory specified by the `-backupto` option. The work directory stores the post-conversion information (files), and the backup work directory stores the pre-conversion information (files). If the name of the work directory is `...\`*directory-name*`\` or `.../`*directory-name*`/`, the name of the backup work directory becomes `...\`*directory-name*`\rarupdate_bk\` or `.../`*directory-name*`/rarupdate_bk/`.# After conversion, you should perform a startup check of the resource adapter, a termination check of the resource adapter, and a check of the resource adapter's connection with the database. After the checks have been completed, you can delete the backup work directory if the pre-conversion work directory information (files) is no longer required. However, it is recommended that you save the backup work directory to another location.

#

The backup target directory is related to the resource adapter.

If a backup work directory already exists, `...\`*directory-name*`\rarupdate_bk\` or `.../`*directory-name*`/rarupdate_bk/` is renamed to `...\`*directory-name*`\rarupdate_bk_`*?*`\` or `.../`*directory-name*`/rarupdate_bk_`*?*`/` (*?* is the command's execution date/time to the millisecond).

Procedure for comparing the version tags

Conversion processing might not terminate normally because the system is unable to evaluate the version tag for a RAR file to be converted.

To compare version tags:

1. Obtain the version character string from the `<version>` tag of the ra.xml containing the RAR file or the ra.xml of the resource adapter that was imported or deployed to the J2EE server.
2. If the version character string is specified in the following format, edit it to a format that can be compared:

   sequential-number-1`.`*sequential-number-2character-string-beginning-with-a-non-numeric-character*

   Format that can be compared

   $V_1V_2-R_1R_2-S_1S_2$ (or $V_1V_2-R_1R_2$)

V_1, V_2, R_1, R_2: Number from 0 to 9

S_1: /

S_2: Upper-case alphabetic character (A to Z)

The editing procedure is as follows:

- Add a single-byte hyphen (-) between *sequential-number-1* and *sequential-number-2*.
  sequential-number-1-*sequential-number-2*character-string-beginning-with-a-non-numeric-character
- If *sequential-number-1* is 9 or less, add a leading 0.
- If *sequential-number-2* is 9 or less, add a trailing 0.

Editing examples

```
1.0 → 01-00
1.1 → 01-10
1.12 → 01-12
2.0 → 02-00
```

If the version character strings are specified in the format V_1V_2-R_1R_2[-S_1S_2], use the following procedure to compare the versions:

- Compare the V_1V_2-R_1R_2 sections as character strings. The string that is larger based on the Unicode dictionary sequence indicates the newer version. (Example: Between 01-00-/Z and 02-00, the newer one is 02-00.)
- If the V_1V_2-R_1R_2 sections are the same, the string that has a -S_1S_2 section indicates the newer version. (Example: Between 02-00-/A and 02-00, the newer one is 02-00-/A.)
- If the V_1V_2-R_1R_2 sections are the same and both character strings have a -S_1S_2 section, use the following comparison procedure:
  1. Compare the S_2 values as character strings. The string that is larger based on the Unicode dictionary sequence indicates the new version.
  2. Compare the S_1 values as character stings, and use the sequencing / > P > S to determine the new version.

  Examples: Between 02-00-/A and 02-00-/B, the newer one is 02-00-/B.

  Between 02-01-SB and 02-01-/A, the newer one is 02-01-SB.

  Between 02-01-SA and 02-01-PA, the newer one is 02-01-PA.

  Between 02-01-PA and 02-01-/A, the newer one is 02-01-/A.
- If the formats of one or both of the version tags are different from either of the formats discussed above, compare the entire version character strings. The string that is larger based on the Unicode dictionary sequence indicates the newer version.

If the value of the <version> tag of ra.xml is an unsupported character string, the versions cannot be compared correctly, and the following actions become necessary:

- If the replacement RAR file is recognized as the old version even though it is actually the new version, specify the -force option when you execute the command.
- If a resource adapter that was imported or deployed to the J2EE server with a RAR file of the old version is converted by mistake, recover the original environment from the backup work directory. For the backup work directory, see the following locations:
  - *Chapter 10* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Input examples

When multiple file paths are specified in the -f option

```
cjrarupdate -type rar -f file1 file2 file3
```

Return values

0:

The command terminated normally.

1:

The command terminated abnormally.

Notes

- To execute the cjrarupdate command in Windows, you must have administrator permission.
- To execute the cjrarupdate command in UNIX, you must have root permission (if Component Container Administrator is not set) or the Component Container Administrator permission (if Component Container Administrator is set).
- You must specify the -type option immediately after the command name and then specify dbconnector or rar. You can specify the -force, -f, and -backupto options in any sequence.
- Do not execute this command more than once concurrently.
- If the J2EE server is running or if a problem occurs during the J2EE server startup check, this command outputs a message and interrupts processing.
- The RAR file version is not upgraded in the following cases:
  - The contents of the RAR file have changed.
  - A file with the same name as a RAR file provided or supported by Cosminexus Component Container is created and imported.
  - A file name is generated by combining the name of a RAR file provided or supported by Cosminexus Component Container with numbers and characters.
  - When the resource adapter conforms to the Connector 1.5 specifications other than TP1
  - inbound adapter or FTP inbound adapter.
- To update the version of the resource adapter conforming to the Connector 1.5 specifications other than TP1 inbound adapter or FTP inbound adapter, import and redefine the resource adapter.
- Check whether the new RAR file is of same version when performing TP1/Message Queue-Access migration. If the new RAR file is of same version then specify the -force option and execute the migration process forcibly.
- If version upgrade is performed on resource adapters (uCosminexus TP1 Connector and TP1/Message Queue-Access) provided by products other than Cosminexus Component Container, you must add the properties as the resource adapters will not operate just by migration of these commands. In such a case, you must set up the resource adapters as instructed in the resource adapter manuals.
- Version upgrade might fail for resource adapters (uCosminexus TP1 Connector and TP1/Message Queue-Access) that are provided by products other than Cosminexus Component Container. If that happens, delete the resource adapter for which version upgrading failed, re-import the resource adapter, and then set the properties. It is advisable to write down the settings before deleting the resource.
- If the substituted RAR file is recognized as the same version or an earlier version, even if this version is a new version, you specify the -force option, and then re-execute the cjrarupdate command.

- Do not modify or delete a RAR file found in *Cosminexus-installation-directory*\CC\DBConnector\ (in Windows) or /opt/Cosminexus/CC/DBConnector/ (in UNIX), because conversion processing might not operate normally if the RAR file is modified or deleted.
- If an exception occurs during the backup process, the cjrarupdate command continues the process without being terminated after issuing the exception message. The backup directory is not created during this process.
- If a J2EE server does not have any resource adapter, the command continues processing without creating a backup.
- The command does not execute conversion processing if a backup has not been created for the J2EE server.
- When conversion is executed by using this command, for a property that is not defined in the <config-property> tag in the Connector attribute file for DB Connector, the <config-property-value> tag is set with the default value. For the added property, the default value is set. However, if the loginTimeout, PreparedStatementPoolSize, CallableStatementPoolSize, and CancelStatement properties do not exist, they are set with the following values after conversion:
  - loginTimeout: 0
  - PreparedStatementPoolSize: 0
  - CallableStatementPoolSize: 0
  - CancelStatement: false

cjsetup (set up or unsetup J2EE server)

Format

For setup

```
cjsetup [server-name [-compat setup-version-identifier]]
```

For unsetup

```
cjsetup -d server-name
```

Function

This command sets up the environment of J2EE servers with specified names.

This command creates the default user definitions for J2EE servers set up in the following directory:

- In Windows
  Cosminexus-installation-directory\CC\server\usrconf\ejb*server-name*\
- In UNIX
  /opt/Cosminexus/CC/server/usrconf/ejb/*server-name*/

When the -d option is specified, the J2EE server environment (directories and files) shown below is deleted:

- In the storage directory for user-definition files
  - In Windows
    Cosminexus-installation-directory\CC\server\usrconf\ejb*server-name*\
  - In UNIX

/opt/Cosminexus/CC/server/usrconf/ejb/*server-name*/

- In a temporary work directory
  - In Windows
    Cosminexus-installation-directory\CC\server\repository*server-name*\
  - In UNIX
    /opt/Cosminexus/CC/server/repository/*server-name*/
- In the work directory (default)
  - In Windows
    Cosminexus-installation-directory\CC\server\public\ejb*server-name*\
  - In UNIX
    /opt/Cosminexus/CC/server/public/ejb/*server-name*/
- In the storage directory for Web applications (default)
  - In Windows
    Cosminexus-installation-directory\CC\server\public\web*server-name*\
  - In UNIX
    /opt/Cosminexus/CC/server/public/web/*server-name*/

For the work directory and storage directory for Web applications, the directories and subordinate files are deleted if a value other than the default value is specified in the `ejb.public.directory` key of the `usrconf.cfg` user definition file.

Arguments

server-name

Specifies the server name of the J2EE server that is to be set up or unset up.

You can use single-byte alphanumeric characters (0-9, A-Z, or a-z), the underscore (_), and the hyphen (-) in the server name. The first character must be an alphanumeric character. You specify the server name within 255 characters and with the length that you estimate by referencing *Appendix C.1 Work directory of the J2EE server* in the *uCosminexus Application Server System Setup and Operation Guide*.

If the server name is omitted, the host name is assumed. However, the server name cannot be omitted for unsetup processing. In addition, if the host name contains a character that cannot be used in server names, an error occurs.

`-compat` *setup-version-identifier*

If this argument is specified, a J2EE server will be set up in the compatibility mode applicable to the specified version.

If the `-compat` argument is not specified, a J2EE server will be set up in the recommended mode.

Specify `V9` as the setup version identifier so that a J2EE server will be set up in V9 compatibility mode.

If no value is specified as the setup version identifier, a command option format error occurs with the KDJE40027-I error message output.

If you specify a value other than `V9` as the setup version identifier, an error occurs with the KDJE40075-E error message output.

`-d`

Specifies that the environment of the J2EE server is to be deleted. You cannot omit the server name.

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

Notes

- To execute the `cjsetup` command in UNIX, you must have root permission (if Component Container Administrator is not set) or Component Container Administrator permission (if Component Container Administrator is set).
- When you unset up (`cjsetup -d` *server-name*) in UNIX, all directories and files for deletion will be deleted regardless of their access permission settings and usage status.
- If the name of a server that has already been set up is specified and reset up (`cjsetup` *server-name*) is executed, an error occurs.
- When you specify the server name in the command arguments during unset up, you must specify a case-sensitive character string that matches with the server name specified during set up. In Windows, however, server names are not case sensitive. If a character string is specified in `cjsetup` that is the same as the name of a server that has already been created except for differences in case, the command operates as follows:
  - For setup (`cjsetup` *server-name*)

    Setup fails.
  - For unsetup (`cjsetup -d` *server-name*)

    The command deletes the server that has already been created and matches *server-name* except for the differences in case.
- When you specify the server name as an argument and execute the server management commands and the start or stop command for the J2EE server, you must specify a case-sensitive character string that matches the server name created using the `cjsetup` command.
- Do not execute unsetup (`cjsetup -d` *server-name*) for the running J2EE server.
- In Windows, do not execute unsetup (`cjsetup -d` *server-name*) to delete a target file that has the read-only attribute or is being used.

cjsleep (set J2EE server startup delay)

Format

```
cjsleep [sleep-time]
```

Function

This command delays execution for a specified number of seconds. You use this command to set a startup delay for a server in a batch file. This command is for Windows.

If the value specified for *sleep-time* is not a positive integer from `1` to `2147483647`, the default value (`10`) is used.

Arguments

sleep-time

Specifies the amount of time (in seconds) that startup of the J2EE server is to be delayed, as a positive integer in the range `1` to `2147483647`.

Return values

`0`:

The command terminated normally.

Other than `0`:

The command terminated abnormally.

cjstartrecover (recover J2EE server transaction)

Format

```
cjstartrecover [server-name] [-nosecurity] [-nostartapp]
        [[-p key-name=value] ...] [-t timer-monitoring-time]
```

Function

This command starts a J2EE server in recovery mode, which is used exclusively for recovery processing.

A J2EE server that is started in recovery mode terminates as soon as the transaction recovery processing is completed.

Arguments

server-name

Specifies the server name of the J2EE server to be recovered. If the server name is omitted, the host name is assumed.

`-nosecurity`

Specifies that the SecurityManager is to be released. Although the overhead for permission checking during resource access decreases, the security level also decreases because the J2EE application can access any resource.

`-nostartapp`

Specifying this option avoids situations in which an application cannot be swapped out, such as when a J2EE application that has fallen into an endless loop or is performing some other invalid operation starts automatically when the J2EE server is restarted, even after the server has been terminated forcibly.

When the J2EE server is started with this option specified, a registered J2EE application on which one of the following operations is performed is not started if this option is omitted the next time the J2EE server is started:

- Setting the application property
- Adding resources (filter, WAR, EJB-JAR, or resource adapters)
- Deleting resources (filter, WAR, EJB-JAR, or resource adapters)
- Importing library JAR
- Deleting library JAR
- Replacing applications

- Generating SQL statements for the CMP2.x Entity Bean

If a running J2EE application is exported together with execution information, the J2EE application is started automatically when this EAR file is imported, regardless of whether the `-nostartapp` option is specified.

`-p` *key-name=value*

Specifies a system property of the JavaVM that executes the J2EE server. The items that can be specified are keys of `usrconf.properties` (user properties file for the J2EE server). For the `usrconf.properties` (user properties file for the J2EE server), see *2.2.3 usrconf.properties (User property file for J2EE servers)* in the *uCosminexus Application Server Definition Reference Guide*.

When you specify for the value a character string that includes a space or a special character (such as "`|`" or "`&`"), you must enclose the value in double quotation marks (`"`).

If a specified key name duplicates the key name of a property defined in the user properties file for the J2EE server, the property value specified with the `-p` option has priority. If a specified property value contains an error, the specification for the specified property key name is used. If the specified property key name contains an error, the command ignores the specification and continues processing.

`-t` *timer-monitoring-time*

Specifies a timer monitoring time (in seconds), as an integer in the range `0` to `3600`.

If recovery processing is not completed within the amount of time specified here, the command terminates the J2EE server forcibly. If this option is omitted, a monitoring time of `0` seconds is set.

When `0` is specified (or assumed) as the timer monitoring time, the command does not execute timer monitoring and waits until the J2EE server terminates.

Input examples

```
cjstartrecover MyServer -t 300
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command was forcibly terminated due to a timeout.

Notes

- To execute the `cjstartrecover` command in Windows, you must have administrator permission.
- To execute the `cjstartrecover` command in UNIX, you must have root permission (if Component Container Administrator is not set) or Component Container Administrator permission (if Component Container Administrator is set).
- When you specify server name in command argument, the server name should be immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (Example: *timer-monitoring-time* `-t`); also, you cannot specify an option name in conjunction with a non-corresponding value (Example: `-t` *key-name=value* `-p` *timer-monitoring-time*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

- When you specify the `-t` option in the command arguments, you must specify it after the other arguments. When setting the timer monitoring time, you must also consider the transaction time timeout value and the time required for J2EE server startup processing, and then set a longer time.
- The OS being used might limit the character string length that can be specified on the command line that can be considered if you specify the `-p` option multiple times.

cjstartsv (start J2EE server)

Format

```
cjstartsv [server-name] [-nosecurity] [-nostartapp]
```

Function

This command starts the J2EE servers with specified names. If you omit server names, the J2EE server having the name same as the host name will start.

Arguments

server-name

Specifies the server name of the J2EE server to be started. If the server name is omitted, the host name is assumed.

`-nosecurity`

Specifies that the SecurityManager is to be released. Although the overhead for permission checking during resource access decreases, the security level also decreases because the J2EE application can access any resource.

When you specify this option, you cannot use the `setSecurityManager` method of `java.lang.System`. If you use the `setSecurityManager` method, an error might occur in the execution of the J2EE server. Also, you cannot use the dynamic class loading when calling EJB from the concerned J2EE server process.

`-nostartapp`

Specifying this option avoids situations in which an application cannot be swapped out, such as when a J2EE application that has fallen into an endless loop or is performing some other invalid operation starts automatically when the J2EE server is restarted, even after the server has been terminated forcibly.

When the J2EE server is started with this option specified, a registered J2EE application on which the following operation is performed is not started if this option is omitted the next time the J2EE server is started:

- Setting the application property
- Adding resources (filter, WAR, EJB-JAR, or resource adapters)
- Deleting resources (filter, WAR, EJB-JAR, or resource adapters)
- Importing library JAR
- Deleting library JAR
- Replacing applications
- Generating SQL statements for the CMP2.x Entity Bean

If a running J2EE application is exported together with execution information, the J2EE application is started automatically when this EAR file is imported, regardless of whether the `-nostartapp` option is specified.

To prevent the J2EE server from stopping, you must set the status of the J2EE resource adapter to stop, after the J2EE server has started by specifying the `-nostartapp` option, when using the Transacted Delivery functionality. In such cases, the startup of the J2EE server gets disabled.

User definition files

- In Windows
  - *Cosminexus-installation-directory*\CC\server\usrconf\ejb*server-name*\usrconf.cfg
  - *Cosminexus-installation-directory*\CC\server\usrconf\ejb*server-name*\usrconf.properties
- In UNIX
  - /opt/Cosminexus/CC/server/usrconf/ejb/*server-name*/usrconf.cfg
  - /opt/Cosminexus/CC/server/usrconf/ejb/*server-name*/usrconf.properties

Return values

0:

The command terminated normally.

1 or higher (other than 143):

The command terminated abnormally.

143:

The following operations are performed while the command is running (in Windows):

- The **x** button is clicked for closing the command prompt window from which the command is invoked.
- The Windows system is shutdown.
- The Windows system is logged out.

Notes

- If you start the J2EE server with the cjstartsv command, specify the following values in java.io.tmpdir system properties:

  In Windows

  Work-directory/ejb/*J2EE-server-name*/temp

  In UNIX

  Work-directory/ejb/*J2EE-server-name*/temp
- You can set this command to automatically start J2EE servers. For starting J2EE servers, see *Appendix L.1 Configuration and operation procedure of the sample execution environment by server management commands* in the *uCosminexus Application Server System Setup and Operation Guide*.
- To execute the cjstartsv command in Windows, you must have administrator permission.
- To execute the cjstartsv command in UNIX, you must have root permission (if Component Container Administrator is not set) or Component Container Administrator permission (if Component Container Administrator is set).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjstopsv (stop J2EE server)

Format

```
cjstopsv [server-name]
     [-f|-fd [thread-dump-acquisition-interval
     thread-dump-acquisition-count]]
     [-wait termination-wait-time]
```

Function

This command stops a J2EE server. If the server name is omitted, the host name is assumed.

Arguments

server-name

Specifies the name of the J2EE server that is to be stopped. When the server name is omitted, the host name is assumed.

`-f`

Forcibly stops the J2EE server.

If Management Server starts the J2EE server as a logical server, you cannot execute the `cjstopsv` command from the console to stop the J2EE server forcibly. To stop such a J2EE server forcibly, you must execute the command from Management Server. For details on stopping logical servers, see the *uCosminexus Application Server System Setup and Operation Guide*.

`-fd`

Specifies that failure information for the J2EE server is to be obtained and then the J2EE server is to be stopped forcibly.

thread-dump-acquisition-interval

Specifies the interval (in seconds) for obtaining a thread dump, as an integer in the range 1 to 60. If this item is omitted, the default value of 3 seconds is assumed.

thread-dump-acquisition-count

Specifies the number of times a thread dump is to be obtained, as an integer in the range 1 to 60. If this item is omitted, the default value of 10 times is assumed.

The failure information that is obtained is described below.

1. OS status

   Output destination for Windows:

   J2EE-server-work-directory`\ejb\`*server-name*`\cjsysinfo.`*output-time*`.txt`

   Output destination for UNIX:

   J2EE-server-work-directory`/ejb/`*server-name*`/cjsysinfo.`*output-time*`.txt`

   output-time has the format *yymmddHHMMSS*.

   For details on the output contents, see *cjgetsysinfo (get OS status)*.

2. JavaVM thread dump

   Thread dumps are obtained in accordance with the interval and count specified by *thread-dump-acquisition-interval* and *thread-dump-acquisition-count*. Depending on the status of the J2EE server process, thread dumps might not be output in accordance with the specified interval and count. For details on the output contents, see *cjdumpsv (get thread dump of J2EE server)*.

3. Crash dump (in Windows) or `core` file (in UNIX) of the J2EE server

After the last thread dump acquisition request, a crash dump or the core file is output after the thread dump acquisition interval elapses.

Crash dump output destination:

Directory-specified-in-environment-variable-CJMEMDUMP_PATH#\cjmemdump.dmp

If the environment variable CJMEMDUMP_PATH is not specified or if the specified directory does not exist, the crash dump is not output. Also, if the crash dump already exists in the specified directory, the crash dump is overwritten.

Core file output destination:

J2EE-server-work-directory/ejb/*server-name*/core#

#

In Linux, specify core.*process-ID-of-the-J2EE-server-stopped-forcibly*

-wait *termination-wait-time*

Specifies the maximum amount of time (in seconds) to wait for termination, as an unsigned integer in the range 0 to 86400. The default value is 180 seconds.

Specify the cjstopsv termination wait time as the amount of time from when a normal termination request is input to the J2EE server until normal termination of the J2EE server is completed. When 0 is specified, there is no limit on the amount of time to wait for the J2EE server to terminate normally. In such cases, the -f and -fd options are ignored even if they are specified.

If the specified value is invalid, an error is output and the default value (180 seconds) is assumed.

If the J2EE server has not terminated normally when the specified amount of time has elapsed, the command executes processing based on the combination of other arguments, as described in the following table, and then terminates abnormally with termination code 2:

Combination of other arguments	Operation after timeout
-f and -fd are both omitted	The command outputs a message and terminates; in this case, the command does not stop the J2EE server.
-f is specified	The command outputs a message and terminates the J2EE server forcibly.
-fd is specified	The command outputs a message, obtains failure information and a thread dump, and terminates the J2EE server forcibly. cjstopsv processing does not terminate until acquisition of the failure information is completed.

User definition files

- In Windows
  - *Cosminexus-installation-directory*\CC\server\usrconf\ejb*server-name*\usrconf.cfg
  - *Cosminexus-installation-directory*\CC\server\usrconf\ejb*server-name*\usrconf.properties
- In UNIX
  - /opt/Cosminexus/CC/server/usrconf/ejb/*server-name*/usrconf.cfg
  - /opt/Cosminexus/CC/server/usrconf/ejb/*server-name*/usrconf.properties

Return values

0:

The command terminated normally.

1 or higher:

The command terminated abnormally; for details, see the following table:

Termination code	Explanation
2	This code indicates a normal termination monitoring timeout based on the -wait specification.
Other than 2	This code is output for errors related to invalid parameters or internal errors (for details, see the message that was displayed most recently).

Notes

- If the cjstopsv command is used for stopping the J2EE server while the business method of an Enterprise Bean or the service method of servlets and JSPs is being executed, the J2EE server does not stop until the corresponding method terminates.
- To execute the cjstopsv command in Windows, you must have administrator permission.
- To execute the cjstopsv command in UNIX, you must have root permission (if Component Container Administrator is not set) or Component Container Administrator permission (if Component Container Administrator is set).
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *end-wait-time* -wait); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify -f *thread-dump-collection-count* -fd *thread-dump-collection-interval*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If you execute the cjstopsv command when applications exist, this command might not be usable to stop the J2EE server. In such cases, you specify the -f option or the -fd option, re-execute the cjstopsv command, and then stop the J2EE server forcibly.
- If you specify the -fd option, set the CJMEMDUMP_PATH environment variable as follows:
  - Confirm that the storage disk specified in the environment variable CJMEMDUMP_PATH has adequate empty capacity. The crash dump file size becomes more than the actual memory required for the J2EE server.
  - Do not specify a directory containing multi-byte characters such as Japanese in the environment variable CJMEMDUMP_PATH. The output of crash dump may fail.
  - Specify the existing directory as the directory to output crash dump.
- The cjstopsv command with the -fd option specified fails to obtain a thread dump if executed while another instance of the cjstopsv command is waiting for another server management command to end.

2.3 Commands used in J2EE applications

This section describes the commands used in J2EE applications.

The following table lists the commands used in J2EE applications:

Table 2–4: List of commands used in J2EE applications

Command name	Function	Description	Command group
cjaddapp	Add resource	Adds an imported EJB-JAR file, WAR file, or filter to a J2EE application.	Update
cjdeleteapp	Delete J2EE application	Deletes from a specified J2EE server a J2EE application or an EJB-JAR file, WAR file, or filter contained in a J2EE application.	Update
cjdeletelibjar	Delete library JAR	Deletes a library JAR from a J2EE application.	Update
cjexportapp	Export J2EE application	Exports a J2EE application from a J2EE server.	Update
cjgencmpsql	Generate SQL statements for CMP2.x Entity Beans	Generates SQL statements for CMP2.x Entity Beans.	Update
cjgetappprop	Get HITACHI Application Property	Obtains a J2EE application or the resources contained in a J2EE application and generates a property file.	Update
cjgetstubsjar	Get RMI-IIOP stub and interface for application	Obtains the RMI-IIOP stub and interface for a J2EE application.	Update
cjimportapp	Import J2EE application	Imports a J2EE application into a J2EE server. This command can be executed in the test mode.	Update
cjimportwar	Import WAR application	Imports a WAR application into a J2EE server.	Update
cjimportlibjar	Import library JAR	Imports a library JAR into a J2EE application.	Update
cjlistapp	List applications	Outputs the names and statuses of all J2EE applications and a list of the EJB-JAR or WAR files contained in the J2EE applications.	Reference
cjlistlibjar	List library JARs	Outputs a list of the library JARs contained in a J2EE application.	Reference
cjreloadapp	Reload application	Replaces the component classes and JSPs of a J2EE application without stopping the application.	Update
cjrenameapp	Rename application	Renames a J2EE application.	Update
cjreplaceapp	Replace application	Replaces a J2EE application. This command can be executed in the test mode.	Update
cjsetappprop	Set HITACHI Application Property	Changes the Property of an application, or the Property of the resources contained in an EJB-JAR or WAR file to the values in a specified application property file. This command can be executed in the test mode.	Update
cjstartapp	Start J2EE application	Starts a J2EE application and enables it to receive requests from clients.	Update
cjstopapp	Stop J2EE application	Stops a J2EE application and disables it from receiving requests from clients. This command can be executed in the test mode.	Update[#]

Legend:

Update: The command is an update command, which updates the J2EE server contents or retrieves configuration information.

Reference: The command is a reference command, which only displays the configuration status without updating the J2EE server contents.

#

When the `-cancel` option is specified, the command becomes a privileged command.

For details on the mutual exclusion control for each system of server management commands, see *3.2 Exclusive access control of server management commands* in the *uCosminexus Application Server Application Setup Guide*.

cjaddapp (add resource)

Format

For an EJB-JAR, WAR, or RAR file

```
cjaddapp [server-name] [-nameserver provider-URL]
     -type {ejb|war|rar} -name J2EE-application-name
     -resname display-name [-resname display-name ...]
```

For a filter

```
cjaddapp [server-name] [-nameserver provider-URL]
     -type filter -name J2EE-application-name
     -warname WAR-file-display-name
     -c Property-file-path [-c Property-file-path ...]
```

Function

For an EJB-JAR, WAR, or RAR file

If there is a J2EE application, this command adds an imported EJB-JAR, WAR, or RAR file to the J2EE application. This command can add multiple files at once, in which case the files are processed in the sequence in which they are specified.

If there is no J2EE application, this command creates a new J2EE application and then adds an imported EJB-JAR, WAR, or RAR file to the J2EE application.

For a filter

If there is a J2EE application with a WAR file, this command adds a filter to the specified WAR file. The HITACHI Filter Property File specified with the `-c` option specifies the filter to be added. This command can add multiple filters at once, in which case the filters are processed in the sequence in which they are specified.

If there is no J2EE application or there is no WAR file, an error occurs.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {ejb|war|rar|filter}`

Specifies the type of resource to be added:

- `ejb`: EJB-JAR file
- `war`: WAR file
- `rar`: RAR file
- `filter`: Filter

`-name` *J2EE-application-name*

Specifies the name of the J2EE application. The J2EE application name must be a character string consisting of at least one character.

If you are creating a new J2EE application, you can use alphanumeric characters (0-9, A-Z, or a-z) or the following special characters in the name:

plus (+), hyphen (−), period (.), caret (^), underscore (_)

`-resname` *display-name*

Specifies the display name of the EJB-JAR, WAR, or RAR file that is to be added.

`-warname` *WAR-file-display-name*

Specifies the display name of the WAR file to which the filter is to be added.

`-c` *Property-file-path*

Specifies the input source path of the HITACHI Filter Property File.

Input examples

EJB-JAR file

```
cjaddapp MyServer -type ejb -name App1 -resname accountJsp
```

WAR file

```
cjaddapp MyServer -type war -name App1 -resname account-war
```

RAR file

```
cjaddapp MyServer -type rar -name App1 -resname account-rar
```

Filter

```
cjaddapp MyServer -type filter -name App1 -warname account-war -c FilterPr
op.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the order of an option name and its corresponding value (for example, you cannot specify *data-source-display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *data-source-display-name* `-resname` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If multiple files are to be added concurrently, this command attempts to add all files even if there are files that cannot be added. If even one file cannot be added, the termination code becomes `1` (abnormal termination).
- An EJB-JAR file with the same display name as a previously added EJB-JAR file cannot be added to the same application.
- A WAR file with the same display name as a previously added WAR file cannot be added to the same application.
- A filter with the same display name as the previously added filters and servlets to WAR file cannot be added to the same WAR file.
- A RAR file with the display name same as the previously added RAR file cannot be added to the same application.
- A RAR file having a native library cannot be added to the application.
- A RAR file with the display name same as the previously deployed RAR file as a J2EE resource adapter cannot be added to the application.
- In the filter property file specified by the `-c` option, the `<filter-name>` and `<filter-class>` tags must be specified.
- The EJB-JAR, WAR, or RAR files cannot be added to applications with the exploded archive format.
- EJB-JAR files having extension other than "`.jar`", WAR files having extension other than "`.war`", and RAR files having extension other than "`.rar`" cannot be added to the application that does not contain `application.xml`.
- A filter cannot be added to WAR files that do not contain `web.xml`.
- If the specified application name has more than 255 characters, an error occurs.
- You cannot add resources (EJB-JAR, WAR, Filter, or RAR) for WAR applications. When you specify a WAR application in the `-name` option, this command terminates abnormally.

cjdeleteapp (delete J2EE application)

Format

For an application

```
cjdeleteapp [<server-name>] [-nameserver <provider-URL>]
      -name J2EE-application-name
      [-name J2EE-application-name ...]
```

For EJB-JAR, WAR, or RAR files included in an application

```
cjdeleteapp [server-name] [-nameserver provider-URL]
      -type {ejb|war|rar} -name J2EE-application-name
      -resname display-name [-resname display-name ...]
```

For filters contained in a WAR in an application

```
cjdeleteapp [server-name] [-nameserver provider-URL]
      -type filter -name J2EE-application-name
      -resname WAR-file-display-name/filter-display-name
      [-resname WAR-file-display-name/filter-display-name ...]
```

Function

For an application, EJB-JAR, WAR, or RAR file

This command deletes a J2EE application or EJB-JAR, WAR, or RAR file included in the J2EE application from the specified J2EE server. This command can delete multiple files concurrently, in which case the files are processed in the sequence in which they are specified.

For a filter contained in a WAR file in a J2EE application

This command deletes a filter contained in a WAR file in a J2EE application. The filter to be deleted is specified in a HITACHI Filter Property File. This command can delete multiple filters concurrently, in which case the filters are processed in the sequence in which they are specified.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {ejb|war|rar|filter}`

Specifies the file type when an EJB-JAR, WAR, or RAR file is to be deleted from a J2EE application:

- `ejb`: EJB-JAR file
- `war`: WAR file
- `rar`: RAR file

If a filter is to be deleted from a WAR file in a J2EE application, the following file type is specified:

`filter`: Filter

`-name` *J2EE-application-name*

Specifies the name of the J2EE application to be deleted.

`-resname` *display-name*

Specifies the display name of EJB-JAR file, WAR file, RAR file, or filter that is to be deleted.

Input examples

For an application

```
cjdeleteapp MyServer -name App1
```

For an EJB-JAR file

```
cjdeleteapp MyServer -name App1 -type ejb -resname accountJsp
```

For a WAR file

```
cjdeleteapp MyServer -name App1 -type war -resname account-war
```

For a RAR file

```
cjdeleteapp MyServer -name App1 -type rar -resname account-rar
```

For a filter

```
cjdeleteapp MyServer -name App1 -type filter -resname account-war/account
-filter
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- If the target J2EE application has been started, this command terminates with an error.
- If the specified J2EE application does not exist, this command terminates with an error.
- If this command is executed for an application in exploded archive format, the application is deleted from the J2EE server but the application directory is not.
- If this command is executed for an application in the exploded archive format, an EJB-JAR, WAR, or RAR file included in the application cannot be deleted.

- If multiple files are to be deleted concurrently, this command attempts to delete all of the files, even if there are files that cannot be deleted. If there is even one file that cannot be deleted, the termination code becomes 1 (abnormal termination).
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *display-name* `-resname` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- You cannot delete WAR from a WAR application. If you specify a WAR application in the `-name` option, the command terminates abnormally.

cjdeletelibjar (delete library JAR)

Format

```
cjdeletelibjar [server-name] [-nameserver provider-URL]
        -name application-name
        -f library-JAR-name [-f library-JAR-name ...]
```

Function

This command deletes a library JAR from a J2EE application. The command can specify multiple library JARs.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the name of the J2EE application from which a library JAR is to be deleted.

`-f` *library-JAR-name*

Specifies the name of the library JAR that is to be deleted. Multiple library JARs can be specified concurrently.

Input examples

```
cjdeletelibjar MyServer -name App1 -f applib.jar
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- This command cannot be used for an application that is in exploded archive format.
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *library-JAR-name* `-f`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *library-JAR-name* `-f` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjexportapp (export J2EE application)

Format

```
cjexportapp [server-name] [-nameserver provider-URL]
      -f EAR-file-path -name J2EE-application-name
      [-raw|-normal]
```

Function

This command outputs a J2EE application from a J2EE server to an EAR file. Execution information can be contained in the EAR file.

If the imported J2EE application includes `cosminexus.xml`, the J2EE application will be exported with `cosminexus.xml`.

If the imported J2EE application does not include `application.xml`, the J2EE application will be exported without `application.xml`. However, if `application.xml` is created during the execution of the `cjsetappprop` command or the `cjrenameapp` command, the J2EE application will be exported with `application.xml`. For details on creating `application.xml`, see *cjsetappprop (set HITACHI Application Property)* or *cjrenameapp (rename application)*.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-f` *EAR-file-path*

- When `-raw` is specified

  This argument specifies the path of the EAR file containing the J2EE application that is to be exported.

- When `-normal` is specified (or neither `-raw` nor `-normal` is specified)

  This argument specifies the file path that becomes the output destination for the information file of the application execution environment (`hitachi-runtime.jar` (extension `.zip`)) of the Application Server.

`-name` *J2EE-application-name*

Specifies the name of the J2EE application that is to be exported.

`-raw`

Specifies that execution information is not to be included in the EAR file. In this case, an EAR file that is compliant with Java™ 2 Platform, Enterprise Edition, is output.

`-normal`

Specifies that execution information is to be included in the EAR file. When execution information is included, the size of the EAR file increases by the size of the execution information. If neither `-raw` nor `-normal` is specified, specification of `-normal` is assumed.

Input examples

```
cjexportapp MyServer -f App1.ear -name App1 -raw
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When a J2EE application is exported, various notes apply to the execution information and EAR file DD. For exporting J2EE applications, see *8.2 Exporting J2EE applications* in the *uCosminexus Application Server Application Setup Guide*.
- If the specified J2EE application does not exist, this command terminates with an error.
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *J2EE-application-name* `-name` *provider-URL*).
- If you change, add, or delete the definition of `cosminexus.xml` included in J2EE applications, `cosminexus.xml` is exported as follows:
  - Comments are not stored.
  - The character encoding is UTF-8.
  - Only `cosminexus.xml` that was last read successfully by the J2EE server is included in the information file of the exported application execution environment and EAR files.

    After the J2EE server reads `cosminexus.xml`, even if you change the application directory `cosminexus.xml`, the changed definition information is not included in the information file of the exported application execution environment and EAR files.

    Example: After you import the J2EE application of the exploded archive format, if the application directory `cosminexus.xml` is revised and the J2EE application is exported in the EAR format without being started, EAR files do not include `cosminexus.xml` in the application directory that was updated after the J2EE application was imported. EAR files include the same `cosminexus.xml` as the one when the J2EE application was imported.
- You cannot export a WAR application. If you specify a WAR application in the `-name` option, this command terminates abnormally.

cjgencmpsql (generate SQL statements for CMP2.x Entity Beans)

Format

```
cjgencmpsql [server-name] [-nameserver provider-URL]
      -name application-name
      [-resname EJB-JAR-display-name/Entity-Bean-display-name]
```

Function

This command generates SQL statements for CMP2.x Entity Beans.

If you execute this command, the following SQL statements are generated:

- SQL statements that manipulate the table to which the CMP2.x Entity Beans were mapped
- SQL statements that manipulate the CMR table

- SQL statements generated from EJB QL

The `cjgencmpsql` command must be executed for CMP2.x Entity Beans at the following timing:

- When there are no CMR relationships between the Beans
  1. Map the fields for the CMP2.x Entity Beans to a table in the database (use the `cjsetappprop` command).
  2. Execute the `cjgencmpsql` command to generate SQL statements for CMP2.x Entity Beans.
- When there are CMR relationships between the Beans
  1. Map the fields for all CMP2.x Entity Beans related to CMR to a table in the database (use the `cjsetappprop` command).
  2. Execute the `cjgencmpsql` command to generate SQL statements for all the CMP2.x Entity Beans related to CMR.

If you change the CMR settings after the SQL statements are generated, you must execute the `cjgencmpsql` command and generate SQL statements for Beans related to the modified CMR settings before deploying the Beans.

This command can be executed only while the application is stopped.

When the application is in the exploded archive format, operations can be performed for a J2EE server that runs on the host same as the command execution host.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the application name.

`-resname` *EJB-JAR-display-name*/*Entity-Bean-display-name*

Specifies the display name of the Entity Bean that becomes the target for SQL generation.

If this argument is omitted, all CMP2.x Entity Beans contained in the application become targets for SQL generation. This command attempts to generate SQL statements for all CMP2.x Entity Beans even if there is a CMP2.x Entity Bean for which SQL generation fails. If SQL generation fails for even one Entity Bean, the termination code becomes `1`.

Input examples

```
cjgencmpsql MyServer -name App1 -resname EjbJar1/Ejb1
```

Return values

`0`:

The command terminated normally.

1:

The command terminated abnormally.

2:

The command could not be executed because of an exclusion error.

3:

A timeout error occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-name` *server-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjgetappprop (get HITACHI Application Property)

Format

For an application

```
cjgetappprop [server-name] [-nameserver provider-URL]
       -name J2EE-application-name
       [-encoding code-set-name] -c Property-file-path
```

For an EJB-JAR, WAR, or RAR file

```
cjgetappprop [server-name] [-nameserver provider-URL]
    -name J2EE-application-name -type {ejb|war|rar}
    -resname resource-display-name[/lower-resource-display-name]
    [-encoding code-set-name] -c Property-file-path
```

For obtaining all information

```
cjgetappprop [server-name] [-nameserver provider-URL]
       -name J2EE-application-name -type all
       [-encoding code-set-name] -c Property-file-path
```

Function

This command obtains properties of an application or resources (for an EJB-JAR file, the resources are EJB-JAR files, Session Bean, Entity Bean, or Message-driven Beans. For a WAR file, the resources are WAR files, servlet/JSP, or filters.) included in that application, or property of RAR file, and then generates a property File.

For the property file used in setting up a J2EE application program and its resources, see the following locations:

- *3. Property Files Used for Setting J2EE Applications* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.
- *4. Property Files Used for Setting Resources* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

For an application in exploded archive format, this command can be executed for a J2EE server that runs on the same host as the command execution host.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *J2EE-application-name*

Specifies the name of the J2EE application that is to be retrieved.

`-type {ejb|war|rar|all}`

Specifies the type of resource to be retrieved:

- `ejb`: EJB-JAR file or EJB file in an EJB-JAR file
- `war`: WAR file, servlet/JSP in a WAR file, or filter
- `rar`: RAR file
- `all`: All information

`-resname` *resource-display-name*

Specifies the display name of the resource to be retrieved:

- `ejb-jar`: *EJB-JAR-file-display-name*
- `ejb`: *EJB-JAR-file-display-name*`[/`*Enterprise-Bean-display-name*`]`
- `war`: *WAR-file-display-name*
- `rar`: *RAR-file-display-name*
- `Servlet/JSP`: *WAR-file-display-name*`[/`*servlet/JSP-display-name*`]`
- `filter`: *WAR-file-display-name*`[/`*filter-display-name*`]`

If the display name of the lower resource is not specified, the specifications become specifications for an EJB-JAR file or a WAR file.

`-encoding` *encoding-name*

Specifies the name of the code set to be used when the property file is output. The following code set names can be specified:

- `UTF8`
- `UTF-8`
- `ASCII`

- US-ASCII
- ISO-8859-1
- EUC_JP
- Shift_JIS
- SJIS
- windows-31j
- MS932
- Encoding name supported by JavaVM

If this argument is omitted, the name of JavaVM's default code set is used. To confirm the used encoding name, see the XML declaration in the first line of the property file that is acquired using the `cjgetappprop` command.

```
<?xml version="XML-standard-version-number" encoding="code-set-name"?>
```

`-c` *Property-file-path*

Specifies the output destination path of the property file.

Input examples

For an application

```
cjgetappprop MyServer -name App1 -encoding Shift_JIS -c App1Prop.xml
```

For an EJB-JAR file

```
cjgetappprop MyServer -name App1 -type ejb -resname accountJsp/MyAccount
-encoding UTF-8 -c MyAccountProp.xml
```

For a WAR file

```
cjgetappprop MyServer -name App1 -type war -resname account-war/Account
-c AccountProp.xml
```

For a RAR file

```
cjgetappprop MyServer -name App1 -type rar -resname account-rar -c Account
Prop.xml
```

For obtaining all information

```
cjgetappprop MyServer -name App1 -type all -encoding Shift_JIS -c App1AllP
rop.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *J2EE-application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-name ejb -type` *J2EE-application-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If a property file already exists on the specified path, it is overwritten.

cjgetstubsjar (get RMI-IIOP stub and interface for application)

Format

```
cjgetstubsjar [server-name] [-nameserver provider-URL]
       -name application-name
       -d path-of-stub-and-interface-storage-destination-directory
```

Function

This command obtains the RMI-IIOP stub and interface for a J2EE application. The command can be executed regardless of the application's status (stopped or running).

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the name of the J2EE application for which the RMI-IIOP stub and interface are to be obtained.

`-d` *path-of-stub-and-interface-storage-destination-directory*

Specifies the path of the directory that stores the RMI-IIOP stub and interface. The following files are created under the specified directory:

- `stubs.jar` (file name of RMI-IIOP stub)

- *?*`.jar` (file name of RMI-IIOP interface)

  A sequential number starting from `1` is assigned to *?*.

  For example, if there are three interfaces, the file names are `1.jar`, `2.jar`, and `3.jar`.

Input examples

```
cjgetstubsjar MyServer -name App1 -d temp
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *application-name* `-name` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If a file already exists on the specified path, it is overwritten.
- If the specified path does not exist, an error results.
- If the RMI-IIOP stub and interface are obtained while the application is stopped, they may not be the latest values.
- If the application specified by the `-name` option has never been started, an error results.
- If the J2EE application does not contain an Enterprise Bean that has a remove interface, an error occurs.
- For the following J2EE applications, the RMI-IIOP stub and interface cannot be retrieved from the Web browser. You use the `cjgetstubsjar` command to acquire RMI-IIOP stubs and interfaces:
  - A J2EE application exported by an old version that is being imported
  - A newly created application
  - An application that was renamed with the *cjrenameapp (rename application)*
- If you obtain the RMI-IIOP stubs and interfaces for J2EE applications in recommended mode or V9 compatibility mode, you cannot use the RMI-IIOP stubs and interfaces in other modes.

cjimportapp (import J2EE application)

Format

For importing an application in archive format

```
cjimportapp [server-name] [-nameserver provider-URL]
            [-nodelete]
      -f EAR-file-path [-f EAR-file-path...]
```

For importing an application in exploded archive format (application directory)

```
cjimportapp [server-name] [-nameserver provider-URL]
            -a application-directory-path
```

For importing an application in the exploded archive format (standard application file (extension `.ear`) or the information file of the application execution environment for the Application Server (extension `.zip`))

```
cjimportapp [server-name] [-nameserver provider-URL]
            [-nodelete] -f EAR-file-path
      -d exploded-archive-path
```

Function

This command imports J2EE applications into the specified J2EE server. When importing the J2EE application containing `cosminexus.xml`, `cosminexus.xml` is also imported.

If an EAR file that contains execution information is imported, the execution information of the imported J2EE application becomes the same as the execution information of the J2EE application when it was exported.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed as the server name.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name:: host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-nodelete`

Specifies that the application is not to be deleted if startup processing fails when the EAR file containing the execution information is imported.

If this option is omitted, the imported application is deleted if startup processing fails after the application is imported.

`-f` *EAR-file-path*

Specifies the path of the EAR file that contains the J2EE application to be imported. Multiple EAR files can be specified concurrently.

`-a` *application-directory-path*

Specifies the path of the application directory.

`-d` *exploded-archive-path*

Specifies the full path of the server-side directory for exploding the application. The user who starts the J2EE server must have write permission for the exploded destination directory.

Input examples

For importing an application in archive format

```
cjimportapp MyServer -f App1.ear
```

For importing an application directory as an application in exploded archive format

```
cjimportapp MyServer -a AppDirPath
```

For importing standard application file (extension `.ear`) or the information file of the application execution environment (extension `.zip`) for the Application Server, as an application in the exploded archive format

In Windows

```
cjimportapp MyServer -f App1.zip -d C: \extractdir\ApplicationDir
```

In UNIX

```
cjimportapp MyServer -f App1.zip -d /extractdir/ApplicationDir
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`8`:

An information error occurred during execution.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- You cannot use the application directory as a directory (in the exploded archive format) imported with the `-a` option, if the application directory is created by using the `-d` option to deploy the EAR or ZIP file that satisfies one of the following conditions:
  - The EJB-JAR module name does not end with `.jar`.
  - The WAR module name does not end with `.war`.
  - A module name without the extension is the same as another module name without the extension.
  - A module name without the extension is the same as a directory name in the EAR file.

- When the <display-name> tag of application.xml is not set or when null is set in the <display-name> tag, use the file name or directory name as the display name for the J2EE application. Note that if characters other than universal characters or single byte alphanumeric are included in file name or directory name then these characters are replaced with an underscore "_".
- The display name of J2EE application changes as follows when application.xml is excluded:
  - For EAR file, a string where extension is excluded from file name is displayed. However, you cannot exclude the extension for file names beginning with a period (.).
  - For application directories, displays application directory names.
  - Note that if characters other than single byte alphanumeric characters (0-9, A-Z, or a-z) or underscore (_) are displayed in the display name after conversion then these characters are replaced with an underscore (_).
- When you specify the application directory and import an application in the exploded archive format, if the imported J2EE application contains application.xml, the name acquired by omitting the extension from the path name specified in the <module> tag of application.xml becomes the EJB-JAR directory name and the WAR directory name. Furthermore, if the imported J2EE application does not contain application.xml, the end of the EJB-JAR directory name becomes _jar and the end of the WAR directory name becomes _war.
- If the import-destination J2EE server already contains a J2EE application with the same application name, this command terminates with an error.
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* -nameserver); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify -nameserver *EAR-file-path* -f *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- There are some more notes for importing the J2EE application.
- For importing J2EE applications, see *8.1 Importing the J2EE applications* in the *uCosminexus Application Server Application Setup Guide*.
- If the name of the application to be imported has more than 255 characters, an error will occur.
- A Java heap of approximately three times the file size specified in the argument is temporarily used. When the value three times the file size exceeds the estimated value of the Java heap of the J2EE server, you must specify a value of three times the file size, in the size of the Java heap of the J2EE server.

cjimportlibjar (import library JAR)

Format

```
cjimportlibjar [server-name] [-nameserver provider-URL]
               -name application-name -f library-JAR-file-path
               [-f library-JAR-file-path ...]
```

Function

This command imports a library JAR into a J2EE application. The command can import multiple files concurrently. The import destination of the library JAR is directly below the J2EE application root.

For the library JAR, see *2.3.3 J2EE applications and J2EE component* in the *uCosminexus Application Server System Design Guide*.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the name of the application that imports the library JAR.

`-f` *library-JAR-file-path*

Specifies the path of the library JAR file that is to be read.

Input examples

```
cjimportlibjar MyServer -name App1 -f applib.jar
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- A library JAR that has the same file name as a previously imported library JAR cannot be imported.
- This command cannot be used for an application in exploded archive format.
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *library-JAR-file-path* `-f`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *library-JAR-file-path* `-f` *provider-URL*).

- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- You cannot import a library JAR for a WAR application. If you specify a WAR application in the `-name` option, this command terminates abnormally.
- A Java heap of approximately three times the file size specified in the argument is temporarily used. When the value three times the file size exceeds the estimated value of the Java heap of the J2EE server, you must specify a value of three times the file size, in the size of the Java heap of the J2EE server.

cjimportwar (Import a WAR application)

Format

When importing a WAR application of the archive format

```
cjimportwar [server-name] [-nameserver provider-URL]
-f WAR-file-path [-name application-name]
[-contextroot context-root]
[-c cosminexus.xml-file]
```

When importing as a WAR application of the exploded archive format (WAR directory)

```
cjimportwar [server-name] [-nameserver provider-URL]
-a WAR-directory-path [-name application-name]
[-contextroot context-root]
[-c cosminexus.xml-file]
```

Function

Imports a WAR application to the specified J2EE server. While importing a WAR application, reads `cosminexus.xml` in the path specified in the `-c` option.

Arguments

server-name

Specifies the connection destination J2EE server name. When you omit the server name, the host name is used as the server name.

`-nameserver` *provider-URL*

Specifies the access protocol to CORBA Naming Service, host name on which CORBA Naming Service operates, and the port number used by CORBA Naming Service, in the following format:

```
protocol-name::host-name:port-number
```

For details about the specified contents, see *2.1.2 Provider URL*.

`-f` *WAR-file-path*

Specifies the path of the WAR file to be imported.

`-a` *WAR-directory-path*

Specifies the path of a WAR directory.

`-name` *application-name*

Specifies an application name in one or more characters.

In the application name, you can use the alphanumeric characters (0~9, A~Z, a~z), and the following special characters:

Plus (+), hyphen (-), period (.), carot (^), underscore (_).

If you omit the `-name` option, the J2EE server specifies the application name by replacing the characters that cannot be used, with an underscore (_), based on the WAR file name or WAR directory name. When the application name that the J2EE server sets, duplicates within the J2EE server, the application name is suffixed with a serial number (`1` through `2147483647`), so that the application name becomes unique within the J2EE server.

`-contextroot` *context-root*

Specifies the context root.

In the context root, you can use the characters that can be used with URI (RFC3986). However, you cannot specify a character string that starts with `ejb/`, `web/`, `/ejb/`, and `/web/`.

When specifying a root, specify a blank character string or a forward slash (/).

When you omit the `-contextroot` option, the J2EE server specifies the application name by replacing the characters that cannot be used, with an underscore (_), based on the WAR file name or WAR directory name. However, when the character string in which the extension has been removed from a WAR file or a WAR directory name is `ejb` or `web`, the name is converted to `ejb1` or `web1` respectively.

`-c` *cosminexus.xml-file*

Specifies the path of the `cosminexus.xml` file. Note that the name of the *cosminexus.xml-file* is `cosminexus.xml` which consists of all lower case characters.

When you omit the path of the `cosminexus.xml` file, the `cosminexus.xml` file is not read.

Input example

When importing a WAR application in the archive format

```
cjimportwar MyServer -f WarApp1.war -name WarApp1 -contextroot app1/appwa
r -c cosminexus.xml
```

When importing a WAR directory as an application of the exploded archive format

```
cjimportwar MyServer -a WarAppDirPath -name WarApp1 -contextroot app1/appw
ar -c cosminexus.xml
```

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`8`:

An information error occurred at the time of execution.

`9`:

The command cannot be executed as the administrator privileges are not given (in Windows).

Notes

- When you want to specify a server name in the arguments of the command, you must specify the server name immediately after the command name. When specifying other arguments after the server name (after the command name, if you omit the server name), you can specify the arguments in any order. However, you cannot switch the order of the option name and the value (example: *provider-URL* `-nameserver`) or set the option name and the value as non-supporting (example: `-nameserver` *WAR-file-path* `-f` *provider-URL*).
- When you specify a server name in the arguments of the command, you must specify a character string that matches with the server name specified in the *cjsetup command*, with respect to case sensitivity.
- If a J2EE application with the same application name already exists in the import destination J2EE server, this command terminates with an error. However, if you omit the `-name` option, the application is imported with an application name in which the serial number is added at the end of the application.
- If the name of the application to be imported has more than 255 characters, an error occurs.

cjlistapp (list applications)

Format

For all applications

```
cjlistapp [server-name] [-nameserver provider-URL]
```

For an EJB-JAR or WAR file contained in an application

```
cjlistapp [server-name] [-nameserver provider-URL]
     -name J2EE-application-name -type {ejb|war}
     [-resname display-name]
```

For a RAR file included in an application

```
cjlistapp [server-name] [-nameserver provider-URL]
     -name J2EE-application-name -type rar
     [-spec | -resname display-name -outbound| -resname display-name -inbo
und| -resname display-name -listenertype message-listener-type-name]
```

Function

For all applications

This command outputs the list of names, status, and modes of all the J2EE applications to the standard output. For an application in the exploded archive format, the application directory path is also output to the standard output. Also, in the case of WAR applications, the context root is output to the standard output.

For the EJB-JAR or WAR files included in an application

This command outputs the list of EJB-JAR or WAR files included in the J2EE application as the standard output.

If `-resname` is specified, the list of resources included in the EJB-JAR file (Session Bean, Entity Bean, or Message-driven Bean) or the list of resources contained in the WAR file (servlet/JSP, or filter) are output as the standard output.

For the RAR files included in an application

This command outputs the list of RAR files included in the J2EE application as the standard output.

If `-spec` is specified, the version of the connector architecture specification for RAR file is output as the standard output.

If you specify `-resname` and `-outbound` Connector 1.5 resource adapter, a list of connection definition identifiers for the `outbound` resource adapter included in the RAR file will output as the standard output. You cannot specify `-resname` and `-outbound` in the Connector 1.0 resource adapter.

If you specify `-resname` and `-inbound` in the Connector 1.5 resource adapter, a list of the types of message listeners of the `inbound` resource adapter included in the RAR file will output as the standard output. You cannot specify `-resname` and `-inbound` in Connector 1.0 resource adapters.

If you specify `-resname` and `-listenertype` in the Connector 1.5 resource adapter, a list of property names that you must set up for activating the specified message listeners will output as the standard output. You cannot specify `-resname` and `-listenertype` in Connector 1.0 resource adapters.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *J2EE-application-name*

Specifies the name of the J2EE application.

`-type {ejb|war|rar}`

Specifies the type of resource to be displayed:

- `ejb`: EJB-JAR file
- `war`: WAR file
- `rar`: RAR file

`-resname` *display-name*

Specifies the display name of the resources (EJB-JAR, WAR, or RAR file) to be displayed.

`-spec`

Specify this argument for displaying the connector architecture version.

One of the following connector architecture versions is displayed:

- Connector 1.0
- Connector 1.5

`-outbound`

Specify this argument along with `-resname` to display the connection definition identifier of the `Outbound` resource adapter included in the RAR file.

`-inbound`

Specify this argument along with `-resname` to display the types of message listeners of the `Inbound` resource adapter included in the RAR file.

`-listenertype` *message-listener-type-name*

Specify this argument along with `-resname` to display the property names that you must set up for activating the specified message listeners.

Input examples

For all applications

```
cjlistapp MyServer
```

For EJB-JAR files

```
cjlistapp MyServer -name App1 -type ejb
```

For a WAR file

```
cjlistapp MyServer -name App1 -type war -resname account-war
```

For a RAR file

```
cjlistapp MyServer -name App1 -type rar
```

Output format

For all J2EE applications

```
J2EE-application-status J2EE-application-mode J2EE-application-name (path=
application-directory-path)#
J2EE-application-status J2EE-application-mode J2EE-application-name (path=
application-directory-path)#
...
```

J2EE-application-status

- `running`: Running
- `stopped`: Stopped
- `stopFailure`: Normal termination failure
- `forceStopFailure`: Forced termination failure
- `blockadeFailure`: Blockade failure
- `blockading`: Blockading
- `blockade`: Blockade
- `stopping`: Undergoing normal termination
- `forceStopping`: Undergoing forced termination

J2EE-application-mode

- `test`: Operating in test mode (Compatibility mode with the previous version)
- (Space): Operating in normal mode

#

The information for `path=`*application-directory-path* is output only for an application in exploded archive format. This information is not output for an application in archive format.

For EJB-JAR files (-resname not specified)

```
EJB-JAR-file-display-name
EJB-JAR-file-display-name
...
```

For an EJB-JAR file (-resname specified)

```
Enterprise-Bean-display-name
Enterprise-Bean-display-name
...
```

For WAR files (-resname not specified)

```
WAR-file-display-name
WAR-file-display-name
...
```

For a WAR file (-resname specified)

```
servlet/JSP-display-name, filter-display-name
servlet/JSP-display-name, filter-display-name
...
```

For a RAR file (-resname and -spec not specified)

```
RAR-file-display-name
RAR-file-display-name
...
```

For a RAR file (-spec specified)

```
Connector-architecture-specification-version RAR-file-display-name
Connector-architecture-specification-version RAR-file-display-name
...
```

For a RAR file (-resname and -outbound specified)

```
Connection-definition-identifier
Connection-definition-identifier
...
```

For RAR files (-resname and -inbound specified)

```
Message-listener-type
Message-listener-type
...
```

For RAR files (-resname and -listenertype specified)

```
Property-name
Property-name
...
```

Return values

0:

The command terminated normally.

1:

The command terminated abnormally.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *J2EE-application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-name ejb -type` *J2EE-application-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- The files or resources in the listing are sorted in ascending order; file names are not case sensitive.

cjlistlibjar (list library JARs)

Format

```
cjlistlibjar [server-name] [-nameserver provider-URL]
       -name application-name
```

Function

This command outputs to the standard output a list of the library JARs contained in a J2EE application.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the J2EE application name.

Input examples

```
cjlistlibjar MyServer -name App1
```

Output format

```
library-JAR-name
library-JAR-name
...
```

Return values

0:

The command terminated normally.

1:

The command terminated abnormally.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *application-name* `-name` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- The library JARs in the listing are sorted in ascending order; JAR names are not case sensitive.

cjreloadapp (reload application)

Format

```
cjreloadapp [server-name] [-nameserver provider-URL]
      -name application-name
      [-t timeout-time-until-forced-reload-starts]
```

Function

This command replaces the component classes and JSPs of an application without stopping the application.

For details on the session information inherited by an application after replacement, see *15.8.8 Reloading Web applications* in the *uCosminexus Application Server Common Container Functionality Guide*.

This command can be executed only for an application that uses an exploded archive and either is running or is stopped after a reload failure.

When you execute this command, you must specify the `ejbserver.deploy.context.reload_scope` property in the `usrconf.properties` user properties file of the J2EE server. For details on the user properties file (usrconf.properties), see *2.2.3 usrconf.properties (User property file for J2EE servers)* in the *uCosminexus Application Server Definition Reference Guide*.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the application name.

`-t` *timeout-time-until-forced-reload-starts*

Specifies the maximum amount of time (in seconds) from when the command is executed to wait for forced reloading to start, as an integer in the range `0` to `2147483647`.

When `0` is specified, no response is returned to the client until replacement of the component classes and JSPs has been completed. If no wait time until forced reloading starts is specified, forced reloading will not be executed.

Input examples

```
cjreloadapp MyServer -name App1
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command cannot be executed because of an exclusion error.

`3`:

A timeout error occurred.

`4`:

Locking failed.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or

subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *application-name* `-name` *provider-URL*).

- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If the stop processing of J2EE application does not terminate within the time specified in `-t` option, the J2EE application is terminated forcibly within the time specified in `ejbserver.rmi.request.timeout` key of system property file for server management commands.
- If the J2EE application contains `cosminexus.xml`, the definition information of `cosminexus.xml` is not read.

cjrenameapp (rename application)

Format

```
cjrenameapp [server-name] [-nameserver provider-URL]
      -name application-name -newname new-application-name
```

Function

This command renames a specified J2EE application.

Renaming an application enables you to manage the application's generation and version.

If you rename the application that does not contain `application.xml`, `application.xml` is created. Therefore, the renamed J2EE application becomes the application containing `application.xml`.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the name of the J2EE application to be renamed.

`-newname` *new-application-name*

Specifies the new J2EE application name, as one or more characters.

You can use alphanumeric characters (0-9, A-Z, or a-z) or the following special characters in the name:

plus (+), hyphen (−), period (.), caret (^), underscore (_)

Input examples

```
cjrenameapp MyServer -name App1 -newname App2
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *application-name* `-name` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- You must stop the application to be renamed before you execute this command.
- When an application is renamed, its lookup name is also changed. Therefore, modification becomes necessary if an EJB client uses the lookup name or if a path is processed by the Naming Service switching functionality.
- This command can execute application renaming even for applications created with an old version.
- If the same name is specified for *application-name* and *new-application-name*, the application name does not change.
- If the specified application name is more than 255 characters, an error will occur.
- You cannot change the name of a WAR application. If you specify a WAR application in the `-name` option, the command terminates abnormally.

cjreplaceapp (replace application)

Format

```
cjreplaceapp [server-name] [-nameserver provider-URL]
       -name application-name -f file-path
       [-t timeout-time] [-replaceDD]
```

Function

This command replaces a J2EE application.

If the replaced J2EE application contains `cosminexus.xml`, the Application Server-specific definition information before replacing is destroyed, the default values are restored, and then the information is overwritten with the `cosminexus.xml` definition information. If the replaced J2EE application does not contain `cosminexus.xml`, the Application Server-specific definition information is inherited from the J2EE application before replacing.

Important note

When using a WAR application, `cosminexus.xml` is not read again and hence the definition information is not updated by inheriting the settings when importing.

This command can be executed whether the application is running or stopped. If the application is running, the system waits for the method in the application to terminate, stops the application, executes replacement processing, and then starts the application. However, if stop processing has not terminated even after the amount of time specified by the `-t` option has elapsed, the application is stopped forcibly.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the name of the application to be replaced.

`-f` *file-path*

Specifies the path of the application file that is to be read.

Specify a standard application file (extension `.ear`), or WAR file (extension `.war`).

`-t` *timeout-time*

Specifies the maximum amount of time (in seconds) from when the command is executed to wait for a response to be returned, as an integer in the range `0` to `2147483647`. When 0 is specified for a running application, no response is returned to the client until stop processing is completed.

If this argument is not specified, 60 seconds is assumed.

`-replaceDD`

Specifies that the definitions of the DD files (`application.xml`, `ejb-jar.xml`, `ra.xml`, and `web.xml`) of the pre-replacement application are not to be passed on to the post-replacement application.

Input examples

```
cjreplaceapp MyServer -name App1 -f App1.ear
```

Return values

0:

The command terminated normally.

1:

The command terminated abnormally.

2:

The command could not be executed because of an exclusion error.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- This command cannot be used for an application that is in exploded archive format.
- If you change one of the DD files (`application.xml`, `ejb-jar.xml`, and `web.xml`) from `No` to `Yes` or from `Yes` to `No`, the J2EE application cannot be substituted.
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *file-path* `-file`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *file-path* `-file` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If the information file of the application execution environment for the Application Server (extension `.zip`) is specified, an error occurs.
- If the application name specified in `-name` is different from the application name specified in the `<display-name>` tag of the DD file (`application.xml`) in the application file, an error occurs.
- An error occurs if any of the following differences is found in the configurations of the J2EE applications before and after replacement:
  - The number of EJB-JAR, resource adapter, or WAR files is different.
  - The name of an EJB-JAR, RAR, or WAR file is different.
  - `-replaceDD` is specified and the definitions of the DD files (`application.xml`, `ejb-jar.xml`, `ra.xml`, and `web.xml`) are different.
  - A method definition for the home interface or component interface in an EJB-JAR file is different.
  - In an EJB-JAR file, the home interfaces (local and remote), the component interfaces (local and remote), and the business interfaces (local and remote) have different method definitions.
  - An annotation value that was set is modified.
- If the stop processing of J2EE application does not terminate within the time specified in `-t` option, the J2EE application is terminated forcibly within the time specified in `ejbserver.rmi.request.timeout` key of system property file for server management commands.

- By default, the J2EE application inherits all the existing attribute information. If you want the application to inherit only the runtime attributes[#], execute the command with the `-replaceDD` option specified.

  #

  In the property file, you can specify DD file (`application.xml`, `ejb-jar.xml`, `ra.xml`, and `web.xml`) definitions and property file-specific definitions. The property file-specific definitions are called *runtime attributes*.
- If the J2EE application after replacement contains `cosminexus.xml` and uses CMP 2.0, execute this command when the J2EE application is not running. After executing this command, you must execute the `cjgencmpsql` command before deployment.
- If the type of a J2EE application specified in the `-name` option is different from the type of the file specified in the `-f` option, an error occurs.
- A Java heap of approximately three times the file size specified in the argument is temporarily used. When the value three times the file size exceeds the estimated value of the Java heap of the J2EE server, you must specify a value of three times the file size, in the size of the Java heap of the J2EE server.

cjsetappprop (set HITACHI Application Property)

Format

For an application

```
cjsetappprop [server-name] [-nameserver provider-URL]
       -name J2EE-application-name -c Property-file-path
```

For an EJB-JAR, WAR, or RAR file

```
cjsetappprop [server-name] [-nameserver provider-URL]
    -name J2EE-application-name -type {ejb|war|rar}
    -resname resource-display-name[/lower-resource-display-name]
    -c Property-file-path
```

For setting all information

```
cjsetappprop [server-name] [-nameserver provider-URL]
       -name J2EE-application-name -type all
       -c Property-file-path
```

Function

This command changes the property of an application, property of the resource included in the EJB-JAR file (EJB-JAR file, Session Bean, Entity Bean, or Message-driven Bean), property of the resource included in the WAR file (WAR file, servlet/JSP, or filter), or the property of RAR file to the values in the specified application property file.

If the display name of a lower resource is not specified, the specification is for the EJB-JAR or WAR file.

For the property files used in setting up J2EE applications and resources, see the following locations:

- *3. Property Files Used for Setting J2EE Applications* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.
- *4. Property Files Used for Setting Resources* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

If the application is in exploded archive format, this command can be executed only for a J2EE server operating in the same host as the command execution host.

If the `cjsetappprop` command is used for changing, adding, or deleting the Application Server-specific definition information of the application containing `cosminexus.xml`, `cosminexus.xml` is updated. If the changed, added, or deleted application has exploded archive format, `cosminexus.xml` in the application directory is updated. For the Application Server-specific definition information, see *2. Cosminexus Application Property File (cosminexus.xml)* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

If you change the following tag values for the applications that do not contain `application.xml`, `application.xml` is created:

Application property file

```
<hitachi-application-property> - <description>
<hitachi-application-property> - <icon> - <small-icon>
<hitachi-application-property> - <icon> - <large-icon>
```

WAR property file

```
<hitachi-war-property> - <war-runtime> - <context-root>
```

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *J2EE-application-name*

Specifies the name of the J2EE application that is to be set up.

`-type {ejb|war|rar|all}`

Specifies the type of resource that is to be set up:

- `ejb`: EJB-JAR file or an EJB file in a EJB-JAR file
- `war`: WAR file or a servlet/JSP in a WAR file
- `rar`: RAR file
- `all`: All information

`-resname` *resource-display-name*

Specifies the display name of the resource that is to be set up:

- For an EJB-JAR file: *EJB-JAR-file-display-name*
- For an EJB file: *EJB-JAR-file-display-name* [/ *Enterprise-Bean-display-name*]
- For a WAR file: *WAR-file-display-name*
- For a servlet/JSP: *WAR-file-display-name* [/ *servlet* / *JSP-display-name*]
- For a filter: *WAR-file-display-name* [/ *filter-display-name*]

- For a RAR file: *RAR-file-display-name*

`-c` *Property-file-path*

Specifies the path of the input source property file.

Input examples

For an application

```
cjsetappprop MyServer -name App1 -c App1Prop.xml
```

For an EJB-JAR file

```
cjsetappprop MyServer -name App1 -type ejb -resname accountJsp/MyAccount
-c MyAccountProp.xml
```

For a WAR file

```
cjsetappprop MyServer -name App1 -type war -resname account-war/Account
-c AccountProp.xml
```

For a RAR file

```
cjsetappprop MyServer -name App1 -type rar -resname account-rar -c Account
Prop.xml
```

For setting all information

```
cjsetappprop MyServer -name App1 -type all -c App1AllProp.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *J2EE-application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-name ejb -type` *J2EE-application-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

- The specified J2EE application or resource must exist.
- When `all` is specified for the `-type` option, the resources to be modified are determined by the resource display name in the specified HITACHI Application Property File. For this reason, the display name of the resources cannot be changed.
- If you set up the EJB-JAR property file when the `<security-role-ref>-<role-link>` tag is set up in the DD file (`ejb-jar.xml`), the value of the `<security-role-ref>-<role-link>` tag might be cleared in the DD file (`ejb-jar.xml`).

cjstartapp (start J2EE application)

Format

```
cjstartapp [server-name] [-nameserver provider-URL]
      -name J2EE-application-name [-jspc]
```

Function

This command starts a J2EE application and enables it to receive requests from clients.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *J2EE-application-name*

Specifies the name of the J2EE application that is to be started.

`-jspc`

Specifies that the command is to execute JSP precompilation. You specify this argument when an existing Web application is the application to be started after JSP precompilation has executed. Application startup is executed even if an error occurs during JSP precompilation.

Input examples

```
cjstartapp MyServer -name App1
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

2:

The command could not be executed because of an exclusion error.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- If the specified J2EE application does not exist, this command terminates with an error.
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *J2EE-application-name* `-name` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- Note the following when you specify the `-jspc` option:
  - If you specify the `-jspc` option, all the JSP files included in the Web application are compiled, and an error might occur since JSP files that are not required to be compiled are also compiled. The `cjstartapp` command continues processing, even if a compilation error occurs in the JSP precompilation during application startup.
  - For the archive format applications, if application startup fails, the application stops and the JSP compilation result is deleted. Therefore, first ensure that the application can be started.
  - If the JSP pre-compilation used during application startup is executed, the communication timeout might occur for the `cjstartapp` command depending on the number of JSPs included in the application. If the communication timeout occurs in the `cjstartapp` command, reference the J2EE server message log and confirm that the application is started normally. Also, check, and if necessary, revise the communication timeout value defined for the server management commands.

cjstopapp (stop J2EE application)

Format

For executing a normal termination

```
cjstopapp [server-name] [-nameserver provider-URL]
     -name J2EE-application-name [-t timeout-time]
```

For manually executing a forced termination after a normal termination times out

```
cjstopapp [server-name] [-nameserver provider-URL]
     -name J2EE-application-name -cancel
```

For automatically executing a forced termination after a normal termination times out

```
cjstopapp [server-name] [-nameserver provider-URL]
     -name J2EE-application-name -t timeout-time -force
```

Function

This command stops a J2EE application and disables it from receiving requests from clients.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *J2EE-application-name*

Specifies the name of the J2EE application that is to be stopped.

`-t` *timeout-time*

Specifies the maximum amount of time (in seconds) from when the command is executed to wait for a response to be returned, as an integer in the range `0` to `2147483647`. When `0` is specified, no response is returned to the client until stop processing is completed. If this argument is not specified, a time of `60` seconds is assumed.

`-cancel`

Specifies that the J2EE application is to be forcibly terminated manually after a normal termination times out.

`-force`

Specifies that the J2EE application is to be forcibly terminated automatically after a normal termination times out.

Forced stoppage of a J2EE application is not performed if the J2EE application stop processing is complete.#

#

In the stop processing, the processing to stop the J2EE application is performed, and then the processing to undeploy the J2EE application is performed. After the processing to stop the J2EE application is complete, execution of server management commands is locked until the processing to undeploy the J2EE application is complete. Therefore, an update command is placed in a wait state until the currently running command ends. Run an update command after it is released from the wait state. You can confirm completion of the undeploy processing from the KDJE42142-I message on the J2EE server side. For details about stop processing, see the *uCosminexus Application Server Operation, Monitoring, and Linkage Guide*.

Input examples

```
cjstopapp MyServer -name App1
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *application-name* `-name` *provider-URL*).
- If normal termination of the specified J2EE application that is performed by using this command is not completed within 60 seconds or within the time specified for the `-t` option, the command terminates due to an error.
- When a forced termination is executed and if the stop processing of the J2EE application does not terminate within the time specified in the `-t` option, the J2EE application is terminated forcibly within the time specified in the `ejbserver.rmi.request.timeout` key of the system property file for server management commands.
- If the specified J2EE application does not exist, this command terminates with an error.
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If a timeout error occurs, use the *cjlistapp (list applications)* to check the J2EE application's status.
- To stop the J2EE application, see *5.5.7 Stopping a J2EE application* in the *uCosminexus Application Server Operation, Monitoring, and Linkage Guide*.

2.4 Resource operation commands used with J2EE servers

This section describes the resource operation commands used with J2EE servers.

The following table lists the resource operation commands used with J2EE servers:

Table 2–5: List of resource operation commands used with J2EE servers

Command name	Function	Description	Command group
cjclearpool	Delete connection in connection pool	Clears the connection of a resource adapter or data source.	Update
cjcopyres	Copy resource	Copies the properties of an EJB-JAR file, a WAR file, a data source file, mail, or a RAR file.	Update
cjdeletejb	Delete JavaBeans resource	Deletes an imported JavaBeans resource.	Update
cjdeleteres	Delete resource	Deletes an imported EJB-JAR, WAR, data source, mail, or RAR file.	Update
cjdeployrar	Deploy resource adapter	Deploys a resource adapter.	Update
cjexportrar	Export resource adapter	Exports a resource adapter from a J2EE server.	Update
cjgetjbprop	Get Property of JavaBeans resource	Obtains the Property of a specified JavaBeans resource and generates a property file.	Update
cjgetrarprop	Get Property of RAR file	Obtains the Property of a deployed RAR file and generates a property file.	Update
cjgetresprop	Get Property of resource	Obtains the Property of the resources contained in an EJB-JAR, WAR, or undeployed RAR file, or obtains the Property of a data source file or of mail, and generates a property file.	Update
cjimportjb	Import JavaBeans resource	Imports a JavaBeans resource.	Update
cjimportres	Import resource	Imports an EJB-JAR, WAR, data source, or RAR file.	Update
cjlistjb	List JavaBeans resources	Outputs the status of all JavaBeans resources to the standard output.	Reference
cjlistpool	List connection pools	Outputs to the standard output the connection pool status of a specified resource adapter or of all resource adapters.	Reference
cjlistrar	List resource adapters	Outputs a list of all deployed resource adapters to the standard output.	Reference
cjlistres	List resources	Outputs a list of the imported EJB-JAR, WAR, data source, mail, or RAR files to the standard output.	Reference
cjsetjbprop	Set Property of JavaBeans resource	Changes the property of the specified JavaBeans resource with the value of specified JavaBeans Resource property file.	Update
cjsetrarprop	Set RAR Property	Changes the Property of the resources contained in a deployed RAR file to the values specified in a property file.	Update
cjsetresprop	Set Property of resource	Changes the Property of the resources contained in an EJB-JAR, WAR, or undeployed RAR file, or changes the Property of a data source file or of mail, to the values specified in a property file.	Update

Command name	Function	Description	Command group
cjstartjb	Start JavaBeans resource	Starts a JavaBeans resource.	Update
cjstartrar	Start resource adapter	Starts a resource adapter.	Update
cjstopjb	Stop JavaBeans resource	Stops a JavaBeans resource that has been started.	Update
cjstoprar	Stop resource adapter	Stops a resource adapter that has been started.	Update
cjtestres	Execute resource connection test	Executes a connection test on a J2EE resource adapter, mail, or data source.	Update
cjundeployrar	Undeploy resource adapter	Undeploys a deployed resource adapter.	Update

Legend:

Update: The command is an update command, which updates the J2EE server contents or retrieves configuration information.

Reference: The command is a reference command, which only displays the configuration status without updating the J2EE server contents.

For details on the mutual exclusion control conditions for each system of the server management commands, see *3.2 Exclusive access control of server management commands* in the *uCosminexus Application Server Application Setup Guide*.

cjclearpool (delete connection in connection pool)

Format

For specified data sources (JDBC)

```
cjclearpool [server-name] [-nameserver provider-URL]
      [-type jdbc] [-mode {normal|plan}]
      -resname data-source-display-name
      [-resname data-source-display-name ...]
```

For specified resource adapters (deploy and use as the J2EE resource adapter)

```
cjclearpool [server-name] [-nameserver provider-URL]
      -type connector [-mode {normal|plan}]
      -resname resource-adapter-display-name
      [-resname resource-adapter-display-name ...]
```

For resource adapter (include and use in the J2EE application)

```
cjclearpool [server-name] [-nameserver provider-URL]
      -type connector [-mode {normal|plan]
      -name application-name
      -resname resource-adapter-display-name
      [-resname resource-adapter-display-name ...]
```

For all data sources (JDBC) and resource adapters

```
cjclearpool [server-name] [-nameserver provider-URL]
      [-mode {normal|plan}] -resall
```

Function

This command clears the connection of a specified data source (JDBC) or resource adapter. This command can delete the connections of multiple data sources (JDBC) or multiple resource adapters concurrently.

Arguments

server-name

Specifies the name of the connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {jdbc|connector}`

Specifies the type of connection pool. If this argument is omitted, `jdbc` is assumed.

- `jdbc`: JDBC pool
- `connector`: Resource adapter pool

`-mode {normal|plan}`

Specifies the type of clear operation for the connection being used. All unused connections are cleared. If this argument is omitted, `normal` is assumed.

- `normal` (normal mode)

  A connection being used by the user is moved outside the pool and is cleared from the pool. However, the connection with the database cannot be reused.

- `plan` (plan mode)

  A connection being used by the user is not cleared. However, the connection cannot be reused.

`-name` *application-name*

Specifies the name of the application that is deploying the resource adapter.

This argument can be specified when the connection pool type is `connector`. When this argument is omitted, the connection of any resource adapter that was deployed as a J2EE resource adapter is deleted.

`-resname` *data-source-display-name* or *resource-adapter-display-name*

Specifies the display name of a data source (JDBC) or resource adapter that is to be cleared.

The method of specifying the resource adapter display name differs for each resource adapter version:

- For Connector 1.0

  Resource-adapter-display-name

- For Connector 1.5

  Resource-adapter-display-name!*Connection-definition-identifier*

`-resall`

Specifies that all data sources (JDBC) and resource adapters are to be deleted.

This argument cannot be specified together with `-type`, `-name`, or `-resname`.

Input examples

For a data source (JDBC) (normal mode)

```
cjclearpool MyServer -resname JdbcConnection
```

For a resource adapter (deploy and use as a J2EE resource adapter)

```
cjclearpool MyServer -type connector -mode plan -resname RarConnection
```

For a resource adapter (include and use in the J2EE application)

```
cjclearpool MyServer -type connector -mode plan -name App1 -resname RarCon
nection
```

For all data sources (JDBC) and resource adapters (plan mode)

```
cjclearpool MyServer -mode plan -resall
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *data-source-display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *data-source-display-name* `-resname` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If multiple data sources (JDBC) or resource adapters are to be deleted concurrently, this command attempts to delete all target data sources (JDBC) or resource adapters, even if there are ones that cannot be deleted.
- In the normal mode, any in-use connections that were removed from the connection pool are not included in the connections count. Consequently, the total count of the connections in the connection pool and the in-use connections removed from the connection pool may exceed the maximum value for the connection pool.

cjcopyres (copy resource)

Format

```
cjcopyres [server-name] [-nameserver provider-URL]
     -type {ejb|war|datasource|mail|rar}
     -src copy-source-display-name
     -dst copy-destination-display-name
```

Function

This command copies the properties of a resource (EJB-JAR file, WAR file, data source file, mail, or RAR file).

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {ejb|war|datasource|mail|rar}`

Specifies the type of resource to be copied:

- `ejb`: EJB-JAR file
- `war`: WAR file
- `datasource`: Data source file
- `mail`: Mail
- `rar`: RAR file

`-src` *copy-source-display-name*

Specifies the display name of the EJB-JAR, WAR, data source file, mail, or RAR file that is the copy source.

`-dst` *copy-destination-display-name*

Specifies the display name of the EJB-JAR, WAR, data source file, mail, or RAR file that is to be the copy destination.

You can use alphanumeric characters (0-9, A-Z, and a-z) or the following special characters in the display name. However, the special characters that can be specified differ according to the resource types specified in the `-type` option.

The following are the special characters that can be used when `ejb`, `war`, or `rar` is specified:

plus (+), hyphen (-), period (.), caret (^), underscore (_).

The following are the special characters that can be used when mail is specified:

space ( ), exclamation mark (!), hash mark (#), dollar sign ($), percent (%), ampersand (&), parentheses (( ) ( )), plus (+), hyphen (-), period (.), semicolon (;), less-than sign (<), greater than sign (>), at mark (@), square brackets ([ ) ( ]), yen sign (¥), caret (^), underscore (_), grave accent mark (`), curly brackets ({) (}), vertical bar (|), tilda (~).

However, if names having a single-byte space at the beginning or end are specified, the names are used with the single-byte space removed.

The following is the special character that can be used when `datasource` is specified:

underscore (_)

Note that you cannot specify the following names when `mail` is specified. If you specify these names, an error will occur.

- Name having a single-byte space at the beginning or end
- Names having two or more consecutive single-byte spaces in the character string

Input examples

For an EJB-JAR file

```
cjcopyres MyServer -type ejb -src accountJsp -dst accountJsp2
```

For a WAR file

```
cjcopyres MyServer -type war -src account-war -dst account_war2
```

For a data source file

```
cjcopyres MyServer -type datasource -src JdbcDbpsv -dst JdbcDbpsv2
```

For mail

```
cjcopyres MyServer -type mail -src Mail -dst Mail2
```

For an RAR file

```
cjcopyres MyServer -type rar -src account-ra -dst account-ra2
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- The display name specified as the copy destination must not exist.
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

- When the display name of the data source file, mail, or RAR file specified in the copy destination display name has more than 240 characters, an error occurs.
- If the following names are specified in the display name of the RAR file that is to be copied, you might be unable to operate J2EE applications. Therefore, do not specify the following names in the display name of the RAR file:
  - Names in which an underscore (_) is specified before and after the symbol (For example: `abc_+_001`)
  - Names ending with a symbol (For example: `abc+`)

cjdeletejb (delete JavaBeans resource)

Format

```
cjdeletejb [server-name] [-nameserver provider-URL]
      -resname JavaBeans-resource-display-name
      [-resname JavaBeans-resource-display-name ...]
```

Function

This command deletes an imported JavaBeans resource.

The command can delete multiple JavaBeans resources concurrently. This command attempts to delete all specified JavaBeans resources, even if there are JavaBeans resources that cannot be deleted.

If a JavaBeans resource has been started even once, it cannot be deleted until the J2EE server is restarted.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

If this specification is omitted, the default value returned by `NamingSevice` is assumed.

`-resname` *JavaBeans-resource-display-name*

Specifies the display name of the JavaBeans resource that is to be deleted.

Input examples

```
cjdeletejb MyServer -resname MyJavaBeans
```

Return values

`0`:

The command terminated normally.

1:

The command terminated abnormally.

2:

The command could not be executed because of an exclusion error.

3:

A timeout error occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *provider-URL* `-nameserver` *JavaBeans-resource-display-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjdeleteres (delete resource)

Format

```
cjdeleteres [server-name] [-nameserver provider-URL]
      -type {ejb|war|datasource|mail|rar}
      -resname display-name [-resname display-name ...]
```

Function

This command deletes an imported EJB-JAR file, WAR file, data source file, mail, or RAR file. This command can delete multiple files concurrently.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {ejb|war|datasource|mail|rar}`

Specifies the type of resource to be deleted:

- `ejb`: EJB-JAR file

- `war`: WAR file
- `datasource`: Data source file
- `mail`: Mail
- `rar`: RAR file

`-resname` *display-name*

Specifies the display name of the EJB-JAR file, WAR file, data source file, mail, or RAR file that is to be deleted.

Input examples

For an EJB-JAR file

```
cjdeleteres MyServer -type ejb -resname accountJsp
```

For a WAR file

```
cjdeleteres MyServer -type war -resname account-war
```

For a data source file

```
cjdeleteres MyServer -type datasource -resname JdbcDbpsv
```

For mail

```
cjdeleteres MyServer -type mail -resname Mail
```

For a RAR file

```
cjdeleteres MyServer -type rar -resname account-ra
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- If multiple files are to be deleted concurrently, this command attempts to delete all of the files even if there are files that cannot be deleted.
- Once a single RAR file has been started or stopped, it cannot be deleted until the J2EE server is restarted.
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjdeployrar (deploy resource adapter)

Format

```
cjdeployrar [server-name] [-nameserver provider-URL]
      -resname resource-adapter-name
      [-resname resource-adapter-name ...]
```

Function

This command deploys a specified resource adapter. A resource adapter that has not yet been deployed becomes the target. A resource adapter that has the same display name as a resource adapter that has already been added to the application cannot be specified. This command can deploy multiple resource adapters concurrently.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is used as the server name.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *resource-adapter-name*

Specifies the name of a resource adapter.

Input examples

```
cjdeployrar MyServer -resname account-ra
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`8`:

Deployment was successful but startup failed.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *resource-adapter-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *provider-URL* `-nameserver` *resource-adapter-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If multiple resource adapters are to be deployed concurrently, this command attempts to add all of the specified resource adapters even if there are resource adapters that cannot be added.
- If you specify a resource adapter that is already started with the runtime information, the automatic startup processing is performed after completing the deployment of the resource adapter. If the automatic startup processing fails, the J2EE resource adapter is not deleted.

cjexportrar (export resource adapter)

Format

```
cjexportrar [server-name] [-nameserver provider-URL]
      -f file-path -resname resource-adapter-name
      [-raw|-normal]
```

Function

This command outputs a resource adapter from a J2EE server to a RAR file.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-f` *file-path*

Specifies the path of the file that becomes the RAR file output destination.

`-resname` *resource-adapter-name*

Specifies the name of the resource adapter that is to be exported.

`-raw`

Generates a J2EE resource adapter file.

`-normal`

Adds a resource adapter extension DD file (file name: `hitachi-ra.xml`) of a product and generates a J2EE resource adapter file. If neither `-raw` nor `-normal` is specified, specification of `-normal` is assumed.

Input examples

```
cjexportrar MyServer -f res1.rar -resname Res1
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *resource-adapter-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *provider-URL* `-nameserver` *resource-adapter-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjgetjbprop (get HITACHI JavaBeans Resource Property)

Format

```
cjgetjbprop [server-name] [-nameserver provider-URL]
      -resname JavaBeans-resource-display-name
      [-encoding code-set-name] -c Property-file-path
```

Function

This command obtains the HITACHI JavaBeans Resource Property specified by `-resname` and generates a property file.

For details on the JavaBeans Resource Property files, see *4.2 HITACHI JavaBeans Resource Property file* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

If a file already exists on the specified path, it is overwritten.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *JavaBeans-resource-display-name*

Specifies the display name of the JavaBeans resource that is to be retrieved.

`-encoding` *code-set-name*

Specifies the name of the code set to be used when the property file is output. The following code set names can be specified:

- `UTF8`
- `UTF-8`
- `ASCII`
- `US-ASCII`
- `ISO-8859-1`
- `EUC_JP`
- `Shift_JIS`
- `SJIS`
- `windows-31j`
- `MS932`
- Code sets supported by JavaVM

If this argument is omitted, the default-encoding name of JavaVM is used. To confirm the used encoding name, see the XML declaration in the first line of the property file acquired with the `cjgetjbprop` command.

```
<?xml version="XML-standard-version-number" encoding="code-set-name"?>
```

`-c` *Property-file-path*

Specifies the output destination path of the property file.

Input examples

```
cjgetjbprop MyServer -resname MyJavaBeansName -encoding Shift_JIS -c MyJavaB
eansProp.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout error occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *provider-URL* `-nameserver` *JavaBeans-resource-display-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjgetrarprop (get RAR file Property)

Format

```
cjgetrarprop [server-name] [-nameserver provider-URL]
       -resname resource-adapter-display-name
       [-encoding code-set-name] -c Property-file-path
```

Function

This command obtains the property of RAR file deployed as the J2EE resource specified by `-resname`, and generates a property file.

The Property of a RAR file is set in a Connector Property File. For the HITACHI Connector Property Files, see *4.1 HITACHI Connector Property file* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *resource-adapter-display-name*

Specifies the display name of the resource (deployed resource adapter) that is to be retrieved.

`-encoding` *code-set-name*

Specifies the name of the code set to be used when the property file is output. The following code set names can be specified:

- `UTF8`
- `UTF-8`
- `ASCII`
- `US-ASCII`
- `ISO-8859-1`
- `EUC_JP`
- `Shift_JIS`
- `SJIS`
- `windows-31j`
- `MS932`
- Code sets supported by JavaVM

If this argument is omitted, the default-encoding name of JavaVM is used. To confirm the used encoding name, see the XML declaration in the first line of the property file acquired with the `cjgetrarprop` command.

```
<?xml version="XML-standard-version-number" encoding="code-set-name"?>
```

`-c` *Property-file-path*

Specifies the output destination path of the property file.

Input examples

```
cjgetrarprop MyServer -resname account-rar -encoding Shift_JIS -c MyRarprop.
xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *resource-adapter-display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *Property-file-path* `-c` *resource-adapter-display-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If a property file already exists in the specified path, it is overwritten.

cjgetresprop (get resource Property)

Format

For an EJB-JAR or WAR file

```
cjgetresprop [server-name] [-nameserver provider-URL]
    -type {ejb|war}
    -resname resource-display-name[/lower-resource-display-name]
    [-encoding code-set-name] -c Property-file-path
```

For a data source file

```
cjgetresprop [server-name] [-nameserver provider-URL]
       -type datasource -resname data-source-display-name
       [-encoding code-set-name] -c Property-file-path
```

For mail

```
cjgetresprop [server-name] [-nameserver provider-URL]
       -type mail -resname mail-display-name
       [-encoding code-set-name] -c Property-file-path
```

For a RAR file

```
cjgetresprop [server-name] [-nameserver provider-URL]
       -type rar -resname resource-adapter-display-name
       [-encoding code-set-name] -c Property-file-path
```

Function

This command obtains the Property of the resources (EJB-JAR file, Session Bean, Entity Bean, and Message-driven Bean) contained in an EJB-JAR file, the Property of the resources (WAR file, servlet/JSP, and filter) contained in a WAR file, or the Property of the resources contained in a data source file, mail, or an undeployed RAR file, and generates a property file.

If the display name of the lower resource is not specified, the specification becomes that of an EJB-JAR or WAR file.

For the property files used during setup of J2EE applications and resources, see the following locations:

- *3. Property Files Used for Setting J2EE Applications* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.
- *4. Property Files Used for Setting Resources* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {ejb|war|datasource|mail|rar}`

Specifies the type of property file to be generated:

- `ejb`: Property file for an EJB-JAR file or the resources in an EJB-JAR file
- `war`: Property file for a WAR file or the resources in a WAR file
- `datasource`: Data source property file
- `mail`: Mail property file
- `rar`: Property file for an undeployed RAR file

`-resname` *resource-display-name*, *data-source-display-name*, *mail-display-name*, or *resource-adapter-display-name*

Specifies the display name of the resource to be retrieved:

- For an EJB-JAR file: *EJB-JAR-file-display-name*
- For an EJB file: *EJB-JAR-file-display-name*`[`*/EJB-file-display-name*`]`
- For a WAR file: *WAR-file-display-name*
- For a servlet/JSP: *WAR-file-display-name*`[`*/servlet/JSP-display-name*`]`
- For a filter: *WAR-file-display-name*`[`*/filter-display-name*`]`
- For data source file: *Data-source-file-display-name*
- For mail: *Mail-display-name*
- For a RAR file: *RAR-file-display-name*

`-encoding` *code-set-name*

Specifies the name of the code set to be used when the property file is output. The following code set names can be specified:

- `UTF8`
- `UTF-8`

- ASCII
- US-ASCII
- ISO-8859-1
- EUC_JP
- Shift_JIS
- SJIS
- windows-31j
- MS932
- Code sets supported by JavaVM

If this argument is omitted, the default-encoding name of JavaVM is used. To confirm the used encoding name, see the XML declaration in the first line of the property file acquired with the `cjgetresprop` command.

```
<?xml version="XML-standard-version-number" encoding="code-set-name"?>
```

`-c` *Property-file-path*

Specifies the output destination path of the property file.

Input examples

For an EJB-JAR file

```
cjgetresprop MyServer -type ejb -resname accountJsp/MyAccount -encoding Sh
ift_JIS -c MyAccountProp.xml
```

For a WAR file

```
cjgetresprop MyServer -type war -resname account-war/Account -encoding UTF
-8 -c AccountProp.xml
```

For a data source file

```
cjgetresprop MyServer -type datasource -resname JdbcDbpsv -c JdbcDbpsvProp
.xml
```

For mail

```
cjgetresprop MyServer -type mail -resname Mail -c MailProp.xml
```

For a RAR file

```
cjgetresprop MyServer -type rar -resname account-rar -encoding Shift_JIS
-c AccountProp.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

2:

The command could not be executed because of an exclusion error.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *J2EE-application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-name ejb -type` *J2EE-application-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If a property file already exists on the specified path, it is overwritten.

cjimportjb (import JavaBeans resource)

Format

For importing a JavaBeans resource

```
cjimportjb [server-name] [-nameserver provider-URL]
      -f JAR-file-path -c Property-file-path
```

For importing a class of JavaBeans resources found in a specified directory

```
cjimportjb [server-name] [-nameserver provider-URL]
      -d path-of-directory-containing-class-of-JavaBeans-resources
      -c Property-file-path
```

Function

For importing a JavaBeans resource

This command imports a JavaBeans resource.

A JavaBeans resource with the same display name or implementation class name as a previously imported JavaBeans resource cannot be imported.

The command imports the JavaBeans resource and sets the values specified in a property file.

For details on the JavaBeans Resource Property files, see *4.2 HITACHI JavaBeans Resource Property file* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

For importing a class of JavaBeans resources found in a specified directory

This command imports the class of JavaBeans resources found in the specified directory.

A JavaBeans resource that has the same display name or implementation class name as a previously imported JavaBeans resource cannot be imported.

The command imports the JavaBeans resources and sets the values specified in a property file.

For details on the JavaBeans Resource Property files, see *4.2 HITACHI JavaBeans Resource Property file* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-f` *JAR-file-path*

Specifies the path of the file (JAR file that contains the JavaBeans resource) that is to be read.

`-d` *path-of-directory-containing-class-of-JavaBeans-resources*

Specifies the path of the directory containing a class of JavaBeans resources.

All JavaBeans resources found in the specified directory are imported.

`-c` *Property-file-path*

Specifies the file path of the input source property file.

Input examples

Format 1

```
cjimportjb MyServer -f Myjavabeans.jar -c Myjavabeansprop.xml
```

Format 2

```
cjimportjb MyServer -d MydirectoryPath -c Myjavabeansprop.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout error occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-f` *Property-file-path* `-c` *JAR-file-path*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If the display name of the JavaBeans resource has more than 240 characters, an error will occur.
- A Java heap of approximately three times the file size specified in the argument is temporarily used. When the value three times the file size exceeds the estimated value of the Java heap of the J2EE server, you must specify a value of three times the file size, in the size of the Java heap of the J2EE server.

cjimportres (import resource)

Format

For an EJB-JAR, WAR, or RAR file

```
cjimportres [server-name] [-nameserver provider-URL]
      -type {ejb|war|rar} -f file-path
      [-f file-path ...]
```

For a data source

```
cjimportres [server-name] [-nameserver provider-URL]
      -type datasource -resname data-source-display-name
      -c data-source-settings-file-path
      -f JDBC-driver-file-path
      [-f JDBC-driver-file-path ...]
```

Function

This command imports a resource (EJB-JAR, WAR, data source, or RAR file). The command can import multiple files concurrently.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {ejb|war|datasource|rar}`

Specifies the file type of the file to be imported:

- `ejb`: EJB-JAR file
- `war`: WAR file
- `datasource`: JDBC driver file or data source settings file
- `rar`: RAR file

`-resname` *data-source-display-name*

Specifies the name to be assigned to the imported data source. You can use alphanumeric characters (0-9, A-Z, or a-z) and the underscore (_) in the name.

`-c` *data-source-settings-file-path*

Specifies the path of the data source settings file to be read.

`-f` *file-path* or *JDBC-driver-file-path*

Specifies the path of the file (EJB-JAR, WAR, JDBC, or RAR) to be read.

If the JDBC driver consists of multiple files, specify the `-f` option multiple times.

Input examples

For an EJB-JAR file

```
cjimportres MyServer -type ejb -f account.jar
```

For a WAR file

```
cjimportres MyServer -type war -f account.war
```

For a data source file

```
cjimportres MyServer -type datasource -resname JdbcDbpsv -c JdbcDbpsvConf.
xml -f JdbcDbpsv.jar
```

For a RAR file

```
cjimportres MyServer -type rar -f account.rar
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *data-source-display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *data-source-display-name* `-resname` *provider-URL*).
- If the DD file name `<display-name>` tag is not specified or if null is specified for the `<display-name>` tag, the file name is used as the displayed resource name. Note that if the file name includes characters other than all-purpose characters or half-byte English alphanumeric characters, those characters will be converted to underscores.
- If you omitted Deployment Descriptor, the displayed resource name is converted as follows:
  - In the case of an EJB-JAR file (for EJB 3.0 or later), the displayed character string is the file name with the `.jar` extension removed.
  - In the case of a WAR file (for Servlet 2.5 or later), the displayed character string is the file name with the extension removed.

  Note that for a file name in which a period appears only at the beginning, the extension is not removed. Also, if the name to be displayed includes a character other than a half-byte English alphanumeric character (0-9, A-Z, or a-z) or underscore (_), that character is converted to an underscore (_).

  For a RAR file, the DD file cannot be omitted.
- If following name is specified as RAR file name, the J2EE application operation might get disabled. Therefore, do not specify the following names in the RAR file name:

  A name in which underscore (_) is specified before and after the symbol (For example: `abc_+_001`)

  A name that ends with a symbol (For example: `abc+`)
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- An EJB-JAR file with the same display name as a previously imported EJB-JAR file cannot be imported.
- A WAR file with the same display name as a previously imported WAR file cannot be imported.
- A RAR file with the same display name as a previously imported RAR file cannot be imported.
- A data source that has the same display name as a previously imported data source or previously generated mail cannot be imported.
- This command cannot import a RAR file that contains a native library.
- If a display name is not specified for an EJB-JAR file, the file name (without `.jar`) of the EJB-JAR file is used as the file's display name.

  The same applies for a RAR file.

  For a WAR file as well, the file name is used as the display name. However, any characters other than alphanumeric characters and the underscore are replaced with an underscore. If there are contiguous characters to be replaced, they are replaced with a single underscore.
- If multiple files are imported at the same time, this command attempts to import all the files even if there are files that cannot be imported.
- There are additional notes related to the DDs of EJB-JAR files when an Enterprise Bean (EJB-JAR) is imported. For importing Enterprise Beans (EJB-JAR), see *7.2.1 Importing the Enterprise Beans (EJB-JAR)* in the *uCosminexus Application Server Application Setup Guide*.

- There are additional notes related to the DDs of WAR files when a servlet and JSP are imported. For importing servlets and JSPs, see *7.2.2 Importing the servlet and JSP (WAR)* in the *uCosminexus Application Server Application Setup Guide*.
- There are additional notes related to the DDs of RAR files when a resource adapter is imported. For importing resource adapters, see *7.2.3 Importing resource adapters (RAR files)* in the *uCosminexus Application Server Application Setup Guide*.
- If the display name of the RAR file or data source to be imported has more than 240 characters, an error will occur.
- A Java heap of approximately three times the file size specified in the argument is temporarily used. When the value three times the file size exceeds the estimated value of the Java heap of the J2EE server, you must specify a value of three times the file size, in the size of the Java heap of the J2EE server.

cjlistjb (list JavaBeans resources)

Format

```
cjlistjb [server-name] [-nameserver provider-URL]
```

Function

This command outputs to the standard output the status of all JavaBeans resources.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

Output format

```
JavaBeans-resource-status JavaBeans-resource-display-name
JavaBeans-resource-status JavaBeans-resource-display-name
...
```

One of the following values is output for *JavaBeans-resource-status*:

- `running`
  Running status
- `stopped`
  Stopped status

Input examples

```
cjlistjb MyServer
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout error occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. Specify the other arguments after the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *server-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjlistpool (list connection pools)

Format

For specifying resource adapters deployed as J2EE resource adapters

```
cjlistpool [server-name] [-nameserver provider-URL]
      -resname resource-adapter-display-name
      [-resname resource-adapter-display-name ...]
```

For specifying resource adapters included and used in an application

```
cjlistpool [server-name] [-nameserver provider-URL]
      -name application-name
      -resname resource-adapter-display-name
      [-resname resource-adapter-display-name ...]
```

For specifying all resource adapters

```
cjlistpool [server-name] [-nameserver provider-URL] -resall
```

Function

For specifying selected resource adapters

For specifying a resource adapter deployed as a J2EE resource adapter

This command outputs the connection pool information for the specified J2EE resource adapters as the standard output.

The command can display connection pool information for multiple resource adapters concurrently. This command attempts to display information for all resource adapters even if there are resource adapters that cannot be displayed.

For specifying a resource adapter included and started in an application

This command outputs the connection pool status of the resource adapter included in the specified application as the standard output.

The command can display connection pool status for multiple resource adapters concurrently. This command attempts to display status for all resource adapters even if there are resource adapters that cannot be displayed.

For specifying all resource adapters

This command outputs to the standard output connection pool information for all running resource adapters.

Note that invalid connection pools are not output.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *resource-adapter-display-name*

Specifies the display name of a resource adapter to be displayed.

In Connector 1.5, this argument is specified as *resource-adapter-display-name*!*connection-definition-identifier*.

`-name` *application-name*

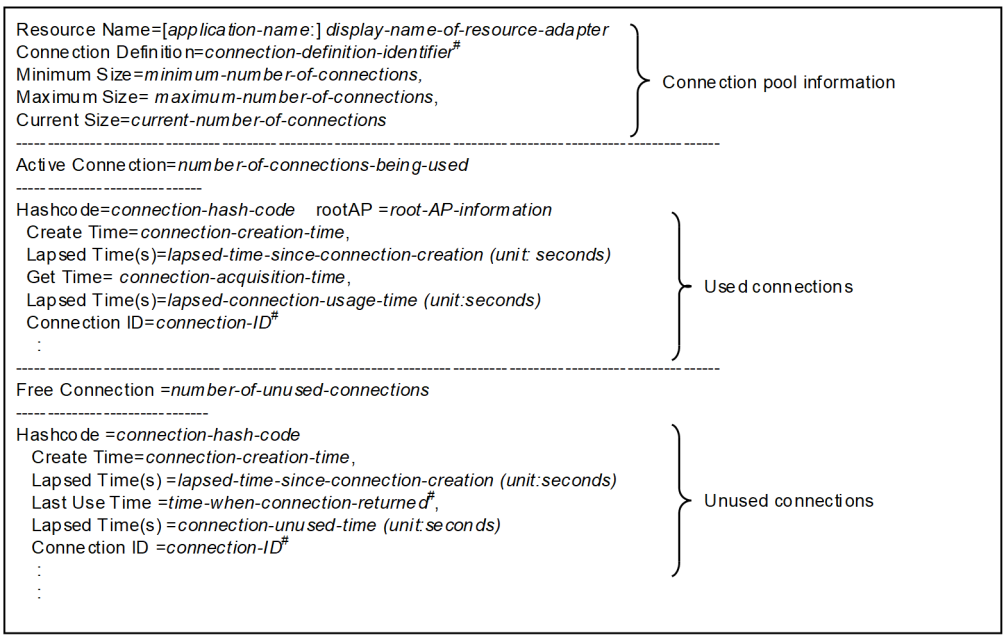
Specifies the name of application including the resource adapter to be displayed.

If this argument is omitted, the name of resource adapter deployed as J2EE resource adapter is displayed.

`-resall`

Specifies that all resource adapters are to be displayed.

Output format



If the connection ID, the connection returned time, and connection definition identifier do not exist, N/A is output.

Input examples

Format 1

```
cjlistpool MyServer -resname Rar1
```

Format 2

```
cjlistpool MyServer -name App1 -resname Rar1
```

Format 3

```
cjlistpool MyServer -resall
```

Return values

0:

The command terminated normally.

1:

The command terminated abnormally.

3:

A timeout error occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an

option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *resource-adapter-display-name* `-resname` *provider-URL*).

- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjlistrar (list resource adapters)

Format

For displaying the resource adapter status

```
cjlistrar [server-name] [-nameserver provider-URL]
     [-spec]
```

For displaying the list of connection definition identifiers

```
cjlistrar [server-name] [-nameserver provider-URL]
      -resname resource-adapter-display-name -outbound
```

For displaying the list of message listener types

```
      -resname resource-adapter-display-name -inbound
```

For displaying the list of property names that must be set up for activation

```
      -resname resource-adapter-display-name
      -listenertype message-listener-type-name
```

Function

For displaying the resource adapter status

This command outputs to the standard output the names and statuses of all deployed resource adapters.

If you specify `-spec`, the version of Connector-architecture specification for RAR file is output as the standard output.

For displaying the list of connection definition identifiers

If you specify `-resname` and `-outbound` the Connector 1.5 resource adapter, a list of connection definition identifiers for the `outbound` resource adapter included in the deployed RAR file will output as the standard output. You cannot specify `-resname` and `-outbound` in Connector 1.0 resource adapters.

If you specify `-resname` and `-inbound` in the Connector 1.5 resource adapter, a list of the types of message listeners of the `inbound` resource adapter included in the deployed RAR file will output as the standard output. You cannot specify `-resname` and `-inbound` in Connector 1.0 resource adapters.

If you specify `-resname` and `-listenertype` in the Connector 1.5 resource adapter, a list of property names that you must set up for activating the specified message listeners will output as the standard output. You cannot specify `-resname` and `-listenertype` in Connector 1.0 resource adapters.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-spec`

Specify this argument to display the Connector-architecture version.

One of the following Connector-architecture versions is displayed:

- Connector 1.0
- Connector 1.5

`-resname` *resource-adapter-display-name*

Specifies the name of resource adapter to be displayed.

`-outbound`

Specify this argument along with `-resname` to display the connection definition identifier for the `Outbound` resource adapter included in the RAR file.

`inbound`

Specify this argument along with `-resname` to display the types of message listeners of the `Inbound` resource adapter included in the RAR file.

`-listenertype` *message-listener-type-name*

Specify this argument along with `-resname` to display the property names that you must set up for activating the specified message listeners.

Output format

When `-spec` is not specified

```
resource-adapter-status resource-adapter-name
resource-adapter-status resource-adapter-name
...
```

One of the following values is output for *resource-adapter-status*:

- `running`: Running
- `stopped`: Stopped

When `-spec` is specified

```
Resource-adapter-status Connector-architecture-specification-version resou
rce-adapter-name
Resource-adapter-status Connector-architecture-specification-version resou
rce-adapter-name
...
```

When `-resname` and `-outbound` are specified

```
Connection-definition-identifier
Connection-definition-identifier
...
```

When `-resname` and `-inbound` are specified

```
Message-listener-type
Message-listener-type
...
```

When `-resname` and `-listenertype` are specified

```
Property-name
Property-name
...
```

Input examples

```
cjlistrar MyServer
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. Specify the other arguments after the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *server-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- The resource adapters in the listing are sorted in ascending order; resource adapter names are not case sensitive.

cjlistres (list resources)

Format

For resources other than RAR file

```
cjlistres [server-name] [-nameserver provider-URL]
     -type {ejb|war|datasource|mail}
     [-resname display-name]
```

For RAR file resources

```
cjlistres [server-name] [-nameserver provider-URL] -type rar [-spec|
     -resname display-name -outbound |
     -resname display-name -inbound |
     -resname display-name -listenertype message-listener-type-name]
```

Function

For resources other than RAR file

This command outputs the list of imported EJB-JAR, WAR, data source files, or mails as the standard output.

For RAR file resources

This command outputs the list of imported RAR files to the standard output.

If you specify `-spec`, the version of Connector-architecture specification for RAR files is output as the standard output.

If you specify `-resname` and `-outbound` in the Connector 1.5 resource adapter, a list of connection definition identifiers for the `outbound` resource adapter included in the deployed RAR file will output as the standard output. You cannot specify `-resname` and `-outbound` in Connector 1.0 resource adapters.

If you specify `-resname` and `-inbound` in the Connector 1.5 resource adapter, a list of the types of message listeners of the `inbound` resource adapter included in the deployed RAR file will output as the standard output. You cannot specify `-resname` and `-inbound` in Connector 1.0 resource adapters.

If you specify `-resname` and `-listenertype` in the Connector 1.5 resource adapter, a list of property names that you must set up for activating the specified message listeners will output as the standard output. You cannot specify `-resname` and `-listenertype` in Connector 1.0 resource adapters.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {ejb|war|datasource|mail|rar}`

Specifies the type of resource to be displayed:

- `ejb`: EJB-JAR files
- `war`: WAR files
- `datasource`: Data source files
- `mail`: Mail
- `rar`: RAR files

`-resname` *display-name*

Specifies the display names of resources (EJB-JAR, WAR, or RAR file) to be displayed.

If you specify -resname for EJB-JAR, WAR, or RAR file, the list of resources (for EJB-JAR file: Enterprise Bean, for WAR file: servlet/JSP or filter, for RAR file: connection definition identifier of the RAR file) included in each is output as the standard output.

-spec

Specify this argument to display the Connector-architecture version.

One of the following Connector-architecture version is displayed:

- Connector 1.0
- Connector 1.5

-outbound

Specify this argument along with -resname for displaying the connection definition identifier for the Outbound resource adapter included in the RAR file.

inbound

Specify this argument along with -resname to display the types of message listeners of the Inbound resource adapter included in the RAR file.

-listenertype *message-listener-type-name*

Specify this argument along with -resname to display the property names that you must set up for activating the specified message listeners.

Input examples

For EJB-JAR files

```
cjlistres MyServer -type ejb
```

For WAR files

```
cjlistres MyServer -type war
```

For data source files

```
cjlistres MyServer -type datasource
```

For mail

```
cjlistres MyServer -type mail
```

For RAR files

```
cjlistres MyServer -type rar
```

Output format

For EJB-JAR files (-resname not specified)

```
EJB-JAR-file-display-name
EJB-JAR-file-display-name
...
```

For an EJB-JAR file (-resname specified)

```
Enterprise-Bean-display-name
Enterprise-Bean-display-name
...
```

For WAR files (-resname not specified)

```
WAR-file-display-name
WAR-file-display-name
...
```

For a WAR file (-resname specified)

```
servlet/JSP-display-name, filter-display-name
servlet/JSP-display-name, filter-display-name
...
```

For data source files

```
data-source-file-display-name
data-source-file-display-name
...
```

For mail

```
mail-display-name
mail-display-name
...
```

For a RAR file (-resname and -spec not specified)

```
RAR-file-display-name
RAR-file-display-name
...
```

For a RAR file (-spec specified)

```
Connector-architecture-specification-version RAR-file-display-name
Connector-architecture-specification-version RAR-file-display-name
...
```

For a RAR file (-resname and -outbound specified)

```
Connection-definition-identifier
Connection-definition-identifier
...
```

For a RAR file (-resname and -inbound specified)

```
Message-listener-type
Message-listener-type
...
```

For a RAR file (-resname and -listenertype specified)

```
Property-name
Property-name
...
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver ejb -type` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- The files in the listing are sorted in ascending order; file names are not case sensitive.

cjsetjbprop (set HITACHI JavaBeans Resource Property)

Format

```
cjsetjbprop [server-name] [-nameserver provider-URL]
      -resname JavaBeans-resource-display-name -c Property-file-path
```

Function

This command changes the property of JavaBeans resource specified with `-resname` to the value in the specified JavaBeans resource property file. For details on the JavaBeans resource property file, see *4.2 HITACHI JavaBeans Resource Property file* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

The specified JavaBeans resource must exist.

The display name of JavaBeans resource is replaced with the name specified in the `<display-name>` tag of the property file.

The Property of a JavaBeans resource cannot be changed if the resource has been started.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *JavaBeans-resource-display-name*

Specifies the display name of the JavaBeans resource that is to be set up.

`-c` *Property-file-path*

Specifies the path of the input source Property file.

Input examples

```
cjsetjbprop MyServer -resname MyJavaBEansName -c MyJavaBeansProp.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout error occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *Property-file-path* `-c` *JavaBeans-resource-display-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjsetrarprop (HITACHI Connector Property Settings)

Format

```
cjsetrarprop [server-name] [-nameserver provider-URL]
       -resname resource-adapter-display-name -c Property-file-path
```

Function

This command changes the Property of the resource contained in a deployed RAR file specified by `-resname` to the values specified in a property file.

The RAR file property is set in the HITACHI Connector Property File. For the HITACHI Connector Property File, see *4.1 HITACHI Connector Property file* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

The display name of the resource is substituted with the name specified in the `<display-name>` tag of the property file.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is used as the server name.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *resource-adapter-display-name*

Specifies the display name of the resource (deployed resource adapter) that is to be set up.

`-c` *Property-file-path*

Specifies the path of the input source property file.

Input examples

```
cjsetrarprop MyServer -resname account-rar -c MyRarprop.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or

subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *resource-adapter-display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *Property-file-path* `-c` *resource-adapter-display-name*).

- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjsetresprop (set Property of resource)

Format

For an EJB-JAR or WAR file

```
cjsetresprop [server-name] [-nameserver provider-URL]
    -type {ejb|war}
    -resname resource-display-name[/lower-resource-display-name]
    -c Property-file-path
```

For a data source file

```
cjsetresprop [server-name] [-nameserver provider-URL]
       -type datasource -resname data-source-display-name
       -c Property-file-path
```

For mail

```
cjsetresprop [server-name] [-nameserver provider-URL]
       -type mail -resname mail-display-name
       -c Property-file-path
```

For an RAR file

```
cjsetresprop [server-name] [-nameserver provider-URL]
       -type rar -resname resource-adapter-display-name
       -c Property-file-path
```

Function

This command changes the Property of the resources contained in an EJB-JAR file (EJB-JAR file, Session Bean, Entity Bean, and Message-driven Bean), the Property of the resources contained in a WAR file (WAR file, servlet/JSP, filter), the Property of a data source file, the Property of mail, or the Property of the resources contained in an undeployed RAR file, to the values specified in a property file.

If the display name of a lower resource is not specified, the specification is for the EJB-JAR or WAR file.

For the property files used to set up J2EE applications and resources, see the following locations:

- *3. Property Files Used for Setting J2EE Applications* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.
- *4. Property Files Used for Setting Resources* in the *uCosminexus Application Server Application and Resource Definition Reference Guide*.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {ejb|war|datasource|mail|rar}`

Specifies the type of resource that is to be set up:

- `ejb`: Property of EJB-JAR file or the resources in an EJB-JAR file
- `war`: Property of WAR file or the resources in a WAR file
- `datasource`: Data source file
- `mail`: Mail
- `rar`: Property of Undeployed RAR file

`-resname` *resource-display-name*, *data-source-display-name*, *mail-display-name*, or *resource-adapter-display-name*

Specifies the display name of the resource to be set up.

- For an EJB-JAR file: *EJB-JAR-file-display-name*
- For an EJB file: *EJB-JAR-file-display-name*`[/`*Enterprise-Bean-display-name*`]`
- For a WAR file: *WAR-file-display-name*
- For a servlet/JSP: *WAR-file-display-name*`[/`*servlet/JSP-display-name*`]`
- For a filter: *WAR-file-display-name*`[/`*filter-display-name*`]`
- For data source file: *Data-source-file-display-name*
- For mail: *Mail-display-name*
- For an RAR file: *RAR-file-display-name*

`-c` *Property-file-path*

Specifies the path of the input source property file.

Input examples

For an EJB-JAR file

```
cjsetresprop MyServer -type ejb -resname accountJsp/MyAccount -c MyAccount
Prop.xml
```

For a WAR file

```
cjsetresprop MyServer -type war -resname account-war/Account -c AccountPro
p.xml
```

For a data source file

```
cjsetresprop MyServer -type datasource -resname JdbcDbpsv -c JdbcDbpsvProp
.xml
```

For mail

```
cjsetresprop MyServer -type mail -resname Mail -c MailProp.xml
```

For an RAR file

```
cjsetresprop MyServer -type rar -resname account-ra -c AccountProp.xml
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *resource-display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname ejb -type` *resource-display-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- The `security-role/link-to` values that are set in the property file are ignored. If the specified resource is a Session Bean, Entity Bean, or WAR file, the `runtime` value is also ignored.
- The data source display name is substituted with the name specified in the `<display-name>` tag of the property file.
- The resource display name is substituted with the name specified in the `<display-name>` tag of the property file.
- When this command is executed for a data source, the specified data source name must exist.

  When this command is executed for mail, the specified display name is handled as a new registration if it does not already exist. For a new registration, alphanumeric characters (0-9, A-Z, or a-z) or the following special characters can be used.

  However, if names having a single-byte space at the beginning or end are specified, you can use the name by deleting the single-byte space. When a mail display name is set to the existing mail display name, the name is substituted with the name specified in the `<display-name>` tag of the property file.

space ( ), exclamation mark (!), hash mark (#), dollar sign ($), percent (%), ampersand (&), parentheses (( ) ( )), plus (+), hyphen (-), period (.), semicolon (;), less-than sign (<), greater than sign (>), at mark (@), square brackets ([ ) ( ]), yen sign (¥), caret (^), underscore (_), grave accent mark (`), curly brackets ({) (}), vertical bar (|), tilda (~).

- If you set up the EJB-JAR property file when the <security-role-ref>-<role-link> tag is set up in the DD file (ejb-jar.xml), the value of the <security-role-ref>-<role-link> tag might be cleared in the DD file (ejb-jar.xml).

cjstartjb (start JavaBeans resource)

Format

```
cjstartjb [server-name] [-nameserver provider-URL]
     -resname JavaBeans-resource-display-name
```

Function

This command starts a JavaBeans resource.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *JavaBeans-resource-display-name*

Specifies the display name of the JavaBeans resource.

Input examples

```
cjstartjb MyServer -resname javabeansname
```

Return values

0:

The command terminated normally.

1:

The command terminated abnormally.

2:

The command could not be executed because of an exclusion error.

3:

A timeout error occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver JavaBeans` *resource-display-name* `-resname` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjstartrar (start resource adapter)

Format

```
cjstartrar [server-name] [-nameserver provider-URL]
      -resname resource-adapter-display-name
```

Function

This command starts a specified deployed resource adapter.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *resource-adapter-display-name*

Specifies the display name of a deployed resource adapter.

Input examples

```
cjstartrar MyServer -resname account-ra
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *resource-adapter-display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *provider-URL* `-nameserver` *resource-adapter-display-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjstopjb (stop JavaBeans resource)

Format

```
cjstopjb [server-name] [-nameserver provider-URL]
     -resname JavaBeans-resource-display-name
```

Function

This command stops a JavaBeans resource that has been started.

To stop a JavaBeans resource that is being used from an application, you must first stop the application that is using the JavaBeans resource.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *JavaBeans-resource-display-name*

Specifies the display name of the JavaBeans resource.

Input examples

```
cjstopjb MyServer -resname javabeansname
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout error occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *application-name* `-name`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *JavaBeans-resource-display-name* `-resname` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjstoprar (stop resource adapter)

Format

```
cjstoprar [server-name] [-nameserver provider-URL]
     -resname resource-adapter-display-name
```

Function

This command stops a resource adapter that has been started.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *resource-adapter-display-name*

Specifies the display name of the resource adapter that is to be terminated.

Input examples

```
cjstoprar MyServer -resname account-ra
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *resource-adapter-display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *provider-URL* `-nameserver` *resource-adapter-display-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjtestres (execute resource connection test)

Format

For data source and mails

```
cjtestres [server-name] [-nameserver provider-URL]
     -type {datasource|mail}
     -resname display-name [-resname display-name ...]
```

For the resource adapter to be deployed and used as a J2EE resource adapter

```
cjtestres [server-name] [-nameserver provider-URL]
     -type rar
     -resname display-name [-resname display-name ...]
```

For the resource adapter to be included and used in an application

```
cjtestres [server-name] [-nameserver provider-URL]
     -name application-name -type rar
     -resname display-name [-resname display-name ...]
```

Function

This command executes a connection test on a J2EE resource adapter, mail, or data source.

If there are multiple connection definitions in a resource adapter, this command performs the connection test for all the connection definitions. The connection test is executed for all the connection definitions, even if an error occurs in one of the connection definitions.

Note that you cannot execute the connection test for `Inbound` resource adapters.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-name` *application-name*

Specifies the application name when performing the connection test for the resource adapters contained in the application.

`-type {datasource|mail|rar}`

Specifies the type of resource for which a connection test is to be executed:

- `datasource`: Data source file
- `mail`: Mail
- `rar`: RAR file

`-resname` *display-name*

Specifies the display name of the data source file, mail, or RAR file for which a connection test is to be executed. This option can be specified multiple times.

Input examples

For a data source

```
cjtestres -type datasource -resname Myds1
```

For mail

```
cjtestres -type mail -resname Mymail1
```

For the resource adapter to be deployed and used as a J2EE resource adapter

```
cjtestres -type rar -resname Myrar1
```

For the resource adapter to be included and used in an application

```
cjtestres -name App1 -type rar -resname Myrar1
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *display-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *display-name* `-resname` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjundeployrar (undeploy resource adapter)

Format

```
cjundeployrar [server-name] [-nameserver provider-URL]
       -resname resource-adapter-display-name
       [-resname resource-adapter-display-name ...]
```

Function

This command undeploys a specified deployed resource adapter. Deployed resource adapters are the targets of this command. The command can undeploy multiple resource adapters concurrently.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is used as the server name.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-resname` *resource-adapter-display-name*

Specifies the name of a resource adapter.

Input examples

```
cjundeployrar MyServer -resname account-ra
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an

option name and its corresponding value (for example, you cannot specify *resource-adapter-name* `-resname`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-resname` *provider-URL* `-nameserver` *resource-adapter-name*).

- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If multiple resource adapters are to be undeployed concurrently, this command attempts to delete all specified resource adapters even if there are resource adapters that cannot be undeployed.
- Once a J2EE resource adapter is started and its connection is tested, it cannot be undeployed until the J2EE server is restarted.

2.5 Other commands used with J2EE servers

This section describes the other commands used with J2EE servers.

The following table lists the other commands used with J2EE servers:

Table 2–6: List of other commands used with J2EE servers

Command name	Function	Description	Command group
cjaddsec	Add user or role	Adds a user or a role.	Update
cjclearsession	Delete the global session information (database session failover functionality)	Deletes the global session information from the database.	--
cjcommittrn	Commit unconcluded transaction	Commits unconcluded transactions.	Update
cjdeletesec	Delete user or role	Deletes a user or a role.	Update
cjforgettrn	Conclude heuristic transactions forcibly	Concludes the heuristic transactions forcibly.	Update
cjlistsec	List users or roles	Outputs a list of users or roles to the standard output.	Reference
cjlistthread	Display thread information	Outputs information about each thread being processed.	Reference
cjlisttrn	Display information about transactions operating in J2EE server	Outputs to the standard output a listing of information about transactions operating in a J2EE server.	Privileged
cjlisttrnfile	Display transaction information for stopped J2EE server	Outputs to the standard output a listing of transaction information for a stopped J2EE server.	--
cjmapsec	Map user to role	Adds a user to a role.	Update
cjresetsv	Force release of server management commands from exclusion	Resets exclusion information for server management commands so that the commands can be executed.	--
cjrollbacktrn	Roll back unconcluded transactions	Rolls back unconcluded transactions.	Update
cjstopthread	Stop threads	Stop specified threads.	Update
cjunmapsec	Unmap user from role	Deletes a user from a role.	Update

Legend:

Update: The command is an update command, which updates the J2EE server contents or retrieves configuration information.

Reference: The command is a reference command, which only displays the configuration status without updating the J2EE server contents.

Privileged: The command is a privileged command, which updates the contents of a J2EE server and whose processing always takes priority over other commands.

--: Does not apply.

For the system-wise mutual exclusion control of the server management commands, see *3.2 Exclusive access control of server management commands* in the *uCosminexus Application Server Application Setup Guide*.

cjaddsec (add user or role)

Format

For a user

```
cjaddsec [server-name] [-nameserver provider-URL]
     -type user -name user-name -password password
```

For a role

```
cjaddsec [server-name] [-nameserver provider-URL]
     -type role -name role-name
```

Function

This command adds a user or a role.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {user|role}`

Specifies the type of resource to be added:

- `user`: User
- `role`: Role

`-name {`*user-name*`|`*role-name*`}`

Specifies the user name or role name.

`-password` *password*

Specifies the password to be used for user authentication.

Input examples

For a user

```
cjaddsec MyServer -type user -name scott -password tiger
```

For a role

```
cjaddsec MyServer -type role -name manager
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the order of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-type` *user-name* `-name user`).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- A user name or role name that already exists cannot be specified.

cjclearsession (Delete global session information (database session failover functionality))

Format

```
cjclearsession [-count] [-dbtype {hirdb|oracle}]
       URL-to-be-specified-in-JDBC-driver database-user-name
       database-password application-identifier server-ID
```

Function

This command deletes the global session information from the database or displays the number of global session information items on the database. Note that you can use this command when the database session failover functionality is used and the integrity guarantee mode is disabled.

Arguments

`-count`

Displays the number of global session information items on the database. If omitted, the global session information is deleted.

`-dbtype {hirdb|oracle}`

Specifies the type of database to be connected. If omitted, hirdb is assumed.

- hirdb: For connecting to HiRDB
- oracle: For connecting to Oracle

URL-to-be-specified-in-JDBC-driver

Specifies the URL to be specified in the JDBC driver for connecting to the database. For the URL syntax, see the documentation for the database in use.

database-user-name

Specifies the user connected to the database.

database-password

Specifies the password of the user connected to the database.

application-identifier

Specifies the application identifier of the Web application to be deleted or displayed.

server-ID

Specifies the server ID of the J2EE server that owns the global session information to be deleted or displayed.

Input examples

For deleting the global session information from the database

```
cjclearsession -dbtype hirdb jdbc:hitachi:hirdb://DBID=22200,DBHOST=DBSERV
ER USER PASS APPID SERVERID
```

For displaying the number of global session information items on the database

```
cjclearsession -count -dbtype hirdb jdbc:hitachi:hirdb://DBID=22200,DBHOST
=DBSERVER USER PASS APPID SERVERID
```

Return values

`0`:

The command terminated normally.

`1`:

A syntax error occurred.

`2`:

An error other than 1 occurred.

cjcommittrn (Commit unconcluded transaction)

Format

```
cjcommittrn [server-name] [-nameserver provider-URL]
      -gid global-transaction-ID
```

Function

Specifies the unconcluded (Prepared) global transaction ID existing on a J2EE server and commits the transaction. Note that you can use this command when the TP1 inbound integration functionality is used.

If the specified global transaction ID exists, the command concludes the transaction.

If the specified global transaction ID is invalid, the command returns KFCB40122-E and the Usage (KFCB40130-E).

If the specified global transaction ID does not exist, the command returns KFCB40131-E; however, does not return the Usage.

This command can be executed if `true` is set for the `ejbserver.distributedtx.XATransaction.enabled` key in the `usrconf.properties` file (user property file for the J2EE server).

Arguments

server-name

Specifies the name of the connected J2EE server. If the server name is omitted, the host name is used as the server name.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name::host-name:port-number
```

For details on the specified contents, see *2.1.2 Provider URL*.

`-gid` *global-transaction-ID*

Specifies the global transaction ID of the transaction to be committed.

Input examples

```
cjcommittrn MyServer -gid d13800010000000000000000000000fefb57e6480000000000
000001
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout occurred.

`9`:

The command cannot be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify that name immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name

(or subsequent to the command name, if the server name is omitted). However, you cannot switch the sequence of the option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example: you cannot specify `-nameserver` *global-transaction-ID* `-gid` *provider-URL*).

- When you specify a server name in the command argument, you must specify a case-sensitive character string that matches the server name specified in the *cjsetup (set up or unsetup J2EE server)*.
- If an error occurs in one of the following locations, KFCB40137-E is returned and the transaction is not committed. Resolve the error based on the message contents, and then re-execute the command.
  - Resource manager
  - Communication path to the resource manager
  - Other J2EE servers
  - Communication path to the other J2EE servers

cjdeletesec (delete user or role)

Format

```
cjdeletesec [server-name] [-nameserver provider-URL]
      -type {user|role} -name {user-name|role-name}
```

Function

This command deletes a user or a role.

If the user to be deleted is mapped to a role, this command unmaps the user from that role. If the role to be deleted has users mapped to it, the command unmaps those users.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {user|role}`

Specifies the type of resource to be deleted:

- `user`: User
- `role`: Role

`-name {`*user-name*`|`*role-name*`}`

Specifies a user name or role name.

Input examples

For a user

```
cjdeletesec MyServer -type user -name scott
```

For a role

```
cjdeletesec MyServer -type role -name manager
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-type` *user-name* `-name user`).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjforgettrn (Conclude heuristic transactions forcibly)

Format

```
cjforgettrn [server-name] [-nameserver provider-URL]
      -gid global-transaction-ID
```

Function

Specifies the global transaction ID of a heuristically concluded (`HeuristicCommit`, `HeuristicRollback`, `HeuristicMixed`, `HeuristicHazard`) transaction and forcibly terminates the transaction. Note that you can use this command when the TP1 inbound integration functionality is used.

If the status of the specified transaction differs from `HeuristicCommit`, `HeuristicRollback`, `HeuristicMixed`, or `HeuristicHazard`, this command returns KFCB40135-E.

If the specified global transaction ID exists, the command forcibly terminates the transaction.

If the specified global transaction ID is invalid, the command returns KFCB40122-E and the Usage (KFCB40134-E).

If the specified global transaction ID does not exist, the command returns KFCB40131-E; however, does not return the Usage.

This command can be executed if `true` is set for the `ejbserver.distributedtx.XATransaction.enabled` key in the `usrconf.properties` file (user property file for the J2EE server).

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is used as the server name.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host, in the following format:

```
protocol-name::host-name:port-number
```

For details on the specified contents, see *2.1.2 Provider URL*.

`-gid` *global-transaction-ID*

Specifies the global transaction ID of the transaction to be concluded forcibly.

Input examples

```
cjforgettrn MyServer -gid d13800010000000000000000000000fefb57e6480000000000
000001
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout occurred.

`9`:

The command cannot be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify that name immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name, if the server name is omitted). However, you cannot switch the sequence of the option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also,

you cannot specify an option name in conjunction with a non-corresponding value (for example: you cannot specify `-nameserver` *global-transaction-ID* `-gid` *provider-URL*).

- When you specify a server name in the command argument, you must specify a case-sensitive character string that matches the server name specified in the *cjsetup (set up or unsetup J2EE server)*.
- If an error occurs in one of the following locations, KFCB40137-E is returned and the transaction is not concluded forcibly. Resolve the error based on the message contents, and then re-execute the command.
  - Resource manager
  - Communication path to the resource manager
  - Other J2EE servers
  - Communication path to the other J2EE servers

cjlistsec (list users or roles)

Format

```
cjlistsec [server-name] [-nameserver provider-URL]
     -type {user|role} [-name {user-name|role-name}]
```

Function

This command outputs to the standard output a list of users or roles.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-type {user|role}`

Specifies the type of resource to be displayed:

- `user`: User
- `role`: Role

`-name {`*user-name*`|`*role-name*`}`

Specifies the name of a user or role to be displayed.

Input examples

For all users

```
cjlistsec MyServer -type user
```

For the role of a specific user

```
cjlistsec MyServer -type user -name scott
```

For all roles

```
cjlistsec MyServer -type role
```

For the users of a specific role

```
cjlistsec MyServer -type role -name manager
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-type` *user-name* `-name user`).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- The users or roles in the listing are sorted in ascending order; user and role names are not case sensitive.

cjlistthread (display thread information)

Format

Without output of stack traces

```
cjlistthread [server-name] [-nameserver provider-URL]
```

With output of stack traces

```
cjlistthread [server-name] [-nameserver provider-URL] -detail
```

Function

This command outputs information about each thread being processed, such as the thread ID, root AP information, the thread's status, application name, start time of the method being executed, and the timeout value.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-detail`

Specifies that the stack trace information that was obtained most recently for each thread is to be output. However, even when this option is specified, stack trace information is not output for a thread whose status is `running`.

Input examples

Without output of stack traces

```
cjlistthread MyServer
```

With output of stack traces

```
cjlistthread MyServer -detail
```

Output format

```
ThreadID=thread-ID,RootApInfo=root-AP-information,Status=thread-status,AppName=application-name,StartTime=start-time,TimeOut=timeout-time
```

Output examples

Without output of stack traces

```
Current Time=HH: MM: SS

ThreadID=aa...aa,RootApInfo=bb...bb,Status=cc...cc,AppName=dd...dd,StartTime=ee...ee,TimeOut=ff...ff
ThreadID=aa...aa,RootApInfo=bb...bb,Status=cc...cc,AppName=dd...dd,StartTime=ee...ee,TimeOut=ff...ff
...
```

With output of stack traces

```
Current Time=HH: MM: SS
ThreadID=aa...aa,RootApInfo=bb...bb,Status=cc...cc,AppName=dd...dd,StartTime=ee...ee,TimeOut=ff...ff
  com.hitachi.XXXX
   at com.hitachi.YYYY
```

```
   at user.code.UserClass1
   at com.hitachi.ZZZZ
...
ThreadID=aa...aa,RootApInfo=bb...bb,Status=cc...cc,AppName=dd...dd,StartTi
me=ee...ee,TimeOut=ff...ff
  com.hitachi.xxxx
   at com.hitachi.yyyy
   at user.code.UserClass2
   at com.hitachi.zzzz
...
```

Legend:

`aa...aa`: Thread ID

`bb...bb`: Root AP information

`cc...cc`: Thread status

`dd...dd`: Application name

`ee...ee`: Start time

`ff...ff`: Timeout time

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *application-name* `-name` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjlisttrn (display information about transactions operating in J2EE server)

Format

```
cjlisttrn [server-name] [-nameserver provider-URL]
     [-gid global-transaction-ID] [-pending]
     [-time elapsed-time] [-bqual] [-tp1]
```

Function

This command displays a list of the statuses and elapsed times of the transactions operating in the specified J2EE server.

If there are multiple J2EE servers operating on the same OS, you must issue the `cjlisttrn` command separately for all the J2EE server processes related to the transaction.

This command can be executed if `true` is set for the `ejbserver.distributedtx.XATransaction.enabled` key in the `usrconf.properties` file (user property file for the J2EE server).

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-gid` *global-transaction-ID*

Specifies the ID of the global transaction that is to be displayed.

`-pending`

Specifies that the command is to display information for any of the following types of unconcluded transactions that are being processed:

- `Preparing`
- `Prepared`
- `Committing`
- `Rollingback`
- `HeuristicCommit`
- `HeuristicRollback`
- `HeuristicMixed`
- `HeuristicHazard`

`-time` *elapsed-time*

Specifies an elapsed time (in seconds) since the transactions were started, as an integer in the range 0 to 2147483647. Information is displayed only for transactions whose elapsed time exceeds the amount of time specified in this option.

`-bqual`

Specifies that the command is to display all Xid branch IDs related to transactions.

`-tp1`

Displays the transaction global identifier and transaction branch identifier of OpenTP1 corresponding to the global transaction ID of Application Server.

If an OpenTP1-linked transaction exists, this argument adds and displays the transaction global identifier and transaction branch identifier of OpenTP1 in the output results.

If the transaction is not linked to OpenTP1, the transaction global identifier and transaction branch identifier of OpenTP1 are not displayed.

Input examples

```
cjlisttrn MyServer -gid d13800010000000000000000000000fefb57e648000000000000
0001 -bqual
```

Output format

When -tp1 is specified in the argument

```
[Global transaction information]
Status      GlobalTransactionId                    ElapsedTime BranchType   T
P1TRNGID    TP1TRNBID
---------------- ------------------------------------------------------ -
--------- ------------- --------------- ----------------
transaction-status global-transaction-ID elapsed-time branch-type GID-of-Ope
nTP1 BID-of-OpenTP1
[branch-ID-list-of-Xid]
transaction-status global-transaction-ID elapsed-time branch-type GID-of-Ope
nTP1 BID-of-OpenTP1
[branch-ID-list-of-Xid]
...

total count number-of-displayed-entries
```

When -tp1 is not specified in the argument

```
[Global transaction information]
Status         GlobalTransactionID      ElapsedTime BranchType
---------------- ------------------------------------------------------ -
--------- -------------
transaction-status global-transaction-ID elapsed-time branch-type
[branch-ID-list-of-Xid]
transaction-status global-transaction-ID elapsed-time branch-type
[branch-ID-list-of-Xid]
...
total count number-of-displayed-entries
```

transaction-status

- `Active`: Active
- `MarkedRollback`: Marked for rollback
- `Preparing`: Undergoing preparation
- `Prepared`: Waiting for a conclusion instruction from the Superior
- `Committing`: Undergoing commit processing
- `RollingBack`: Undergoing rollback processing
- `HeuristicCommit`: Was committed forcibly
- `HeuristicRollback`: Was rolled back forcibly
- `HeuristicMixed`: Data consistency was lost because the transaction was partially committed or rolled back

- `HeuristicHazard`: Not known whether the transaction was committed or rolled back
- `Invalid`: Other internal inconsistency occurred

global-transaction-ID

ID of the target global transaction.

elapsed-time

Elapsed time since the transaction was started. However, if the transaction's *branch-type* is `Top (recovered)` or `Sub (recovered)`, this item displays the elapsed time since recovery from the status file. If the transaction's *branch-type* is `Xid (recovered)`, this item displays the elapsed time since the new transaction was created after Xid recovery.

branch-type

- `Top`: Top root branch
- `Sub`: Subordinate branch
- `Top(recovered)`: Top root branch recovered from status file
- `Sub(recovered)`: Subordinate branch recovered from status file
- `Xid(recovered)`: New branch that was created because the corresponding branch was not found after the Xid was recovered from the XAResource

branch-ID-list-of-Xid

List of all Xid branch IDs related to the transactions.

GID-of-OpenTP1

Displays the transaction global identifier of OpenTP1 corresponding to the global transaction ID of Application Server.

BID-of- OpentTP1

Displays the transaction branch identifier of OpenTP1 corresponding to the global transaction ID of Application Server.

number-of-displayed-entries

Number of displayed entries.

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also,

you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *global-transaction-ID* `-gid` *provider-URL*).

- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If the `-gid`, `-pending`, and `-time` options are all specified concurrently, information is output only for transactions that satisfy all of the conditions.

cjlisttrnfile (display transaction information for stopped J2EE server)

Format

```
cjlisttrnfile [server-name] [-gid global-transaction-ID]
       [-bqual]
```

Function

This command displays a listing of transaction statuses from the status file generated in a stopped J2EE server. The command can be applied only to a J2EE server on the host at which the command is executed.

This command can be executed if `true` is set for the `ejbserver.distributedtx.XATransaction.enabled` key in the `usrconf.properties` file (user property file for the J2EE server).

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

The target status file is determined from the status file directory information that has been set for the specified server. Status file directory information refers to the following property value settings in `usrconf.properties` (user properties file for the J2EE server):

- `ejbserver.distributedtx.ots.status.directory1`
- `ejbserver.distributedtx.ots.status.directory2`

`-gid` *global-transaction-ID*

Specifies the global transaction ID of the transactions that are to be displayed.

`-bqual`

Specifies that the command is to display all Xid branch IDs related to the transactions.

Input examples

```
cjlisttrnfile MyServer -gid d13800010000000000000000000000fefb57e64800000000
00000001 -bqual
```

Output format

```
 [Global transaction information(status file)]
status file1: status-file-name
[status file2: status-file-name]
```

```
host    (recorded in status file): "host-name"
J2EE server(recorded in status file): "server-name"
Status          GlobalTransactionId      BranchType
----------------------- ------------------------------ ---------------
transaction-status global-transaction-ID branch-type
[branch-ID-list-of-Xid]
transaction-status global-transaction-ID branch-type
[branch-ID-list-of-Xid]
...
Total count: number-of-displayed-entries
```

status-file-name

Name of the status file to be displayed by this command.

host-name

Host name or IP address for which the above status file was generated (host name or IP address written to the status file).

server-name

Name of the J2EE server for which the above status file was generated (J2EE server name written to the status file).

global-transaction-ID

ID of the target global transaction.

transaction-status

- `Prepared`: Waiting for a conclusion instruction from the Superior
- `Committing`: Undergoing commit processing
- `HeuristicCommit`: Was committed forcibly
- `HeuristicRollback`: Was rolled back forcibly
- `HeuristicMixed`: Data consistency was lost because the transaction was partially committed or rolled back
- `HeuristicHazard`: Not known whether the transaction was committed or rolled back
- `Invalid`: Other internal inconsistency occurred

branch-type

- `Top`: Top root branch
- `Sub`: Subordinate branch

branch-ID-list-of-Xid

List of all Xid branch IDs related to the transactions.

number-of-displayed-entries

Number of displayed entries.

Return values

`0`:

The command terminated normally (there is no transaction).

`1`:

The command terminated abnormally.

`6`:

The warning ended (a transaction exists).

7:

The warning ended (it is not known whether a transaction exists).

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- This command cannot be executed for a J2EE server located on another host.
- If this command is executed while the J2EE server is running and processing a transaction, the validity of the displayed contents is not guaranteed. You should always execute this command while the J2EE server is stopped. If the J2EE server is started while this command is executing, initialization of the in-process transaction service may fail.
- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *global-transaction-ID* `-gid`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-gid -bqual` *global-transaction-ID*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjmapsec (map user to role)

Format

```
cjmapsec [server-name] [-nameserver provider-URL]
     -role role-name -user user-name [-user user-name ...]
```

Function

This command adds a user to a role. The command can map multiple users concurrently.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-role` *role-name*

Specifies the role name.

`-user` *user-name*

Specifies the user name.

Input examples

```
cjmapsec MyServer -role manager -user scott
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-role` *user-name* `-user` *role-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- Mapping will not be performed if the specified user is already mapped to the specified role.
- If multiple users are to be mapped concurrently, this command attempts to map all users even if there are users that cannot be mapped.

cjresetsv (force release of server management commands from mutual exclusion)

Format

```
cjresetsv [server-name] [-nameserver provider-URL]
```

Function

Abnormal termination of a server management command may trigger an inconsistency in the exclusion information for the server management commands. If such an inconsistency occurs, the following message is displayed (even when no other server management command is being executed), and execution of server management commands is disabled:

```
"KDJE37057-E Another command is already running."
```

When this occurs, executing this command resets the exclusion information for the server management commands, thus enabling them to be executed. The commands that are the targets of exclusion control are the server management command and the `cjstopsv` command.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

Input examples

```
cjresetsv MyServer
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- This command deletes the exclusion information only when the command is not running on the J2EE server. If the exclusion information cannot be deleted because the command is being processed, the error message KDJE42355-W is displayed, and then the command is terminated abnormally.
- When the command exclusion information does not exist, this command is terminated normally.
- When you specify a server name in the command arguments, you must specify it immediately after the command name. However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *server-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjrollbacktrn (Roll back unconcluded transactions)

Format

```
cjrollbacktrn [server-name] [-nameserver provider-URL]
      -gid global-transaction-ID
```

Function

Specifies an unconcluded (Prepared) global transaction ID existing on the J2EE server and rolls back the transaction. Note that you can use this command when the TP1 inbound integration functionality is used.

If the specified global transaction ID exists, the command concludes the transaction.

If the specified global transaction ID is invalid, the command returns KFCB40122-E and Usage (KFCB40133-E).

If the specified global transaction ID does not exist, the command returns KFCB40131-E; however, does not return the Usage.

This command can be executed if `true` is set for the `ejbserver.distributedtx.XATransaction.enabled` key in the `usrconf.properties` file (user property file for the J2EE server).

Arguments

server-name

Specifies the name of the connected J2EE server. If the server name is omitted, the host name is used as the server name.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host, in the following format:

```
protocol-name::host-name:port-number
```

For details on the specified contents, see *2.1.2 Provider URL*.

`-gid` *global-transaction-ID*

Specifies the global transaction ID of the transaction to be rolled back.

Input examples

```
cjrollbacktrn MyServer -gid d13800010000000000000000000000fefb57e64800000000
00000001
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

3:

A timeout occurred.

9:

The command cannot be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify that name immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name, if the server name is omitted). However, you cannot switch the sequence of the option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example: you cannot specify `-nameserver` *global-transaction-ID* `-gid` *provider-URL*).
- When you specify a server name in the command argument, you must specify a case-sensitive character string that matches the server name specified in the *cjsetup (set up or unsetup J2EE server)*.
- If an error occurs in one of the following locations, KFCB40137-E is returned and the transaction is not rolled back. Resolve the error based on the message contents, and then re-execute the command.
  - Resource manager
  - Communication path to the resource manager
  - Other J2EE servers
  - Communication path to the other J2EE servers

cjstopthread (stop threads)

Format

```
cjstopthread [server-name] [-nameserver provider-URL]
       -tid thread-ID [-tid thread-ID ...]
```

Function

This command stops specified threads.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-tid` *thread-ID*

Specifies the thread ID of a thread that is to be stopped. This operation can be specified more than once. For details on determining thread IDs, see *cjlistthread (display thread information)*.

Input examples

```
cjstopthread MyServer -tid 100234
```

Return values

0:

The command terminated normally.

1:

The command terminated abnormally.

2:

The command could not be executed because of an exclusion error.

3:

A timeout occurred.

9:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-nameserver` *thread-ID* `-tid` *provider-URL*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

cjunmapsec (unmap user from role)

Format

```
cjunmapsec [server-name] [-nameserver provider-URL]
      -role role-name -user user-name [-user user-name ...]
```

Function

This command deletes a user from a role. This command can unmap multiple users concurrently.

Arguments

server-name

Specifies the name of a connected J2EE server. If the server name is omitted, the host name is assumed.

`-nameserver` *provider-URL*

Specifies the access protocol for the CORBA Naming Service, the name of the host running the CORBA Naming Service, and the port number being used by the host. These items are specified in the following format:

```
protocol-name: : host-name: port-number
```

For details on the specification items, see *2.1.2 Provider URL*.

`-role` *role-name*

Specifies the name of the role from which a user is to be deleted.

`-user` *user-name*

Specifies the name of the user that is to be deleted.

Input examples

```
cjunmapsec MyServer -role manager -user scott
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The command could not be executed because of an exclusion error.

`3`:

A timeout occurred.

`9`:

The command could not be executed because there are no administrator privileges (in Windows).

Notes

- When you specify a server name in the command arguments, you must specify it immediately after the command name. You can specify the other arguments in any order as long as they are subsequent to the server name (or subsequent to the command name if the server name is omitted). However, you cannot switch the sequence of an option name and its corresponding value (for example, you cannot specify *provider-URL* `-nameserver`); also, you cannot specify an option name in conjunction with a non-corresponding value (for example, you cannot specify `-role` *user-name* `-user` *role-name*).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.
- If multiple users are to be unmapped concurrently, this command attempts to unmap all of the specified users even if there are users that cannot be unmapped.

3 Commands Used with a Batch Server

This chapter describes the input formats and functions of the commands used with a batch server.

3.1 Overview of commands used with batch servers

This section describes the types of commands used with batch servers, and their provider URLs.

3.1.1 Types of commands used with batch servers

The types of commands used with batch servers are as follows:

The following table describes the types of commands used with batch servers, and their storage destinations:

Table 3–1: Types of commands used with batch servers and their storage destinations

Types of commands used with a batch server	Storage destination of commands
Commands used for operating batch servers	• In Windows *Cosminexus-installation-directory*\CC\server\bin\ • In UNIX /opt/Cosminexus/CC/server/bin/
Commands used with batch applications	• In Windows *Cosminexus-installation-directory*\CC\batch\bin\ • In UNIX /opt/Cosminexus/CC/batch/bin/
Resource operation commands used with batch servers	• In Windows *Cosminexus-installation-directory*\CC\admin\bin\ • In UNIX /opt/Cosminexus/CC/admin/bin/
Other commands used with batch servers	

3.1.2 Provider URL

Specify the access protocol for the CORBA Naming Service, the name of the host on which the CORBA Naming Service is running, and the port number used by the host in the following format:

```
protocol-name::host-name:port-number
```

Note that the connection destination batch server is used as the corresponding CORBA Naming Service. Only corbaname is supported as the access protocol.

In *host-name*, specify the name of the host on which the CORBA Naming Service is running. However, if a value is specified for the vbroker.se.iiop_tp.host key in usrconf.properties (user property file for batch servers) of the connection destination batch server, specify the value specified for the vbroker.se.iiop_tp.host key in *host-name*.

The *host-name* is omitted in the following cases:

- When the value of the ejbserver.naming.protocol key of usrconf.properties (system property file for server management commands) is used as the access protocol.
- When the value of the ejbserver.naming.host key is used as the host name.
- When the value of the ejbserver.naming.port key is used as the port number.

The default value of *host-name* is as follows:

- `ejbserver.naming.protocol` key: `corbaname`
- `ejbserver.naming.host` key: `localhost`
- `ejbserver.naming.port` key: `900`

3.2 Commands used for operating batch servers

This section describes the commands used for operating batch servers.

The following table lists the commands used for operating batch servers:

Table 3–2: List of commands used for operating batch servers

Command name	Function	Description	Command group
cjdumpsv[#1]	Get thread dump of batch server	Obtains a JavaVM thread dump when a failure occurs in a batch server.	--
cjenvsetup[#1]	Set up Component Container Administrator	Changes the attributes of installation files so that users other than those who have root permission can operate them. This command is for UNIX.	--
cjenvupdate[#1]	Convert work directory and user definition files	Converts the work directory and user definition files that were used in the old environment of Cosminexus Component Container to a format that operates in the new environment.	--
cjgetsysinfo[#1]	Get OS status	Obtains OS status information.	--
cjrarupdate[#1]	Update resource adapter version	Updates the version of resource adapter imported or deployed on Cosminexus Component Container.	--
cjsetup	Set up or delete batch server environment	Sets up an environment for a batch server and creates default user definitions.	--
cjsleep[#1]	Set batch server startup delay	Delays execution for a specified number of seconds only. Use this command in a batch file to set a server startup delay. This command is for Windows.	--
cjstartsv	Start batch server	Starts a batch server.	--
cjstopsv[#1]	Stop batch server	Stops a batch server.	Update[#2]

Legend:

Update: The command is an update command, which updates the batch server contents or retrieves configuration information.

--: Does not apply.

#1

For details on the commands, see *2.2 Commands used for operating J2EE servers*. When referencing, substitute *J2EE server* for *batch server*.

#2

When the `-f` option is specified, the command belongs to none of the command groups.

For the exclusive control conditions for server management commands of each system, see *3.2 Exclusive access control of server management commands* in the *uCosminexus Application Server Application Setup Guide*.

You must execute the setup commands (`cjenvsetup`, `cjenvupdate`, `cjrarupdate`, and `cjsetup`) one at a time; do not execute two setup commands concurrently.

cjsetup (set up or delete J2EE server environment)

Format

For setup

```
cjsetup -batch [server-name]
```

For unsetup

```
cjsetup -d server-name
```

Function

This command sets up the environment of batch servers with specified names.

The default user definitions are created for batch servers set up in the following directory:

- In Windows
  Cosminexus-installation-directory\CC\server\usrconf\ejb*server-name*\
- In UNIX
  /opt/Cosminexus/CC/server/usrconf/ejb/*server-name*/

When the -d option is specified, the batch server environment (directories and files) shown below is deleted:

- In the storage directory for user-definition files
  - In Windows
    Cosminexus-installation-directory\CC\server\usrconf\ejb*server-name*\
  - In UNIX
    /opt/Cosminexus/CC/server/usrconf/ejb/*server-name*/
- In a temporary work directory
  - In Windows
    Cosminexus-installation-directory\CC\server\repository*server-name*\
  - In UNIX
    /opt/Cosminexus/CC/server/repository/*server-name*/
- In the work directory (default)
  - In Windows
    Cosminexus-installation-directory\CC\server\public\ejb*server-name*\
  - In UNIX
    /opt/Cosminexus/CC/server/public/ejb/*server-name*/

Note that if you specify values other than the default values in the ejb.public.directory key of the user definition file (usrconf.cfg), this setting will delete all the folders and files under that work directory.

Arguments

server-name

Specifies server names of the batch servers to be set up. If the server name is omitted, the host name is used as the server name. However, the server name cannot be omitted for the unsetup processing. Furthermore, if the host name contains characters that cannot be used in server names, an error will occur.

You can use single-byte alphanumeric characters (`0-9`, `A-Z`, and `a-z`), the underscore (_), and the hyphen (-) in the server name. The first character must be an alphanumeric character. Specify the server name with maximum of 255 characters and the length calculated by referring to *Appendix C.2 Work directory of the batch server* in the *uCosminexus Application Server System Setup and Operation Guide*.

`-batch`

Specified when setting up the environment of batch servers.

`-d`

Specifies that the environment of the batch server is to be deleted. You cannot omit server names.

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

Notes

- To execute the `cjsetup` command on UNIX, you must have root permission (if a Component Container Administrator has not been set) or the Component Container Administrator permission (if a Component Container Administrator has been set).
- When you execute unsetup (`cjsetup -d` *server-name*) in UNIX, all directories and files for deletion will be deleted regardless of their access permission settings and usage status.
- If the name of a server that has already been set up is specified and re-setup (`cjsetup -batch` *server-name*) is executed, an error occurs.
- In Windows, server names are not case sensitive. For the server name of `cjsetup`, if you specify a character string that matches with the name of an already created server except for the capitalization, the command runs as follows:
  - For setup (`cjsetup -batch` *server-name*)

    Setup fails.
  - For unsetup (`cjsetup -d` *server-name*)

    The command deletes the server that has already been created and matches *server-name* except for the differences in case.
- When you specify the server name as an argument in a server management command or the start or stop command for the batch server and you execute the command, you must specify a case-sensitive character string that matches the name of the server that was created with the `cjsetup` command.
- Do not execute unsetup (`cjsetup -d` *server-name*) for running batch servers.
- In Windows, do not use the `-d` option to delete a target file that has the read-only attribute or is being used.
- A batch server can be built only in V9 compatibility mode.

cjstartsv (start J2EE server)

Format

```
cjstartsv [server-name] [-nosecurity]
```

Function

This command starts batch servers with the specified names. If the server name is omitted, the batch server with the name same as the host name will be started.

Arguments

server-name

Specifies the server name of the batch server to be started. If the server name is omitted, the host name is assumed.

`-nosecurity`

Specify to release `SecurityManager`.

User definition files

- In Windows
  - *Cosminexus-installation-directory*`\CC\server\usrconf\ejb\`*server-name*`\usrconf.cfg`
  - *Cosminexus-installation-directory*`\CC\server\usrconf\ejb\`*server-name*`\usrconf.properties`
- In UNIX
  - `/opt/Cosminexus/CC/server/usrconf/ejb/`*server-name*`/usrconf.cfg`
  - `/opt/Cosminexus/CC/server/usrconf/ejb/`*server-name*`/usrconf.properties`

Return values

`0`:

The command terminated normally.

`1` or higher (other than `143`):

The command terminated abnormally.

`143`:

The following operations are performed while the command is running (in Windows):

- The **x** button is clicked for closing the command prompt window from which the command is invoked.
- The Windows system is shutdown.
- The Windows system is logged out.

Notes

- This command can be set to start a batch server automatically. For starting the batch servers, see *2.2 Overview of the execution environment of batch applications* in the *uCosminexus Application Server Expansion Guide*.
- To execute the `cjstartsv` command on Windows, you must have the Administrator permission.

- To execute the `cjstartsv` command on UNIX, you must have root permission (if a Component Container Administrator has not been set) or the Component Container Administrator permission (if a Component Container Administrator has been set).
- When you specify a server name in the command arguments, you must specify a case-sensitive character string that matches a server name specified in a *cjsetup (set up or unsetup J2EE server)*.

3.3 Commands used with batch applications

This section describes the commands used with batch applications.

The following table lists the commands used with batch applications:

Table 3–3: List of commands used with batch applications

Command name	Function	Description	Command group
cjexecjob	Execute batch application	Executes a batch application.	--
cjkilljob	Stop batch application, or forcibly stop batch server	Stops a batch application. If an attempt to stop a batch application fails, this command forcibly stops the batch server.	--
cjlistjob	Display a list of the batch application information	Outputs the information about batch applications with standard output.	--

Legend:

--: Does not apply.

The commands in the above table can use the scheduling functionality of batch applications. For the scheduling functionality of batch applications, see *4. Scheduling of Batch Applications* in the *uCosminexus Application Server Expansion Guide*.

Hereafter, the scheduling functionality of the batch applications is called the *scheduling functionality*.

For the exclusive control conditions for server management commands of each system, see *3.2 Exclusive access control of server management commands* in the *uCosminexus Application Server Application Setup Guide*.

cjexecjob (Execute batch application)

Format

When not using the scheduling functionality is not used

```
cjexecjob server-name [[Java-option]...]
          Java-application-class-name
          [[argument-passed-to-the-main-method]...]
```

When using the scheduling functionality

```
cjexecjob [schedule-group-name] [-jobID job-ID]
          [[Java-option]...]
          Java-application-class-name
          [[argument-passed-to-the-main-method]...]
```

Function

When not using the scheduling functionality, this command executes batch applications in the batch server with the specified server name.

When using the scheduling functionality, this command executes batch applications in the batch servers that are distributed by CTM. Note that if no batch server exists on which you can execute jobs, the batch applications will be kept waiting in the schedule queue.

The size of each of *Java-option* and the following arguments is less than 1,024 bytes.

A message is output when you run the `cjexecjob` command, and when you terminate the `cjexecjob` command. You can control the message output by the `cjexecjob` command using the `batch.log.stdout.enabled` key of `usrconf.cfg` (option definition file for batch applications).

The options of the `cjexecjob` command are specified in `usrconf.cfg` (option definition file for batch applications). The system properties are specified in `usrconf.properties` (user property file for batch applications). The directories in which `usrconf.cfg` (option definition file for batch applications) and `usrconf.properties` (user property file for batch applications) are saved will be searched in the following order:

1. Directory specified in the environment variable (`CJBATCHUSRCONFDIR`)#
2. Directory in which the `cjexecjob` command is executed

In the environment variable (`CJBATCHUSRCONFDIR`), you specify the directory as the absolute path.

If you specify more than one system properties for the same key, the system property specified last is given priority.

When the system properties of the same key are specified in different ways, the priority order is as follows:

1. Arguments of the `cjexecjob` command
2. `usrconf.properties` (user property file for batch applications)
3. `usrconf.cfg` (option definition file for batch applications)
4. `usrconf.properties` (user property file for batch servers)
5. `usrconf.cfg` (option definition file for batch servers)

Arguments

server-name

Specifies the name of the batch server on which batch application is running.

schedule-group-name

Specifies the group name of the batch server to be assigned when the CTM schedules the execution of batch application.

You can also specify the schedule group name using `usrconf.cfg` (option definition file for batch applications). The following is the priority order for specifying schedule group names:

- Arguments of the `cjexecjob` command
- `usrconf.cfg` (option definition file for batch applications)

Note that you can omit schedule group names. `JOBGROUP` is the default value when you omit the specification of the schedule group names.

`-jobID` *job-ID*

Specifies the job ID of the batch applications to be executed using 1 to 32 unique alphanumeric characters.

If `-jobID` *job-ID* is omitted, the job ID is automatically generated. For automatic generation of job IDs, see *4. Scheduling of Batch Applications* in the *uCosminexus Application Server Expansion Guide*.

In UNIX, if you start a batch application by omitting the specification of a *job-ID*, you must stop the application by specifying the job ID enclosed in double quotation marks ("") as follows:

`-jobID "`*job-ID*`"`

Java-option

Specifies the startup options of JavaVM.

You can specify the following options:

- `-cp`
- `-classpath`
- -D*name=value*

Java-application-class-name

Specifies class names of the Java applications including package name.

argument-passed-to-the-main-method

Specifies arguments passed to the `main` method of Java applications.

If you omit the specification of *schedule-group-name* when using the Scheduling functionality, always specify either of the following arguments:

- *Job-ID*
- *Java-option*

The specification examples are as follows:

```
(Incorrect example)
cjexecjob com.hitachi.mypackage.MyBatchApp argA argB

(Correct example)
cjexecjob -jobID JOBID com.hitachi.mypackage.MyBatchApp argA argB
cjexecjob -D<name>=<value> com.hitachi.mypackage.MyBatchApp argA argB
```

Input examples

When the scheduling functionality is not used

```
cjexecjob MyBatchServer com.hitachi.mypackage.MyBatchApp
```

When using the scheduling functionality

```
cjexecjob JOBGROUP com.hitachi.mypackage.MyBatchApp
```

Return values

value-returned-from-the-public-static-int-main(String[])-method:

This value is returned when the `public static int main(String[])` method is used.

value-specified-in-the-arguments-of-System.exit()-Runtime.halt()-Runtime.exit():

This value is returned when the `System.exit()`, `Runtime.halt()`, or `Runtime.exit()` are used.

`0`:

The command terminated normally using the `public static void main(String[])` method.

`1`:

An attempt to execute the batch application has failed.

Additionally, the batch application is terminated forcibly.

Notes

- In UNIX, the Component Container Administrator who started the batch server or the super user can execute commands.

  In Windows, execute commands as a user with administrator privileges.
- For the server name, specify a case-sensitive character string in conformity with the server name that you have specified while setting up the batch server.
- When you specify more than one class paths, all the specified class paths will be enabled. For example, when you specify `-cp a -cp b`, it will be same as `-cp a;b` (in Windows).
- Class paths are searched in the specified order. When you specify more than one class paths in different ways, they will be searched in the following order:

  1. `usrconf.cfg` (option definition file for the batch server)
  2. Arguments of the `cjexecjob` command
  3. `usrconf.cfg` (option definition file for batch applications)

  You cannot specify class paths in the `CLASSPATH` environment variable. Even when you specify the class paths, they will be ignored.

  Furthermore, if `-cp` and `-classpath` are not specified, the current directory is not used as the default class path.
- If a relative path is specified as the class path, it is handled as the relative path from the directory in which the command is executed.
- When using multi-byte characters in arguments of the `cjexecjob` command, standardize the encoding with the multi-byte characters used at the following locations:
  - `usrconf.cfg` (option definition file for batch applications)
  - `usrconf.cfg` (option definition file for batch severs)
  - Source codes of the batch application (`java.lang.System.out` or `java.lang.System.err` in batch applications)
- When you use the scheduling functionality, you can specify the settings for the communication timeout of the `cjexecjob` command or the batch server using `usrconf.cfg` (option definition file for batch applications). The default value `0` leads to infinite waiting.

cjkilljob (Stop batch application or forcefully terminate batch server)

Format

When not using the scheduling functionality

```
cjkilljob server-name
```

When using the scheduling functionality

```
cjkilljob {server-name|[schedule-group-name] -jobID job-ID}
```

Function

This command stops the batch applications running on the batch server with the specified name. If an attempt to stop a running batch application fails, the batch server is forcefully terminated.

If you specify the schedule group name when using the scheduling functionality, this command stops the running batch application with job IDs specified in `-jobID`. Also, if the batch application with the job ID specified in `-jobID` are waiting in the CTM schedule queue, you can reserve the deletion of the batch applications. The CTM deletes the batch applications reserved for deletion, when the batch applications leave the schedule queue.

You can specify the options for the `cjkilljob` command using `usrconf.cfg` (option definition files for batch applications). You search the directories storing `usrconf.cfg` (option definition file for batch applications), in the following order:

1. Directory specified in the environment variable (`CJBATCHUSRCONFDIR`)#
2. Directory in which the `cjkilljob` command is executed

In the environment variable (`CJBATCHUSRCONFDIR`), you specify the directory as the absolute path.

Arguments

server-name

Specifies the name of the batch server on which the batch application that you want to stop is running.

schedule-group-name

Specifies the group name of the batch server to be assigned when the CTM schedules the execution of batch applications.

You can also specify the schedule group name using `usrconf.cfg` (option definition file for batch applications). The following is the priority order for specifying schedule group names:

- Arguments of the `cjexecjob` command
- `usrconf.cfg` (option definition file for batch applications)

Note that you can omit schedule group names. `JOBGROUP` is the default value when you omit the specification of schedule group names.

`-jobID` *job-ID*

Specifies the job ID of the batch application to be stopped.

In UNIX, when specifying a job ID including a #, enclose the job ID in double quotation marks ("") (if the job ID is omitted when executing `cjexecjob`, a job ID including a # is automatically generated).

Input examples

When the server name is specified

```
cjkilljob MyBatchServer
```

When the job ID is specified

```
cjkilljob JOBGROUP -jobID HOGE
```

Return values

`0`:

The batch application is stopped.

Alternatively, the deletion of the waiting job ID in the schedule queue is reserved.

`1`:

The batch server is terminated forcibly.

`2`:

The command terminated abnormally.

Notes

- In UNIX, the Component Container Administrator who started the batch server or the super user can execute commands.

  In Windows, execute commands as a user with administrator privileges.
- For the server name, specify a case-sensitive character string that matches the server name specified when setting up the batch server.
- When using the scheduling functionality, you can specify the settings for communication timeout of the `cjkilljob` command or the batch server using `usrconf.cfg` (option definition file for batch applications). The default value is 0 and leads to infinite waiting.

cjlistjob (Display a list of the batch application information)

Format

When not using the scheduling functionality

```
cjlistjob server-name
```

When using the scheduling functionality

```
cjlistjob {[ [schedule-group-name]...]|[-all] }
```

Function

When not using the scheduling functionality

This command outputs the information about the batch application running on batch servers with the specified server name to the standard output.

The following information is output for batch applications:

- Batch application status
- Batch application name
- PRF root AP information
- Running time of the `cjexecjob` command

When using the scheduling functionality

This command outputs the information about the batch applications running on the specified schedule group to the standard output. This information is output in one line.

The following information is output for batch applications:

- Schedule group name
- Batch application status
- Batch application name
- PRF root AP information
- Running time of the `cjexecjob` command
- Start waiting time, start running time, or forceStopping reception time of batch applications
- Job ID
- Name of the server executing batch applications

You can specify the options for the `cjlistjob` command using `usrconf.cfg` (option definition file for batch applications). You search the directories storing `usrconf.cfg` (option definition file for batch applications), in the following order:

1. Directory specified in the environment variable (`CJBATCHUSRCONFDIR`)#
2. Directory in which the `cjlistjob` command is executed

In the environment variable (`CJBATCHUSRCONFDIR`), you specify the directory as the absolute path.

Arguments

server-name

Specifies the name of the batch server executing batch application for which the information is to be acquired.

For the server name, you specify a case-sensitive character string in conformity with the server name that you have specified when you set up the batch server.

schedule-group-name

Specifies the name of the schedule group executing the batch application for which the information is to be acquired. You can specify multiple schedule groups demarcated with commas (,).

Note that you can omit the schedule group name. If the schedule group name is omitted, `batch.schedule.group.name` within `usrconf.cfg` (option definition file for batch applications) of this command is used. `JOBGROUP` is the default value.

`-all`

Specify this argument to display the information about batch applications in all the schedule groups that are used by batch servers on the same machine.

Input examples

When not using the scheduling functionality

```
cjlistjob MyBatchServer
```

When using the scheduling functionality

```
cjlistjob JOBGROUP
```

Return values

`0`:

The information about batch applications is displayed in a list.

`1`:

An attempt to display the batch application information in a list has failed.

Output format

When the scheduling functionality is not used

```
batch-application-statusΔbatch-application-nameΔPRF-root-AP-informationΔru
nning-time-of-the-cjexecjob-command
```

When using the scheduling functionality

```
schedule-group-nameΔbatch-application-statusΔbatch-application-nameΔPRF-ro
ot-AP-informationΔrunning-time-of-the-cjexecjob-commandΔstart-waiting-star
t-running-or-force-stopping-reception-time-of-the-batch-applicationsΔjob-I
DΔname-of-the-batch-server-executing-the-job
```

Legend:

Δ: One-byte space

The following is the description of output items:

schedule-group-name

Displays names of the schedule groups to which the execution requests of batch applications are distributed.

batch-application-status

Displays the following status for batch applications:

- Batch application is running: `running`
- Batch application is waiting: `waiting`
- Batch application is force stopping: `forceStopping`

batch-application-name

Displays the class name of the Java application specified by the `cjexecjob` command.

PRF-root-AP-information

Displays the communication number of the PRF root application as 16-digit hexadecimal with `0x` as the first digit.

running-time-of-the-cjexecjob-command

Displays the running time of the `cjexecjob` command in the following format:

```
yyyy/mm/ddΔhh:mm:ss.ssssss
```

Legend:

Δ: One-byte space

yyyy/*mm*/*dd*Δ*hh*:*mm*:*ss*.*ssssss*: Year/Month/Day Hours/Minutes/Seconds

start-waiting-start-running-or-force-stopping-reception-time-of-the-batch-applications

This item is output when the scheduling functionality is used.

Displays the batch application start time, waiting time, or the forceStopping reception time in the following format, depending on the batch application status:

```
yyyy/mm/ddΔhh:mm:ss.ssssss
```

Legend:

Δ: One-byte space

yyyy/*mm*/*dd*Δ*hh*:*mm*:*ss*.*ssssss*: Year/Month/Day Hours/Minutes/Seconds

The following table describes the batch application status and corresponding displayed time:

Table 3–4: Batch application status and displayed time

Batch application status	Displayed time	Description
`waiting`	Waiting start time	Time when batch applications entered the schedule queue
`running`	Running start time	Time when batch applications left the schedule queue
`forceStopping`	ForceStopping reception time	Time when batch applications in the schedule queue were reserved for the forceStopping

job-ID

Displays the job ID of batch application.

name-of-the-batch-server-executing-the-job

This item is output when the scheduling functionality is used.

Displays the name of the batch server executing batch applications. Displays "−", if batch application is in the waiting status.

Output examples

Information about the batch server with the specified server name

```
runningΔcom.hitachi.mypackage.batchApp1Δ0x0000000000123456Δ2008/04/14Δ17:2
7:35.689012
```

Information about the specified schedule group

```
JOBGROUPΔrunningΔcom.hitachi.mypackage.batchApp1Δ0x0000000000123456Δ2008/0
4/14Δ17:27:35.689012Δ2008/04/14Δ17:27:37.182777ΔHOGEΔMybatchServer1
JOBGROUPΔrunningΔcom.hitachi.mypackage.batchApp2Δ0x0000000002345678Δ2008/0
4/14Δ17:45:20.123456Δ2008/04/14Δ19:21:56.271354Δ102ΔMybatchServer2
JOBGROUPΔrunningΔcom.hitachi.mypackage.batchApp3Δ0x0000000034567890Δ2008/0
4/14Δ18:15:54.397890Δ2008/04/14Δ19:00:00.123447Δ#5HL390_G3CV7ΔMybatchServe
r3
JOBGROUPΔwaitingΔcom.hitachi.mypackage.batchApp4Δ0x0000000045678901Δ2008/0
4/14Δ18:30:24.125444Δ2008/04/14Δ18:30:25.006220Δ112345Δ-
```

Legend:

Δ: One-byte space

Notes

- In UNIX, Component Container Administrator who started the batch server or the super user can execute the command.

  In Windows, execute commands as a user with administrator privileges.
- If there are no batch applications, the command will terminate normally without displaying any information.
- When using the scheduling functionality, you can specify the timeout settings for the list display of the batch application information using `usrconf.cfg` (option definition file for batch applications). For the settings when

using the scheduling functionality, see *4. Scheduling of Batch Applications* in the *uCosminexus Application Server Expansion Guide*.

- When using the scheduling functionality, you can specify the settings for the communication timeout of the `cjlistjob` command or the batch server using `usrconf.cfg` (option definition file for batch applications). The default value `0` leads to infinite waiting.

3.4 Resource operation commands used with batch servers

This section describes the resource operation commands used with batch servers.

For details on commands, see *2.4 Resource operation commands used with J2EE servers*. When referencing, substitute *J2EE server* for *batch server*.

The following table lists the resource operation commands used with batch servers:

Table 3–5: List of resource operation commands used with batch servers

Command name	Function	Description	Command group
cjclearpool	Delete connection in connection pool	Clears the connection of a resource adapter.	Update
cjcopyres	Copy resource	Copies the properties of a RAR file.	Update
cjdeleteres	Delete resource	Deletes an imported RAR file.	Update
cjdeployrar	Deploy resource adapter	Deploys a resource adapter.	Update
cjexportrar	Export resource adapter	Exports a resource adapter from a batch server.	Update
cjgetrarprop	Get Property of RAR file	Obtains the Property of a deployed RAR file and generates a property file.	Update
cjgetresprop	Get Property of resource	Obtains the Property of the resources contained in an undeployed RAR file, and generates a property file.	Update
cjimportres	Import resource	Imports a RAR file.	Update
cjlistpool	List connection pools	Outputs to the standard output the connection pool status of a specified resource adapter or of all resource adapters.	Reference
cjlistrar	List resource adapters	Outputs a list of all deployed resource adapters to the standard output.	Reference
cjlistres	List resources	Outputs a list of the imported RAR files to the standard output.	Reference
cjsetrarprop	Set HITACHI Connector Property	Changes the Property of the resources contained in a deployed RAR file to the values specified in a property file.	Update
cjsetresprop	Set Property of resource	Changes the Property of the resources contained in an undeployed RAR file to the values specified in a property file.	Update
cjstartrar	Start resource adapter	Starts a resource adapter.	Update
cjstoprar	Stop resource adapter	Stops a resource adapter that has been started.	Update
cjundeployrar	Undeploy resource adapter	Undeploys a deployed resource adapter.	Update

Legend:

Update: The command is an update command, which updates the batch server contents or retrieves configuration information.

Reference: The command is a reference command, which only displays the configuration status without updating the batch server contents.

For system-wise mutual exclusive control conditions for the server management commands, see *3.2 Exclusive access control of server management commands* in the *uCosminexus Application Server Application Setup Guide*.

3.5 Other commands used with batch servers

This section describes the other commands used with batch servers.

For details on commands, see *2.5 Other commands used with J2EE servers*. When referencing, substitute *J2EE server* for *batch server*.

The following table lists other commands used with batch servers:

Table 3–6: List of other commands used with batch servers

Command name	Function	Description	Command group
cjresetsv	Force release of server management commands from exclusion	Resets exclusion information for server management commands so that the commands can be executed.	--

Legend:

--: Does not apply.

For system-wise mutual exclusive control conditions for the server management commands, see *3.2 Exclusive access control of server management commands* in the *uCosminexus Application Server Application Setup Guide*.

4 Commands Used for Performance Analysis Trace

This chapter describes the input formats and functions of the commands used for performance analysis trace.

4.1 List of commands used for performance analysis trace

Commands used for performance analysis trace begin with `cprf`. The following table lists the commands used for performance analysis trace.

Table 4–1: List of commands used for performance analysis trace

Command name	Function	Description
cprfed	Edit and output performance analysis trace information	Edits and outputs performance analysis trace information.
cprfflush	Forcibly output buffer contents to a file	Outputs the trace information from the buffer.
cprfgetpid	Acquire a PRF daemon process ID	Acquires a PRF daemon process ID.
cprflevel	Display or change the PRF trace collection level	Displays or changes the PRF trace collection level.
cprfstart	Start PRF daemon	Starts the PRF daemon (`cprfd`).
cprfstop	Stop PRF daemon	Stops the PRF daemon (`cprfd`).

4.2 Details of commands used for performance analysis trace

This section describes the input formats and functions of the commands used for performance analysis trace.

Command storage destination

The commands used for performance analysis trace are stored in the following directory:

- In Windows:
  Cosminexus-installation-directory\PRF\bin\
- In UNIX:
  /opt/Cosminexus/PRF/bin/

cprfed (edit and output performance analysis trace information)

Format

```
cprfed [-h] | [-Dump | -CSV] [-Time start-time,end-time]
       [-ProcessID process-id[,process-id...]]
       [-TraceFile prf-trace-file-name[,prf-trace-file-name...]
       | -AllTraceFile]
```

Function

This command inputs PRF trace information and edits and outputs performance analysis trace information.

Arguments

-h

Displays the command's usage.

-Dump

Outputs detailed information in dump format.

-CSV

Outputs detailed information in CSV format.

-Time *start-time*,*end-time*

Specifies a start and end time when only the trace information acquired within the specified time period is to be output.

The start time and end time are each specified in the format *hhmmss*[*MMdd*[*yyyy*]]. *MMdd* and *yyyy* might be omitted; if omitted, the month and year in which the command is executed are assumed.

Time character string format: *hhmmss*[*MMdd*[*yyyy*]]

hh: Hour (00-23)

mm: Minute (00-59)

ss: Second (00-59)

MM: Month (01-12)

dd: Date (01-31)

yyyy: Year (1970-20xx)

The table below shows argument specification examples and the corresponding editing ranges when the command is executed on October 11, 2006.

Argument specification	Editing range
`-Time 102345,`	From 45 seconds past 10:23 on October 11, 2006, until the end of the trace file
`-Time,102345`	From the start of the trace file until 45 seconds past 10:23 on October 11, 2006
`-Time 102345,102350`	From 45 seconds past 10:23 on October 11, 2006, until 50 seconds past 10:23 on October 11, 2006
`-Time 1023451012,1023501013`	From 45 seconds past 10:23 on October 12, 2006, until 50 seconds past 10:23 on October 13, 2006
`-Time 10234510122005,10235010132005`	From 45 seconds past 10:23 on October 12, 2005, until 50 seconds past 10:23 on October 13, 2005

`-ProcessID` *process-id*

Specifies a process ID when information for only the specified process ID is to be output. Specify the process ID as a decimal number.

`-TraceFile` *prf-trace-file-name*

Specifies a PRF trace file. A maximum of 256 trace files can be specified. This option cannot be specified together with the `-AllTraceFile` option.

Each PRF trace file is created automatically in the PRF trace file output destination directory. The file name of a PRF trace file is `prf_`*???*, where *???* is an integer between 001 and the maximum number of trace file sectors.

PRF trace file output destination directory:

- In Windows:
  `%PRFSPOOL%\utt\prf\`*prf-identifier*`\dcopltrc\`
- In UNIX:
  `$PRFSPOOL/utt/prf/`*prf-identifier*`/dcopltrc/`

When specifying *prf-trace-file-name*, either you must specify an absolute path, or you must set the PRF trace file output destination directory as the current directory and specify a file name only.

`-AllTraceFile`

Loads all files under the current directory as input files. This option cannot be specified together with the `-TraceFile` option. Edit only 256 files if the current directory has more than 256 files. If the results of the `cprfed` command are redirected to the current directory, the redirected files are also counted as input files.

The table below shows the combinations of command options that can be specified.

Table 4–2: List of argument (command option) combinations (cprfed command)

Command option	-h	-Dump	-CSV	-Time	-ProcessID	-TraceFile	-AllTraceFile
`-h`	--	Δ`-h`	Δ`-h`	Δ`-h`	Δ`-h`	Δ`-h`	Δ`-h`
`-Dump`	Δ`-h`	--	Δ`-CSV`	Y	Y	Y	Y
`-CSV`	Δ`-h`	Δ`-CSV`	--	Y	Y	Y	Y
`-Time`	Δ`-h`	Y	Y	--	Y	Y	Y
`-ProcessID`	Δ`-h`	Y	Y	Y	--	Y	Y

Command option	-h	-Dump	-CSV	-Time	-ProcessID	-TraceFile	-AllTraceFile
-TraceFile	Δ-h	Y	Y	Y	Y	--	N
-AllTraceFile	Δ-h	Y	Y	Y	Y	N	--

Legend:

Y: Can be specified simultaneously

Δ: Valid with the option whose name follows the Δ

N: Cannot be specified simultaneously

--: Not applicable

Return values

0:

Normal termination occurred.

Other than 0:

An error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command. The error message is output to the standard error output and a log file. For acquiring data, see *2.4.3 Correspondence Between Acquisition Methods and Investigation Methods* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Output format

- Output format 1 (dump format)

```
PRF: aa...aa Process: bb...bb Thread: cc...cc(FF...FF) Trace: dd...dd
ProcessName: zz.zz
Event: eeeee Time: ffff/gg/hh ii:jj:kk lll/mmm/nnn
Rc: oo...oo
ClientAP:pp...pp qq...qq - rr...rr RootAP: ss...ss tt...tt - uu...uu
SendSCD: vv...vv ww...ww ReceiveSCD: xx...xx yy...yy
INT: XX...XX OPR: YY...YY
LookupName:ZZ..ZZ
 Offset +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +a +b +c +d +e +f 0123456789abcdef
  AAAA BB BB BB BB BB BB BB BB BB BB BB BB BB BB BB BB CC...CC
  AAAA BB BB BB BB BB BB BB BB BB BB BB BB BB BB BB BB CC...CC
                                  :
  AAAA BB BB BB BB BB BB BB BB BB BB BB BB BB BB BB BB CC...CC
```

- Output format 2 (CSV format)

```
PRF,Process,Thread,Trace,ProcessName,Event,Date,Time,Time(msec/usec/nsec),
Rc,ClientAP IP,ClientAP PID, ClientAP CommNo.,RootAP IP,RootAP PID,RootAP
CommNo.,SendSCD IP,SendSCD PID,ReceiveSCD IP,ReceiveSCD PID,INT,OPR,Lookup
Name,OPT,ASCII
aa...aa,bb...bb,cc...cc(CC...CC),dd...dd,zz...zz,ee...ee,ffff/gg/hh,ii:jj:
kk,lll/mmm/nnn,oo...oo,pp...pp,qq...qq,rr...rr,ss...ss,tt...tt,uu...uu,vv.
..vv,ww...ww,xx...xx,yy...yy,XX...XX,YY...YY,ZZ...ZZ,DD...DD,EE...EE
```

Legend:

Symbol	Explanation
aa...aa	Record status (up to 6 characters):

Symbol	Explanation
	• `Rec`: Record status is normal • `ErrRec`: Record status is abnormal
`bb...bb`	Process ID of the process from which trace information was collected (up to 10 decimal digits)
`cc...cc`	Thread ID of the thread in the process from which trace information was collected (up to 20 decimal digits)
`dd...dd`	Trace serial number in the thread (up to 10 decimal digits)
`ee...ee`	Event ID (6 hexadecimal digits (including the leading `0x`))
`ffff`	Time at which the trace was collected (year)
`gg`	Time at which the trace was collected (month)
`hh`	Time at which the trace was collected (date)
`ii`	Time at which the trace was collected (hour)
`jj`	Time at which the trace was collected (minute)
`kk`	Time at which the trace was collected (second)
`lll`	Time at which the trace was collected (millisecond)
`mmm`	Time at which the trace was collected (microsecond)
`nnn`	Time at which the trace was collected (nanosecond)
`oo...oo`	Return code (10 hexadecimal digits (including the leading `0x`))
`pp...pp`	Client application IP address (*xxx.xxx.xxx.xxx* format)
`qq...qq`	Client application process ID (up to 10 decimal digits)
`rr...rr`	Client communication number (18 digits (including the leading `0x`))
`ss...ss`	Root application IP address (*xxx.xxx.xxx.xxx* format)
`tt...tt`	Root application process ID (up to 10 decimal digits)
`uu...uu`	Root communication number (18 digits (including the leading `0x`))
`vv...vv`	IP address of request source CTM (*xxx.xxx.xxx.xxx* format)
`ww...ww`	Process ID of request source CTM (up to 10 decimal digits)
`xx...xx`	IP address of request destination CTM (*xxx.xxx.xxx.xxx* format)
`yy...yy`	Process ID of request destination CTM (up to 10 decimal digits)
`zz...zz`	Process name (up to 32 characters)
`XX...XX`	Interface name (up to 33 characters)[#]
`YY...YY`	Operation name (up to 33 characters)[#]
`ZZ...ZZ`	Lookup name (up to 33 characters)[#] Outputs schedule group names for the systems that execute batch applications.
`AAAA`	Offset
`BB`	Hexadecimal display of one byte information acquired in each event.
`CC...CC`	Expresses the contents of BB as the ASCII characters. The content that cannot be expressed as an ASCII character is output as a Period (.).
`DD...DD`	Outputs the information acquired in each event in the hexadecimal format within 512 characters.

Symbol	Explanation
	The dump format information is output enclosed with double quotes (″ ″).
EE...EE	The contents of DD are output as ASCII characters (maximum 514 characters). The ASCII characters are output enclosed with double quotes (″ ″). The code (control code) that cannot be displayed as an ASCII character is output as a period (.). One character (″) is output as two characters (″″) in the ASCII characters. This information is output in CSV format.
FF...FF	Outputs the hash value (in decimal within 10 digits) of a thread. The hash value of a thread might not be output in the trace information acquired with the CTM and redirector.

#

If the interface name, operation name, and lookup name exceeds 32 characters, the name is edited in one of the following ways, with the asterisk representing the omitted characters, and output in 33 characters (including the asterisk):

*first-16-characters*last-16-characters*

*first-32-characters**

**last-32-characters*

Input/output examples

- Input example 1

```
cprfed -TraceFile prf_001
```

- Output example 1

```
PRF: Rec Process: 516        Thread: 2204       Trace: 10
ProcessName: ctmd.exe
Event: 0x1406 Time: 2004/02/05 16:46:55 576/000/000
Rc: 0
ClientAP: 10.209.13.123   2148       - 0000000000000107 RootAP: 10.209.13.
123
 2200        - 0000000000000104
SendSCD: 10.209.13.122    516        ReceiveSCD: ****             ****
INT: com/abcd/BookShop              OPR: orderBook
LookupName: BookShop
```

- Input example 2

```
cprfed -Dump -TraceFile prf_001
```

- Output example 2

```
PRF: Rec Process: 516        Thread: 2204       Trace: 10
ProcessName: ctmd.exe
Event: 0x1406 Time: 2004/02/05 16:46:55 576/000/000
Rc: 0
ClientAP: 10.209.13.123   2148       - 0000000000000107 RootAP: 10.209.13.
123
 2200        - 0000000000000104
SendSCD: 10.209.13.122    516        ReceiveSCD: ****             ****
INT: com/abcd/BookShop              OPR: orderBook
LookupName: BookShop

 Offset  +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +a +b +c +d +e +f  0123456789abcdef
  +0000  0a d1 0d 7a 04 02 00 00 0a d1 0d 7b 64 08 00 00  ...z.......{d...
  +0010  00 00 00 00 07 01 00 00 0a d1 0d 7b 98 08 00 00  ...........{....
  +0020  00 00 00 00 04 01 00 00 00 00 00 00 63 6f 6d 2f  ............com/
```

```
  +0030  61 6d 61 7a 6f 73 6f 2f 42 6f 6f 6b 53 68 6f 70  abcd/BookShop
  +0040  00 6f 72 64 65 72 42 6f 6f 6b 00 42 6f 6f 6b 53  .orderBook.BookS
  +0050  68 6f 70 00                                      hop.
```

- Input example 3

```
cprfed -CSV -TraceFile prf_001
```

- Output example 3

```
PRF,Process,Thread,Trace,ProcessName,Event,Date,Time,Time(msec/usec/nsec),
Rc,ClientAP IP,ClientAP PID, ClientAP CommNo.,RootAP IP,RootAP PID,RootAP
CommNo.,SendSCD IP,SendSCD PID,ReceiveSCD IP,ReceiveSCD PID,INT,OPR,Lookup
Name,OPT,ASCII
Rec,516,2204,10,ctmd.exe,0x1406,2004/02/05,16:46:55,576/000/000,0,10.209.1
3.123,2148,0x0000000000000107,10.209.13.123,2200,0x0000000000000104,10.209
.13.122,516,****,****,com/abcd/BookShop,orderBook,BookShop,
```

Notes

- In the performance analysis trace, the exclusion control is not performed during the PRF trace output, so that the bottlenecks do not occur because of the exclusion during high load. Therefore, some of the trace information might not be output properly.
- When a file edited in the CSV format includes Japanese reference that file with an editor that supports Unicode or with Excel 2003 or later.

cprfflush (forcibly output buffer contents to a file)

Format

```
cprfflush [-PRFID prf-identifier] [-h]
```

Function

This command requests the PRF daemon to output the trace information stored in the buffer.

The output range begins with the trace following the last trace that was output during the previous file output operation to the most recently collected trace.

Arguments

`-PRFID` *prf-identifier*

Specify the PRF identifier by using a character string that is 1 to 31 characters long. You can specify alphanumeric characters and underscores (_). Do not specify a character string that begins with `TSC` or `tsc` or with `CTM` or `ctm`. If this argument is omitted, the character string `PRF_ID` is assumed.

`-h`

Displays the command's usage.

Return values

0:

The command terminated normally.

1:

The PRF daemon is not active. Either the PRFSPOOL environment variable is different from the one assumed for the PRF daemon or the value of -PRFID is invalid.

2:

The PRFSPOOL environment variable has not been set up.

Other than the above:

An error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command. The error message is output to the standard error output and a log file. For acquiring data, see *2.4.3 Correspondence Between Acquisition Methods and Investigation Methods* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Notes

- The cprfflush command cannot be executed while another instance of the cprfflush command is executing.
- The same PRFSPOOL environment variable as the one assumed by the request destination PRF daemon must be set. Otherwise, the command returns an error.

cprfgetpid (acquire a PRF daemon process ID)

Format

```
cprfgetpid [-PRFID prf-identifier] [-h]
```

Function

This command acquires the process ID of the specified PRF daemon. It also displays whether or not the PRF daemon has started.

Arguments

-PRFID *prf-identifier*

Specify the PRF identifier by using a character string that is 1 to 31 characters long. You can specify alphanumeric characters and underscores (_). Do not specify a character string that begins with TSC or tsc or with CTM or ctm. If this argument is omitted, the character string PRF_ID is assumed.

-h

Displays the command's usage.

Return values

0:

The command terminated normally. Processing might not have started.

1:

Processing has not started.

2:

The PRFSPOOL environment variable has not been set up.

Other than the above:

An error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command. The error message is output to the standard error output and a log file. For acquiring data, see *2.4.3 Correspondence Between Acquisition Methods and Investigation Methods* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Input/output examples

- Input example

```
cprfgetpid
```

- Output example

  The result is output to the standard output.

```
1700
```

Notes

- The same PRFSPOOL environment variable as the one assumed by the request destination PRF daemon must be set.
- If the PRF daemon has not been started at all or if this command is executed after the PRF daemon terminated normally, an error results.

cprflevel (display or change the PRF trace collection level)

Format

```
cprflevel [-PRFID prf-identifier] [-h]
          [-PrfChangeLevel prf-trace-collection-level[,[prf-trace
          collection-level]...]]
          [-PrfLevelIndex index-number] [-PrfLevelAll]
```

Function

This command displays or changes the PRF trace collection level.

When the -PrfChangeLevel option is omitted, the PRF trace collection level set for the specified PRF identifier is displayed. When the -PrfChangeLevel option is specified, the PRF trace collection level set for the specified PRF identifier is changed to the value specified here.

When the -PrfLevelIndex option is specified, a list of PRF trace collection levels for the specified index is displayed. When the -PrfLevelAll option is specified, the PRF trace collection levels for all indexes are displayed.

Arguments

`-PRFID` *prf-identifier*

Specify the PRF identifier by using a character string that is 1 to 31 characters long. You can specify alphanumeric characters and underscores (_). Do not specify a character string that begins with `TSC` or `tsc` or with `CTM` or `ctm`. If this argument is omitted, the character string `PRF_ID` is assumed.

`-h`

Displays the command's usage.

`-PrfChangeLevel` *prf-trace-collection-level*`[,[`*prf-trace-collection-level*`]...]`

Specifies PRF trace collection levels, each as a 4-byte hexadecimal number (8-digit value). Here, you can add `0x` at the beginning of the 4 byte hexadecimal number; however, `0x` is ignored. You can specify multiple trace collection level values, corresponding to the index numbers (left to right), delimited by a comma (`,`). If the level value for an index is not to be changed, do not specify any value. To omit specification of level values for all index numbers beginning after a specific index number, omit all the subsequent comma delimiters. To set the PRF trace collection level for index No. 1 to (1) and the PRF trace collection level for index No. 2 to (2), specify the arguments as `(1),(2),...`.

The table below shows examples of PRF trace collection level specifications.

Table 4–3: PRF trace collection level specification examples (cprflevel command)

PRF trace collection level specification example	Option specification
Specify a PRF trace collection level for index No. 1	`-PrfChangeLevel 0x44445555`
Specify PRF trace collection levels for index Nos. 1 and 2	`-PrfChangeLevel 0x44445555,0x55554444`
Specify a PRF trace collection level for index No. 2	`-PrfChangeLevel,0x55554444`

Assignment of PRF trace collection levels at each functionality layer is explained here.

A PRF trace collection level is specified as an eight-digit hexadecimal number for each index. Each digit is allocated two functionality layers. When a hexadecimal number is expressed as a decimal number, the functionality layer allocated to the upper 2 bits is called the *upper layer*, and the functionality layer allocated to the lower 2 bits is called the *lower layer*.

The table below shows the functionality layers that are allocated to the upper and lower layers for each digit.

Table 4–4: Specification values for collecting detail-level trace information (cprflevel command)

Index	Digits	Upper layer	Lower layer
Index 1	Digit 1	Redirector	Web container
	Digit 2	EJB container	JNDI
	Digit 3	JTA	JCA container
	Digit 4	DB Connector	RMI
	Digit 5	SOAP Communication Infrastructure	uCosminexus TP1 Connector, TP1/Client/J
	Digit 6	TP1/Message Queue - Access	Cosminexus RM
	Digit 7	OTS	(None)
	Digit 8	CTM	(None)
Index 2	Digit 1	HCSC server	Standard output, standard error output, and user log

Index	Digits	Upper layer	Lower layer
	Digit 2	DI	uCosminexus Service Coordinator Interactive Workflow
	Digit 3	HCSC server (Object Access Adapter)	HCSC server (File Adapter)
	Digit 4	HCSC server (Message Queue Adapter)	Cosminexus JPA
	Digit 5	JAX-WS engine	JPA container
	Digit 6	Cosminexus JMS Provider functionality	TP1 inbound adapter
	Digit 7	HCSC server (FTP Adapter)	JavaMail
	Digit 8	Java VM	JSF and JSTL
Index 3	Digit 1	Batch Application Execution Base	(None)
Index 4	Digit 1	CDI	(None)
	Digit 3	(None)	Websocket
Index 5	Digit 1	JSF 2.2	(None)
	Digit 2	JAX-RS 2.0	JavaBatch 1.0
	Digit 3	Concurrency Utilities 1.0	(None)
Index 9	Digit 1	Elastic Application Data store	(None)

To specify a PRF trace collection level, decide whether to specify *Standard*, *Detail*, or *Maintenance* for the PRF trace collection level of the upper and lower layers for each digit, and specify it as a hexadecimal number. The table below shows the correspondence between combinations of PRF trace collection levels for the upper and lower layers with specification values.

Note that because the Maintenance level is used for collecting maintenance information when an error occurs, it should not be specified during normal operation.

Table 4–5: Specification values for collecting detail-level or maintenance-level trace information (`cprflevel` command)

Upper layer	Lower layer	Specification value
Standard	Standard	0
Standard	Detail	1
Standard	Maintenance	2
Detail	Standard	4
Detail	Detail	5
Detail	Maintenance	6
Maintenance	Standard	8
Maintenance	Detail	9
Maintenance	Maintenance	a

Specification examples are shown below.

Table 4–6: PRF trace collection level specification examples (cprflevel command)

Index	Specification example	Explanation
Index 1	`00000000`	Acquires Standard-level trace information from each functionality layer of index 1.
	`00000004`	Acquires Detail-level trace information only from CTM, and acquires Standard-level trace information from other functionality layers.
	`55555544`	Acquires Detail-level trace information from each functionality layer of index 1.
	`a5565544`	Acquires maintenance information from the redirector, Web container, and RMI, and acquires Detail-level trace information from other functionality layers.
Index 2	`00000000`	Acquires Standard-level trace information from each functionality layer of index 2.
	`40000000`	Acquires Detail-level trace information only from HCSC server.

You can specify the control-level for RMI.

Specify the following values as the specification value (fourth digit of index one) of trace collection level to specify the control-level for RMI.

Table 4–7: Specification value of the RMI control-level

Upper layer (DB Connector)	Lower layer (RMI)	Specification value
Standard	Control	3
Detail	Control	7
Maintenance	Control	b

`-PrfLevelIndex` *index-number*

Specifies the index number of the PRF trace collection level to be changed or referenced, as an integer in the range 1 to 16. The default value is `1`. When this argument is specified together with `-PrfChangeLevel`, the PRF trace collection level for the specified index number is changed to the value specified in `-PrfChangeLevel`.

When this argument is specified but `-PrfChangeLevel` is not specified, the PRF trace collection level for the specified index number is displayed. When you specify this argument together with `-PrfChangeLevel`, be sure to specify only a single value in `-PrfChangeLevel`.

Example: Change the value for the second index number to `0x55554444`

```
cprflevel -PrfChangeLevel 0x55554444 -PrfLevelIndex 2
```

If multiple values are specified in `-PrfChangeLevel`, an option error occurs.

Example: Specify multiple values in `-PrfChangeLevel`

```
cprflevel -PrfChangeLevel,0x55554444,0x55554444 -PrfLevelIndex 2
```

This is because multiple values are specified in `-PrfChangeLevel` even though `2` is specified in `-PrfLevelIndex`. If the specification of `-PrfLevelIndex` is omitted, `1` is assumed.

`-PrfLevelAll`

Displays all level values. This option cannot be specified together with `-PrfChangeLevel` or `-PrfLevelIndex`. The table below shows the combinations of this option and `-PrfLevelIndex`.

Table 4–8: -PrfLevelAll and -PrfLevelIndex combinations

cprflevel current level value display method		-PrfLevelIndex	
		Specified	Not specified
-PrfLevelAll	Specified	Option error	Displays all level values
	Not specified	Displays the level value of only the specified index	Displays the level value of index 1 only

The table below shows the command option combinations that can be specified.

Table 4–9: Argument (command option) combination list (cprflevel command)

Command option	-h	-PRFID	-PrfChange Level	-PrfLevel Index	-PrfLevel All
-h	--	Δ-h	Δ-h	Δ-h	Δ-h
-PRFID	Δ-h	--	Y	Y	Y
-PrfChangeLevel	Δ-h	Y	--	Y	N
-PrfLevelIndex	Δ-h	Y	Y	--	N
-PrfLevelAll	Δ-h	Y	N	N	--

Legend:

Y: Can be simultaneously specified

Δ: Valid with the option whose name follows the Δ

N: Cannot be simultaneously specified

--: Not applicable

Return values

0:

The command terminated normally.

1:

The PRF daemon is not active. Either the PRFSPOOL environment variable is different from the one assumed for the PRF daemon or the value of -PRFID is invalid.

2:

The PRFSPOOL environment variable has not been set up.

Other than the above:

An error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command. The error message is output to the standard error output and a log file. For acquiring data, see *2.4.3 Correspondence Between Acquisition Methods and Investigation Methods* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Input/output examples

- Input example 1

```
cprflevel
```

- Output example 1

```
KFCT73415-I 2661 1: prf trace level is 0x12345678
```

- Input example 2

```
cprflevel -PrfLevelAll
```

- Output example 2

```
KFCT73418-I 2661 1: all prf trace levels are:
[ 1]=0x12345678 [ 2]=0x00000000 [ 3]=0x00000000 [ 4]=0x00000000
[ 5]=0x00000000 [ 6]=0x00000000 [ 7]=0x00000000 [ 8]=0x00000000
[ 9]=0x00000000 [10]=0x00000000 [11]=0x00000000 [12]=0x00000000
[13]=0x00000000 [14]=0x00000000 [15]=0x00000000 [16]=0x00000000
```

- Input example 3

```
cprflevel -PrfLevelIndex 5
```

- Output example 3

```
KFCT73419-I 2661 1: prf trace level of [5] is 0x00000000.
```

- Input example 4

```
cprflevel -PrfChangeLevel 000000001
```

- Output example 4

```
KFCT73416-I 2661 1: prf trace level was changed from 0x00000000 to 0x00000
001.
```

- Input example 5

```
cprflevel -PrfChangeLevel 0x00000055,0x55554444
```

- Output example 5

```
KFCT73420-I 2661 1: prf trace level was changed:
[ 1]=0x00000000 -> [ 1]=0x00000055
[ 2]=0x00000000 -> [ 2]=0x55554444
```

- Input example 6

```
cprflevel -PrfChangeLevel 0x44445555 -PrfLevelIndex 2
```

- Output example 6

```
KFCT73420-I 2661 1: prf trace level was changed:
[ 2]=0x00000000 -> [ 2]=0x44445555
```

Notes

- When the current PRF trace collection level is to be displayed, the message that is output is `KFCT73415-I`, `KFCT73418-I`, or `KFCT73419-I` depending on the combination of the `-PrfLevelIndex` and `-PrfLevelAll` specifications The following shows the message that is output:

Message output for displaying PRF trace collection level		-PrfLevelAll	
		Specified	Not specified
-PrfLevelIndex	Specified	--	KFCT73419-I
	Not specified	KFCT73418-I	KFCT73415-I

- When changing the PRF trace collection level, the message that is output by the -PrfChangeLevel specification is either KFCT73416-I or KFCT73420-I. When both of the conditions listed below are satisfied, KFCT73416-I is output; otherwise, KFCT73420-I is output:
  - Only a single value is specified, as in -PrfChangeLevel 0x44445555, and no comma (,) is used.
  - -PrfLevelIndex is not specified.
- You must execute this command while the PRF daemon is active. If this command is executed while the PRF daemon is not active, an error message is output.
- The same PRFSPOOL environment variable as the one assumed by the request destination PRF daemon must be set.
- When you use this command to change levels, the changes will be applied from the next request onwards.

cprfstart (start PRF daemon)

Format

```
cprfstart [-h] [-PRFID prf-identifier]
          [-PrfTraceLevel prf-trace-collection-level[,[prf-trace
          collection-level]...]]
          [-PrfTraceCount prf-trace-file-count]
          [-PrfTraceFileSize prf-trace-file-size]
          [-PrfTraceBufferSize prf-trace-buffer-size]
          [-PrfRemakeBuffer]
          [-PrfNoBackUp [0|1]]
```

Function

This command starts the PRF daemon (cprfd). You must start the PRF daemon before starting other processes.

Once the PRF daemon starts, you must change the current directory to the following:

- In Windows:
  prf-trace-output-directory%PRFSPOOL%\utt\prf*prf-identifier*\
- In UNIX:
  prf-trace-output-directory$PRFSPOOL/utt/prf/*prf-identifier*/

Arguments

-h

Displays the command's usage.

`-PRFID` *prf-identifier*

Specify the PRF identifier by using a character string that is 1 to 31 characters long. You can specify alphanumeric characters and underscores (_). Do not specify a character string that begins with `TSC` or `tsc` or with `CTM` or `ctm`. If this argument is omitted, the character string `PRF_ID` is assumed.

`-PrfTraceLevel` *prf-trace-collection-level*`[,[`*prf-trace-collection-level*`]...]`

When `-PrfTraceLevel` is omitted, the information is output in Standard-level.

Specifies PRF trace collection levels, each as a 4-byte hexadecimal number (8-digit value). You can add `0x` at the beginning of the 4-byte hexadecimal number, however, `0x` will be ignored. You can specify multiple trace collection level values, corresponding to the index numbers (left to right), delimited by a comma (`,`). If a level value specification is to be omitted, do not specify any value. To omit specification of level values for all index numbers beginning after a specific index number, omit all the subsequent comma delimiters. To set the PRF trace collection level for index No. 1 to (1) and the PRF trace collection level for index No. 2 to (2), specify the arguments as `(1),(2),...`.

The table below shows examples of PRF trace collection level specifications.

Table 4–10: PRF trace collection level specification examples (cprfstart command)

PRF trace collection level specification example	Option specification
Specify a PRF trace collection level for index No. 1	`-PrfTraceLevel 0x44445555`
Specify PRF trace collection levels for index Nos. 1 and 2	`-PrfTraceLevel 0x44445555,0x55554444`
Specify a PRF trace collection level for index No. 2	`-PrfTraceLevel,0x55554444`

Assignment of PRF trace collection levels at each functionality layer is explained here.

A PRF trace collection level is specified as an eight-digit hexadecimal number for each index. Each digit is allocated two functionality layers. When a hexadecimal number is expressed as a decimal number, the functionality layer allocated to the upper 2 bits is called the *upper layer*, and the functionality layer allocated to the lower 2 bits is called the *lower layer*.

The table below shows the functionality layers that are allocated to the upper and lower layers for each digit.

Table 4–11: Specification values for collecting detail-level trace information (cprfstart command)

Index	Digits	Upper layer	Lower layer
Index 1	Digit 1	Redirector	Web container
	Digit 2	EJB container	JNDI
	Digit 3	JTA	JCA container
	Digit 4	DB Connector	RMI
	Digit 5	SOAP Communication Infrastructure	uCosminexus TP1 Connector, TP1/Client/J
	Digit 6	TP1/Message Queue - Access	Cosminexus RM
	Digit 7	OTS	(None)
	Digit 8	CTM	(None)
Index 2	Digit 1	HCSC server	Standard output, standard error output, and user log
	Digit 2	DI	Service Coordinator Interactive Workflow
	Digit 3	HCSC Server (Object Access Adapter)	HCSC Server (File Adapter)
	Digit 4	HCSC Server (Message Queue Adapter)	Cosminexus JPA

Index	Digits	Upper layer	Lower layer
	Digit 5	JAX-WS engine	JPA container
	Digit 6	CosminexusJMS Provider functionality	TP1 inbound adapter
	Digit 7	HCSC Server (FTP Adapter)	JavaMail
	Digit 8	Java VM	JSF and JSTL
Index 3	Digit 1	Batch Application Execution Base	(None)
Index 4	Digit 1	CDI	(None)
	Digit 3	(None)	Websocket
Index 5	Digit 1	JSF 2.2	(None)
	Digit 2	JAX-RS 2.0	JavaBatch 1.0
	Digit 3	Concurrency Utilities 1.0	(None)
Index 9	Digit 1	Elastic Application Data store	(None)

To specify a PRF trace collection level, decide whether to specify *Standard*, *Detail*, or *Maintenance* for the PRF trace collection level of the upper and lower layers for each digit, and specify it as a hexadecimal number. The table below shows the correspondence between combinations of PRF trace collection levels for the upper and lower layers with specification values.

Note that because the Maintenance level is used for collecting maintenance information when an error occurs, it should not be specified during normal operation.

Table 4–12: Specification values for collecting Detail- or Maintenance-level trace information (cprfstart command)

Upper layer	Lower layer	Specification value
Standard	Standard	0
Standard	Detail	1
Standard	Maintenance	2
Detail	Standard	4
Detail	Detail	5
Detail	Maintenance	6
Maintenance	Standard	8
Maintenance	Detail	9
Maintenance	Maintenance	a

Specification examples are shown below.

Table 4–13: PRF trace collection level specification examples (cprfstart command)

Index	Specification example	Explanation
Index 1	00000000	Acquires Standard-level trace information from each functionality layer of index 1.
	00000004	Acquires Detail-level trace information only from CTM, and acquires Standard-level trace information from other functionality layers.
	55555544	Acquires Detail-level trace information from each functionality layer of index 1.

Index	Specification example	Explanation
	a5565544	Acquires maintenance information from the redirector, Web container, and RMI, and acquires Detail-level trace information from other functionality layers.
Index 2	00000000	Acquires Standard-level trace information from each functionality layer of index 2.
	40000000	Acquires Detail-level trace information only from HCSC server.

You can specify the control-level for RMI.

Specify the following values as the specification value (fourth digit of index one) of trace collection level to specify the control-level for RMI.

Table 4–14: Specification value of the RMI control-level

Upper layer (DB Connector)	Lower layer (RMI)	Specification value
Standard	Control	3
Detail	Control	7
Maintenance	Control	b

`-PrfTraceCount` *prf-trace-file-count*

Specifies the number of trace files, as a value in the range 3 to 256. If this specification is omitted, 4 is set.

The PRF trace files are backed up during a normal stop and during a restart following a forced stop. If the total PRF trace file size is large, it might take a considerable amount of time to start and stop the PRF daemon because of the backup processing. Consequently, when Management Server is used to monitor processes, a timeout might occur if the monitoring time is set to the default value. If a timeout occurs, increase the monitoring time.

`-PrfTraceFileSize` *prf-trace-file-size*

Specifies the maximum size (in kilobytes) of each PRF trace file, as a value in the range 1024 to 1048576. To set 1 megabyte as the file size, specify 1024. The actual file size may be slightly more or less than this value. The maximum difference will be 32 KB less than the value specified in `-PrfTraceBufferSize`. If this option is omitted, 8192 is set.

If you specify a value that is smaller than the default value of 8192, you must also specify a value smaller than the default value in `-PrfTraceBufferSize`.

If `0` is specified for the `-PrfNoBackUp` option, PRF trace files are backed up when the PRF daemon is being stopped normally and when the PRF daemon is being restarted after its previous forced termination. If the total PRF trace file size is large, it might take a considerable amount of time to start and stop the PRF daemon because of the backup processing. Therefore, if Management Server performs process monitoring with the settings in which `0` is set for the `-PrfNoBackUp` option in the `cprfstart` command, a timeout might occur with the default monitoring time settings. If a timeout occurs, increase the monitoring time.

`-PrfTraceBufferSize` *prf-trace-buffer-size*

Specifies the size (in kilobyte) of the buffer to be allocated in the shared memory, as a value in the range 512 to 102400. In this you cannot specify a value greater than the value specified in `-PrfTraceFileSize` with this option. If this option is omitted, 8192 is set.

If the buffer area is insufficient, the KFCT26999-W message is displayed and the PRF trace might be omitted. Therefore, extend the buffer area until the message is no longer displayed.

`-PrfNoBackUp [0|1]`

Specifies whether to take a back up of the PRF trace file when the PRF daemon starts and stops. If `0` is specified in the value, take the back up of the PRF trace file. Because the PRF trace file is copied, it might take time to start and stop the PRF daemon. After failure occurs, if the PRF trace file cannot be extracted until the PRF trace is wrapped,

specify `0` in the value. Note that when Management Server is used, the snapshot log containing PRF trace files is collected automatically after failure.

If `1` is specified, do not take a back up of the PRF trace file. If a value is not specified, the operation is same as when `1` is specified.

The following is the relation between the timings for taking backup of the PRF trace file, availability of backup, and the `PRFNoBackUp` option:

Table 4–15: Relation between the timing to take a backup of the PRF trace file, availability of backup, and the PRFNoBackUp option

Execution Command	End condition of PRF daemon which has started previously	Backup of PRF trace file	
		-PrfNoBackUp 0	-PrfNoBackUp 1 (Default)
`cprfstart`	Normal end	No	No
	Forceful end or abnormal end	Yes	No
`cprfstop`	Not dependent on end condition	Yes	No
`cprfstop -Force`	Not dependent on end condition	No	No

`-PrfRemakeBuffer`

Re-creates the shared memory before restarting the PRF daemon. If the shared memory cannot be re-created, an error occurs.

Return values

`0`:

The PRF daemon started normally.

`1`:

Startup of the PRF daemon failed. The `PRFSPOOL` environment variable has not been set up.

Other than the above:

An error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command. The error message is output to the standard error output and a log file. For acquiring data, see *2.4.3 Correspondence Between Acquisition Methods and Investigation Methods* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Notes

- You must set the `PRFSPOOL` environment variable. If it is not set, the command returns an error.
- If you have to restart the PRF daemon, specify the same values in `-PrfTraceCount` and `-PrfTraceFileSize` as were set previously. Otherwise, when the PRF daemon is restarted without these options specified, the values that were being used during the previous session will not be inherited for the PRF trace file count and the PRF trace file size, so the default values will be used.
- If the PRF daemon terminated abnormally and is then restarted, the trace collection level that was in effect when the PRF daemon terminated is inherited. Consequently, if the abnormal termination occurred after the trace collection level had been changed, a value that is different (changed value) from the trace collection level specified during the restart (the same value as was used during the previous session) is set. An example follows:

  1. PRF daemon startup: `cprfstart -PrfTraceLevel 0x00000001`
  2. Trace collection level change (`0x00000001` → `0x0000000f`)
  3. PRF daemon abnormal termination

4. PRF daemon restart: `cprfstart -PrfTraceLevel 0x00000001`

In this case, the trace collection level following the restart is `0x000000f`.

- When the PRF daemon is restarted, the buffer that was used during the previous session is reused and the trace collection level is inherited. If the buffer size has been changed, the previous buffer is deleted and a new one is re-created. If another process is accessing the buffer, this re-creation process fails.
- When the PRF daemon is restarted, the shared memory contents are dumped and the buffer is initialized. Maintenance information is created in the following directory:
  - In Windows:
    `%PRFSPOOL%\utt\prf\`*prf-identifier*`\spool\save\`
  - In UNIX:
    `$PRFSPOOL/utt/prf/`*prf-identifier*`/spool/save/`
- In Windows, another PRF daemon with a PRF identifier that is different only in case from the active or starting PRF daemon (for example, *aaa* vs. *AAA*) cannot be started.
- If the PRF daemon terminates abnormally, re-start only the PRF daemon.
- The trace, collected from the period of abnormal termination of the PRF daemon until the PRF daemon re-starts, is destroyed.
- If a big value is specified in `-PrfTraceCount` or `-PrfTraceFileSize`, the re-starting of the PRF daemon after the abnormal termination might take time.

cprfstop (stop PRF daemon)

Format

```
cprfstop [-PRFID PRF-identifier] [-Force] [-h]
```

Function

This command stops the PRF daemon (`cprfd`). You should stop the PRF daemon only after all other processes have been stopped.

Arguments

`-PRFID` *PRF-identifier*

Specify the PRF identifier as a character string that is 1 to 31 characters long. You can specify alphanumeric characters and underscores (_). Do not specify a character string that begins with `TSC` or `tsc` or with `CTM` or `ctm`. If this argument is omitted, the character string `PRF_ID` is assumed.

`-Force`

Stops the PRF daemon forcibly.

`-h`

Displays the command's usage.

Return values

`0`:

The PRF daemon stopped normally.

`1`:

The PRF daemon is not active. Either the `PRFSPOOL` environment variable is different from the one assumed for the PRF daemon or the value of `-PRFID` is invalid.

`2`:

The `PRFSPOOL` environment variable has not been set up.

`3`:

A timeout occurred.

Other than the above:

An error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command. The error message is output to the standard error output and a log file. For acquiring data, see *2.4.3 Correspondence Between Acquisition Methods and Investigation Methods* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Notes

- If the command times out and the PRF daemon does not terminate normally, specify the `-Force` option to force the PRF daemon to stop.
- The same `PRFSPOOL` environment variable as the one assumed by the request destination PRF daemon must be set. Otherwise, the command returns an error.
- If a big value is specified in `-PrfTraceCount` or `-PrfTraceFileSize` of the `cprfstart` command, the normal termination of PRF daemon might take time.

5 Commands Used with Cosminexus JMS Provider

This chapter describes the input formats and functions of the commands used with Cosminexus JMS Provider.

5.1 Overview of commands used with Cosminexus JMS Provider

In Cosminexus JMS Provider, the CJMSP Broker utility and the command utility are provided to edit the broker configuration.

CJMSP Provider utility

The CJMSP provider utility is used for starting the CJMSP Broker instance and includes the `cjmsbroker` command.

Command utility

The command utility is used for managing CJMSP Broker, connection services, physical destination, persistence subscriber, and transactions, and includes the commands to manage each item.

5.2 List of commands used with Cosminexus JMS Provider

This section lists and describes the commands used with Cosminexus JMS Provider.

5.2.1 List of commands of CJMSP Broker utility

The following table lists and describes the commands of the CJMSP Broker utility:

Table 5–1: List of commands of the CJMSP Broker utility

Command name	Description
cjmsbroker	Starts the CJMSP Broker instance.

5.2.2 List of commands of command utility

This subsection lists and describes the commands of the command utility as per the managed items. Note that when the status of the CJMSP broker is SHUTDOWN_COMPLETE (status where termination process is completed), these commands do not operate normally.

(1) CJMSP Broker management

Table 5–2: List of commands used in the CJMSP Broker management

Command name	Description
cjmsicmd list bkr	Lists and displays the status of CJMSP Broker.
cjmsicmd pause bkr	Temporarily stops the running CJMSP Broker.
cjmsicmd query bkr	Lists and displays the property value of CJMSP Broker.
cjmsicmd resume bkr	Resumes CJMSP Broker.
cjmsicmd shutdown bkr	Stops CJMSP Broker.

(2) Connection service management

Table 5–3: List of commands used in the connection service management

Command name	Description
cjmsicmd list svc	Lists and displays the usable connection services.

(3) Physical destination management

Table 5–4: List of commands used in the physical destination management

Command name	Description
cjmsicmd compact dst	Compresses physical destinations.
cjmsicmd create dst	Creates a physical destination.
cjmsicmd destroy dst	Destroys the physical destination.

Command name	Description
`cjmsicmd list dst`	Lists and displays the physical destination.
`cjmsicmd pause dst`	Temporarily stops the message delivery to physical destination.
`cjmsicmd purge dst`	Deletes all the messages from physical destination.
`cjmsicmd query dst`	Lists and displays the property values of physical destination.
`cjmsicmd resume dst`	Resumes the message delivery to physical destination.

(4) Persistence subscriber management

Table 5–5: List of commands used in the persistence subscriber management

Command name	Description
`cjmsicmd destroy dur`	Destroys persistence subscriber.
`cjmsicmd list dur`	Lists and displays the persistence subscriber.
`cjmsicmd purge dur`	Deletes all the messages of persistence subscriber.

(5) Common options of command utility

There are some common options that you can specify in all commands with the command utility. The following table lists and describes the common options of the command utility:

Table 5–6: List of common options of the command utility

Option name	Description
`-rtm timeoutInterval`	Specifies an initial value of the timeout interval (unit: seconds) as an integer from 0 to 2147483647. The initial value is the time for which you wait for a response from the CJMSP Broker after executing a command until the request is sent again. The retry interval is set up in multiples of the initial value of the timeout interval. The default value is `10` seconds. Also, if you specify `0`, a timeout does not occur.
`-b` *host-name*`:`*port-number*	Specifies the host name (or IP address) and the port number connected to CJMSP Broker. The default value is as follows: • Host name: `localhost` • Port number: `7676` An error message is displayed, if you do not set up a correct value when the CJMSP Broker instance is started at the remote host. If you specify only the port number and omit the host name, CJMSP Broker of the local host is connected. For example, when you specify `:7676` has the same meaning when you specify `localhost:7676`.
`-f`	Executes the command without a confirmation from the user.
`-h | -help`	Displays help.

5.2.3 Storage destination of the commands used with Cosminexus JMS Provider

The following directory stores the commands used with Cosminexus JMS Provider:

- In Windows
  Cosminexus-installation-directory\cc\cjmsp\bin\
- In UNIX
  /opt/Cosminexus/cc/cjmsp/bin/

5.3 Details of commands of CJMSP Broker management

This subsection describes the input formats and functions of the commands used in the CJMSP Broker management.

cjmsbroker (starting CJMSP Broker)

Format

```
cjmsbroker -name instance-name
             -reset store
             -reset messages
             -reset durables
             -remove instance
             -varhome location
             -vmargs argument 1 [[argument 2]...]
             -force
             -h | -help
```

Function

Starts the CJMSP Broker instance.

Arguments

`-name` *instance-name*

Specifies the name of the CJMSP Broker instance to be started. Specify different instance names, when you start multiple CJMSP Broker instances on one host. The default value is `cjmsbroker`.

The following are the naming rules for instances:

- You cannot specify reserved device names in the Windows environment.

  Examples:

  `AUX`, `CON`, `NUL`, `PRN`, `COM1- COM9`, and `LPT1-LPT9`

- You can specify the same number of characters as the maximum number of characters provided by the OS for creating a directory.
- Combine and specify alphanumeric characters and special characters. However, you cannot use the following special characters in a Windows environment:

  ¥ / : * ? " < > |

  In a UNIX environment, the characters that you can use depend on the file system specifications.
- The operations are not guaranteed when you use a backslash (\) or a forward slash (/) in the instance name.

`-reset store`

Resets the configuration value of the persistence data store. When you reset the configuration value of the persistence data store, all the persistence data in the persistence data store are deleted.

Among the persistence data, if you want to delete only persistence messages, specify the `-reset messages` option, and if you want to delete only persistence subscribers, specify the `-reset durables` option.

`-reset messages`

Deletes only the persistence messages from all the persistence data in the persistence data store.

`-reset durables`

Deletes only the persistence subscriber from all the persistence data in the persistence data store.

`-remove instance`

Deletes the persistence data store or any other files and directories under the CJMSP Broker instance. However, the props directory and the log directory are not deleted.

You must note the following points when you use the `-remove instance` option:

- Do not start the CJMSP Broker instance that is to be deleted.
- When you specify the name of a CJMSP Broker instance with the `-name` option, the specified instance is deleted. Also, when you do not specify the `-name` option, the default CJMSP Broker instance `cjmsbroker` is deleted.
- The `cjmsbroker` command is used for starting CJMSP Broker instances; however, when you specify the `-remove instance` option, CJMSP Broker instances are not started.
- When data is already deleted using the `-remove instance` command or the repository of the instance file is already deleted, a message *Removing instance data* is displayed.

`-varhome` *location*

Specifies storage destinations of the `var` directory with absolute path. However, you cannot specify a network path. The default value is `<CJMSP_HOME>/var`.

For a storage destination, specify a directory that has both read and write permissions. If you specify a directory with only read permission, an error message will be displayed.

Also, if the specified directory does not exist or if you have stopped using the specified directory, create a new directory.

The following are the naming rules for the path to be specified at a storage destination:

- You cannot specify reserved device names in a Windows environment. If specified, an error message is displayed.

  Examples:

  `AUX`, `CON`, `NUL`, `PRN`, `COM1-COM9`, and `LPT1-LPT9`
- Combine and specify alphanumeric characters and special characters. However, you cannot use the following special characters in a Windows environment:

  `¥ / : * ? " < > |`

  In a UNIX environment, the characters that you can use depend on the file system specifications. If you use special characters that are not allowed, an error message is displayed.
- For the path to be specified at the storage destination, follow the syntax rules of the Java standard file.

`-vmargs` *argument*

Specifies arguments that are passed to the JavaVM. You can specify the arguments of Java HotSpot VM. For details on specifiable arguments, see *14. Options for Invoking JavaVM* in the *uCosminexus Application Server Definition Reference Guide*. Also, when you specify the `-XX:-HitachiOutOfMemoryAbort` option, the CJMS provider ignores the `-vmargs` option.

You can pass the arguments to the JavaVM only from command lines. There are no related setting properties in the configuration file of CJMSP Broker instances.

In the following cases, the entire argument is enclosed with double quotation marks (""):

- When there is a space in the argument
- When an equals sign (=) is included in the argument
- When two or more arguments are specified (arguments are demarcated by space)

Example:

```
cjmsbroker -vmargs "-Xms256m -Xmx1024m"
```

- `Xms`: Minimum heap size
- `Xmx`: Maximum heap size
- `m`: Capacity unit (megabytes)

In the above example, the minimum heap size is specified as 256 megabytes and the maximum heap size is specified as 1 gigabyte. The default value of the JavaVM heap size of the CJMSP Broker is 192 megabytes.

`-force`

Executes operation without a confirmation from the user.

`-h | -help`

Displays help.

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Note that when you specify the `-remove instance` option, the following values are returned as the return value:

`10`:

The instance to be deleted does not exist.

`11`:

The instance to be deleted is running.

`12`:

There is no permission for deleting the instance.

`13`:

An internal error occurred when deleting the instance.

`14`:

An I/O error occurred when deleting the instance.

Notes

- When you create an instance, the overwrite permission for the directory is granted. Do not change this permission. If you specify a directory having read-only permission as an instance, an error message will be displayed.
- CJMSP Broker is started, when either of the `jms` service or the `admin` service is started.

cjmsicmd list bkr (displaying the list of CJMSP Broker)

Format

```
cjmsicmd list bkr [-b host-name : port-number]
```

Function

Lists and displays the states of CJMSP Broker.

There are following three states for CJMSP Broker:

- `OPERATING`: A state in which CJMSP Broker can process messages
- `SHUTDOWN_STARTED`: A state in which the termination process of CJMSP Broker is started
- `SHUTDOWN_COMPLETE`: A state in which the stop process of CJMSP Broker is completed

For details, see *6.17.3 Checking the CJMSP Broker states* in the *uCosminexus Application Server Common Container Functionality Guide*.

Among the above states, `OPERATING` and `SHUTDOWN_STARTED` states can be displayed in a list. The `SHUTDOWN_COMPLETE` state cannot be displayed in a list.

Arguments

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Output example

The following is an output example of `cjmsicmd list bkr`:

```
Cluster is Highly Available   false

--------------------------------
      Address             State
--------------------------------
DE205372437F45F:7676   OPERATING

KDAN34466-I Successfully listed broker.
```

Output header

Address

This is the host address (host name and IP address of the host system) and the port number used when starting CJMSP Broker.

State

This is the current state of CJMSP Broker.

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

cjmsicmd pause bkr (stopping CJMSP Broker temporarily)

Format

```
cjmsicmd pause bkr [-b host-name : port-number]
```

Function

Temporarily stops the running CJMSP Broker.

If you temporarily stop CJMSP Broker after executing this command, only the `jms` service will be stopped, and the `admin` service will run as it is. Therefore, the state of CJMSP Broker is `OPERATING`. However, you cannot send or receive messages because the `jms` service is stopped.

Arguments

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Notes

- If this command is executed for the CJMSP Broker that is stopped temporarily, the message *Successfully paused the broker* will be displayed, but the command will be ignored.

cjmsicmd query bkr (displaying the list of property values of CJMSP Broker)

Format

```
cjmsicmd query bkr [-b host-name : port-number]
```

Function

Displays the list of property values of CJMSP Broker.

Arguments

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

cjmsicmd resume bkr (resuming CJMSP Broker)

Format

```
cjmsicmd resume bkr [-b host-name: port-number]
```

Function

Resumes CJMSP Broker.

Arguments

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Notes

- If this command is executed for CJMSP Broker that is not stopped temporarily, the message *Successfully resumed the broker* will be displayed, but the command will be ignored.

cjmsicmd shutdown bkr (stopping CJMSP Broker)

Format

```
cjmsicmd shutdown bkr [-b host-name : port-number]
                      [-time standby-time]
```

Function

Stops CJMSP Broker.

Arguments

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

`-time` *standby-time*

Specifies an integer (unit: seconds) from 0 to 2147483647 as the standby time from the execution of the command to the termination of CJMSP Broker.

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Notes

- The `jms` service in the running state operates continuously starting from the time when the command is executed until the command stops. However, you cannot start a new `jms` service (the `admin` service can be started).
- The CJMSP Broker is stopped immediately, when you execute this command starting from the time when the command is executed until the command stops. Note that the processing is not guaranteed, if any other command is executed.

5.4 Details of commands of connection service management

This subsection describes the input formats and functions of the commands used in the connection service management.

cjmsicmd list svc (displaying the list of connection services)

Format

```
cjmsicmd list svc [-b host-name : port-number]
```

Function

Displays the list of usable connection services.

Arguments

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Output example

The following is an output example of `cjmsicmd list svc`:

```
-----------------------------------------------
Service Name    Port Number       Service State
-----------------------------------------------
admin           3616 (dynamic)    RUNNING
jms             0 (dynamic)       PAUSED

KDAN34113-I Successfully listed services.
```

Output header

Service Name

This is a usable service name.

Port number

This is a port number allocated to the service.

CJMSP Broker or a user allocates the port number.

Service State

This is the current service state. The state is `RUNNING` or `PAUSED`.

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

5.5 Details of commands of physical destination management

This subsection describes the input formats and functions of the commands used in the physical destination management.

cjmsicmd compact dst (compressing physical destination)

Format

```
cjmsicmd compact dst [-t destination-type
                      -n destination-name]
                     [-b host-name : port-number]
```

Function

Compresses the persistence store data of the file base for the physical destination.

Arguments

`-t` *destination -type*

Specifies a destination type. You can specify the following destination types:

- `q`: Queue
- `t`: Topic

`-n` *destination-name*

Specifies a destination name.

All the physical destinations are compressed, when you omit the `-t` option and the `-n` option.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Notes

- Stop temporarily before you compress the physical destination.

cjmsicmd create dst (creating physical destination)

Format

```
cjmsicmd create dst  -t destination-type
                     -n destination-name
```

```
                    [[-o property = value]...]
                    [-b host-name : port-number]
```

Function

Creates a physical destination.

Arguments

`-t` *destination-type*

Specifies destination type. You can specify the following destination types:

- `q`: Queue
- `t`: Topic

`-n` *destination-name*

Specifies the destination name.

The following are the naming rules for a destination:

- Specify alphanumeric characters.
- Specify the initial character with roman characters, underscore (_), and dollar sign ($).
- You cannot specify the character `mq.` and numeric characters as a first character.
- You cannot specify `__JMQAdmin`, because `__JMQAdmin` is the physical destination name that is generated automatically by Cosminexus JMS Provider.
- You cannot specify a space.
- Specify a name within the length of the OS's *maximum-directory-name-length* minus 1. If you specify a name exceeding the length of the OS's *maximum-directory-name-length* minus 1, the command is successfully executed, but an exception occurs when a message is sent.

`-o` *property=value*

Specifies the property name.

The following properties can be used with the `-o` option:

- `consumerFlowLimit`
- `maxNumMsgs`
- `maxTotalMsgBytes`
- `maxNumProducers`

When an invalid value is specified, an error message will be displayed.

For details about the property, see *5.7 Property settings of physical destination*.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Notes

- If the destination type differs for each CJMSP Broker instance, you can create a physical destination with the same name. However, when the destination type is same, you cannot create the physical destination with the same name.
- If there are different CJMSP Broker instances, you can create the physical destination with the same name.
- Set `imq.autocreate.queue(topic).consumerFlowLimit` in the separate CJMSP Broker property file. When you execute this command without specifying `consumerFlowLimit` with the `-o` option, the specified number of messages can be delivered in `imq.autocreate.queue(topic).consumerFlowLimit` at the created physical destination. When you do not set `imq.autocreate.queue(topic).consumerFlowLimit`, the queue is 100 and the topic is 1000 (default value of `consumerFlowLimit`) for the number of messages that can be delivered.

cjmsicmd destroy dst (destroying physical destination)

Format

```
cjmsicmd destroy dst  -t destination-type
                      -n destination-name
                     [-b host-name : port-number]
```

Function

Destroys physical destinations.

Arguments

`-t` *destination-type*

Specifies the destination type. You can specify the following destination types:

- `q`: Queue
- `t`: Topic

`-n` *destination-name*

Specifies a destination name.

`-b` *host-name* `:` *port-name*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Notes

- You cannot execute this operation for the destination created by the systems such as a dead message queue.

cjmsicmd list dst (displaying the list of physical destinations)

Format

```
cjmsicmd list dst [-t destination-type]
                  [-tmp]
                  [-b host-name : port-number]
```

Function

Displays the list of physical destinations.

If a destination type is not specified, the list of physical destinations of both queue and topic types will be displayed.

Arguments

`-t` *destination-type*

Specifies a destination type. You can specify the following destination types:

- `q`: Queue
- `t`: Topic

`-tmp`

Displays the list of temporary physical destinations.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`)

Output example

The following is an output example of `cjmsicmd list dst`:

```
-------------------------------------------------------------------------
    Name      Type    State   Producers  Consumers           Msgs
                                           Total    Count  UnAck  Avg Size
-------------------------------------------------------------------------
JMSDEMOQueue  Queue  RUNNING  0          1          1000   451    210.0
JMSDEMOTopic  Topic  RUNNING  0          0          0      0      0.0
mq.sys.dmq    Queue  RUNNING  0          0          3999   0      702.0

KDAN34110-I Successfully listed destinations.
```

Output header

Name

This is the name of the destination created by a system or a user. `mq.sys.dmq` is the dead message queue created by the system.

Type

This is a destination type. There are two types; Queue and Topic. The destination of `mq.sys.dmq` is a queue.

State

This is the state of a destination. The normal states of a destination are `RUNNING` or `PAUSED`.

Producers
: This is the number of active producers of a destination.

Consumers Total
: This is the number of active consumers of a destination.

Count
: This is the number of messages saved in a destination.

Msgs UnAck
: This is the number of messages that do have any response in a destination.

Avg Size
: This is the average size of a message.

Return values

`0`:
: The command is terminated normally.

`1`:
: The command is terminated abnormally.

cjmsicmd pause dst (temporarily stops the message delivery of physical destination)

Format

```
cjmsicmd pause dst [-t destination-type
                    -n destination-name]
                   [-b host-name : port-number]
```

Function

Temporarily stops the message delivery for the physical destination.

If the destination type and the destination name are not specified, all the physical destinations are stopped temporarily.

Arguments

`-t` *destination-type*
: Specifies a destination type. You can specify the following destination types:
  - `q`: Queue
  - `t`: Topic

`-n` *destination-name*
: Specifies the destination name.

`-b` *host-name* `:` *port-number*
: Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Notes

- This command is ignored, if executed for the physical destinations that are stopped temporarily.
- If you want to temporarily stop a dead message queue, stop the dead message queue at the end so that you can receive the messages from other physical destinations. Also, while restarting, first restart the dead message queue.

cjmsicmd purge dst (deleting the physical destination messages)

Format

```
cjmsicmd purge dst  -t destination-type
                    -n destination-name
                   [-b host-name : port-number]
```

Function

Deletes all the messages from a physical destination.

Arguments

`-t` *destination-type*

Specifies a destination type. You can specify the following destination types:

- `q`: Queue
- `t`: Topic

`-n` *destination-name*

Specifies the destination name.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

cjmsicmd query dst (displaying the list of property value of physical destination)

Format

```
cjmsicmd query dst  -t destination-type
                    -n destination-name
                   [-b host-name : port-number]
```

Function

Displays the list of property values (unit: bytes) of a physical destination.

Arguments

`-t` *destination-type*

Specifies a destination type. You can specify the following destination types:

- `q`: Queue
- `t`: Topic

`-n` *destination-name*

Specifies the destination name.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

cjmsicmd resume dst (resuming the message delivery of physical destination)

Format

```
cjmsicmd resume dst [-t destination-type
                     -n destination-name]
                    [-b host-name : port-number]
```

Function

Resumes message delivery to a physical destination.

If the destination type and the destination name are not specified, all the physical destinations are stopped temporarily.

Arguments

`-t` *destination-type*

Specifies a destination type. You can specify the following destination types:

- `q`: Queue
- `t`: Topic

`-n` *destination-name*

Specifies the destination name.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Notes

- If this command is executed for the physical destination that is in the `RUNNING` state, the message *Successfully resumed the destination* will be displayed, but the command will be ignored.

5.6 Details of commands of persistence subscriber management

This section describes the input formats and functions of the commands used in the persistence subscriber management.

cjmsicmd destroy dur (destroying persistence subscribers)

Format

```
cjmsicmd destroy dur -n subscriber-name
                     -c client-ID
                    [-b host-name : port-number]
```

Function

Destroys persistence subscribers.

Arguments

`-n` *subscriber-name*

Specifies the persistence subscriber name.

`-c` *client-ID*

Specifies a client ID.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

cjmsicmd list dur (displaying the list of persistence subscribers)

Format

```
cjmsicmd list dur -d topic-name
                 [-b host-name : port-number]
```

Function

Displays the list of persistence subscribers.

Arguments

`-d` *topic-name*

Specifies a topic name.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Output example

The following is an output example of `cjmsicmd list dur`:

- When you specify `Test_Topic` in a topic name:

```
-------------------------------------------------------------------------
Durable Sub. Name   Client ID   Number of Messages   Durable Sub. State
-------------------------------------------------------------------------
DurableSUB1         clientID3   2998                 INACTIVE

KDAN34323-I Successfully listed durable subscriptions.
```

Output header

Durable Sub. Name

This is the name of a persistence subscriber.

Client ID

This is the client ID value of the persistence subscriber.

Number of Messages

This is the message count that is not used by the persistence subscriber.

Durable Sub. State

This is the used state of the persistence subscriber.

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

cjmsicmd purge dur (deleting persistence subscribers)

Format

```
cjmsicmd purge dur -n subscriber-name
                   -c client-ID
                  [-b host-name : port-number]
```

Function

Deletes all the messages of a persistence subscriber.

Arguments

`-n` *subscriber-name*

Specifies a persistence subscriber.

`-c` *client-ID*

Specifies a client ID.

`-b` *host-name* `:` *port-number*

Specifies the host name and the port number by delimiting them using a colon (`:`).

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

5.7 Property settings of physical destination

This subsection describes the property settings specified in the `-o` option of the `cjmsicmd create dst` command (creating a physical destination) of the command utility.

Table 5–7: List of physical destination property settings

Property	Description
`maxNumMsgs`	Specify the maximum number of messages that are not delivered to the consumer as an integer value from -1 to 2147483647. If this value is omitted, `-1` will be set up. `-1` indicates that there are infinite messages. If you omit this value for a dead message queue, `1000` will be set up. If you specify `0`, the value will be assumed as `-1`.
`maxTotalMsgBytes`	Specify the maximum value for the total memory size for the messages that are not delivered to the consumer as an integer value from -1 to 2147483647. You can also specify b (Bytes), k (Kilobyte), or m (Megabyte) as a suffix. If this value is omitted, `-1` will be set up. If you omit this value for a dead message queue, `10m` will be set up. If you omit the suffix, `b` will be assumed. If you specify `-1`, the memory size will be infinite.
`consumerFlowLimit`	Specify the maximum number of messages that are delivered to the consumer in a batch as an integer value from -1 to 2147483647. If this value is omitted, the following value will be set up according to the destination type: • Queue: 100 • Topic: 1000 • Dead message queue: 1000 If you specify `-1`, the number of messages will be infinite.
`maxNumProducers`	Specify the maximum number of producers as -1 or an integer value from 1 to 2147483647. If this value is omitted, `-1` (infinite) will be set up. New producers cannot be created, when the number of producers reaches the specified maximum value (excluding `-1`). Also, you cannot specify `0`. If you specify `0`, an error message will be displayed.

5.8 Note on the commands used by Cosminexus JMS provider

This section describes the notes on the commands used by Cosminexus JMS Provider.

- CJMSP Broker is case sensitive. However, CJMSP Broker is not case sensitive for instance names and commands, in Windows. For example, the `cjmsbroker` and `CJMSBROKER` have same meaning.
- You cannot override the `-o` option. However, if the characteristics of a property differ, the property can be specified. If same property is specified, the property specified last will be applicable.
- If you specify the `-h` option or the `-help` option, the other options are neglected.

  Example: `cjmsicmd create dst -n TestQueue -t t -h`
- In the Cosminexus JMS Provider command, if you specify same option for more than two times, the value that is specified last in the option will be valid.

  Example: `cjmsicmd create dst -n hello -t q -t t`

  In the case of the above example, two `-t` options are specified; however, `-t t` is valid.
- If you execute a command by specifying an invalid option and if the specified option is valid in some other command, an error will not occur, but the specified option will be ignored. If there is a mistake in the input format of the option, an error will occur.

  Example 1:

  ```
  cjmsicmd list bkr -n jms
  ```

  The `-n` option is for specifying the physical destination and is disabled in the `cjmsicmd list bkr` command. However, there is no error and the `cjmsicmd list bkr` command operates normally, if the input format of the option is correct.

  Example 2:

  ```
  cjmsicmd list bkr -n
  ```

  The `-n` option is disabled in the `cjmsicmd list bkr` command and there is also a mistake in the input format (destination is not specified). An error occurs in such cases.

6 Commands Used in CTM

This chapter describes the input formats and functions of the commands used in CTM.

6.1 List of commands used in CTM

Commands used in CTM begin with `ctm`. The following table lists the commands used in CTM.

Table 6–1: List of commands used in CTM

Command name	Function	Description
ctmchpara	Change the number of concurrent executions for schedule queues	Dynamically changes the number of concurrent executions for schedule queues managed by CTM.
ctmdminfo	Display and delete CTM domain information	Displays or deletes information about a CTM domain.
ctmdmstart	Start CTM domain manager	Starts the CTM domain manager.
ctmdmstop	Terminate CTM domain manager	Terminates the CTM domain manager.
ctmgetior	Acquire IOR strings	Acquires the IOR strings of the objects that are registered on ORB gateways.
ctmgetpid	Acquire a process ID	Acquires the process ID of the CTM domain manager or CTM daemon.
ctmholdque	Lock schedule queues	Locks schedule queues.
ctmjver	Output version information for an executable file and a library	Outputs version information for a `jar` file provided by CTM.
ctmidl2cpp	Generate C++ stub code	Generates C++ stub code for the OTM client from an IDL file.
ctmidl2j	Generate Java stub code	Generates Java stub code for the OTM client from an IDL file.
ctmjava2idl	Generate an IDL file	Generates IDL definitions from an EJB class file.
ctmlogcat	Edit and output messages	Edits messages output by CTM and outputs them to the standard output.
ctmlsque	Output schedule queue information	Outputs schedule queue scheduling information to the standard output.
ctmrasget	Acquire and output troubleshooting information	Acquires and outputs troubleshooting information required by CTM.
ctmregltd	Start CTM regulator	Starts a CTM regulator.
ctmridinfo	Output CTM domain information	Outputs CTM domain information to the standard output.
ctmrlesque	Unlock schedule queues	Unlocks schedule queues.
ctmstart	Start CTM daemon	Starts a CTM daemon.
ctmstartgw	Start an ORB gateway	Starts a gateway process that enables CTM to handle requests from the ORB client.
ctmstop	Terminate CTM daemon	Terminates a CTM daemon.
ctmstopgw	Terminate the ORB gateway	Terminates the gateway process that enables CTM to handle requests from the ORB client.
ctmstsed	Edit and output statistics	Edits acquired statistics into the required information, and outputs the information in the required format.
ctmstsflush	Forcibly output buffer contents to a file	Outputs request information from the buffer to a file.
ctmstsstart	Start acquisition of statistics	Starts the acquisition of information for a statistics file.

Command name	Function	Description
ctmstsstop	Stop acquisition of statistics	Ends the acquisition of information for a statistics file.
ctmtscgwd	Start OTM gateway	Starts a gateway process for processing OTM client requests by CTM.
ctmver	Output version information for executable files and libraries	Outputs version information for an executable file and a library provided by CTM.

6.2 Details of commands used in CTM

This section describes the input formats and functions of the commands used in CTM.

Command storage destination

The commands used in CTM are stored in the following directory:

- In Windows
  Application-Server-installation-directory\CTM\bin\
- In UNIX
  /opt/Cosminexus/CTM/bin/

ctmchpara (change the number of concurrent executions for schedule queues)

Format

```
ctmchpara  [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
           [-CTMMyHost host-name-or-IP-address]
           [-CTMTimeOut timeout-value]
           -CTMQueue schedule-queue-name
           -CTMChangeCount number-of-concurrent-executions
```

Function

This command changes the number of concurrent executions for each schedule queue by increasing and reducing the number of threads.

The completion of the command is processed as follows depending on whether threads are increased or decreased:

- When increasing threads, the system waits for the threads to be generated.
- When decreasing threads, the system waits for the completion of a request and then aborts threads, but does not wait for the completion of the command.

You can change the number of threads when one of the following is displayed as the schedule queue status for `Status` by the `ctmlsque` command:

- `A`: Scheduling is possible.
- `H`: Schedule queue is locked.
- `C`: Locked but scheduling is possible.

If you change the number of concurrent executions, the number of threads for applications that shares the CTM queue is averaged.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the CTM domain name of the CTM daemon for which the number of concurrent executions is to be changed. You can specify 1 to 31 alphanumeric characters and underscores (_).

Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon for which the number of concurrent executions is to be changed. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_).

Do not specify a CTM identifier that begins with `CTM` or `ctm`. Period (.) can only be specified in an IP address. If this argument is omitted, the IP address is set to the CTM identifier.

For example, if the IP address of the host is 172.17.112.43, the character string `172.17.112.43` is assumed as the CTM identifier.

`-CTMMyHost` *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the `hostname` command is set.

`-CTMTimeOut` *timeout-value*

Specifies the amount of time (in seconds) to wait for the number of concurrent executions for the schedule queue to change. You can specify an integer in the range from 0 to 2147483647. If `0` is specified, there is no limit on the wait time. If this argument is omitted, `180` (seconds) is set.

`-CTMQueue` *schedule-queue-name*

Specifies the registration name of the schedule queue for which the number of concurrent executions is to be changed. You can specify 1 to 63 alphanumeric characters and underscores (_).

`-CTMChangeCount` *number-of-concurrent-executions*

Specifies the new number of concurrent executions. You can specify an integer in the range from 1 to the *number-of-applications-sharing-the-queue* **x** 127. You cannot specify a value greater than the value of the `-CTMDispatchParallelCount` option specified during startup of the CTM daemon. If the `-CTMDispatchParallelCount` option was omitted during startup of the CTM daemon, you cannot specify a value greater than 255. For example, if you want to change the number of concurrent executions from 30 to 10, specify `10`.

Return values

`0`:

The command is terminated normally.

Other than `0`:

An error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

- Do not use this command in a system that executes batch applications. If you use this command in such as system, operation will be unstable.
- If the specified number of concurrent executions is smaller than the number of J2EE servers that share the schedule queue, the number of threads that send requests to each J2EE server is set to 1.
- To execute this command, set the number of instances in a Session Bean pool to unlimited or to a value equal to or greater than 127 (the maximum specifiable number of concurrent executions).

- If you stop a J2EE application, or if the J2EE server terminates abnormally, the number of concurrent executions is handled as follows:

  Before the command is executed:

  The number of concurrent executions for the relevant J2EE application is reduced.

  After the command is executed:

  The number of concurrent executions set for the schedule queue is not changed.
- To check the number of concurrent executions set by the command and whether the command is executed successfully, see the CTM log after the change. Alternatively, check the value of `ParallelCount` (displayed by executing the `ctmlsque` command).

ctmdminfo (display and delete CTM domain information)

Format

```
ctmdminfo [-h] [-d]
```

Function

This command displays or deletes information about a CTM domain registered in a CTM environment on the host.

Arguments

`-h`

Displays how to use the command.

`-d`

Deletes registered CTM domain information from a CTM environment on the host.

After `ctmdminfo -d` is executed, a list of CTMSPOOL values and CTM domain names registered in the current CTM environment appears. In the list, select the number for the combination you want to delete, and then enter data according to the instruction of the command.

Return values

`0`:

The command is terminated normally.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Input and output examples

1. Execute the `ctmdminfo` command with the `-d` option specified.

   ```
   ctmdminfo -d
   ```

2. A list of CTM domain names and CTMSPOOL values appears.
   - In Windows

```
No CTM-Domain   Port   CTMSPOOL
1 hitachi       9496   C:\Program Files\HITACHI\ctm\spool
2 CTMDOMAIN     20137  C:\Program Files\HITACHI\Cosminexus\CTM\spool
Please input Number which you wish delete. ->
```

- In UNIX

```
No CTM-Domain   Port   CTMSPOOL
1 hitachi       9496   /home/hitachi/ctm/spool
2 CTMDOMAIN     20137  /opt/Cosminexus/CTM/spool
Please input Number which you wish delete. ->
```

3. Enter the number for the environment you want to delete.

```
Please input Number which you wish delete. -> 2
```

4. Confirm that there is no problem in the displayed information, and then enter `y`.

- In Windows

```
2 CTMDOMAIN     20137  C:\Program Files\HITACHI\Cosminexus\CTM\spool
We will delete this combination of Domain_name and CTMSPOOL directory.
OK ? (y/n) -> y
```

- In UNIX

```
2 CTMDOMAIN     20137  /opt/Cosminexus/CTM/spool
We will delete this combination of Domain_name and CTMSPOOL directory.
OK ? (y/n) -> y
```

Notes

Note that if a TPBroker Object Transaction Monitor environment exists on the same host, information about the TSC domain can also be displayed and deleted.

ctmdmstart (start CTM domain manager)

Format

```
ctmdmstart  [-h] [-CTMDomain CTM-domain-name]
            [-CTMMaxCTM maximum-number-of-managed-CTM-daemons]
            [-CTMPort CTM-domain-management-port-number]
            [-CTMMyHost host-name-or-IP-address]
            [-CTMSendInterval CTM-daemon-information-send-interval]
            [-CTMSubnetMask subnet-mask]
            [-CTMSendHost host-name-or-IP-address
            [,host-name-or-IP-address,...]]
            [-CTMSendHostInterval
             interval-for-sending-CTM-daemon-information-to-different-networ
k-segment]
            [-CTMAliveCheckCount CTM-domain-manager-operation-determination-
coefficient]
            [-CTMForceStart | -CTMAutoForce]
```

Function

This command starts the CTM domain manager.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM domain manager belongs. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMMaxCTM` *maximum-number-of-managed-CTM-daemons*

Specifies the maximum number of CTM daemons that can be managed in the CTM domain. You can specify an integer in the range from 1 to 1024. If this argument is omitted, `64` is set.

`-CTMPort` *CTM-domain-management-port-number*

Specifies the port number that the CTM domain manager uses to exchange CTM daemon information. You can specify an integer in the range from 5001 to 65535. To start CTM domain managers with the same CTM domain name on multiple hosts, specify the same value for the `-CTMPort` option. If this argument is omitted, the service name file is referenced. If a port number is not specified in the service name file, `20137` is set.

The following shows the specification format in the service name file:

```
CTM_CTM-domain-name       port-number/tcp
```

For example, if you specify `ctmdmstart -CTMDomain JAPAN` to start the CTM domain manager, an entry specified as follows in the service name file is loaded:

```
CTM_JAPAN                  10021/tcp
```

The CTM domain manager uses both tcp and udp protocols for one port number. Therefore, do not use the port number used by the CTM domain manager as a port number for any other udp.

If you restart the CTM domain manager after abnormal termination, do not change the value specified for the `-CTMPort` option. You can change the value of this option after terminating the CTM domain manager normally.

`-CTMMyHost` *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the `hostname` command is set.

If you restart the CTM domain manager after abnormal termination, do not change the value specified for the`-CTMMyHost` option. You can change the value of this option after terminating the CTM domain manager normally.

`-CTMSendInterval` *CTM-daemon-information-send-interval*

Specifies, in seconds, the time interval at which the CTM domain manager broadcasts CTM daemon information in the network segment. You can specify an integer in the range from 0 to 65535. Specify `0` if you do not want to broadcast CTM daemon information. If this argument is omitted, `60` (seconds) is set.

Specifying a large value for the `-CTMSendInterval` option increases the interval for broadcasting CTM daemon information to CTM domain managers started on different hosts. In this case, an Enterprise Bean invocation between CTM daemons might fail. Specifying a small value for this option reduces the interval for broadcasting CTM daemon information to CTM domain managers started on different hosts. As a result, the network might be loaded.

-CTMSubnetMask *subnet-mask*

Specifies a subnet mask of the network in *xxx*.*xxx*.*xxx*.*xxx* format. For *xxx*, specify an integer in the range from 0 to 255. Use periods as delimiters.

If this argument is omitted, 255.255.255.0 is set.

-CTMSendHost *host-name-or-IP-address* [,*host-name-or-IP-address*,...]

Specifies the host name or IP address of the host that runs a CTM domain manager that exists in a different network segment and to which CTM daemon information is to be distributed. You can use alphanumeric characters, periods (.), hyphens (-), and underscores (_).

By specifying this option, you can distribute CTM daemon information in a CTM domain consisting of multiple rework segments.

To specify a host name, you can use a host name set in *Windows-directory*\system32\drivers\etc\hosts (in Windows) or etc/hosts (in UNIX). Do not specify a host name or IP address that begins with a hyphen. If you specify such a host name or IP address, operation is not guaranteed.

To specify multiple hosts, use a comma (,) as a delimiter. The following shows a specification example:

```
-CTMSendHost HOSTA,HOSTB
```

-CTMSendHostInterval *interval-for-sending-CTM-daemon-information-to-different-network-segment*

Specifies (in seconds) the time interval for sending CTM daemon information to the host that runs a CTM domain manager that exists in a different network segment. You can specify an integer in the range from 0 to 65535. Specify 0 if you do not want to send CTM daemon information. If this argument is omitted, the value specified for the -CTMSendInterval option is set.

Specifying a large value for the -CTMSendHostInterval option increases the interval for sending CTM daemon information to a CTM domain manager started on a different host. In this case, an Enterprise Bean invocation between CTM daemons might fail. Specifying a small value for this option reduces the interval for sending CTM daemon information to a CTM domain manager started on a different host. As a result, the network might be loaded.

The value specified for the -CTMSendHostInterval option is invalidated if the -CTMSendHost option is not specified. Note that whether CTM daemon information is sent depends on the values specified for the -CTMSendHost, -CTMSendInterval, and -CTMSendHostInterval options.

The following table describes the relationship between the values specified for the command options and whether CTM daemon information is sent.

-CTMSendHost	-CTMSendHostInterval	-CTMSendInterval	CTM daemon information
Specified	0	0	N
		Other than 0#	N
	Other than 0	0	Y
		Other than 0#	Y
	Not specified	0	N
		Other than 0#	Y
Not specified	Invalid	Invalid	N

Legend:

Y: Sent

N: Not sent

#

Including the default value (60 seconds) that is assumed if the -CTMSendInterval option is not specified.

`-CTMAliveCheckCount` *CTM-domain-manager-operation-determination-coefficient*

Specifies the coefficient used to determine whether a CTM domain manager started on a different host is running. You can specify an integer in the range from 2 to 255. If this argument is omitted, `2` is set. Either of the following values is used as the operation determination interval:

- The value of *CTM-daemon-information-send-interval* (specified for the `-CTMSendInterval` option of the CTM domain manager that broadcasts CTM daemon information) multiplied by the value of *CTM-domain-manager-operation-determination-coefficient*
- The value of *interval-for-sending-CTM-daemon-information-to-different-network-segment* (specified for the `-CTMSendHostInterval` option of the CTM domain manager that sent CTM daemon information beyond the network segment) multiplied by the value of *CTM-domain-manager-operation-determination-coefficient*

If no CTM daemon information is sent between operation determination intervals, the sender CTM domain manager is determined to have stopped, and the CTM daemon information for the sender is deleted. If the CTM daemon information is deleted, requests are not distributed to that CTM daemon.

`-CTMForceStart`

Forces the CTM domain manager to start normally if it was terminated forcibly or abnormally the last time. This option forcibly terminates the previously managed CTM daemons, initializes management information, and then starts the CTM domain manager. At this time, the CTM daemons are not restarted.

If the CTM domain manager normally terminated the last time, the specification of the `-CTMForceStart` option is ignored because the CTM domain manager starts normally.

The `-CTMForceStart` option cannot be specified together with the `-CTMAutoForce` option.

`-CTMAutoForce`

Automatically forces the CTM domain manager to start by inheriting the previous management information if the CTM domain manager was terminated forcibly or abnormally the last time. If the previous management information can be inherited normally, you can restore the system status that existed before the termination. If the previous management information cannot be inherited, operation is the same as when the `-CTMForceStart` option is specified.

If the CTM domain manager normally terminated the last time, the specification of the `-CTMAutoForce` option is ignored because the CTM domain manager starts normally.

The `-CTMAutoForce` option cannot be specified together with the `-CTMForceStart` option.

Return values

`0`:

The command is terminated normally.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

- After the CTM domain manager has started, it moves the current directory. Therefore, the output destination of the core file is different from the directory of the executable file in the following cases:
  - The CTM domain manager is forcibly terminated by, for example, `ctmdmstop -CTMForce -CTMDebugInfo` or a `kill` command.
  - The CTM domain manager terminated abnormally.
- The following shows the location to which the current directory is moved.
  - In Windows

%CTMSPOOL%\adm*CTM-domain-name*\

- In UNIX

  $CTMSPOOL/adm/*CTM-domain-name*/

- If the CTM domain manager and CTM daemon terminated abnormally and a CTM regulator (a child process of the CTM daemon) exists, you might specify the -CTMForceStart option to force the CTM domain manager to start normally. In this case, the CTM domain manager forcibly stops the child process of the CTM daemon.

ctmdmstop (terminate CTM domain manager)

Format

```
ctmdmstop  [-h] [-CTMDomain CTM-domain-name]
           [-CTMMyHost host-name-or-IP-address]
           [-CTMForce [-CTMDebugInfo]]
```

Function

This command terminates the CTM domain manager.

Arguments

-h

Displays how to use the command.

-CTMDomain *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM domain manager belongs. You can specify1 to 31 alphanumeric characters and underscores (_).

Do not specify a character string that begins with CTM or ctm. If this argument is omitted, CTMDOMAIN is set.

-CTMMyHost *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the hostname command is set.

If you restart the CTM domain manager after abnormal termination, do not change the value specified for the -CTMMyHost option. You can change the value of this option after terminating the CTM domain manager normally.

-CTMForce

Forcibly terminates the CTM domain manager.

To restart the CTM domain manager that was forcibly terminated by the -CTMForce option, use the ctmdmstart command with the -CTMForceStart option specified.

-CTMDebugInfo

Acquires a shared memory dump and core files as debug information when the CTM domain manager is terminated forcibly. The -CTMDebugInfo option is valid only when the -CTMForce option is specified.

Return values

0:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

ctmgetior (acquire IOR strings)

Format

```
ctmgetior  [-h] |
          [ { -CTMDomain CTM-domain-name[,CTM-domain-name...] | -CTMDomainAl
l } ]
          [ { -CTMID CTM-identifier[,CTM-identifier...] | -CTMIDAll } ]
          [-CTMHost host-name-or-IP-address[,host-name-or-IP-address...]]
          [-CTMMyHost host-name-or-IP-address]
          [-CTMInterfaceName remote-interface-name[,remote-interface-name...
]]
          [-CTMLookupName lookup-name[,lookup-name...]]
          [-CTMOutPath output-directory-name]
```

Function

This command acquires the IOR strings of the objects that are registered on ORB gateways. This command extracts the IOR strings of the objects that meet the conditions specified as options and outputs the IOR strings to a file. ORB client applications can use an IOR string in this file to connect to a specific ORB gateway. This file contains only IOR strings in text format.

Arguments

-h

Displays how to use the command.

-CTMDomain *CTM-domain-name*[,*CTM-domain-name*...]

Specifies the names of CTM domains to which the acquisition-target ORB gateways belong. Each of the specified values can consist of only alphanumeric characters. To specify multiple CTM domain names, specify them in a comma-separated list format.

Do not specify a string that begins with CTM or ctm. If no value is specified, the command assumes that CTMDOMAIN is specified. To acquire IOR strings, specify the names of CTM domains that have already been activated on the host on which this command is executed.

You cannot specify this option together with the -CTMDomainAll option.

-CTMDomainAll

If this option is specified, the command acquires IOR strings for all CTM domains that exist on the host on which the command is executed. You can use the ctmdminfo command to check the CTM domains that exist on the local host. If this option is omitted, the command acquires IOR strings for the CTM domains specified in the -CTMDomain option.

You cannot specify this option together with the -CTMDomain option.

-CTMID *CTM-identifier*[,*CTM-identifier*...]

Specifies the CTM identifiers of CTM nodes to which the acquisition-target ORB gateways belong. Each of the specified values can consist of only alphanumeric characters and periods (.). To specify multiple CTM identifiers, specify them in a comma-separated list format.

Do not specify a CTM identifier that begins with CTM or ctm. If no value is specified, an IP address is set as a CTM identifier.

For example, if the IP address of the host is 172.17.112.43, the string 172.17.112.43 is set as a CTM identifier.

You cannot specify this option together with the -CTMIDAll option.

-CTMIDAll

If this option is specified, the command acquires IOR strings for all CTM identifiers that are recognized by the specified CTM domains. If this option is omitted, the command acquires IOR strings for the CTM identifiers that are specified in the -CTMID option.

You cannot specify this option together with the -CTMID option.

-CTMHost *host-name-or-IP-address*[,*host-name-or-IP-address*...]

Specifies the host names or IP addresses of the acquisition-target hosts. Each of the specified values can consist of only 1 to 64 ASCII characters. To specify multiple values, specify them in a comma-separated list format.

You can use this option to narrow down the acquisition-target CTM nodes specified in the -CTMDomain (or -CTMDomainAll) option and the -CTMID (or -CTMIDAll) option. If this option is specified, the command acquires IOR strings for only the specified acquisition-target CTM nodes that exist on the hosts specified in this option. The default is all the hosts recognized by the CTM domain manager of the host on which the command requested acquisition of IOR strings.

-CTMMyHost *host-name-or-IP-address*

Specifies the host name or IP address used by Cosminexus Component Transaction Monitor in a multihomed host environment. The specified value can consist of only 1 to 64 ASCII characters. If no value is specified, the host name acquired by the gethostname system call is set.

If you specify the -CTMMyHost option without specifying the -CTMID option, the IP address specified in the -CTMMyHost option is used as the default CTM identifier.

-CTMInterfaceName *remote-interface-name*[,*remote-interface-name*...]

Specifies the remote interface names of acquisition-target EJB objects. Each of the specified values can consist of only alphanumeric characters and periods (.). To specify multiple values, specify them in a comma-separated list format.

Note that a remote interface name is a name specified by using the <remote> tag in the DD file (ejb-jar.xml). If the remote interface name includes a package specification, use a fully qualified class name. The default is all the EJB objects that are registered on the ORB gateways recognized by the target CTM domains.

-CTMLookupName *lookup-name*[,*lookup-name*...]

Specifies the lookup names of acquisition-target EJB objects. Each of the specified values can consist of only ASCII characters. To specify multiple values, specify them in a comma-separated list format. The default is the lookup names of all EJB objects that are registered on the ORB gateways that are recognized by the target CTM domains.

-CTMOutPath *output-directory-name*

Specifies the name of the directory that will store the file that contains the acquired IOR strings by using a relative or absolute path. If this option is omitted, the command outputs the file to the current directory used when the command is executed. The characters that can be used to specify the directory name differ depending on the OS:

Windows:

~<Alphanumeric characters and the following symbols: . \ + : -> <<current directory>>

UNIX:

~<Alphanumeric characters and the following symbols: . / + -> <<current directory>>

Return values

`0`:

The command ended normally.

Other than `0`:

The command terminated abnormally due to an error that occurred during command processing. Take measures as indicated in the message that is output, and then re-execute the command.

Output format

One IOR string file is output for each EJB object registered on the acquisition-target ORB gateways. The IOR strings for each EJB object are output to a file in a path consisting of the following directory and file names:

`aa...aa`

Lookup name of the EJB object registered on the ORB gateway

`bb...bb`

Remote interface name of the EJB object registered on the ORB gateway

`cc...cc`

IP address of the host on which the ORB gateway is operating

`dd...dd`

Port number that was specified for the `-CTMEjbPort` option when the ORB gateway started

Example:

```
aa...aa/bb...bb/cc...cc#dd...dd.ior
```

The preceding file is output to the directory specified for the `-CTMOutPath` option. In the preceding example, a forward slash (`/`) is a directory separator. In Windows, a backslash (`\`) is a directory separator.

The slash-based or backslash-based structure of a lookup name becomes the directory structure on an as-is basis.

Notes

- To specify multiple command option arguments, specify them in a comma-separated list format. Make sure that no space is entered before or after each comma.
- If an IOR string file is newly output when an IOR string file already exists with the same file name, the existing file is overwritten by the new one. If you want to keep old IOR string files, make their backup copies.
- IOR strings can be acquired only if all of the following conditions are met:
  - The acquisition-target ORB gateway process has already been started by specifying `1` for the `-CTMIDLConnect` option.
  - The acquisition-target EJB object has been deployed.
  - On the host on which the command is executed, the relevant CTM domain manager has already started.
  - If IOR strings are to be acquired for ORB gateways on other acquisition-target hosts, the relevant CTM domain managers have started on the acquisition-target hosts.
- If a failure occurs while an IOR string file is being output, the file might have invalid content.

ctmgetpid (acquire process ID)

Format

```
ctmgetpid  [-h] | -CTMDomain CTM-domain-name [-CTMID CTM-identifier]
           [-CTMMyHost host-name-or-IP-address]
           [-CTMGWID ORB-gateway-identifier]
```

Function

This command is required for processing monitoring. This command acquires the process ID of a CTM domain manager, CTM daemon, or ORB gateway.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

If the `-CTMID` option is specified, specify the name of the CTM domain that contains the CTM daemon whose process ID is to be acquired. You can specify 1 to 31 alphanumeric characters and underscores (_).

If the `-CTMID` option is omitted, specify the CTM domain name of the CTM domain manager whose process ID is to be acquired. You can specify 1 to 31 alphanumeric characters and underscores (_).

Do not specify a CTM domain name that begins with `CTM` or `ctm`.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon whose process ID is to be acquired. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_).

Do not specify a CTM identifier that begins with `CTM` or `ctm`. Period (.) can only be specified in IP addresses. If this argument is omitted, the process ID of the CTM domain manager specified for the `-CTMDomain` option is acquired.

`-CTMMyHost` *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the `hostname` command is set.

`-CTMGWID` *gateway-identifier*

Specifies the identifier of the gateway for which to acquire the process ID. You can specify 1 to 32 alphanumeric characters.

Return values

`0`:

The command is terminated normally.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

ctmholdque (lock schedule queues)

Format

```
ctmholdque  [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
            [-CTMMyHost host-name-or-IP-address]
            {-CTMQueue schedule-queue-registration-name | -CTMQueueALL}
            [[-CTMRequestLeave] [-CTMTimeOut timeout-value]
             | [-CTMChangeServer]]
            [-CTMForce]
```

Function

This command locks schedule queues.

If a schedule queue is locked, subsequent requests and requests in the schedule queue cause errors. However, if the schedule queue is locked with the `-CTMRequestLeave` option specified, requests in the locked schedule queue will be processed by a J2EE application.

If the schedule queue is locked with the `-CTMChangeServer` option specified, J2EE applications can be replaced in online mode.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the CTM domain name of the CTM daemon for which the schedule queue is to be locked. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon for which the schedule queue is to be locked. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with `CTM` or `ctm`. Period (.) can only be specified in IP addresses. If this argument is omitted, an IP address is assumed.

For example, if the IP address of the host is 172.17.112.43, the character string `172.17.112.43` is assumed as the CTM identifier.

`-CTMMyHost` *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the `hostname` command is set.

`-CTMQueue` *schedule-queue-registration-name*

Specifies the registration name of the schedule queue to be locked. You can specify 1 to 63 alphanumeric characters and underscores (_).

For a system that executes batch applications, specify a schedule group name as the registration name of the schedule queue.

`-CTMQueueALL`

Locks all schedule queues at the same time, including schedule queues that are already locked.

-CTMRequestLeave

Locks the schedule queue without destroying the requests retained in the schedule queue. The requests that are not destroyed will be processed by a J2EE application.

The ctmholdque command waits for the retained requests to be exported, for the amount of time specified for the -CTMTimeOut option. If the ctmrlesque command unlocks the schedule queue during this wait time, reception of requests is enabled, and then the ctmholdque command terminates normally.

-CTMTimeOut *timeout-value*

Specifies the time (in seconds) to wait for the schedule-queue lock processing. You can specify an integer in the range from 0 to 2147483647. If 0 is specified, there is no limit on the wait time. If this argument is omitted, 180 (seconds) is set.

-CTMChangeServer

Locks the schedule of requests to a J2EE application from the schedule queue. At this time, requests from the EJB client can be queued. The requests retained in the schedule queue are maintained until the schedule queue is unlocked by the ctmrlesque command. However, if you stop the CTM daemon, the requests retained in the schedule queue are destroyed and the stop processing continues.

If the schedule queue is locked with the -CTMChangeServer option specified, J2EE applications can be replaced in online mode because queuing of requests and the requests in the schedule queue are maintained. If J2EE applications available for scheduling exist in the same CTM domain, requests are scheduled in the schedule queue corresponding to a J2EE application that is not loaded.

The -CTMChangeServer option cannot be specified together with the -CTMRequestLeave and -CTMTimeOut options.

If you use this option with ctmstart -CTMQueueDeleteWait, which maintains requests after abnormal termination of the J2EE server, you cannot execute ctmholdque -CTMChangeServer after the J2EE server terminated abnormally.

-CTMForce

Quickly locks the schedule queue without performing communication with the CTM daemon. At this time, the retained requests are destroyed after a fixed time. However, if the -CTMRequestLeave option is specified together, the retained requests are not aborted. Note that the -CTMChangeServer option is ignored if specified together with the -CTMChangeServer option.

Return values

0:

The command is terminated normally.

1:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

2:

The specified schedule queue has already been locked. This value is returned only when the -CTMQueue option is specified.

ctmjver (output version information for executable file and library)

Format

```
ctmjver -h | file-path
```

Function

This command outputs version information for a `jar` file provided by CTM.

Arguments

`-h`

Displays how to use the command.

file-path

Specifies the target file path (relative path and absolute path).

Output format

```
Information For: aa...aa
Product Name: bb...bb
PP Number: cc...cc
Version: dd...dd
Copyright: ee...ee
Company: ff...ff
Build OS: gg...gg
Build Compiler: hh...hh
Build Date: ii...ii jj...jj
Build Number: kk...kk
```

Legend:

`aa...aa`: File name (character string)

`bb...bb`: Product name (character string)

`cc...cc`: Program product model (character string)

`dd...dd`: Version and revision (character string)

`ee...ee`: Copyright (character string)

`ff...ff`: Company name (character string)

`gg...gg`: Build OS (character string)

`hh...hh`: Build complier (character string)

`ii...ii`: Build date (character string)

`jj...jj`: Build time (character string)

`kk...kk`: Maintenance information (character string)

Return values

`0`:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

ctmidl2cpp (generate C++ stub code)

Format

```
ctmidl2cpp  [-h] |
            [-TSCclient_ext string] [-client_ext string]
            [-TSChdr_suffix extension-name] [-hdr_suffix extension-name]
            [-TSCsrc_suffix extension-name] [-src_suffix extension-name]
            [-TSCroot_dir path-name] [-root_dir path-name]
            [-TSCsrc_dir path-name]
            [-TSChdr_dir path-name]
            [-TSCexport string] [-export string]
            [-type_code_info]#
            [-namespace]#
            [-gen_included_files]
            [[-I directory[;directory...]]...]
            [-A] IDL-file
```

#

This item can be used in an OTMV5 environment only.

Function

This command generates C++ stub code for the OTM client from an IDL file.

Arguments

-h

Displays how to use the command.

-TSCclient_ext *string*

Specifies the string to be assigned as the name of the file to which client-side code is to be output. The default is _TSC_c.

-client_ext *string*

Specifies the string to be assigned to the file that will contain the client-part code output by the idl2cpp command. The default is _c.

-TSChdr_suffix *extension-name*

Specifies the extension of the header file. The default is hh.

-hdr_suffix *extension-name*

Specifies the suffix of the header file that is output by the idl2cpp command. If this option is omitted, the extension name specified in the -TSChdr_suffix option is used. If neither the -hdr_suffix option nor the -TSChdr_suffix option is specified, the string .hh is used.

-TSCsrc_suffix *extension-name*

Specifies the extension of the source file. The default is cc.

`-src_suffix` *extension-name*

Specifies the suffix of the source file output by the `idl2cpp` command. If this option is omitted, the extension name specified in the `-TSCsrc_suffix` option is used. If neither the `-src_suffix` option nor the `-TSCsrc_suffix` option is specified, the string `.cc` is used.

`-TSCroot_dir` *path-name*

Specifies the directory to which the source file and header file will be output. If a non-existent directory is specified, it is automatically created.

If you change the output-destination directory, specify the new output-destination directory as an include file search path during compilation.

`-root_dir` *path-name*

Specifies the directory to which the source file and header file output by the `idl2cpp` command will be output.

If you change the output-destination directory, specify the new output-destination directory as an include file search path during compilation.

`-TSCsrc_dir` *path-name*

Specifies the directory to which the source file will be output. If a non-existent directory is specified, it is automatically created.

`-TSChdr_dir` *path-name*

Specifies the directory to which the header file will be output. If a non-existent directory is specified, it is automatically created.

If you change the output-destination directory, specify the new output-destination directory as an include file search path during compilation.

`-TSCexport` *string*

Specifies the export tag for the TSC user proxy. The `-TSCexport` option is used for a declaration to access classes in a DLL in Windows.

`-export` *string*

Specifies the export tag for the stub code that is output by the `idl2cpp` command. The `-export` option is used for a declaration to access classes in a DLL in Windows.

`-type_code_info`

If this option is specified, the command generates the TypeCode information for the data type defined in IDL to the file that will contain the client-side code output by the `idl2cpp` command. The generated TypeCode information facilitates the handling of the CORBA::Any type.

This option can be used in an OTMV5 environment only.

`-namespace`

If this option is specified, a module is implemented as a namespace. The module name output as a namespace is not extended in the same way as for the name that is output as a class. The name defined in IDL is retained as is.

This option can be used in an OTMV5 environment only.

`-gen_included_files`

If this option is specified, the command outputs included IDL definitions.

`-I` *directory*`[;` *directory*`...]`

Specifies the include file search paths. In UNIX, to specify multiple search paths, use a colon (`:`) as a path separator. In Windows, to specify multiple search paths, use a semicolon (`;`) as a separator. Alternatively, specify the `-I` option for each search path.

`-A`

If this option is specified, `osagent` is not internally started. Specify this option if `osagent` has already been started on the local host.

IDL-file

Specifies the name of the IDL file to be input. You can omit this option only when you specify the `-h` option. Make sure that this option is specified at the end of the command line. Also make sure that the extension of the IDL file name is `.idl`.

Return values

`0`:

The command ended normally.

Other than `0`:

The command terminated abnormally due to an error that occurred during command processing. Take measures as indicated in the message that is output, and then re-execute the command.

Notes

- The command behavior partly differs depending on the OTM version.
- Set the `TSCDIR` environment variable.
- Make sure that the shared libraries and commands for TPBroker compatible with the version of the OTM client can be used. If the OTM client is V3, set the directory for TPBroker V3. If the OTM client is V5, set the directory for TPBroker V5.

  Table 6–2: Environment variable settings required for executing the command

OTM client	Product that requires the environment variable to be set				
	OTM V3	OTM V5	TPBroker V3	TPBroker V5	CTM
V3	Y	N	Y	N	Y
V5	N	Y	N	Y	Y

  Legend:

  Y: Setting of an environment variable is required.

  N: Setting of an environment variable is not required.

- For the `PATH` environment variable, set the paths of the directories that contain the following: `osagent`, `idl2ir`, and `irep` for TPBroker; and `tscidl2cpp` for OTM.
- Make sure that a space is entered between an option and its argument.
- If the IDL file contains definitions that cannot be used for CTM, the command might behave incorrectly or generate an invalid file.
- During execution of the `ctmidl2cpp` command, messages might be output by TPBroker and OTM that are used internally.

ctmidl2j (generate Java stub code)

Format

```
ctmidl2j  [-h] |
          [-package package-name]
          [-CTMroot_dir path-name] [-root_dir path-name]
          [-gen_included_files]
          [[-I directory[;directory...]]...]
          [-A] IDL-file
```

Function

This command generates Java stub code for the OTM client from an IDL file.

Arguments

`-h`

Displays how to use the command.

`-package` *package-name*

Specifies the package name that will be prefixed to the package names defined in the IDL files. If a directory with the same name as the specified package name does not exist, the directory is automatically created. If such a directory already exists, the contents of the directory are updated. Note that the command can communicate with components that use the same user-defined IDL interface even if the `-package` option is not specified.

`-TSCroot_dir` *path-name*

Specifies the directory to which the source file and header file will be output. If a non-existent directory is specified, it is automatically created.

`-root_dir` *path-name*

Specifies the directory to which the source file and header file output by the `idl2java` command will be output.

`-gen_included_files`

If this option is specified, the command outputs included IDL definitions.

`-I` *directory*`[;`*directory*`...]`

Specifies the include file search paths. In UNIX, to specify multiple search paths, use a colon (`:`) as a path separator. In Windows, to specify multiple search paths, use a semicolon (`;`) as a separator. Alternatively, specify the `-I` option for each search path.

`-A`

If this option is specified, `osagent` is not internally started. Specify this option if `osagent` has already been started on the local host.

IDL-file

Specifies the name of the IDL file to be input. You can omit this option only when you specify the `-h` option. Make sure that this option is specified at the end of the command line. Also make sure that the extension of the IDL file name is `.idl`.

Return values

`0`:

The command ended normally.

Other than 0:

The command terminated abnormally due to an error that occurred during command processing. Take measures as indicated in the message that is output, and then re-execute the command.

Notes

- The command behavior partly differs depending on the OTM version.
- Set the TSCDIR environment variable.
- Make sure that the shared libraries and commands for TPBroker compatible with the version of the OTM client can be used. If the OTM client is V3, set the directory for TPBroker V3. If the OTM client is V5, set the directory for TPBroker V5.

Table 6–3: Environment variable settings required for executing the command

OTM client	Product that requires the environment variable to be set				
	OTM V3	OTM V5	TPBroker V3	TPBroker V5	CTM
V3	Y	N	Y	N	Y
V5	N	Y	N	Y	Y

Legend:

Y: Setting of an environment variable is required.

N: Setting of an environment variable is not required.

- For the PATH environment variable, set the paths of the directories that contain the following: osagent, idl2ir, and irep for TPBroker; and tscidl2cpp for OTM.
- Make sure that a space is entered between an option and its argument.
- If the IDL file contains definitions that cannot be used for CTM, the command might behave incorrectly or generate an invalid file.
- During execution of the ctmidl2j command, messages might be output by TPBroker and OTM that are used internally.

ctmjava2idl (generate IDL file)

Format

```
ctmjava2idl  [-h] | [-g]
             [-o output-file-name]
             [-c class-path] EJB-class-file
```

Function

This command generates an IDL file from an EJB class file.

Arguments

-h

Displays how to use the command.

-g

If this option is specified, the command generates an IDL definition file provided by CTM.

`-o` *output-file-name*

Specifies the name of the output file.

`-c` *class-path*

Specifies the class path referenced by the class file.

EJB-class-file

Specifies the EJB class file from which an IDL file is to be generated. Make sure that this option is specified at the end of the command line.

Return values

`0`:

The command ended normally.

Other than `0`:

The command terminated abnormally due to an error that occurred during command processing. Take measures as indicated in the message that is output, and then re-execute the command.

Notes

- For the `PATH` environment variable, set the path of the directory that contains `java2idl` for TPBroker V5. In UNIX, set the TPBroker V5 path for the path environment variable in the shared library.
- The IDL definition file generated if the `-g` option is specified becomes the definition file in JDK 1.4.2 provided by Cosminexus.
- During execution of the `ctmjava2idl` command, messages might be output from TPBroker that is internally used.
- The `ctmjava2idl` command overwrites the file whose name is specified for the `-o` option. Even when the command line has a syntax error, the file whose name is specified immediately after the `-o` option might be overwritten.

  The `ctmjava2idl` command outputs an IDL file that is compatible with OTM. For details about the IDL file, see the manual *TPBroker Object Transaction Monitor Programmers Guide.*

ctmlogcat (edit and output messages)

Format

```
ctmlogcat [-h] | [-d | -t CTM-identifier]
```

Function

This command edits messages output by CTM, and then outputs them to the standard output. You can use options to specify whether to output the CTM log or CTM domain log.

Arguments

`-h`

Displays how to use the command.

`-d`

Outputs CTM domain log data.

`-t` *CTM-identifier*

Outputs the CTM log for the specified CTM identifier. You can specify 1 to 31 alphanumeric characters and underscores (_). If this argument is omitted, an IP address is set.

If all options are omitted, the `-t` option is set with an IP address assumed as a CTM identifier. To output CTM logs in a multi-homed host environment, you must not omit the `-t` option.

For example, if the IP address of the host is 192.17.113.19, `-t 192.17.113.19` is set.

Return values

`0`:

The command is terminated normally. `0` is also returned if there is no data to be output (the KFCT73591-I message is output) or if the `-h` option is specified.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

- The `CTMSPOOL` environment variable must be already set when the `ctmlogcat` command is executed.
  - To specify the `-t` option, the `CTMSPOOL` environment variable must be specified for the execution environment in which CTM with the specified CTM identifier is running.
  - To specify the `-d` option, the `CTMSPOOL` environment variable must be specified during execution of the CTM domain manager.
- If the update date and time of a log information file stored under `CTMSPOOL` is changed, the `ctmlogcat` command might not be able to edit messages in the correct order.

ctmlsque (output schedule queue information)

Format

```
ctmlsque  [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
          [-CTMMyHost host-name-or-IP-address]
          [-CTMQueue schedule-queue-registration-name]
          [-CTMInterface [interface-name]] [-CSV]
          [-CTMAppInfo]
```

Function

This command outputs scheduling information for a schedule queue.

Arguments

`-h`

Displays how to use the command.

-CTMDomain *CTM-domain-name*

Specifies the CTM domain name of the CTM daemon for which schedule queue information is to be output. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with CTM or ctm. If this argument is omitted, CTMDOMAIN is set.

-CTMID *CTM-identifier*

Specifies the identifier of the CTM daemon for which schedule queue information is to be output. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with CTM or ctm. Period (.) can only be specified in IP addresses. If this argument is omitted, an IP address is set to the CTM identifier.

For example, if the IP address of the host is 172.17.112.43, the character string 172.17.112.43 is assumed as the CTM identifier.

-CTMMyHost *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the hostname command is set.

-CTMQueue *schedule-queue-registration-name*

Specifies the registration name of the schedule queue to be output. You can specify 1 to 63 alphanumeric characters and underscores (_).

For a system that executes batch applications, specify a schedule group name as the registration name of the schedule queue.

-CTMInterface *interface-name*

Specifies an EJB interface name to be output. You can specify a character string of at least one character. If you specify an interface name, the specified interface name and the INS registration information for EJB are output.

If you specify only the -CTMInterface option, all interface names and INS registration names are output.

-CSV

Outputs standard output information in CSV format.

-CTMAppInfo

Outputs information about applications that share the schedule queue.

Return values

0:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Output format

- Standard output format

```
*** ctmd Information ***
CTMDomain               aa...aa
CTMID                   bb...bb
------------------------------------------------------------------
*** CTMQueue Information ***
QueueName               cc...cc
Status                  d
```

```
ApplicationCount        ee...ee
RequestCount            ff...ff
RequestMax              gg...gg
QueueLength             hh...hh
ParallelCount           ii...ii
TotalThreadCount        jj...jj
*** Application Information ***
[1]J2EEServerName        kk...kk
[1]StartParallelCount    ll...ll
[1]ResidentThreadCount   mm...mm

[2]J2EEServerName        kk...kk
[2]StartParallelCount    ll...ll
[2]ResidentThreadCount   mm...mm
*** LookupName and Interface Information ***
[1]LookupName            nn...nn
[1]InterfaceName         oo...oo

[2]LookupName            nn...nn
[2]InterfaceName         oo...oo

[3]LookupName            nn...nn
[3]InterfaceName         oo...oo
----------------------------------------------------------------------
*** CTMQueue Information ***
QueueName               cc...cc
Status                  d
ApplicationCount        ee...ee
RequestCount            ff...ff
RequestMax              gg...gg
QueueLength             hh...hh
ParallelCount           ii...ii
TotalThreadCount        jj...jj
*** LookupName and Interface Information ***
                                :
                                :
```

- CSV output format

```
CTMDomain,CTMID
aa...aa,bb...bb
QueueName,Status,ApplicationCount,RequestCount,RequestMax,QueueLength,Para
llelCount,TotalThreadCount,J2EEServerName,StartParallelCount,ResidentThrea
dCount,LookupName,InterfaceName
cc...cc,dd...dd,ee...ee,ff...ff,gg...gg,hh...hh,ii...ii,jj...jj,kk...kk,ll
...ll,mm...mm,nn...nn,oo...oo
,,,,,,,,kk...kk,ll...ll,mm...mm,nn...nn,oo...oo
,,,,,,,,,,nn...nn,oo...oo
        :
        :
QueueName,Status,ApplicationCount,RequestCount,RequestMax,QueueLength,Para
llelCount,TotalThreadCount,J2EEServerName,StartParallelCount,ResidentThrea
dCount,LookupName,InterfaceName
cc...cc,dd..dd,ee...ee,ff...ff,gg...gg,hh...hh,ii...ii,jj...jj,kk...kk,ll.
..ll,mm...mm,nn...nn,oo...oo
,,,,,,,,kk...kk,ll...ll,mm...mm,nn...nn,oo...oo
,,,,,,,,,,nn...nn,oo...oo
```

```
        :
        :
```

Legend:

Symbol	Description	Type
aa...aa	Specified CTM domain name (1 to 31 alphanumeric characters)	CTM daemon information
bb...bb	Specified CTM identifier (1 to 31 alphanumeric characters)	
cc...cc	Schedule queue name that matches the specified condition (1 to 63 alphanumeric characters)	Schedule queue information 1
d	One of the following values indicating the schedule queue status that matches the specified condition: • S: Schedule queue is being prepared. • A: Scheduling is possible. • E: Schedule queue is being terminated. • H: Schedule queue is locked. • C: Locked but queuing is possible.	
ee...ee	Number of J2EE applications that share the schedule queue (5 decimal digits)	
ff...ff	Number of requests retained in the schedule queue (10 decimal digits)	
gg...gg	Maximum number of requests that have been retained in the schedule queue (10 decimal digits)	
hh...hh	Number of requests that can be registered concurrently (5 decimal digits)	
ii...ii	Number of concurrent executions managed by the schedule queue (3 decimal digits)	
jj...jj	Total number of resident threads managed by the schedule queue (3 decimal digits)	
kk...kk	Name of the J2EE server to which the schedule queue is connected (alphanumeric characters)	Schedule queue information 2
ll...ll	Number of concurrent executions at startup of the J2EE application displayed by *kk...kk* (3 decimal digits)	
mm...mm	Number of currently resident threads for the J2EE application displayed by *kk...kk* (3 decimal digits)	
nn...nn	INS registration name managed by the queue (alphanumeric characters)	Schedule queue information 3
oo...oo	Interface name managed by the queue (alphanumeric characters)	

Notes

- If multiple schedule queues match the specified condition, entries of schedule queue information 1 to 3 are repeatedly output for the number of those schedule queues.
- If the `-CTMInterface` option is specified, after schedule queue information 1 is output, entries of schedule queue information 3 are repeatedly output until all INS registration names and interface names managed by the schedule queue are output.
- If the `-CTMAppInfo` option is specified, after schedule queue information 1 is output, entries of schedule queue information 2 are repeatedly output until all the following information items are output: Name of the J2EE server to which the schedule queue is connected, number of threads at startup of the J2EE application, and the number of threads for the J2EE application.
- If both the `-CTMInterface` and `-CTMAppInfo` options are specified, after schedule queue information 1 is output, entries of schedule queue information 2 and 3 are repeatedly output.
- For systems that execute batch applications, the description of *Legend* for *Output format* is different. For such systems, replace *J2EE application* with *batch application*, and *J2EE server* with *batch server*. In addition, a schedule group name is output for the schedule queue name and INS registration name.

ctmrasget (acquire and output troubleshooting information)

Format

```
ctmrasget { [-h] | [-p] [-s] [-CTMSpool CTM-spool-directory |
          -CTMDomain CTM-domain-name]
          [-PRFSpool PRF-daemon-execution-environment-directory] output-dest
ination-directory}
```

Function

This command acquires troubleshooting information (to a file) required by CTM on the host on which the `ctmrasget` command is executed, and then outputs a list of acquired information to the standard output or standard error output.

Arguments

`-h`

Displays how to use the command.

`-p`

Outputs troubleshooting information about TPBroker to the output destination directory. You need to specify the TPBroker environment variable `VBROKER_ADM` in advance.

`-s`

Suppresses the acquisition of common messages (eventlog or syslog).

`-CTMSpool` *CTM-spool-directory*

Specifies the CTM spool directory to which troubleshooting information is to be acquired.

`-CTMDomain` *CTM-domain-name*

Specifies the CTM domain name for which troubleshooting information is to be acquired. You can specify 1 to 31 alphanumeric characters and underscores (_).

If this argument is omitted, troubleshooting information will be acquired from all CTM domains registered in the CTM environment on the host.

`-PRFSpool` *PRF-daemon-execution-environment-directory*

Specifies the PRF-daemon execution environment directory to which troubleshooting information is to be acquired. If this argument is omitted, the value of the environment variable `PRFSPOOL` is set. If both this option and the environment variable `PRFSPOOL` are omitted, PRF daemon information is not acquired.

output-destination-directory

Specifies the directory name (absolute or relative path) of the file to which troubleshooting information is to be output.

Return values

`0`:

The command is terminated normally.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Output format

```
Component Transaction Monitor: RAS completed collection of aa...aa
```

Legend:

`aa...aa`: Collected information and file name

Notes

- If a file with the specified name already exists in the output destination directory, the existing file is overwritten. Therefore, if you want to retain troubleshooting information, copy the file or specify a new directory as the output destination directory.
- Do not start or terminate CTM during execution of the `ctmrasget` command.

ctmregltd (start CTM regulator)

Format

```
ctmregltd [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
          [-PRFID PRF-identifier] [-CTMMyHost host-name-or-IP-address]
          [-CTMClientConnectCount number-of-connections]
          [-CTMEjbPort EJB-request-receiving-port-number]
          [-CTMAgent {1|0}]
          [-CTMIDLConnect [1|0]]
          [-CTMTimeOut timeout-value]
```

Function

This command starts a CTM regulator for distributing and collecting requests from the EJB client. Start the CTM regulator on the host on which the CTM daemon is running. Note that you cannot directly start the CTM regulator.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM daemon belongs. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with `CTM` or `ctm`. Period (.) can only be specified in IP addresses.

If this argument is omitted, an IP address is set to the CTM identifier. For example, if the IP address of the host is 172.17.112.43, the character string `172.17.112.43` is assumed as the CTM identifier.

-PRFID *PRF-identifier*

Specifies the identifier of a PRF daemon for which PRF trace is to be output. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with TSC, tsc, CTM, or ctm. If this argument is omitted, the character string PRF_ID is assumed as the PRF identifier.

-CTMMyHost *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the hostname command is set.

If you omit the -CTMID option and specify the -CTMMyHost option, the IP address specified for the -CTMMyHost option is assumed as the default CTM identifier.

-CTMClientConnectCount *number-of-connections*

Specifies the number of connections that can be established from the EJB client to the CTM regulator. You can specify an integer in the range from 1 to 32767. If the EJB client repeatedly issues create() or invoke(), connections with the CTM regulator are established until the process of the EJB client terminates or until a communication error or timeout occurs. Therefore, the -CTMClientConnectCount option might require the settings to be specified for the number of processes of the EJB client. If this argument is omitted, the value specified for the -CTMClientConnectCount option of the ctmstart command is inherited. If the -CTMClientConnectCount option of the ctmstart command is omitted, 64 is set.

-CTMEjbPort *EJB-request-receiving-port-number*

Specifies the port number that the EJB client uses to search for a new connection with the CTM regulator. You can specify an integer in the range from 5001 to 65535. If this argument is omitted, the port number automatically allocated by the OS is used.

-CTMAgent {1|0}

Specifies whether the CORBA object corresponding to EJB is registered in OSAgent of TPBroker. If this argument is omitted, or if 0 is specified, nothing is registered in OSAgent.

-CTMIDLConnect [1|0]

If this option is specified, an IDL-format repository ID (IDL:*interface-name*:1.0) is used for the CORBA object corresponding to the ORB gateway to be started. This option also specifies whether to perform IOR connection. Specify this option if the client's ORB product supports only IDL-format repository IDs.

If the argument of this option is omitted, the command assumes that 1 is specified.

If 1 is specified for this option and the ORB gateway is started, after the application has been started on the J2EE server, the IOR string for the ORB gateway can be acquired by using the ctmgetior command. The default is 1. If 0 is specified and the ORB gateway is started, no more IOR strings can be acquired. However, the application and ORB gateway can start in a shorter time than when 1 is specified.

If you specify this option, always specify also the -CTMEjbPort option.

-CTMTimeOut *timeout-value*

Specifies the default amount of time (in seconds) to wait for a response to be returned after a service request is received from the client. You can specify an integer in the range from 0 to 2147483647. If 0 is specified, there is no limit on the wait time. If this argument is omitted, 180 (seconds) is set.

Return values

0:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

- After the CTM regulator has started, it moves the current directory. Therefore, the output destination of the core file is different from the directory of the executable file in the following cases:
  - The CTM regulator is forcibly terminated by, for example, `ctmstop -CTMForce -CTMDebugInfo` or a `kill` command.
  - The CTM regulator terminated abnormally.
- The following shows the location to which the current directory is moved.
  - In Windows
    `%CTMSPOOL%\adm\`*CTM-identifier*`\reg\`*current-directory-ID*`\`
  - In UNIX
    `$CTMSPOOL/adm/`*CTM-identifier*`/reg/`*current-directory-ID*`/`

  For *current-directory-ID*, see the KFCT70606-I message.

ctmridinfo (output CTM domain information)

Format

```
ctmridinfo  [-h] | [-CTMDomain CTM-domain-name]
            [-CTMHost fully-qualified-host-name-or-IP-address]
            [-CTMMyHost host-name-or-IP-address]
```

Function

This command outputs CTM domain information.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the CTM domain name of the CTM domain manager for which CTM domain information is to be output. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMHost` *fully-qualified-host-name-or-IP-address*

Specifies the fully qualified name or IP address of the host that contains the CTM domain manager corresponding to the CTM domain name specified for the `-CTMDomain` option. You can specify a character string of 1 to 64 characters. In a multi-homed host environment, specify the host name or IP address specified for the `-CTMMyHost` option for use by CTM.

If this argument is omitted, the IP address of the local host is set. In a multi-homed host environment, the IP address that is set when the argument is omitted depends on the operation of the OS.

-CTMMyHost *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the hostname command is set.

Return values

0:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

ctmrlesque (unlock schedule queues)

Format

```
ctmrlesque [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
           [-CTMMyHost host-name-or-IP-address]
           {-CTMQueue schedule-queue-registration-name | -CTMQueueALL}
```

Function

This command unlocks schedule queues.

Arguments

-h

Displays how to use the command.

-CTMDomain *CTM-domain-name*

Specifies the CTM domain name of the CTM daemon for which the schedule queue is to be unlocked. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with CTM or ctm. If this argument is omitted, CTMDOMAIN is set.

-CTMID *CTM-identifier*

Specifies the identifier of the CTM daemon for which the schedule queue is to be unlocked. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with CTM or ctm. Period (.) can only be specified in IP addresses. If this argument is omitted, an IP address is set to the CTM identifier. For example, if the IP address of the host is 172.17.112.43, the character string 172.17.112.43 is assumed as the CTM identifier.

-CTMMyHost *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the hostname command is set.

-CTMQueue *schedule-queue-registration-name*

Specifies the registration name of the schedule queue to be unlocked. You can specify 1 to 63 alphanumeric characters and underscores (_).

For a system that executes batch applications, specify a schedule group name as the registration name of the schedule queue.

`-CTMQueueALL`

Unlocks all schedule queues at the same time, including schedule queues that are already unlocked.

Return values

`0`:

The command is terminated normally.

`1`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

`2`:

The specified schedule queue has already been unlocked. This value is returned only when the `-CTMQueue` option is specified.

ctmstart (start CTM daemon)

Format

```
ctmstart  [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
          -CTMINSRef CORBA-naming-service-URL
          [-CTMDCSendTimeOuttimeout-value-for-forwarding-requests-between-CT
M-daemons]
          [-PRFID PRF-identifier]
          [-CTMPort port-number]
          [-CTMEjbPort EJB-request-receiving-port-number]
          [-CTMMyHost host-name-or-IP-address]
          [-CTMRegStart number-of-processes]
          [-CTMRegOption CTM-command-option-file-name]
          [-CTMEnviron CTM-user-environment-variable-definition-file-name]
          [-CTMStartTimeOut timeout-value]
          [-CTMEntryCount number-of-registered-processes] [-CTMNice nice-val
ue]
          [-CTMClientConnectCount maximum-number-of-connected-clients]
          [-CTMServerConnectCount maximum-number-of-connected-J2EE-servers
          [-CTMLogFileSize maximum-CTM-log-file-size]
          [-CTMLogFileCount maximum-number-of-CTM-log-files]
          [-CTMQueueCount number-of-registered-schedule-queues]
          [-CTMQueueRegistCount schedule-queue-share-count]
          [-CTMServerCacheSize server-cache-size]
          [-CTMDispatchPolicy normalDispatch | priorDispatch]
          [-CTMDispatchParallelCount maximum-number-of-threads]
          [-CTMMaxRequestCount maximum-number-of-requests]
          [-CTMWatchRequest timeout-count,monitoring-interval]
          [-CTMQueueDeleteWait schedule-queue-retaining-time]
          [-CTMCreatePolicy normalDispatch | priorDispatch]
          [-CTMLoadCheckInterval load-status-monitoring-interval]
          [-CTMWatchQueue
           monitorig-start-retention-ratio,system-stop-processing-ratio,moni
toring-interval,stop-mode]
```

```
[-CTMTSCGwStart number-of-processes]
[-CTMTSCGwOption CTM-command-option-file-name]
[-CTMStatsUse {Y|N}]
[-CTMStatsFileCount number-of-statistics-file-generations]
[-CTMStatsFileSize statistics-file-size]
```

Function

This command starts a CTM daemon for scheduling requests.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM daemon belongs, as 1 to 31 alphanumeric characters and underscores (_). Do not specify a CTM domain name that begins with `CTM` or `ctm`. Do not specify the same value for the CTM identifier and the CTM domain name. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMID` *CTM-identifier*

Specifies the identifier of the CTM daemon, as 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with `CTM` or `ctm`. You must specify a unique CTM identifier in the CTM domain. Periods (.) can only be specified in IP addresses. If this argument is omitted, an IP address is set to the CTM identifier.

For example, if the IP address of the host is 172.17.112.43, the character string `172.17.112.43` is assumed as the CTM identifier.

`-CTMINSRef` *CORBA-naming-service-URL*

Specifies the URL of the CORBA naming service that is associated with the CTM daemon. You can specify 1 to 65535 characters in the following format:

```
host-name:port-number
```

The following shows a specification example:

```
-CTMINSRef localhost:9001
```

You cannot omit this option.

Start the CORBA naming service on the host on which the CTM daemon is running. Do not specify any CORBA naming service that is used by the J2EE server or other CTM daemons. If you specify such CORBA naming services, the operation is not guaranteed.

`-CTMDCSendTimeOut`*timeout-value-for-forwarding-requests-between-CTM-daemons*

Specifies the amount of time (in seconds) to wait for a request to be forwarded to another CTM daemon. You can specify an integer in the range from 0 to 2147483647. If `0` is specified, there is no limit on the wait time. If this argument is omitted, `180` (seconds) is set. The timeout value specified for this option is not used to monitor responses for requests from another CTM daemon. If an error occurs on the host or network before forwarding processing between daemons is performed, the error cannot be detected until the timeout period specified for this option elapses. If you reduce the timeout value, an attempt to forward a long message between daemons might fail.

`-PRFID` *PRF-identifier*

Specifies the identifier of a PRF daemon for which PRF trace is to be output, as 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `TSC`, `tsc`, `CTM`, or `ctm`. If this argument is omitted, the character string `PRF_ID` is assumed as the PRF identifier.

-CTMPort *port-number*

Specifies the port number used to search for a new connection with the CTM daemon. You can specify an integer in the range from 5001 to 65535. If this argument is omitted, the service name file is referenced. If a port number is not specified in the service name file, 20138 is set.

The following shows the specification format in the service name file:

```
CTM_CTM-domain-nameCTM-identifier       port-number/tcp
```

For example, if you specify ctmstart -CTMDomain JAPAN -CTMID XXX to start the CTM daemon, an entry specified as follows in the service name file is read:

```
CTM_JAPANXXX                          10021/tcp
```

-CTMEjbPort *EJB-request-receiving-port-number*

Specifies the port number used by the EJB client to search for a new connection with the CTM daemon. You can specify an integer in the range from 5001 to 65535. If this argument is omitted, the port number automatically allocated by the OS is used.

-CTMMyHost *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the hostname command is set.

If you omit the -CTMID option and specify the -CTMMyHost option, the IP address specified for the -CTMMyHost option is assumed as the default CTM identifier.

-CTMRegStart *number-of-processes*

Specifies the number of processes of the CTM regulator to be started automatically when the CTM daemon starts. You can specify an integer in the range from 0 to 32767. The CTM daemon monitors the operation of the CTM regulator, and restarts the CTM regulator if an abnormal termination is detected. If this argument is omitted, 1 is set.

You must start the CTM regulator when starting the J2EE server. If the number of CTM regulators that start automatically increases, the CTM daemon startup processing might require a lot of time. In this case, use the -CTMStartTimeOut option to adjust the wait time for the startup processing.

-CTMRegOption *CTM-command-option-file-name*

Specifies the name of the file that contains the command options to be specified when a CTM regulator starts automatically.

- In Windows

  You can use alphanumeric characters, periods (.), backslashes (\), colons (:), plus signs (+), hyphens (-), and underscores (_) in the file name.

- In UNIX

  You can use alphanumeric characters, periods (.), forward slashes (/), plus signs (+), hyphens (-), and underscores (_) in the file name.

Users can specify any name for the CTM command option file. To specify information in the command option file, you can use alphanumeric characters, spaces, hyphens (-), periods (.), forward slashes (/), and underscores (_). Do not specify anything other than command options. For example, you can specify the following:

```
-CTMClientConnectCount 64
```

To specify regoption as the CTM command option file name, specify the following when the CTM daemon starts:

```
ctmstart -CTMRegOption regoption -CTMRegStart 10
```

If you want to fix the port numbers for multiple CTM regulators that start automatically, specify the `-CTMEjbPort` option in the command option file. The value specified for the `-CTMEjbPort` option is used as the base value, and the base value incremented by one is set for the `-CTMEjbPort` option of each CTM regulator.

For options (other than the `-CTMEjbPort` and `-CTMPort` options) that are not specified in the command option file, the values specified for the `ctmstart` command are set.

`-CTMEnviron` *CTM-user-environment-variable-definition-file-name*

Specifies the name of the CTM user environment variable definition file that specifies the environment variables used by processes to be started, as an absolute path.

- In Windows

  You can use alphanumeric characters, periods (.), backslashes (\), colons (:), plus signs (+), hyphens (-), and underscores (_) in the file name.

- In UNIX

  You can use alphanumeric characters, periods (.), forward slashes (/), plus signs (+), hyphens (-), and underscores (_) in the file name.

For details about the CTM user environment variable definition file, see *7.2.1 CTM user environment variable definition file* in the *uCosminexus Application Server Definition Reference Guide*.

`-CTMStartTimeOut` *timeout-value*

Specifies the time (in seconds) to wait for the CTM daemon startup processing. You can specify an integer in the range from 0 to 2147483647. If `0` is specified, there is no limit on the wait time. If this argument is omitted, `180` (seconds) is set.

`-CTMEntryCount` *number-of-registered-processes*

Specifies the number of processes managed by the CTM daemon. You can specify an integer in the range from 32 to 32767.

If this argument is omitted, the sum of the values specified for the `-CTMServerConnectCount` option and `-CTMClientConnectCount` option is set.

`-CTMNice` *nice-value*

Specifies the default value of the `-CTMNice` option used by servers managed by the CTM daemon. You can specify an integer. If this argument is omitted, `0` is set. The range of specifiable values follows the range of specifiable nice values provided by the OS.

Note that the `-CTMNice` option exists only in UNIX.

`-CTMClientConnectCount` *maximum-number-of-processes-for-CTM-regulator-and-OTM-gateway*

Specifies the maximum number of processes for the CTM regulator and OTM gateway that can be connected to the CTM daemon. You can specify an integer in the range from 0 to 32767. If this argument is omitted, `64` is set.

`-CTMServerConnectCount` *maximum-number-of-connected-J2EE-servers*

Specifies the maximum number of J2EE servers that can be connected to the CTM daemon. You can specify an integer in the range from 0 to 32767. If this argument is omitted, `64` is set.

`-CTMLogFileSize` *maximum-CTM-log-file-size*

Specifies the maximum size of a CTM log file in megabytes. You can specify an integer in the range from 1 to 3. If this argument is omitted, `1` (megabytes) is set.

The size of messages (megabytes) that can be saved in CTM log files is as follows: *Value-of-the-CTMLogFileSize-option* **x** *value-of-the-CTMLogFileCount-option*. To change the size of messages that can be saved in CTM log files, you must first change the value of the `-CTMLogFileCount` option. If the change of the `-CTMLogFileCount` option value is not enough, specify the `-CTMLogFileSize` option.

-CTMLogFileCount *maximum-number-of-CTM-log-files*

Specifies the maximum number of CTM log files. You can specify an integer in the range from 2 to 32. If this argument is omitted, 2 is set.

If the size of a CTM log file exceeds the value of the -CTMLogFileSize option, the CTM log file is switched to the next file. If the total number of CTM log files exceeds the value of the -CTMLogFileCount option when switching the CTM log file, the contents of the oldest CTM log file are deleted. With these considerations, estimate the size of CTM log files.

-CTMQueueCount *number-of-registered-schedule-queues*

Specifies the number of schedule queues that can be registered in the CTM daemon. You can specify an integer in the range from 1 to 32767. If this argument is omitted, 128 is set.

-CTMQueueRegistCount *schedule-queue-share-count*

Specifies the number of J2EE applications that can share the same schedule queue. You can specify an integer in the range from 1 to 32767. If this argument is omitted, 64 is set.

-CTMServerCacheSize *server-cache-size*

Specifies the size of the cache table (in kilobytes) for storing server information in the CTM domain. You can specify an integer in the range from 1to 32767. If this argument is omitted, 1024 (kilobytes) is set.

Use the following formula to calculate the size of the server cache table:

```
{256 × number-of-CTM-daemons-in-the-same-CTM-domain
+ 256 × total-number-of-schedule-queues-in-the-same-CTM-domain
+ (256 + maximum-INS-registration-name-length) × number-of-Enterprise-Bean
s-registered-in-schedule-queues-in-the-same-CTM-domain
+ (256 + maximum-interface-name-length) × number-of-interfaces-in-the-same
-CTM-domain} × 1.5 (bytes)
```

-CTMDispatchPolicy normalDispatch | priorDispatch

Specifies the scheduling policy as either of the following values:

- normalDispatch

  Requests are scheduled according to the load status of the schedule queue.

- priorDispatch

  Requests are scheduled, giving priority to the schedule queue registered in the CTM daemon that received a request. However, if the schedule queue registered in that CTM daemon is highly loaded or is locked, requests are scheduled in a schedule queue registered in another CTM daemon. If this argument is omitted, priorDispatch is set.

-CTMDispatchParallelCount *maximum-number-of-threads*

Specifies the maximum number of threads for distributing request messages from the client to J2EE servers in the CTM daemon. This is the sum of the J2EE application parallel count (number of resident threads) registered in the CTM daemon. You can specify an integer in the range from 0 to 32767. If this argument is omitted, 255 is set.

-CTMMaxRequestCount *maximum-number-of-requests*

Specifies the maximum number of requests (queue length) that can be concurrently registered in the schedule queue registered in the CTM daemon. You can specify an integer in the range from 1 to 32767. If this argument is omitted, 50 is set.

-CTMWatchRequest *timeout-count*,*monitoring-interval*

The CTM daemon monitors the timeout period. If a timeout occurs more than the specified number of times within the specified lock interval, the schedule queue is locked. Lock processing is performed at the timing of the time monitoring. Therefore, if the timeout described above occurs, the schedule queue is locked at the next monitoring

interval. If a request queue is locked by this function, the requests retained in the queue are destroyed and load information is updated.

timeout-count

Specifies the number of times a timeout must occur for a queue to be locked automatically. You can specify an integer in the range from 1 to 32767 (in times).

monitoring-interval

Specifies the time interval at which the number of times a timeout occurred is obtained. You can specify an integer in the range from 0 to 32767 (in seconds). If `0` is specified, the timeout lock function does not work.

`-CTMQueueDeleteWait` *schedule-queue-retaining-time*

Specifies the time (in seconds) for retaining the schedule queue registered by the J2EE server that terminated abnormally, and waiting for the restart of the J2EE application. You can specify an integer in the range from 0 to 2147483647.

If the J2EE application restarts within the specified time, the retained schedule queue is reused and the queued requests are scheduled.

If the J2EE application does not restart when the specified time elapses, the schedule queue is locked, and then the requests registered in the schedule queue are deleted. Note that because the schedule queue is locked and the requests in the schedule queue are deleted in interval processing mode, these operations might be performed later than the specified time.

If this argument is omitted or if `0` is specified, the schedule queue is not retained and the requests registered in the schedule queue are deleted.

If you use this option with `ctmholdque -CTMChangeServer`, which replaces J2EE applications in online mode, this option is disabled if the J2EE server terminates abnormally after `ctmholdque -CTMChangeServer` is executed.

`-CTMCreatePolicy normalDispatch | priorDispatch`

Specifies the CTM daemon selection policy for the create requests, as either of the following values:

If this argument is omitted, `normalDispatch` is set.

- `normalDispatch`

  The CTM daemon is selected according to the load status of the schedule queue.

- `priorDispatch`

  The CTM daemon that has received the create request is selected with priority. However, if the schedule queue registered in that CTM daemon is highly loaded or is locked, another CTM daemon is selected.

`-CTMLoadCheckInterval` *load-status-monitoring-interval*

Specifies the time interval for monitoring the schedule queue load status. You can specify an integer in the range from 0 to 32767 (in seconds).

The load status of all schedule queues is checked at the specified interval. If the load status of schedule queues has changed, the latest load status for each one of these schedule queues is reported to all CTM daemons in the same domain.

If this argument is omitted, `10` is set. If `0` is specified, the load status is not monitored at regular intervals.

`-CTMWatchQueue` *monitoring-start-retention-rate*`,`*system-stop-processing-rate*`,`*monitoring-interval*`,`*stop-mode*

Specifies the retention monitoring conditions for a schedule queue.

If the `-CTMWatchQueue` option is omitted, retention monitoring for the schedule queues is not performed.

Arguments of the `-CTMWatchQueue` option must be specified in the following order, using a comma (,) to delimit the arguments. The arguments cannot be omitted.

monitoring-start-retention-rate

Specifies the threshold of the retention rate to enter queue retention monitoring mode. You can specify an integer in the range from 0 to 99 (unit: %). If `0` is specified, queue retention is always monitored.

system-stop-processing-rate

Specifies the threshold of the processing rate to stop the CTM daemon. You can specify an integer in the range from 1 to 100 (unit: %).

monitoring-interval

Specifies the time interval for obtaining the processing rate of the CTM daemon stop threshold. You can specify an integer in the range from 0 to 32767 (in seconds). If `0` is specified, retention monitoring for the schedule queue is not performed.

stop-mode

Specifies whether to stop the CTM daemon if a retained request is detected in the schedule queue.

- `1`:

  The CTM daemon stops.

- `0`:

  The CTM daemon does not stop.

`-CTMTSCGwStart` *number-of-processes*

Specifies the number of processes of the OTM gateway to be started automatically when the CTM daemon starts. You can specify an integer in the range from 0 to 32767. If this argument is omitted, `0` is set.

The CTM daemon monitors the OTM gateway operation, and restarts the OTM gateway if an abnormal termination is detected.

If the number of OTM gateways that start automatically increases, the CTM daemon startup processing might require a long time. In this case, use the `-CTMStartTimeOut` option to adjust the wait time for the startup processing.

`-CTMTSCGwOption` *CTM-command-option-file-name*

Specifies the name of the file that contains the command options to be specified when an OTM gateway starts automatically, as an absolute path.

- In Windows

  You can use alphanumeric characters, periods (.), yen signs (¥), colons (:), plus signs (+), hyphens (-), and underscores (_) in the file name.

- In UNIX

  You can use alphanumeric characters, periods (.), forward slashes (/), plus signs (+), hyphens (-), and underscores (_) in the file name.

Users can specify any name of the CTM command option file. To specify information in the command option file, you can use alphanumeric characters, spaces, hyphens (-), periods (.), forward slashes (/), and underscores (_). Do not specify anything other than command options. For, example, specify as follows:

```
-CTMClientConnectCount 64
```

To specify `tscoption` as the CTM command option file name, specify as follows when the CTM daemon starts:

```
ctmstart -CTMTSCGwOption tscoption -CTMTSCGwStart 1
```

If you want to fix the port numbers for multiple OTM gateways that start automatically, specify the `-CTMPort` option in the command option file. The value specified for the `-CTMPort` option is used as the base value, and the base value incremented by one is set for the `-CTMPort` option of each OTM gateway.

For options other than the -CTMPort option that are not specified in the command option file, the values specified for the ctmstart command are set.

-CTMStatsUse {Y|N}

Specifies whether statistics are collected in the buffer in the relevant CTM node.

You can also specify lowercase letters. If this argument is omitted, Y is set, and statistics are collected in the buffer in the relevant CTM node.

To start output of information to a statistics file from the buffer, execute the ctmstsstart command.

-CTMStatsFileCount *number-of-statistics-file-generations*

Specifies the number of generations of a statistics file. You can specify an integer in the range from 3 to 256. If this argument is omitted, 3 is set.

-CTMStatsFileSize *statistics-file-size*

Specifies the size of a statistics file (in megabytes). You can specify an integer in the range from 1 to 1024. If this argument is omitted, 3 (megabytes) is set.

Return values

0:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

- After the CTM daemon has started, it moves the current directory. Therefore, the output destination of the core file is different from the directory of the executable file in the following cases:
  - The CTM daemon is forcibly terminated by, for example, ctmstop -CTMForce -CTMDebugInfo or a kill command.
  - The CTM daemon terminated abnormally.
- The following shows the location to which the current directory is moved.
  - In Windows
    %CTMSPOOL%\adm*CTM-identifier*\
  - In UNIX
    $CTMSPOOL/adm/*CTM-identifier*/
- With the -CTMRegStart option specified, if automatic startup of at least one CTM regulator terminates automatically, the CTM daemon assumes that the startup processing fails, and then outputs an error message and stops the startup processing.
- A CTM regulator that automatically started checks the validity of the command options in the command option file specified by the -CTMRegOption option. Therefore, if an invalid command option is found or if a duplicate port number is specified by the -CTMEjbPort option, take corrective action according to the error message output by the automatically-started CTM regulator.
- The -CTMLogFileSize and -CTMLogFileCount options might not take effect on messages that are output before startup of the CTM daemon is complete.
- When starting CTM, make sure that the port numbers specified for the -CTMPort and -CTMEjbPort options are unique within the machine.

ctmstartgw (start an ORB gateway)

Format

```
ctmstartgw [-h] |
           -CTMGWID gateway-identifier
           [-CTMDomain CTM-domain-name]
           [-CTMID CTM-identifier]
           [-CTMMyHost host-name-or-IP-address]
           [-CTMEnviron user-environment-variable-definition-file-name]
           [-CTMEjbPort port-number]
           [-CTMAgent {1|0}]
           [-CTMIDLConnect [1|0]]
           [-CTMTimeOut timeout-value]
           [-CTMClientConnectCount maximum-number-of-connectable-clients]
```

Function

This command starts a gateway process that enables CTM to handle requests from the ORB client. Before you start the ORB client on a host, make sure that the CTM daemon for which a CTM regulator has been started is running on the host.

Arguments

`-h`

Displays how to use the command.

`-CTMGWID` *gateway-identifier*

Specifies the gateway identifier of the ORB gateway to be started. You can specify 1 to 32 alphanumeric characters. Specify a value that can identify only one gateway under the CTM node that is specified by using the `-CTMDomain` and `-CTMID` options.

`-CTMDomain` *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM daemon belongs. You can specify 1 to 31 alphanumeric characters. Do not specify a string that begins with `CTM` or `ctm`. If no value is specified, the command assumes that `CTMDOMAIN` is specified.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon. You can specify 1 to 31 alphanumeric characters and periods (`.`). Do not specify a CTM identifier that begins with `CTM` or `ctm`. You can use periods (`.`) only when you specify an IP address.

If no value is specified, an IP address is set as a CTM identifier. For example, if the IP address of the host is 172.17.112.43, the string `172.17.112.43` is set as a CTM identifier.

`-CTMMyHost` *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a multihomed host environment or a node-switching environment in which both nodes share the same IP address. The specified value can consist of 1 to 64 characters. If no value is specified, the command assumes that the host name acquired by the `hostname` command is specified.

If you specify the `-CTMMyHost` option without specifying the `-CTMID` option, the IP address specified for the `-CTMMyHost` option is used as the default CTM identifier.

`-CTMEnviron` *user-environment-variable-definition-file-name*

Specifies the name of the CTM user environment variable definition file that defines the environment variables used by the process to be started. The specified value must include an absolute path name.

- Windows

  The specified value can consist of alphanumeric characters and the following symbols: `. \ : + - _`
- UNIX

  The specified value can consist of alphanumeric characters and the following symbols: `. / + - _`

For details about the CTM user environment variable definition file, see *7.2.1 CTM user environment variable definition file* in the manual *uCosminexus Application Server Definition Reference Guide*.

`-CTMEjbPort` *port-number*

Specifies the port number that the ORB client uses when searching for a new connection to the ORB gateway. You can specify an integer in the range from 5001 to 65535. If no value is specified, the port number automatically assigned by the OS is used.

`-CTMAgent {1|0}`

Specifies whether the CORBA objects that correspond to EJB objects are to be registered in OSAgent of TPBroker. If `1` is specified, these CORBA objects are registered in OSAgent. The default is `1`. If `0` is specified, these CORBA objects are not registered in OSAgent.

Note that you can specify `0` only when you specify the `-CTMIDLConnect` option.

`-CTMIDLConnect [1|0]`

If this option is specified, an IDL-format repository ID (`IDL:`*interface-name*`:1.0`) is used for the CORBA object corresponding to the ORB gateway to be started. This option also specifies whether to enable connection using an IOR string.

Specify this option if the client's ORB product supports only IDL-format repository IDs.

If the argument of this option is omitted, the command assumes that `1` is specified.

If `1` is specified for this option and the ORB gateway is started, after the application has been started on the J2EE server, the IOR string for the ORB gateway can be acquired by using the `ctmgetior` command. The default is `1`. If `0` is specified and the ORB gateway is started, no more IOR strings can be acquired. However, the application and ORB gateway can start in a shorter time than when `1` is specified.

If you specify this option, always specify also the `-CTMEjbPort` option. If you omit this option, specify `1` for the `-CTMAgent` option.

`-CTMTimeOut` *timeout-value*

Specifies the default amount of time (in seconds) to wait for a response to be returned after a service request is received from the client. You can specify an integer in the range from 0 to 2147483647. If `0` is specified, there is no limit on the wait time. If this option is omitted, `180` (seconds) is set.

`-CTMClientConnectCount` *maximum-number-of-connectable-clients*

Specifies the maximum number of connections that can be established from the ORB client to the ORB gateway. You can specify an integer in the range from 1 to 32767.

If this option is omitted, the value of the `-CTMClientConnectCount` option set for the CTM daemon is used. If the `-CTMClientConnectCount` option is also omitted, `64` is set.

Return values

`0`:

The command ended normally.

Other than `0`:

The command terminated abnormally due to an error that occurred during command processing. Take measures as indicated in the message that is output, and then re-execute the command.

Notes

- Before you execute this command, make sure that a CTM regulator has been started by using the `ctmstart` command, specifying 1 or a larger value for the `-CTMRegStart` option. If you execute this command when there is no CTM regulator, invocation from the EJB client might result in an error.
- The process of the OTM gateway (`ctmtscgwd`) is managed by the CTM daemon. The process of the CTM regulator started by the CTM daemon by specifying the `-CTMAgent 1` option is also managed by the CTM daemon. Therefore, if the OTM gateway and CTM regulator terminate abnormally, they are automatically restarted. However, the ORB gateway (`ctmregltd`) started by using the `ctmstartgw` command is not automatically started when it terminates abnormally.

  Therefore, use the operation functionality of Cosminexus Manager to monitor processes.

ctmstop (terminate CTM daemon)

Format

```
ctmstop  [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
         [-CTMMyHost host-name-or-IP-address]
         [-CTMForce [-CTMDebugInfo]]
```

Function

This command terminates a CTM daemon for scheduling requests.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM daemon belongs. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon, as 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with `CTM` or `ctm`. Period (.) can only be specified in IP addresses.

If this argument is omitted, an IP address is set to the CTM identifier. For example, if the IP address of the host is 172.17.112.43, the character string `172.17.112.43` is assumed as the CTM identifier.

`-CTMMyHost` *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the `hostname` command is set.

If you omit the `-CTMID` option and specify the `-CTMMyHost` option, the IP address specified for the `-CTMMyHost` option is assumed as the default CTM identifier.

`-CTMForce`

Forcibly terminates the CTM daemon.

-CTMDebugInfo

Acquires a shared memory dump and core files as debug information when the CTM daemon is terminated forcibly.

The -CTMDebugInfo option is valid only when the -CTMForce option is specified.

Return values

0:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

For normal termination of the CTM daemon, the command waits until all requests are executed. Therefore, note that if a communication error occurs for an EJB business request that has an infinite timeout wait (default) specified, the CTM daemon cannot terminate normally.

ctmstopgw (terminate the ORB gateway)

Format

```
ctmstopgw [-h] |
          -CTMGWID gateway-identifier
          [-CTMDomain CTM-domain-name]
          [-CTMID CTM-identifier]
          [-CTMMyHost host-name-or-IP-address]
          [-CTMForce [-CTMDebugInfo]]
```

Function

This command terminates the gateway process that was started to enable CTM to handle requests from the ORB client.

Arguments

-h

Displays how to use the command.

-CTMGWID *gateway-identifier*

Specifies the gateway identifier of the ORB gateway to be terminated. You can specify 1 to 32 alphanumeric characters. Specify a value that can identify only one gateway under the CTM node that is specified by using the -CTMDomain and -CTMID options.

-CTMDomain *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM daemon belongs. You can specify 1 to 31 alphanumeric characters. Do not specify a string that begins with CTM or ctm. If no value is specified, the command assumes that CTMDOMAIN is specified.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon. You can specify 1 to 31 alphanumeric characters and periods (`.`). Do not specify a CTM identifier that begins with `CTM` or `ctm`. You can use periods (`.`) only when you specify an IP address.

If no value is specified, an IP address is set as a CTM identifier. For example, if the IP address of the host is 172.17.112.43, the string `172.17.112.43` is set as a CTM identifier.

`-CTMMyHost` *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a multihomed host environment or a node-switching environment in which both nodes share the same IP address. The specified value can consist of 1 to 64 characters. If no value is specified, the command assumes that the host name acquired by the `hostname` command is specified.

If you specify the `-CTMMyHost` option without specifying the `-CTMID` option, the IP address specified for the `-CTMMyHost` option is used as the default CTM identifier.

`-CTMForce`

Forcibly terminates the ORB gateway.

`-CTMDebugInfo`

Acquires a shared memory dump and core files as debug information when the ORB gateway is terminated forcibly. The `-CTMDebugInfo` option is valid only when the `-CTMForce` option is specified.

Return values

`0`:

The command ended normally.

Other than `0`:

The command terminated abnormally due to an error that occurred during command processing. Take measures as indicated in the message that is output, and then re-execute the command.

ctmstsed (edit and output statistics)

Format

```
ctmstsed  [-h] [-CTMEdit edit-and-output-format[,edit-and-output-format...]]
          [-CTMInterval time-interval] [-CTMTime [start-time][,end-time]]
          [-CTMQueueName queue-name[,queue-name...]]
          [-CTMMethod method-name[,method-name...]]
          [-CTMCsv] [-CTMStdout]
          [statistics-file-name[ statistics-file-name...]]
```

Function

This command edits and outputs statistics acquired in a statistics file. The default is text format.

The following three types of information can be output:

- Summary information for the entire CTM node
- Schedule queue information for each queue
- Request information for each method

Arguments

`-h`

Displays how to use the command.

`-CTMEdit` *edit-and-output-format*`[,`*edit-and-output-format*`...]`

Specifies the type of statistics to be edited and output.

- `nod`: Summary information for the entire CTM node is edited and output.
- `que`: Schedule queue information for each queue is edited and output.
- `mtd`: Request information for each method is edited and output.

If this argument is omitted, `nod`, `que`, and `mtd` are set.

`-CTMInterval` *time-interval*

Specifies the time interval (in minutes) for editing and outputting statistics. You can specify an integer in the range from 1 to 1440. Specify an integer multiple of the time interval specified for the `-CTMInterval` option of the `ctmstsstart` command. If an integer multiple is not specified, the editing results are not output correctly.

If this argument is omitted, `10` is set.

`-CTMTime [`*start-time*`][,`*end-time*`]`

Specifies the range of statistics to be edited and output, by using the start time and end time of data acquisition.

Specify the hour, minute, month, day, and year in *hhmm*[*MMDD*[*YYYY*]] format. If the month (*MM*), day (*DD*), and year (*YYYY*) are omitted, the current date is set.

The following table shows the range of specifiable values.

Symbol	Meaning	Range of values	Required or optional
hh	Hour	$00 \leq hh \leq 23$	Required
mm	Minute	$00 \leq mm \leq 59$	Required
MM	Month	$01 \leq MM \leq 12$	Optional
DD	Day	$01 \leq DD \leq 31$	Optional
YYYY	Year	$1970 \leq YYYY$	Optional

If the start time is omitted, the output range is from the beginning of the file to the end time. If the end time is omitted, the output range is from the start time to the end of the file. If both the start time and end time are omitted, all information in the statistics file will be edited and output.

`-CTMQueueName` *queue-name*`[,`*queue-name*`...]`

Specifies a queue name for which to edit and output statistics. You can specify 1 to 63 alphanumeric characters and underscores (_).

This option can be specified if `que` is specified for the `-CTMEdit` option or if the `-CTMEdit` option is omitted.

For a system that executes batch applications, specify a schedule group name as the queue name.

`-CTMMethod` *method-name*`[,`*method-name*`...]`

Specifies a method name for which to edit and output statistics.

This option can be specified if `mtd` is specified for the `-CTMEdit` option or if the `-CTMEdit` option is omitted.

`-CTMCsv`

Outputs the editing results in CSV (comma-separated text) format.

`-CTMStdout`

Outputs the editing results to the standard output.

Table 6–4: Argument (command option) combination list (ctmstsed command)

Command option		-h	-CTMEdit			-CTMInterval	-CTMTime	-CTMQueueName	-CTMMethod	-CTMCsv	-CTMStdout
			nod	que	mtd						
-h		--	Δ-h	Δ-h	Δ-h	Δ-h	Δ-h	Δ-h	Δ-h	Δ-h	Δ-h
-CTMEdit	nod	Δ-h	--	Y	Y	Y	Y	N	N	Y	Y
	que	Δ-h	Y	--	Y	Y	Y	Y	N	Y	Y
	mtd	Δ-h	Y	Y	--	Y	Y	N	Y	Y	Y
-CTMInterval		Δ-h	Y	Y	Y	--	Y	Y	Y	Y	Y
-CTMTime		Δ-h	Y	Y	Y	Y	--	Y	Y	Y	Y
-CTMQueueName		Δ-h	N	Y	N	Y	Y	--	Y	Y	Y
-CTMMethod		Δ-h	N	N	Y	Y	Y	Y	--	Y	Y
-CTMCsv		Δ-h	Y	Y	Y	Y	Y	Y	Y	--	Y
-CTMStdout		Δ-h	Y	Y	Y	Y	Y	Y	Y	Y	--

Legend:

Y: Can be specified simultaneously

Δ: Valid with the option whose name follows Δ

N: Cannot be specified simultaneously

--: Not applicable

Note

If the -h option and other options are specified, the -h option takes priority.

statistics-file-name [*statistics-file-name* . . .]

Specifies the name of a statistics file from which information is to be edited and output. You can specify a maximum of 256 file names by delimiting them with one-byte spaces. If this argument is omitted, statistics will be input from the standard input.

Return values

0:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Output format

- Output format of the summary information for the entire CTM node (nod is specified for the -CTMEdit option)

```
*** Statistics Information by CTMNode ***
CTMDomain :aa..aa
CTMID     :bb..bb
------------------------------------------------------------------------
------
** Edit time cc..cc - dd..dd **
statistical data : ee..ee - ee..ee
no data       : ff..ff - ff..ff
------------------------------------------------------------------------
```

```
------
Event                          Count    Maximum      Minimum     Average (un
it)
Request Response Time(Reg)  gg..gg      gg..gg      gg..gg      gg..gg (u
sec)
Request Time Out(Reg)       hh..hh           -           -           - (c
ount)
Request Error(Reg)          ii..ii           -           -           - (c
ount)
Request Response Time(OTM)  jj..jj      jj..jj      jj..jj      jj..jj (u
sec)
Request Time Out(OTM)       kk..kk           -           -           - (c
ount)
Request Error(OTM)          ll..ll           -           -           - (c
ount)
Schedule Wait Count         mm..mm      mm..mm      mm..mm      mm..mm (c
ount)
Schedule Wait Time          nn..nn      nn..nn      nn..nn      nn..nn (u
sec)
Request Overflow            oo..oo           -           -           - (c
ount)
Regulator down              pp..pp           -           -           - (c
ount)
OTMGateway down             qq..qq           -           -           - (c
ount)
Regulator-Client                 -      rr..rr      rr..rr      rr..rr (c
ount)
OTMGateway-Client                -      ss..ss      ss..ss      ss..ss (c
ount)
CTMDaemon-J2EEServer(Ctr)        -      tt..tt      tt..tt      tt..tt (c
ount)
CTMDaemon-J2EEServer(Req)        -      uu..uu      uu..uu      uu..uu (c
ount)
CTMDaemon-Regulator              -      vv..vv      vv..vv      vv..vv (c
ount)
CTMDaemon-OTMGateway             -      ww..ww      ww..ww      ww..ww (c
ount)
```

Legend:

Symbol	Description
aa..aa	CTM domain name (1 to 31 alphanumeric characters)
bb..bb	CTM identifier (1 to 31 alphanumeric characters)
cc..cc	Editing start time
dd..dd	Editing end time
ee..ee	Time period in which statistics were collected in the editing time
ff..ff	Time period in which statistics were not collected in the editing time
gg..gg	CTM regulator response time (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
hh..hh	CTM regulator request timeout (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ii..ii	CTM regulator request error (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.

Symbol	Description
jj..jj	OTM gateway response time (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
kk..kk	OTM gateway request timeout (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ll..ll	OTM gateway request error (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
mm..mm	Number of requests waiting to be scheduled (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
nn..nn	Scheduling wait time (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
oo..oo	Number of requests that could not be scheduled (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
pp..pp	Number of CTM regulators that terminated abnormally (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
qq..qq	Number of OTM gateways that terminated abnormally (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
rr..rr	Number of connections between CTM regulator and the client (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ss..ss	Number of connections between OTM gateway and the OTM client (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
tt..tt	Number of control connections between CTM daemons and J2EE servers# (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
uu..uu	Number of request connections between CTM daemons and J2EE servers (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
vv..vv	Number of connections between CTM daemons and CTM regulators (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ww..ww	Number of connections between CTM daemons and OTM gateways. A value equal to or greater than 100000000000 is output as **********.

#

The number of control connections between CTM daemons and J2EE servers (or batch servers if the system executes batch applications) is the sum of the number of J2EE servers and the number of queues generated for each J2EE server.

- CSV output format of summary information for the entire CTM node (`nod` is specified for the `-CTMEdit` option, and the `-CTMCsv` option is specified)

```
*** Statistics Information by CTMNode ***
CTMDomain, CTMID, start, end, Event, Count, Maximum, Minimum, Average, un
it
aa..aa, bb..bb, cc..cc, dd..dd, ee..ee, ff..ff, gg..gg, hh..hh, ii..ii, jj
..jj
aa..aa, bb..bb, cc..cc, dd..dd, ee..ee, ff..ff, gg..gg, hh..hh, ii..ii, jj
..jj
```

Legend:

Symbol	Description
aa..aa	CTM domain name (1 to 31 alphanumeric characters)
bb..bb	CTM identifier (1 to 31 alphanumeric characters)

Symbol	Description
cc..cc	Editing start time
dd..dd	Editing end time
ee..ee	Event contents
ff..ff	Number of events that occurred (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
gg..gg	Maximum value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
hh..hh	Minimum value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ii..ii	Average value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
jj..jj	Unit

Note

If the -CTMCsv option is specified, the editing time period in which statistical informations were collected and the editing time period in which no statistics were collected are not output.

- Output format of schedule queue information for each queue (que is specified for the -CTMEdit option)

```
*** Statistics Information by Queue ***
CTMDomain :aa..aa
CTMID     :bb..bb
------------------------------------------------------------------------------
------
QueueName : cc..cc
------------------------------------------------------------------------------
------
** Edit time dd..dd - ee..ee **
statistical data : ff..ff - ff..ff
no data          : gg..gg - gg..gg
------------------------------------------------------------------------------
------
Event                         Count       Maximum      Minimum    Average(u
nit)
Schedule Wait Count            hh..hh      hh..hh      hh..hh      hh..hh(
count)
Schedule Wait Time             ii..ii      ii..ii      ii..ii      ii..ii(
usec)
Request Overflow               jj..jj           -           -           -(
count)
CTMDaemon-J2EEServer(Req)           -      kk..kk       kk..kk     kk..kk(c
ount)
```

Legend:

Symbol	Description
aa..aa	CTM domain name (1 to 31 alphanumeric characters)
bb..bb	CTM identifier (1 to 31 alphanumeric characters)
cc..cc	For J2EE applications, a queue name (1 to 63 characters) is output. For batch applications, a schedule group name is output.
dd..dd	Editing start time
ee..ee	Editing end time

Symbol	Description
ff..ff	Time period in which statistics were collected in the editing time
gg..gg	Time period in which statistics were not collected in the editing time
hh..hh	Number of requests waiting to be scheduled (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ii..ii	Scheduling wait time (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
jj..jj	Number of requests that could not be scheduled (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
kk..kk	Number of request connections between CTM daemons and J2EE servers (or batch servers in a system that executes batch applications) (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.

Note

Information following QueueName: *cc..cc* is repeatedly output for each queue.

- CSV output format of schedule queue information for each queue (que is specified for the -CTMEdit option, and the -CTMCsv option is specified)

```
*** Statistics Information by CTMQueue ***
CTMDomain, CTMID, start, end, Event, Count, Maximum, Minimum, Average, un
it
aa..aa, bb..bb, cc..cc, dd..dd, ee..ee, ff..ff, gg..gg, hh..hh, ii..ii, jj
..jj
aa..aa, bb..bb, cc..cc, dd..dd, ee..ee, ff..ff, gg..gg, hh..hh, ii..ii, jj
..jj
:
:
```

Legend:

Symbol	Description
aa..aa	CTM domain name (1 to 31 alphanumeric characters)
bb..bb	CTM identifier (1 to 31 alphanumeric characters)
cc..cc	Editing start time
dd..dd	Editing end time
ee..ee	Event contents
ff..ff	Number of events that occurred (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
gg..gg	Maximum value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
hh..hh	Minimum value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ii..ii	Average value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
jj..jj	Unit

Note

If the -CTMCsv option is specified, the editing time period in which statistical informations were collected and the editing time period in which no statistics were collected are not output.

- Output format of request information for each method (mtd is specified for the -CTMEdit option)

```
*** Statistics Information by Method ***
CTMDomain :aa..aa
CTMID     :bb..bb
------------------------------------------------------------------------
------
** Edit time cc..cc - dd..dd **
statistical data : ee..ee - ee..ee
no data       : ff..ff - ff..ff
------------------------------------------------------------------------
------
Interface    : gg..gg
Method       : hh..hh
------------------------------------------------------------------------
------
Event                         Count     Maximum     Minimum     Average (u
nit)
Request Response Time(Reg)  ii..ii      ii..ii      ii..ii      ii..ii (u
sec)
Request Time Out(Reg)       jj..jj           -           -           - (c
ount)
Request Error(Reg)          kk..kk           -           -           - (c
ount)
Request Response Time(OTM)  ll..ll      ll..ll      ll..ll      ll..ll (u
sec)
Request Time Out(OTM)       mm..mm           -           -           - (c
ount)
Request Error(OTM)          nn..nn           -           -           - (c
ount)
```

Legend:

Symbol	Description
aa..aa	CTM domain name (1 to 31 alphanumeric characters)
bb..bb	CTM identifier (1 to 31 alphanumeric characters)
cc..cc	Editing start time
dd..dd	Editing end time
ee..ee	Time period in which statistics were collected in the editing time
ff..ff	Time period in which statistics were collected in the editing time
gg..gg	Interface name (1 to 31 alphanumeric characters). An interface exceeding 31 characters is output in *first-15-characters*last-15-characters* format.
hh..hh	Method name (1 to 31 alphanumeric characters). A method name exceeding 31 characters is output in *first-15-characters*last-15-characters* format.
ii..ii	CTM regulator response time (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
jj..jj	CTM regulator request timeout (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
kk..kk	CTM regulator request error (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ll..ll	OTM gateway response time (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.

Symbol	Description
mm..mm	OTM gateway request timeout (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
nn..nn	OTM gateway request error (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.

Note

Information following Interface is repeatedly output for each method of the J2EE server.

- CSV output format of request information for each method (mtd is specified for the -CTMEdit option, and the -CTMCsv option is specified)

```
*** Statistics Information by Method ***
CTMDomain, CTMID, start, end, Event, Count, Maximum, Minimum, Average, un
it
aa..aa, bb..bb, cc..cc, dd..dd, ee..ee, ff..ff, gg..gg, hh..hh, ii..ii, jj
..jj
aa..aa, bb..bb, cc..cc, dd..dd, ee..ee, ff..ff, gg..gg, hh..hh, ii..ii, jj
..jj
:
```

Legend:

Symbol	Description
aa..aa	CTM domain name (1 to 31 alphanumeric characters)
bb..bb	CTM identifier (1 to 31 alphanumeric characters)
cc..cc	Editing start time
dd..dd	Editing end time
ee..ee	Event contents
ff..ff	Number of events that occurred (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
gg..gg	Maximum value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
hh..hh	Minimum value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
ii..ii	Average value (11 decimal digits). A value equal to or greater than 100000000000 is output as **********.
jj..jj	Unit

Note

If the -CTMCsv option is specified, the editing time period in which statistical information were collected and the editing time period in which no statistics were collected are not output. For a system that executes batch applications, request information for each method is invalid.

ctmstsflush (forcibly output buffer contents to a file)

Format

```
ctmstsflush [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
```

Function

This command forcibly outputs request information for each method from the buffer to a file.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM domain manager belongs. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon for which request information for each method is to be forcibly output to a file. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with `CTM` or `ctm`. Period (.) can only be specified in IP addresses.

If this argument is omitted, an IP address is set to the CTM identifier.

Return values

`0`:

The command is terminated normally.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

ctmstsstart (start acquisition of statistics)

Format

```
ctmstsstart [-h]|[[-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
            [-CTMInterval time-interval] [-CTMCheckInterval time-interval]]
```

Function

This command starts the acquisition of information to a statistics file.

Executing this command before a CTM daemon starts causes an error.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM domain manager belongs. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon for which to start acquisition of information to a statistics file. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with `CTM` or `ctm`. Period (.) can only be specified in IP addresses. If this command is used in a multi-homed host environment, the `-CTMID` option cannot be omitted.

If this argument is omitted, an IP address is set to the CTM identifier.

`-CTMInterval` *time-interval*

Specifies the time interval (in minutes) for acquiring information to a statistics file. You can specify an integer in the range from 1 to 1440. If this argument is omitted, `1` (minute) is set.

`-CTMCheckInterval` *time-interval*

Specifies the time interval (in seconds) for acquiring connection information. You can specify an integer in the range from 1 to 60. The more connections, the longer the time to acquire connection information. Therefore, if there are many connections, specify a large value. If this argument is omitted, `60` (seconds) is set.

Return values

`0`:

The command is terminated normally.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

If you execute the `ctmstsstart` command, information is not always output to a statistics file at the moment when the time specified for the `-CTMInterval` option has elapsed. This is because the acquisition of statistics starts at *XX (hour)*:*YY (minute)*:*00 (second)* (*X* and *Y*: unsigned integer) immediately after execution of the `ctmstsstart` command. When the time specified for the `-CTMInterval` option has elapsed since the acquisition started, information is output to the statistics file.

For example, if the `ctmstsstart` command with `-CTMInterval 1` specified is executed at 18:10:30, the acquisition of statistics starts at 18:11:00, and the statistics file is output at 18:12:00.

ctmstsstop (stop acquisition of statistics)

Format

```
ctmstsstop [-h] [-CTMDomain CTM-domain-name] [-CTMID CTM-identifier]
```

Function

This command ends the acquisition of information to a statistics file.

Arguments

`-h`

Displays how to use the command.

`-CTMDomain` *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM domain manager belongs. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with `CTM` or `ctm`. If this argument is omitted, `CTMDOMAIN` is set.

`-CTMID` *CTM-identifier*

Specifies the CTM identifier of the CTM daemon for which to stop acquisition of information to a statistics file. Specify 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with `CTM` or `ctm`. Period (.) can only be specified in IP addresses. If this command is used in a multi-homed host environment, the `-CTMID` option cannot be omitted.

If this argument is omitted, an IP address is set to the CTM identifier.

Return values

`0`:

The command is terminated normally.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

If the `ctmstsstop` command is executed before the time interval specified for the `-CTMInterval` option of the `ctmstsstart` command has elapsed, all information acquired by the time the `ctmstsstop` command is executed will be output to a file.

ctmtscgwd (start OTM gateway)

Format

```
ctmtscgwd [-h] |
          [-CTMDomain CTM-domain-name]
          [-CTMID CTM-identifier]
          [-CTMPort port-number]
          [-CTMMyHost host-name-or-IP-address]
          [-CTMClientConnectCount maximum-number-of-client-connections]
          [-CTMTPool]
```

Function

This command starts a gateway process for processing OTM client requests by CTM. Start an OTM gateway on the host on which the CTM daemon is running. Note that you cannot directly start the OTM gateway.

Arguments

`-h`

Displays how to use the command.

-CTMDomain *CTM-domain-name*

Specifies the name of the CTM domain to which the CTM daemon belongs. You can specify 1 to 31 alphanumeric characters and underscores (_). Do not specify a character string that begins with CTM or ctm. If this argument is omitted, CTMDOMAIN is set.

-CTMID *CTM-identifier*

Specifies the CTM identifier of the CTM daemon. You can specify 1 to 31 alphanumeric characters, periods (.), and underscores (_). Do not specify a CTM identifier that begins with CTM or ctm. Period (.) can only be specified in IP addresses.

If this argument is omitted, an IP address is set to the CTM identifier. For example, if the IP address of the host is 172.17.112.43, the character string 172.17.112.43 is assumed as the CTM identifier.

-CTMPort *port-number*

Specifies the port number that the OTM client uses to search for a new connection with the OTM gateway. You can specify an integer in the range from 5001 to 65535. If this argument is omitted, the port number automatically allocated by the OS is used.

-CTMMyHost *host-name-or-IP-address*

Specifies the host name or IP address used by CTM in a node switching environment where a multi-homed host or IP address is inherited. You can specify a character string of 1 to 64 characters. If this argument is omitted, the host name acquired by the hostname command is set.

If you omit the -CTMID option and specify the -CTMMyHost option, the IP address specified for the -CTMMyHost option is assumed as the default CTM identifier.

-CTMClientConnectCount *maximum-number-of-client-connections*

Specifies the number of connections that can be established from the OTM client to the OTM gateway. You can specify an integer in the range from 1 to 32767. If this argument is omitted, 64 is set.

-CTMTPool

Runs the OTM gateway with the thread pooling (ThreadPool) model. If this argument is omitted, the OTM gateway runs with the thread per session (ThreadSession) model.

Return values

0:

The command is terminated normally.

Other than 0:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

Notes

- After the OTM gateway has started, it moves the current directory. Therefore, the output destination of the core file is different from the directory of the executable file in the following cases:
  - The OTM gateway is forcibly terminated by, for example, ctmdmstop -CTMForce -CTMDebugInfo or a kill command.
  - The OTM gateway terminated abnormally.
- The following shows the location to which the current directory is moved:
  - In Windows
    %CTMSPOOL%\adm*CTM-identifier*\tgwd*current-directory-ID*\
  - In UNIX

`$CTMSPOOL/adm/`*CTM-identifier*`/tgwd/`*current-directory-ID*`/`

For *current-directory-ID*, see the KFCT70606-I message.

ctmver (output version information for executable file and library)

Format

```
ctmver -h | file-path
```

Function

This command outputs version information for an executable file and library provided by CTM.

Arguments

`-h`

Displays how to use the command.

file-path

Specifies the target file path, as a relative path or absolute path.

Output format

```
Information For: aa...aa
Product Name: bb...bb
PP Number: cc...cc
Version: dd...dd
Copyright: ee...ee
Company: ff...ff
Build OS: gg...gg
Build Compiler: hh...hh
Build Date: ii...ii jj...jj
Build Number: kk...kk
```

Legend:

`aa...aa`: File name (character string)

`bb...bb`: Product name (character string)

`cc...cc`: Program product model (character string)

`dd...dd`: Version and revision (character string)

`ee...ee`: Copyright (character string)

`ff...ff`: Company name (character string)

`gg...gg`: Build OS (character string)

`hh...hh`: Build compiler (character string)

`ii...ii`: Build date (character string)

`jj...jj`: Build time (character string)

`kk...kk`: Maintenance information (character string)

Return values

`0`:

The command is terminated normally.

Other than `0`:

The command terminated abnormally because an error occurred during command processing. Take the corrective action indicated in the output message, and then re-execute the command.

7 Commands Used with Management Server

This chapter describes the input formats and functions of the commands used with Management Server.

7.1 List of commands used with Management Server

The table below lists the commands used with Management Server.

Table 7–1: List of commands used with Management Server

Command name	Function	Description
adminagentcheck	Check Administration Agent activation	Checks whether an Administration Agent is active.
adminagentctl	Start or stop Administration Agent	Starts or stops Administration Agent.
daemon	Start daemon process	Starts Management Server or Administration Agent as a daemon process. This command is for UNIX only.
kill	Terminate process forcibly	Terminates a process forcibly. This command is for Windows only.
mngautorun	Auto start and auto restart settings/ cancels settings	Sets the auto start and auto restart of Management Server and Administration Agent. Cancels the auto start and auto restart settings of Management Server and Administration Agent.
mngenvsetup	Setup management groups	Sets up the OS groups as the Manager Sever management group and integrated user management group. This command is for UNIX.
mngenvupdate	Management Server migration command	Converts the information managed in Management Server to the information in the format compatible with the latest version.
mngsvr_adapter_setup	Setup and unsetup of the `Cosminexus adapter` command	Executes setup or unsetup of the `Cosminexus adapter` command used in JP1/IM linkage.
mngsvr_monitor_setup	Setup and unsetup of `Cosminexus monitor start` command.	Executes setup or unsetup of `Cosminexus monitor start` command used with JP1/IM linkage. This command is for Windows.
mngsvrctl	Start, stop, or setup Management Server	Starts or stops Management Server, or executes the setup required for Management Server execution.
mngsvrupdate	Management Server migration command	Migrates information managed by Management Server to the format used in the latest version matching with the version upgrade of Cosminexus Component Container.
mngsvrutil	Management Server management command	Connects to Management Server and executes operations in the management domain.
mngunsetup	Delete the setup environment of Management Server	Unsets up Management Server and Administration Agent and deletes the system environment (logical server) setup by using Management Server.
mstrexport	Save Management Server management file	Collects Management Server management file and outputs it in ZIP format.
mstrimport	Restore Management Server management file	Outputs the path name of the successfully restored file to the standard output in the format that includes the system properties.
setupwizard	Set up, unset up, and copy of a system	Starts the Setup Wizard and performs set up, unset up, and copy of the system environment. Furthermore, displays the contents of the setup information file used in the Setup Wizard.

Note:

If access to the Management Server occurs by running, for example, the management command (`mngsvrutil`) or a Smart Composer function immediately after the Administration Agent or Management Server starts, either of the following actions must be taken beforehand:

- Enable the `-sync` option when the Administration Agent or Management Server starts so that startup of the Administration Agent or Management Server is immediately followed by command execution.
- Use the `mngsvrutil check` or `adminagentcheck` command to confirm that the Management Server or Administration Agent has already started.

7.2 Details of commands used with Management Server

This section describes the input formats and functions of the commands used with Management Server.

Command storage destination

The commands used with Management Server are stored in the following directory:

In Windows:

- Commands other than the `mngsvr_monitor_setup` command and `setupwizard` command
  Cosminexus-installation-directory`\manager\bin\`
- `mngsvr_monitor_setup` command
  Cosminexus-installation-directory`\manager\externals\jp1\mngsvrmonitor\`
  Execute this command in copy destination of management client machine.
- `setupwizard` command
  Cosminexus-installation-directory`\manager\setup\bin\`

In UNIX:

- Commands other than the `setupwizard` command
  `/opt/Cosminexus/manager/bin/`
- `setupwizard` command
  `/opt/Cosminexus/manager/setup/bin/`

adminagentcheck (check Administration Agent activation)

Format

To check the activation status of Administration Agent at another host:

```
adminagentcheck [-t timeout-value] [host-name[:port-number]]
```

To check the activation status of the Administration Agent at the local host:

```
adminagentcheck [-t timeout-value]
```

Function

This command checks whether an Administration Agent is active without going through Management Server.

Arguments

`-t` *timeout-value*

Specifies the amount of elapsed time (in seconds) until a timeout occurs when connecting to the Administration Agent, as an integer in the range 0 to 2147483. When 0 is specified, there is no timeout value, so the system waits until either a connection is established or an error occurs. If this option is omitted, the timeout value is set to 5 seconds.

host-name

For establishing communication with the Administration Agent, specifies either its IP address in dot notation (*xxx.xxx.xxx.xxx*) or a host name that can be resolved. Specify each *xxx* as an integer in the range 0 to 255.

port-number

Specifies the port number to be used for communication with the Administration Agent, as an integer in the range 1 to 65535.

When the `-t` option is omitted, the values set in `adminagent.properties` are used, provided that default values have been specified. When no values are specified here or a value that cannot be specified as a port number is specified, the default values are used. The table below shows the property names in `adminagent.properties` and the default values that are used when this option is omitted.

Argument	Property name	Default value
host-name	`adminagent.adapter.bind_host`	`127.0.0.1`
port-number	`adminagent.adapter.port`	`20295`

Return values

`0`:

The Administration Agent is running.

`1`:

A command execution error occurred.

When the address for the specified host name cannot be resolved, `1` is returned.

`2`:

A command syntax error occurred.

`103`:

The Administration Agent is not running.

`103` is returned for all communication errors or a timeout.

Notes

- When the option is omitted, the default values are used even if the value specified for the port number in `adminagent.properties` is outside the specification range. However, if a value outside the specification range is specified directly in this option, a syntax error occurs.
- The `adminagentcheck` command assumes that it is used from a batch or a shell that monitors operations. Consequently, nothing is output to the standard output or the error output. You must refer to the return value to determine whether or not the Administration Agent is running and whether or not a command error has occurred. Note that the command's usage is output only when a command syntax error occurs.

adminagentctl (start or stop Administration Agent)

Format

When starting Administration Agent

For Windows

```
adminagentctl start [-sync [-timeout synchronous-execution-timeout-time
]]
```

For UNIX

```
adminagentctl start [-sync [-timeout synchronous-execution-timeout-time
]] [-daemon]
```

When stopping Administration Agent

For Windows

```
adminagentctl stop [-sync [-timeout synchronous-execution-timeout-time
]]
```

For UNIX

```
adminagentctl stop [-sync [-timeout synchronous-execution-timeout-time
]]
```

Function

This command starts or stops Administration Agent.

Execute this command with the Administrator privileges (in Windows) or the root permission (in UNIX). However, in UNIX, you can setup the command execution permission for specific users who do not have root permission. For details on settings, see *mngenvsetup (setup management group)*.

Arguments

When no arguments are specified, the command's usage is displayed.

`start`

Starts Administration Agent.

`stop`

Stops Administration Agent.

`-sync`

Enables the synchronous execution of the command process and Administration Agent start or stop process.

`-timeout` *synchronous-execution-timeout-time*

Specify the waiting time (unit: seconds) starting from the synchronous execution of the command until the start or stop of Administration Agent, with the integer `0` or `61` through `2147483`. This option is enabled when you specify the `-sync` option.

When you specify `0`, a timeout does not occur and the waiting is continued until Administration Agent starts or stops. When you omit this option, the timeout value of the synchronous execution is set as `120` (seconds).

`-daemon`

Starts Administration Agent as a daemon process. Executes the same operations as executed when starting as the daemon process by using the `daemon` command. For details on the `daemon` command, see *daemon (start daemon process)*.

Return values

`0`:

The command is terminated normally.

`1`:

An execution error is occurred.

2:

A syntax error is occurred.

3:

A synchronous execution error occurred.

Input example

- Input example 1

  When starting Administration Agent

```
adminagentctl start
```

- Input example 2

  When starting Administration Agent with synchronous execution

```
adminagentctl start -sync
```

Precautions

- Enable the synchronous execution to access Management Server using the management command or Smart Composer, in succession to Administration Agent or Management Server startup.

daemon (start daemon process)

Format

When starting Management Server:

When starting Management Server as a daemon process, use the following format:

```
/opt/Cosminexus/manager/bin/daemon -cf /opt/Cosminexus/manager/bin/mngsvrc
tl start
```

For details on `mngsvrctl` (start, stop, or setup Management Server), see *mngsvrctl (start, stop, or setup Management Server)*.

When starting the Administration Agent:

When starting the Administration Agent as a daemon process, use the following format:

```
/opt/Cosminexus/manager/bin/daemon -cf /opt/Cosminexus/manager/bin/adminag
entctl start
```

For details on `adminagentctl` (start or stop Administration Agent) *adminagentctl (start or stop Administration Agent)*.

Function

This command starts Management Server or the Administration Agent as a daemon process. In such cases, you cannot perform a synchronous execution. Note that this command is for UNIX only.

kill (terminate process forcibly)

Format

```
kill process-id [process-id ...]
```

Function

This command terminates a process forcibly. You execute this command when you cannot use the Smart Composer functionality to stop logical servers.

To execute this command, you must have Administrator privileges. Note that this command is for Windows only.

Arguments

process-id

Specifies the ID of the process to be terminated forcibly.

Multiple IDs can be specified.

Input example

```
kill 2034
```

mngautorun (Set up/canceling the set up of autostart and autorestart)

Format

When setting up the auto start of Management Server and Administration Agent

In Windows

```
mngautorun [once] {server|agent|both} [-sync [-timeout synchronous-execution-timeout-time]]
```

In UNIX

```
mngautorun [once] {server|agent|both} [-runlevel <run level>] [-sync [-timeout synchronous-execution-timeout-time]]
```

When setting the auto start and auto restart setting of Management Server and Administration Agent

In Windows

```
mngautorun respawn {server|agent|both} [-sync [-timeout synchronous-execution-timeout-time]]
```

In UNIX

```
mngautorun respawn {server|agent|both} [-runlevel run-level]
```

When cancelling the auto start and auto restart of Management Server and Administration Agent

In Windows

```
mngautorun -d
```

In UNIX

```
mngautorun -d
```

Functionality

Sets or cancels the auto start and auto restart settings of Management Server and Administration Agent. It can be used to do the following:

- Set Management Server service and Administration Agent service to automatically start at the time of system startup.
- Set a dependency relationship so that the Administration Agent starts automatically before Management Server starts when Management Server and Administration Agent services both start at the time of system startup.
- Perform the setting such that Management Server and Administration Agent restart automatically at the time of failure.
- Cancel the settings of auto start and auto restart for Management Server and Administration Agent.

Note that this command is for Windows only.

Arguments

When no arguments are specified, the command's usage is displayed.

`-d`

Disables the auto start and auto restart of Management Server and Administration Agent.

`once`

Enables the auto start of Management Server or Administration Agent. The auto restart setting is not enabled. When both the `once` and `respawn` options are omitted, operations are performed such that the `once` option is specified.

`respawn`

Enables the auto start and auto restart of Management Server and Administration Agent. When both the `once` and `respawn` options are omitted, operations are performed assuming that the `once` option is specified.

`server`

Enables the auto start or auto restart of Management Server.

`agent`

Enables the auto start or auto restart of Administration Agent.

`both`

Enables auto start and auto restart of Management Server service and Administration Agent service, and sets a dependency relationship so that the Administration Agent starts before Management Server starts.

`-runlevel`

Specifies the run level for executing the auto start and auto restart. You can specify multiple run levels. This option is valid only for UNIX. For run level, see the OS document.

The following is an example of specification:

Example:

```
-runlevel 23456
```

If this option is omitted, the command assumes that `2` is set.

`-sync`

When executing the auto start or auto restart, enables the synchronous execution with the startup of Management Server and Administration Agent. In UNIX, you cannot specify this option, when you specify the `respawn` option.

`-timeout` *synchronous-execution-timeout-time*

Specify the waiting time (unit: seconds) until Management Server and Administration Agent starts, during auto start and auto restart, with the integer `0` or from `61` through `2147483`. The process continues until the auto start of Management Server and Administration Agent, without an occurrence of a timeout. If you omit this option, the synchronous execution timeout is *120* (seconds). In UNIX, you cannot specify this option, when you specify the `respawn` option.

Return values

`0`:

The command is terminated normally.

`1`:

An error occurred at the time of execution.

`2`:

A syntax error occurred.

Input examples

- Input example 1

  Start both Management Server service and the Administration Agent service when the OS starts:

  ```
  mngautorun both
  ```

- Input example 2

  When performing the auto start and auto restart for both Management Server and Administration Agent.

  ```
  mngautorun respawn both
  ```

- Input example 3 (In UNIX)

  When starting the auto start and auto restart for both Management Server and Administration Agent in run level 3

  ```
  mngautorun respawn both -runlevel 3
  ```

- Input example 4

  When canceling the auto start and auto restart of Management Server and Administration Agent

  ```
  mngautorun -d
  ```

- Input example 5

  When the auto start executes for Management Server and Administration Agent with a synchronous execution (setting the timeout as *180* seconds)

  ```
  mngautorun once both -sync -timeout 180
  ```

- Input example 6 (in Windows)

  When the auto stat and auto restart executes for Management Server and Administration Agent with a synchronous execution (setting the timeout as *180* seconds)

```
mngautorun respawn both -sync -timeout 180
```

Notes

- In Windows, take care of the following points in Management Server and Administration Agent for which a dependency relationship is set with the `both` option.
  - When you specify the `both` option and execute the command, restart the machine. If you do not restart the machine, the dependency relationship of Management Server and Administration Agent is not set.
  - When you specify the `-d` option and execute the command, restart the machine. If you do not restart the machine, the dependency relationship of Management Server and Administration Agent is not disabled.
  - Stop Management Server when you stop Administration Agent for which auto restart setting is done. If you stop Administration Agent before Management Server, then the Administration Agent is restarted.
- In UNIX, if you manually change the entry identifier registered in `/etc/inittab` in the `mngautorun` command, the settings might not get canceled even after executing the `-d` option of the `mngautorun` command.
- In UNIX, the auto restart cannot be executed with a synchronous execution, depending on the specifications of the OS. If the auto restart is specified, a syntax error occurs.
- In AIX, if you execute the `mngautorun` command, the auto start setting is performed and Management Server and Administration Agent change to operating status. Furthermore, if you execute the `-d` option of the `mngautorun` command when Management Server and Administration Agent started by `inittab` exist, Management Server and Administration Agent might change to stopped status.
- If the Management Server startup settings are specified so that it automatically starts when the OS starts and all logical servers start at one time, a high load placed during the OS startup might slow down startup of the logical servers. Therefore, we recommend that you increase the timeout period for the startup of logical servers beforehand.

mngenvsetup (setup management group)

Format

```
mngenvsetup [-mng | -ua] {OS-group-name | -d}
```

Functions

This command enables settings such that the specific users who do not have root permission can execute the commands used in Management Server and commands used by integrated management users that can only be executed by users having root permission. Note that this command is used in UNIX only.

A group of users who can execute commands to be used with Management Server is called *Management Server management group*. A group of users who can execute commands to be used by the integrated management users is called the *integrated user management group*.

This command sets up the OS group as Management Server management group and the integrated user management group.

The following table lists the commands setup by this command:

Commands that can be executed with operations other than root permission	Management groups	
	Management Server management group	Integrated user management group#
adminagentctl	Y	--
Convpw	--	Y
mngautorun	Y	--
mngsvr_adapter_setup	Y	--
mngsvrctl	Y	--
mngunsetup	Y	--
ssoexport	--	Y
ssogenkey	--	Y
ssoimport	--	Y
Uachpw	--	Y

Legend:

Y: Can be specified

--: Cannot be specified

For details on the integrated user management group command, see *13. Commands Used in Integrated User Management* in the *uCosminexus Application Server Security Management Guide*.

The specifications of arguments and management group settings are as follows:

- When `-mng` is specified, only Management Server management group is setup.
- When `-ua`, only the integrated user management group is setup.
- When the OS group name is specified without specifying `-mng` or `-ua`, the specified OS group is setup in both; Management Server management group and integrated user management group.
- When only `-d` is specified, the settings for both; Management Server management group and integrated user management group are deleted. Only the user who has root permission can execute the command. Management Server management group and the integrated user management group will return to the OS group that is used when you configure Application Server.
- When `-d` and `-mng` or `-ua` are specified at the same time, the settings for either Management Server management group or integrated user management group are deleted. Only the user who has root permission can execute the management group commands for which the settings are deleted.

If you execute this command when Management Server management group or integrated user management group is already setup, the management groups are overwritten and then the management groups are setup.

Arguments

`-mng` *OS-group-name*

Sets up the OS group as Management Server management group. If the OS group name is omitted `USAGE` is displayed.

`-ua` *OS-group-name*

Sets up the OS group as the integrated user management group. If the OS group name is omitted `USAGE` is displayed.

`-d`

The setup for Management Server management group and integrated user management group are deleted, so only the users who have root permissions can execute this command.

Input example

- Input example 1

  When setting up the Management Server management group and integrated user management group in the manager

```
mngenvsetup manager
```

- Input example 2

  When setting up the Management Server management group in the manager

```
mngenvsetup -mng manager
```

- Input example 3

  When setting up the integrated user management group in the manager

```
mngenvsetup -ua manager
```

- Input example 4

  When Management Server management group and integrated user management group return to the root

```
mngenvsetup -d
```

Notes

If you execute this command, `SUID` bit is added to the commands used with Management Server or the commands used with integrated user management. Therefore, the users who will be granted the access permission must be specified properly.

mngenvupdate (Migration Command of Management Server)

Format

```
mngenvupdate
```

Functions

This command converts the information managed in Management Server to the information in the format compatible with the latest version.

Execute this command on the host for operating Management Server.

Users with the Administrator privileges (in Windows) or root permission (in UNIX) can execute this command.

For the migration procedure, see *10. Migrating from Application Server of Earlier Versions (In the J2EE Server Mode)* in the *uCosminexus Application Server Maintenance and Migration Guide*.

If you execute the `mngenvupdate` command, the following process is executed:

1. Migrate the definition file (`mserver.cfg`) managed by Management Server to the format used in latest version.

Reference note

At the time of migration, a backup file is created in the same directory as that of definition files. The name of the created backup file is *Definition-file-name-of-migration-object* .envupdate_bak. If a file with same name exists at the time of creating the backup file, the name changes to *Definition-file-name-of-migration-object* .envupdate_bak [n] (n is a serial number from 1 to 2147483647). If backup files are created for all the numbers from 1 to 2147483647, the numbers are overwritten starting from 1.

2. If you are using the following functions on an earlier version of Management Server, migrate the files used for each functionality in the format to be used in the latest version.
   - Integrated user management function
     Cosminexus-installation-directory
     /manager/containers/m/j2eeapps/mngsvr/mportal/useradmin/config/data/editusersConfig.xml
3. After you have changed the server name of Management Server, migrate the server name to an environment of the latest version (execute *Application-Server -installation-directory*/CC/server/bin/cjsetup *real-server-name*).

Input example

```
mngenvupdate
```

Return values

0:

Normal termination occurred

Other than 0:

Abnormal termination occurred

Notes

- Execute this command after upgrading the version from the previous version.
- If an attempt to execute the mngenvupdate command fails, the temp files (mserver.cfgxxxxxxxxxxxxxxxxxxxx.tmp) remain under the *Cosminexus-installation-directory*/manager/config directory, and even if the temp files are retained or deleted, there is no impact on the subsequent operations.

mngsvr_adapter_setup (Setup and unset up of the Cosminexus adapter command)

Format

```
mngsvr_adapter_setup [-i | -u] [ -t IM_CS ]
```

Function

This command executes setup or unsetup of the Cosminexus adapter command when linking with JP1/IM. Executing this command adds the Cosminexus adapter command setup file to the JP1/Base environment.

You execute this command from Management Server (host on which Management Server is deployed) of Application Server.

To execute this command, you must have Administrator privileges (in Windows) or root permission (in UNIX). In UNIX, you can setup the command execution permission for specific users who do not have the root permission. For details on the settings, see *mngenvsetup (setup management group)*.

Arguments

When no arguments are specified, setup of the adapter command for linking with JP1/IM - Manager (The Integrated Console) is executed.

`-i`

Executes setup.

`-u`

Executes unsetup.

Input example

```
mngsvr_adapter_setup -i -t IM_CS
```

mngsvr_monitor_setup (Set up and unset up of the Cosminexus monitor start command)

Format

```
mngsvr_monitor_setup [ -i | -u ]
```

Functions

When you connect JP1/IM, setup or unsetup the `Cosminexus monitor start` command.

This command stores under *Cosminexus-installation-directory*`\manager\externals\jp1\mngsvrmonitor`. Execute in copy destination of management client machine.

This command execute user who has Administrator authority. This command is for Windows.

Arguments

If there is no specification of arguments, execute the setup.

`-i`

Execute the setup

`-u`

Execute the unsetup

mngsvrctl (start, stop, or setup Management Server)

Format

To start Management Server:

In Windows:

```
mngsvrctl start [-sync [-timeout synchronous-execution-timeout-time]]
```

In UNIX:

```
mngsvrctl start [-sync [-timeout synchronous-execution-timeout-time]] [
-daemon]
```

To stop Management Server:

In Windows:

```
mngsvrctl stop [-sync [-timeout synchronous-execution-timeout-time]]
```

In UNIX:

```
mngsvrctl stop [-sync [-timeout synchronous-execution-timeout-time]]
```

To set up Management Server:

In Windows:

```
mngsvrctl setup [server-name] [-u management-user-ID] [-p management-us
er-password] [-np new-management-user-password] [-nu new-user-ID]
```

In UNIX:

```
mngsvrctl setup [server-name] [-u management-user-ID] [-p management-us
er-password] [-np new-user-password] [-nu new-user-ID]
```

Function

This command starts or stops Management Server or specifies the settings as required for running Management Server on the machine on which Application Server was first configured.

You can setup the management user account (management user ID and management user password) for logging in to Management Server simultaneously while performing setup, when the functionality for omitting the admin user account is disabled. If the admin user account is not specified during setup , you must specify the admin user account while starting or stopping Management Server. Also, you can change the already setup admin user account by setting a different user account.

If the functionality for omitting the management user account is enabled and if the functionality for integrating JP1 user authentication is enabled on the virtual server, you need not setup the management user account while executing this command and after starting Management Server.

For the functionality to omit the admin user account, see *4.1.15(3) Settings when the management user account is not set* in the *uCosminexus Application Server System Setup and Operation Guide*.

To execute this command, you must have Administrator privileges (in Windows) or root permission (in UNIX). In UNIX, you can also specify the command execution permission for specific users who do not have the root permission. For details on the setup, see *mngenvsetup (setup management group)*.

Arguments

When no arguments are specified, the command's usage is displayed.

`start`

Starts Management Server.

`stop`

Stops Management Server.

`-sync`

Enables the command processing and also the synchronous execution of start or stop processing for Management Server. In the following cases, a synchronous execution is executed, even if you omit this option. However, you cannot specify this option when you specify the `-timeout` option.

- When stopping Management Server
- When starting Management Server in Windows

When starting Management Server in UNIX, if you specify this option, a synchronous execution is performed as a background job and if you omit this option, a synchronous execution is executed as a foreground job.

`-timeout` *synchronous-execution-timeout-time*

Specify the waiting time (unit: seconds) from performing a synchronous execution of this command until Management Server starts or stops, with the integer `0` or from `61` through `2147483`. This option is enabled when specified with the `-sync` option.

When you specify `0`, the system continues to wait until Management Server starts or stops, without an occurrence of a timeout. When you omit this option, the synchronous execution timeout time is set as `120` (seconds).

`-daemon`

Starts Management Server as a daemon process. The same operations are executed as are executed when starting as a daemon process by using the `daemon` command. For details on the `daemon` command, see *daemon (start daemon process)*.

`setup`

Sets up Management Server.

server-name

Specifies the name of Management Server (server name of the J2EE Server). If the server name is omitted, *cosmi_m* is assumed.

`-u` *management-user-ID*

Specifies the management user ID of Management Server.

`-p` *management-user-password*

Specifies the management user password of Management Server.

`-np` *new-management-user-password*

Specifies the management user password of the new Management Server.

`-nu` *management-user-ID-after-change*

Specifies the management user ID of the new Management Server.

When canceling the already specified management user password, you specify a null character (`""`).

Return values

`0`:

The command terminated normally.

`1` or more:

An execution error is occurred. However if the return value is `2`, it indicates that a syntax error might have occurred and if the return value is `3`, the value indicates that a synchronous execution error might have occurred.

`2`:

A syntax error has occurred.

`3`:

A synchronous execution error has occurred.

Input example

- Input example 1

  When starting Management Server

  ```
  mngsvrctl start
  ```

- Input example 2

  When starting Management Server with a synchronous execution

  ```
  mngsvrctl start -sync
  ```

- Input example 3

  When setting up Management Server

  ```
  mngsvrctl setup [server-name]
  ```

- Input example 4

  When setting up the management user account during the setup

  ```
  mngsvrctl setup [server-name] -u admin01 -p p1574809
  ```

- Input example 5

  When changing the already setup management user account

  ```
  mngsvrctl setup -u admin01 -p p1574809 -np passwd123 -nu admin02
  ```

- Input example 6

  When canceling the management user password

  ```
  mngsvrctl setup localhost -u admin01 -p p1574809 -np ""
  ```

Notes

Notes common to OS

- The name of the real server for the logical J2EE server must be different from the Management Server name (server name of the J2EE server).

  If you use a same name, the following problems might occur:

- Setup of the logical J2EE server fails if the Management Server name is set as the name of the real server for the logical J2EE server.
- Setup of Management Server fails if you use a name that is already used as the name of the real server for a logical J2EE server.

- When you want to access Management Server by using the management command or Smart Composer, in succession to the start of Administration Agent or Management Server, enable the synchronous execution.

Notes on setting up Management Server are as follows:

- When you execute this command by enabling the management user account omission function, settings of the `-u` option, `-p` option, `-np` option, and `-nu` option of common arguments are disabled. In such case, a message is output and the setup process continues.
- When you disable the management user account omission function and execute the command by specifying `-nu` option, when the management user ID is not specified, specification of the `-u` option is ignored and the management user ID specified by `-nu` option is set. Also, when you disable the management user account omission function and execute the command by specifying `-np` option, when the management user password is not set, specification of the `-p` option is ignored and the management user password specified by the `-np` option is set.
- As Component Container sets up the J2EE server with the host name, during installation, do not set up the server name of Management Server with the host name.
- When you want to change the server name during set up of Management Server, confirm that Management Server is stopped and then execute the `mngsvrctl` command.

Notes for UNIX

- The processes operating on Management Server differ depending on the versions. The `mngsvrctl` and `cjstartweb` processes operate on versions prior to version 08-70, whereas the `cjstartsv` process operates on version 09-00 or later versions.
- Before starting Management Server, setup `umask 022`.

  When this command is used to start Management Server, files that are affected by `umask` are created by the following owners and groups:

  - In AIX:
    `root/system`
  - In Linux
    `root/root`

  The following files are affected by `umask`:

  - Configuration information file saved on the Configuration Information Save/Restore window (user option)
  - J2EE application files (EAR files) or resource information files (`mapps_`*logical-server-name*`_`*internal-id*) created when J2EE applications or resources are imported
  - Registered J2EE application (*application-display-name*`_`*registration-time*)
  - Encryption/decryption key file that is created when an encryption key file is set by execution of the `ssogenkey` command or by repository management (user option)
  - Management Agent setup files (`mngagent.`*logical-server-name*`.properties`) created when the setup information is distributed to a J2EE server or batch server
  - Environment variable storage file that is set by the snapshot log function and created immediately before snapshot log collection (`envinfo.txt`)

- Backup file (`usrconf.cfg.bak`) of the user definition file of a J2EE server or batch server created when the setup information is distributed to a J2EE server or batch server
- Backup file (`usrconf.properties.bak`) of the user definition file of a J2EE server or batch server created when the setup information is distributed to a J2EE server or batch server

- To start Management Server, first set the locale to C and then execute the command.
  An example of setting the locale to C in an environment that uses `ksh` is given below:
  - Setting example in AIX
    `export LANG=Ja_JP` or `export LANG=ja_JP`
  - Setting example in Linux
    `export LANG=ja_JP.utf8`

The precautions to be taken when you setup Management Server are as follows:

- If you execute this command after enabling the functionality for omitting the admin user account, settings of the `-u` option, `-p` option, `-np` option, and `-nu` option of the common arguments are disabled. In such cases, a message will be output and the setup processing will be continued.
- If you execute the command where the `-nu` option is specified when the management user ID is not setup after disabling the functionality for omitting the admin user account, the specification of the `-u` option is ignored and the management user ID specified in the `-nu` option is setup. Furthermore, if you execute the command where the `-np` option is specified when the management user password is not setup after disabling the functionality for omitting Management Server account, the specification of the `-p` option is ignored and the management user password specified in the `-np` option is setup.

mngsvrupdate (Management Server migration command)

Format

```
mngsvrupdate [-t target-name] [-k target-type]
             [subcommand [arguments]]
```

Function

This command migrates information managed by Management Server to the latest version that matches the Cosminexus Component Container version.

You execute this command from the host where Management Server is running.

For the migration procedure, see *10. Migrating from Application Server of Earlier Versions (In the J2EE Server Mode)* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Arguments

`-t` *target-name*

Specifies the name of the target (logical server or host) to which the subcommand is to be applied.

If this option is omitted, the subcommand will be applied to all logical servers of all hosts.

`-k` *target-type*

Specifies the type of target to which the subcommand is to be applied, as one of the following:

- `logicalServer`: Logical server
- `host`: Host

If this option is omitted or a value other than those listed above is specified, `logicalServer` is set.

subcommand arguments

Specifies a subcommand and arguments.

When these items are omitted, the command's usage is displayed.

The subcommand and arguments that can be specified are described below.

`d2r [`*data-source-display-name* `[`*resource-adapter-display-name*`]]`

Migrates the data source information managed by Management Server to the resource adapter. The migration target is specified by *target-name* and *target-type*.

- When *data-source-display-name* is specified:

  Only the specified data source is migrated. When this argument is specified, you must specify a logical server name for *target-name*. If this argument is omitted, all data sources imported into the applicable logical server become migration targets.

- When *resource-adapter-display-name* is specified:

  The value specified by this argument is used as the data source display name following migration. However, if an existing resource adapter is specified, migration does not occur. If this argument is omitted, the data source display name is assumed as the resource adapter display name.

The following file is edited during the migration process:

- In Windows:

  Cosminexus-installation-directory`\manager\config\mmodel.xml`

- In UNIX:

  `/opt/Cosminexus/manager/config/mmodel.xml`

Note that `mmodel.xml` is backed up in `mmodel.xml.bak`. If `mmodel.xml.bak` already exists, it is overwritten.

Input examples

- Input example 1

  Migrate all the hosts within the management domain, in a batch:

```
mngsvrupdate d2r
```

- Input example 2

  Migrate by specifying a host:

```
mngsvrupdate -t hostA -k host d2r
```

- Input example 3

  Migrate by specifying a logical server:

```
mngsvrupdate -t MyServer d2r ds ds1
```

Notes

- Before executing this command, make sure that Management Server is stopped. If this command is executed while Management Server is active, the changes might not become effective.

- If multiple instances of the migration command are executed at the same time, the environment might not be migrated correctly. You should never execute more than one instance of the migration command at the same time.
- You should save the following file in some other location before you execute the migration command:
  - In Windows:
    Cosminexus-installation-directory\manager\config\mmodel.xml
  - In UNIX:
    /opt/Cosminexus/manager/config/mmodel.xml

mngsvrutil (Management Server management command)

Format

```
mngsvrutil [-m host-name [:port-number]
        [-u management-user-id] [-p management-user-password]
        [[-o file-name] [-h] [-t target-name] [-k target-type]
        [-s] [-i monitoring-time-interval] [-l maximum-monitoring-time] [-w
operation-check-timeout]
        subcommand arguments]]
```

Function

This command connects to Management Server to execute the operations in management domain.

This command can be used for the following functions:

- Collection of management domain configuration information
  Collects and displays the management domain name and a list of all logical servers comprising the management domain.
- Collection of logical server status information
  Adds status information (active or inactive) to the list of logical servers comprising the management domain.
- Collection of information on J2EE applications deployed in the logical servers
  Collects and displays a list of J2EE applications.
- Collection of logical server performance information and setting of statistical information
  Collects performance information about logical servers (JavaVM, transactions, HTTP servers, HTTP server connectors, etc.). Also sets the statistical information sampling time.
- Starting or stopping a logical server
  Starts or stops a logical server.
- Re-loading the logical server configuration file
  Re-loads the configuration file used by a logical server without restarting the logical server. The configuration file of the connected host can also be reloaded on the logical J2EE server.
- Adding or deleting a logical server
  Adds or deletes a logical server
- Management of logical server applications
  Starts or stops J2EE applications and J2EE resources, and displays them in a list.

For application management operations, see *12. Managing the Logical Server Applications* in the *uCosminexus Application Server Management Portal User Guide*.

- Collection of a performance analysis trace

  Collects a performance analysis trace from a logical performance tracer.

- Locking or unlocking CTM queues

  Locks and unlocks the schedule queues of CTM.

- Collection of CTM statistics

  Collects the statistics from CTM.

- Dynamic change of the number of concurrently executable threads

  Changes dynamically the number of Web applications that can be executed concurrently.

Arguments

`-m` *host-name* `[:`*port-number*`]`

Specifies the host name and port number of Management Server.

- *host-name*

  For establishing communication with the Administration Agent, specifies either its IP address in dot notation (*xxx.xxx.xxx.xxx*) or a host name that can be resolved. Specify each *xxx* as an integer in the range 0 to 255.

- *port-number*

  Specifies the port number which is set for Management Server. The default value is `28080`.

`-u` *management-user-id*

Specifies the management user ID that is set with the `mngsvrctl setup` command.

When the functionality for omitting the admin user account is enabled and if you specify the admin user ID, the functionality will be disabled. For the functionality for omitting the admin user account, see *4.1.15(3) Settings when the management user account is not set* in the *uCosminexus Application Server System Setup and Operation Guide*.

`-p` *management-user-password*

Specifies the management user password corresponding to the management user ID set with the `mngsvrctl setup` command.

When no password has been set, the `-p` option can be omitted.

When the functionality for omitting the admin user account is enabled and if you specify the admin user ID, the functionality will be disabled. For the functionality for omitting the admin user account, see *4.1.15(3) Settings when the management user account is not set* in the *uCosminexus Application Server System Setup and Operation Guide*.

`-o` *file-name*

Specifies the name of the output destination file. The specified file will be overwritten. The file name that can be specified depends on the OS under which the command is executed. If this option is omitted, the command execution results are output to the standard output.

`-h`

Specifies that no header is to be output.

`-f` *output-format*

Specifies the output format provided with Management Server to be connected. Management Server provides the following output format.

- `csv`: CSV format (default value)

`-t` *target-name*

Specifies the name of the target (logical server or host) to which the subcommand is to be applied.

`-k` *target-type*

Specifies the type of target to which the subcommand is to be applied:

- `logicalServer`: Logical server
- `host`: Host

If this option is omitted or if a value other than those listed above is specified, `logicalServer` is assumed.

`-s`

Specifies to wait for completion of startup or stop of logical servers or J2EE applications.

This option is valid when `start` or `stop` is specified as the subcommand.

When this option is specified, the subcommand can be retried in order to recover from an error if an error occurs during startup or stop.

`-i` *monitoring-time-interval*

Specifies the interval (in seconds) at which monitoring for completion of startup or stop processing for logical servers or J2EE applications is to be performed, as an integer in the range 0 to 2147483647 (seconds). The default value is 3 seconds.

Note that this option also sets the interval for retrying the subcommand after an error has occurred during startup or stop processing.

`-l` *maximum-monitoring-time*

Specifies the maximum amount of time (in seconds) monitoring for completion of logical server or J2EE application startup or stop processing is to be performed, as an integer in the range 0 to 2147483647 (seconds).

If the logical servers or J2EE applications do not start or stop within the specified time limit, the command terminates abnormally. If `0` is set, no limit is placed on the amount of time for which the command can wait. The default value is 60 seconds.

`-w` *operation-check-timeout*

Specifies an integer in the range from 0 to 2147483 as the maximum amount of time (in seconds) for which the command can wait before the command can check whether the Management Server and Administration Agent are operating.

If the command does not receive a response within the specified wait time, the command terminates abnormally.

If you specify 0, the command can wait indefinitely. A value smaller than 0 is treated as 0, and a value larger than 2147483 is treated as 2147483. The default is 0.

This option is valid only if the `check` subcommand is specified.

subcommand arguments

Specifies a subcommand and arguments. The values that can be specified for the subcommand and arguments depend on Management Server version.

You use the arguments to specify the logical servers or hosts that are to be the targets of the subcommand.

The following subcommands can be specified:

- `list`
- `get`
- `set`
- `start`
- `stop`
- `reload`
- `hold`

- release
- collect
- change
- check
- dump
- add
- delete

For details on the subcommands, see *7.3 Details of subcommands of the mngsvrutil command*.

Return values

0:

The command is terminated normally.

1:

An execution error is occurred.

2:

A syntax error is occurred.

Output format

CSV format

Names and values are output delimited by a comma (,).

You can specify the -h option to suppress output of the header.

Configuration file

Client-side definition file (.mngsvrutilrc)

You can set the default values for the mngsvrutil command options.

For details, see *8.2.14 .mngsvrutilrc (Client-side definition file of the mngsvrutil command)* in the *uCosminexus Application Server Definition Reference Guide*.

The table below shows the values that become valid depending on the combination of the mngsvrutil.target_kind, mngsvrutil.target_name, and mngsvrutil.target_server_name properties, which are parameters of the mngsvrutilrc command, and the -k and -t options.

No.	target_kind	target_name	target_server_name	-k	-t	Specified value interpretation
1	logicalServer/--	--	--	logicalServer/--	--	No server name is specified.
2	logicalServer/--	A	B/--	logicalServer/--	--	Server whose name is A is specified.
3	logicalServer/--	--	B	logicalServer/--	--	Server whose name is B is specified.
4	logicalServer/--	A/--	B/--	logicalServer/--	C	Server whose name is C is specified.

No.	target_kind	target_name	target_server_name	-k	-t	Specified value interpretation
5	host	--	--	--	--	No host name is specified.
6	host/--	--	--	Host	--	No host name is specified.
7	host	--	B	--	--	No host name is specified.
8	host/--	--	B	Host	--	No host name is specified.
9	host	A	B/--	--	--	Host whose name is A is specified.
10	host/--	A/--	B/--	Host	C	Host whose name is C is specified.

Legend:

--: No value is specified.

Client-side common definition file (mngsvrutilcl.properties)

You can set the common default values for the `mngsvrutil` command options.

For details, see *8.2.16 mngsvrutilcl.properties (Client-side shared definition file of the mngsvrutil command)* in the *uCosminexus Application Server Definition Reference Guide*.

Server-side definition file (mngsvrutil.properties)

You can modify the execution environment for the `mngsvrutil` command.

For details, see *8.2.15 mngsvrutil.properties (Server-side definition file of the mngsvrutil command)* in the *uCosminexus Application Server Definition Reference Guide*.

Input/output examples

- Input example 1

  Collect a list of logical servers within the management domain together with their status information:

```
$ mngsvrutil -m 123.45.67.89:28880 -u admin1 -p pw1 list status
```

- Output example 1

```
logicalServerName,status,type,startingOrder,parent
smplSvrName1,working,NamingService,10,-
smplSvrName2,starting,SFOServer,15,-
smplSvrName3,stopped,J2EEServer,20,J2EEServerCluster1
smplSvrName4,starting,J2EEServer,30,J2EEServerCluster1
smplSvrName5,stopping,WebServer,40,WebServerCluster1
smplSvrName6,abnormal ended,J2EEServer,50,-
smplSvrName7,recovering,J2EEServer,60,-
smplSvrName8,communication error,J2EEServer,70,J2EEServerCluster2
...
...
```

- Input example 2

  Acquire a management domain name:

```
$ mngsvrutil -m localhost -u admin1 -p pw1 get domainName
```

- Output example 2

```
smplDomainName
```

- Input example 3

```
Collect information about J2EE applications:
$ mngsvrutil -m 123.45.67.89 -u admin2 -t myServer get j2eeApps
```

- Output example 3

```
index,fullyQualifiedName,name,deployedTime
1,serverName1:smplApp1,smplApp1,1234567890
2,serverName2:smplApp2,smplApp2,9876543210
...
...
7,serverName7:smplApp7_TEST,smplApp7,7656543210
```

- Input example 4

  Collect information about the home interface of Stateless Session Bean:

```
$ mngsvrutil -m 123.45.67.89 -u admin2 -t myServer get statelessBeanHome
```

- Output example 4

```
index,fullyQualifiedName,name,responseMaxTime,responseMinTime,responseAveT
ime,statisticsStartedTime,samplingTime
1,smpQfn1,smplBeanName1,300,100,123.45,67339847,600
2,smpQfn2,smplBeanName2,17,52,34.251,122343838,10
...
...
```

- Input example 5

  Lock the schedule queues for all J2EE applications within a host:

```
$ mngsvrutil -m 123.45.67.89 -u admin2 -t hostA -k host hold queues in:-1
```

- Input example 6

  Release the schedule queues for all J2EE applications within a host:

```
$ mngsvrutil -m 123.45.67.89 -u admin2 -t hostA -k host release queues
```

- Input example 7

  Collect in a batch the performance analysis traces collected by all performance tracers within the management domain:

```
$ mngsvrutil -m 123.45.67.89 -u admin2 collect allPrfTraces
```

Settings for SNMP integration (In UNIX)

To specify settings for SNMP integration in UNIX:

1. Install JP1/Cm2/ESA
2. Create and edit the `~root/.mngsvrutilrc` file
   - Copy the `/opt/Cosminexus/manager/config/templates/.mngsvrutilrc` file to `~root`.
     `# cp /opt/Cosminexus/manager/config/templates/.mngsvrutilrc ~root/`
   - Change the file permission of the `~root/.mngsvrutilrc` file to 600.
     `# chmod 600 ~root/.mngsvrutilrc`

- Edit the ~root/.mngsvrutilrc file.

  Use an appropriate editor to setup the following items.

  For details on each item, see *8.2.14 .mngsvrutilrc (Client-side definition file of the mngsvrutil command)* in the *uCosminexus Application Server Definition Reference Guide*.

  ```
  mngsvrutil.connect.host
  mngsvrutil.connect.userid
  mngsvrutil.connect.password
  mngsvrutil.output.format=snmp
  mngsvrutil.target_name
  mngsvrutil.target_kind
  ```

3. Setting up the JP1/Cm2/ESA environment

   Use the extended MIB object definition file for Cosminexus (/opt/Cosminexus/manager/config/hitachi-cosmiMng-MIB[#1,#2]) to reconfigure the SNMP sub-agent. For reconfiguring the SNMP sub-agent, see the manual *JP1/Cm2/Extensible SNMP Agent*.

   #1 In reality, _V-R (version) is added after hitachi-cosmiMng-MIB (Example: hitachi-cosmiMng-MIB_2-0).

   #2 To use the extended MIB object definition file, use hitachi-cosmiMng-MIB_V-R_forESA.

   Use the latest version of the extended MIB object definition file.

Notes

- Specify the options and subcommands as described below.
  - Specify subcommand options and arguments at the very end of the line.
  - If the same option is specified more than once, the last one specified is valid.
  - If an invalid option is specified for a particular operation (for example, specifying the -h option for the set subcommand), that option is ignored.
  - If an option specification is omitted, the default value specified in the client-side definition file (.mngsvrutilrc) becomes valid if one has been specified.
  - If all options are omitted, the command's usage (simple usage) is displayed. If all arguments except for the -m, -u, and -p options are omitted, the detailed usage is displayed.
- If the value acquired by the list or get subcommand is invalid (a statistical value when statistical information has not been collected, for example), the value -1 is displayed as 0.
- Information collected by a subcommand is displayed in the standard output.
- Usage and error information is output to the standard error output.
- If you use the start and stop subcommands to start and then immediately stop, or stop and then immediately start, the same logical server, specify the -s option in the preceding subcommand. This option allows the following subcommand to start after completion of the preceding subcommand.
- If the list subcommand is specified, the status existing when the subcommand is invoked is reflected in the information that the command returns, regardless of the execution states of other subcommands (such as start and stop). Therefore, the command might return the status *working* before the processing of the start subcommand is completed or the status *stopped* before the processing of the stop subcommand is completed.

mngunsetup (Deleting Management Server configuration environment)

Format

```
mngunsetup [-force]
```

Functionality

Executes the unset up of Management Server and Administration Agent on the host executing this command, and the unset up of the system environment (logical server) that is set up by using Management Server. You can execute this command regardless of whether Management Server and Administration Agent are operating.

Execute this command on Application Server in case of host unit model and on Management Server as well as Application Server in case of Management Server model (Host for operating Management Server).

Users having Administrator privileges or the users from Management Server management group must execute this command.

Furthermore, if the environment to be unset up matches the following conditions, command execution might fail. Execute the command after taking the necessary actions.

- If there is a CTM or OTM (TPBroker Object Transaction Monitor) process that is started without using Management Server, or any command is running, stop the CTM or OTM (TPBroker Object Transaction Monitor) process as well as the running command.
- In UNIX, if auto restart is set in Administration Agent and Management Server,
  execute the `mngautorun` command, cancel the auto restart setting, and then restart.

Arguments

If an argument is not specified, a message to confirm whether to execute unsetup is displayed. If you select `y`, unsetup is executed, and if you select `n`, unsetup is stopped, and the process ends.

`-force`

Execute unsetup forcibly without displaying a message to confirm whether to execute unsetup.

Input examples

1. Execute `mngunsetup`.
   ```
   mngunsetup
   ```
2. Display a message to confirm whether to execute unsetup.
   - In Windows
     ```
     Do you really want to unset up the following environment?
     -Management functionality (Management Server and Administration Agent).
     -System environment (Logical server)
     {y|n}
     >
     ```
   - In UNIX
     ```
     Do you really want to unset up the following environment?
     -Management functionality (Management Server and Administration Agent)
     -System environment (Logical server)
     ```

```
-Settings of start user of J2EE server (Component Container administrat
or)
{y|n}
>
```

3. Enter `y` to execute unsetup, and enter `n` to stop unsetup.

Return values

`0`:

Normal termination occurred

`1`:

Error has occurred at the time of execution.

`2`:

Syntax error has occurred.

Notes

- Files other than the configuration information or the setup information files managed by the load balancer functionality, server communication agent, and Management Server are not unsetup. Delete these files manually.
- If you execute unsetup in the environment set up before version 09-00, the logical server (logical J2EE server, or the logical Web server) might not get deleted. You can delete such logical servers; only if those have been started once after migrating to the version 09-00. The environment variables specified at the time of setup are not maintained and if the setup is executed without specifying the environment variables, deletion might fail. Delete the logical server manually using a command, if it has not been started even once.
  - Deleting the logical J2EE server
    In Windows
    Cosminexus-installation-directory`/CC/server/bin/cjsetup -d` *real-server-name*
    In UNIX
    `/opt/Cosminexus/CC/server/bin/cjsetup -d` *real-server-name*
  - Deleting the logical Web server
    In Windows
    Cosminexus-installation-directory`/httpsd/admin/bin/hwsserveredit -delete HWS_`*real-server-name*
    In UNIX
    `/opt/hitachi/httpsd/admin/bin/hwsserveredit -delete HWS_`*real-server-name*
- When you have changed the real server name of Management Server in an environment configured in 09-50 or earlier, the environment of Management Server, set with the real server name before change, is not deleted even when you execute the un-setup. Manually delete the environment by using the command.
  - Deleting the environment of Management Server configured with the real server name before change
    In Windows
    Application-Server-installation-directory`\CC\server\bin\cjsetup -d` *real-server-name*
    In UNIX
    `/opt/Cosminexus/CC/server/bin/cjsetup -d` *real-server-name*

- In UNIX, when auto restart is set in Management Server and Administration Agent, cancel the auto restart setting by the `mngautorun` command, restart the machine and execute this command. If you do not cancel the settings of auto restart and do not restart the machine, an error might occur during unsetup.
- In the logical J2EE server, and logical Web server, the logical server setup using Management Server is considered for deletion. Accordingly, even if the logical server is deleted beforehand by using the management portal or Smart Composer functionality, the real server is deleted.
- In the logical CTM domain manager, the CTM domain information of the logical CTM domain manager started by using Management Server is considered as deletion target. Accordingly, even if you delete the logical CTM domain manager beforehand, by using the management portal and Smart Composer functionality, CTM domain information is deleted.

  For CTM domain manager, take precautions for the following points:

  - The CTM domain information of the CTM domain manager started without using Management Server is also deleted.
  - If OTM (TPBroker Object Transaction Monitor) environment exists on the host that executes the command, TSC domain related information is also deleted.
  - If CTM and OTM process is started without using Management Server, and if any command is running in this process, unexpected error might occur in the process or the command. Stop all CTM and OTM processes as well as the commands running in this process, and then execute this command.
- In UNIX, settings of Management Server management group are not cancelled. If you want to cancel the settings of the Management Server management group, execute the `mngenvsetup` command. For the `mngenvsetup` command , see *mngenvsetup (setup management group)*.

mstrexport (save Management Server management file)

Format

```
mstrexport file-name [save-target-definition-file-name]
```

Function

When the executing node and the standby node of Management Server are being swapped on a 1:1 basis, this command collects Management Server management file at the executing node, outputs it in ZIP format, and saves it.

Arguments

When no arguments are specified, the command's usage is displayed.

file-name

Specifies the name of the ZIP file to be output for saving Management Server management file. You can specify an absolute path or a relative path. If the `.zip` extension (not case sensitive) is omitted, `.zip` is added.

save-target-definition-file-name

Specifies the absolute path or relative path of the save target definition file for Management Server management file.

You specify a save target definition file for Management Server management file when there are other files that you wish to collect in addition to the files that are set by default as collection targets.

For details, see *8.2.13 Definition files to be saved for the Management Server management files* in the *uCosminexus Application Server Definition Reference Guide*.

Input examples

- Input example 1

  Output to the current directory a file named `mstruct.zip` that has collected Management Server management file:

  ```
  mstrexport mstruct.zip
  ```

- Input example 2

  Output to a directory other than the current directory a file named `mstruct.zip` that has collected the files described in `filelist.txt`, in addition to the files that are collected by default

  - In Windows:
    `mstrexport c:/tmp/mstruct.zip "c:/Documents and Settings/MyUser/filelist.txt"`
  - In UNIX:
    `mstrexport /tmp/mstruct.zip "/usr/filelist.txt"`

Notes

The access permission for files saved by the `mstrexport` command is the default access permission. Therefore, you should not include at the save destination files whose access should be limited, such as files that general users are not permitted to access.

mstrimport (restore Management Server management file)

Format

```
mstrimport file-name
```

Function

When the executing node and the standby node of Management Server are being swapped on a 1:1 basis, this command restores at the executing node Management Server management that was saved as a file (in ZIP format) by the `mstrexport` command on Management Server of the standby node.

The path names of successfully restored files are output to the standard output in a format that includes the system properties.

This command can be executed when Management Server is stopped.

Arguments

When no arguments are specified, the command's usage is displayed.

file-name

Specifies the name of Management Server management file (ZIP format) that was saved by the command for saving Management Server management file. You can specify either an absolute path or a relative path.

If a file that was not saved by the command for saving Management Server management file is specified or if the file cannot be opened, an error occurs. When an error occurs, processing halts.

Input examples

- Input example 1
  Unzip the file named `mstruct.zip` located in the current directory:

```
mstrimport mstruct.zip
```

- Input example 2
  Unzip the file named `mstruct.zip` located in a directory other than the current directory:
  - In Windows:
    `mstrimport c:/tmp/mstruct.zip`
  - In UNIX:
    `mstrimport /tmp/mstruct.zip`

Note

Because the `mstrimport` command overwrites existing files, it is recommended that you back up the files before executing the command. You use the `mstrexport` command to back up files. To save all files that will be overwritten when the `mstrimport` command is executed on the standby node, specify for the argument of the `mstrexport` command to be executed on the standby node the save target definition file specified for the `mstrexport` command executed at the executing node. If a save target definition file was specified when the `mstrexport` command was executed at the executing node, you must also specify a save target definition file when executing the `mstrexport` command at the standby node. The save target definition file to be specified in this case must be the same one specified when you backed up the executing node.

In UNIX, files restored using the `mstrimport` command are not assigned an execution permission automatically; you must assign the execution permission if necessary.

setupwizard command (system setup, unsetup, and copy)

Format

Start setup wizard

```
setupwizard
```

Batch setup that uses the setup information file

```
setupwizard -f setup-information-file [-force]
```

Export of the Easy Setup definition file

```
setupwizard -export -omd easy-setup-definition-file
```

Duplication of system

```
setupwizard -f setup-information-file -md easy-setup-definition-file [-for
ce]
```

Unset up

```
setupwizard -clean [-force]
```

Display contents of the setup information file

```
setupwizard -view -f setup-information-file
```

Display how to use command

```
setupwizard -h|-help
```

Functions

- Start of setup wizard
  Start the setup wizard.
- Package setup that uses setup information file
  Package setup is carried out according to the information in setup information file specified in `-f` option. If you specify `-force` option, group setup is carried out without confirming the contents of setup information file.
- Export Easy Setup definition file
  Exports easy setup definition file. Specify easy setup definition file output destination and file name in `-omd` option. Easy setup definition file which is exported becomes an input file at the time of system replication.
- System replication
  Replicate the system according to the information of the following files.
  - Setup information file specified in `-f` option
  - Easy setup definition file specified in `-md` option

  If you specify `-force` option, replicate the system without confirming the contents of setup information file.
  However, the following information does not correspond to the contents of setup information file but it corresponds to the contents of easy setup definition file.
  - Web system settings
  - JDBC driver settings (If data base setting is selected as Do)
- Unset-up
  Performs unset up of system set up by Setup Wizard or a system configured by other than the Setup Wizard. If you specify `-force` option, unsetup is carried out without confirming whether to unsetup.
- Display contents of setup information file
  Display contents of setup information file specified in `-f` option.
- Display how to use command
  Display how to use `setupwizard` command.

Arguments

`-f` *setup-information-file*
  Specify setup information file path.

`-export`
  Specified when easy setup definition file is to be exported.

`-omd` *easy-setup-definition-file*
  Specify easy setup definition file path which is to be exported.

`-md` *easy-setup-definition-file*
  Specify easy setup definition file used in system replication.

`-clean`

Specified when unsetup of system is to be carried out.

`-force`

Specified when the following operation is to be executed without confirming the process.

- Group setup that uses setup information file
- Unsetup
- System replication

`-view`

Specify if you want to display contents of setup information file.

`-h|-help`

Specify if you want to display how to use `setupwizard` command.

Input examples

- Input example 1

  Start setup wizard

  ```
  Setupwizard
  ```

- Input example 2

  Batch setup that uses the setup information file

  ```
  setupwizard -f Cosminexus-installation-directory/manager/setup/config/setu
  pwizard.dat -force
  ```

- Input example 3

  Export the Easy Setup definition file

  ```
  setupwizard -export -omd arbitrary-directory/file-name-of-easy-setup-defin
  ition-file
  ```

- Input example 4

  System replication

  ```
  setupwizard -f Cosminexus-installation-directory/manager/setup/config/setu
  pwizard_success.dat -md arbitrary-directory/file-name-of-easy-setup-defini
  tion-file
  ```

- Input example 5

  Unset up without confirming implementation

  ```
  setupwizard -clean -force
  ```

- Input example 6

  Display contents of the setup information file

  ```
  setupwizard -view -f Cosminexus-installation-directory/manager/setup/confi
  g/setupwizard.dat
  ```

- Input example 7

  Display how to use command

```
setupwizard -h
```

Return values

0:

Stopped normally.

1:

Error has occurred at the time of execution.

2:

Syntax error has occurred.

Notes

- User who can execute command are as below. If the command is executed by user other than those mentioned below, error may occur.

  In Windows

  Execute the command as a user with administrator privileges. In the case of other Windows OS, users with administrator rights can execute commands.

  In UNIX

  User who has root authority can execute command.

- If you try to set up by specifying the `-force` option in the batch setup by using the setup information file, and if the setup fails, snapshot log is collected automatically as a document for troubleshooting. The contents of this snapshot log and the storage destination are as follows:

  Storage destination of snapshot log

  Output-destination-of-setup-wizard-log`/snapshot.zip`

  Contents of snapshot log

  Range indicated in *Cosminexus-installation-directory*`/manager/config/snapshotlog.conf`

  Output-destination-of-setup-wizard-log`/setupwizard` *number-of-files*`.log`

  Output-destination-of-setup-wizard-log`/maintenance/setupwizard` *number-of-files*`.log`

  Cosminexus-installation-directory`/manager/setup/config/`

  Cosminexus-installation-directory`/manager/setup/tmp/`

  Output-destination-of-setup-wizard-log is the output destination specified in `setup.log.dir` of `setup.cfg`. For `setup.cfg`, see *8.2.18. setup.cfg (Setup file for the Setup Wizard)* in the *uCosminexus Application Server Definition Reference Guide*.

- The Easy Setup definition file that is to be specified in `-md` option is the easy setup definition file that is exported by `-export` option. If you specify any other Easy Setup definition file, system replication may fail.
- If command is executed by specifying `-export` option, it is required that Management Server has already started. If Management Server is not started, command execution may fail.
- If you execute the command by specifying the `-clean` option in the following environment, `KEOS28058-I` message is output and command ends with end code `0`.
  - Environment where setup is not executed
  - Environment where the command (`unsetup`) is executed once with the `-clean` option.
  - Environment where Management Server is not setup

- While executing the command, do not stop by **Ctrl** + **C** key externally. If it is stopped, execute the setup wizard once again. If error occurs even after executing the setup wizard again, restart the OS.

7.3 Details of subcommands of the mngsvrutil command

This section describes the subcommands that can be specified as arguments of the `mngsvrutil` command.

7.3.1 list

This subcommand displays a list of values, as specified in the argument. The following table lists and describes the arguments that can be specified for the `list` subcommand.

Table 7–2: Arguments that can be specified for the list subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`Status`	Lists the logical servers in the management domain and shows their status.	--	--
`appStatus`	Lists the J2EE applications that have been imported into the logical server specified by the `-t` option and shows their status.	Y	--
`resStatus`	Lists the J2EE resources that have been imported into the logical server specified by the `-t` option and shows their status.	Y	--
`resJavaBeansStatus`	Lists the JavaBeans resources that have been imported into the logical server specified by the `-t` option and shows their status.	Y	--
`Queues`	Lists the queues belonging to the host specified by the `-t` option and shows their status.	Y	Y

Legend:

Y: Can be specified.

--: Cannot be specified.

You can use the `list` subcommand to display the following five types of information:

- **Use the status argument to display the logical servers in the management domain and their status.**

  In the header of the output information, `type` indicates the logical server type (Web server, J2EE server, Naming Service, Smart Agent, performance tracer, CTM domain manager, and CTM), `startingOrder` indicates the order in which logical servers are started, and `parent` indicates the names of the clusters to which the logical servers belong. If no starting order is specified, the default values are displayed in `startingOrder`, and if the starting order information cannot be acquired, a hyphen (`-`) is displayed.

  For default values, see *11.3.5 Setting up the starting order for the logical servers in the entire management domain* in the *uCosminexus Application Server Management Portal User Guide*.

  For a standalone logical server that does not belong to any cluster, a hyphen (`-`) is displayed under `Parent`.

  The `status` types are `working`, `stopped`, `starting`, `stopping`, `abnormal ended`, `recovering`, `communication error`, `auto stopping`, `auto restarting`, `graceful stopping`, or `force stopping`.

  For details on the status of logical servers, see *4.4 Monitoring the logical server operations* in the *uCosminexus Application Server Management Portal User Guide*.

  This subcommand displays only logical servers that belong to clusters and stand-alone logical servers.

- **Use the appStatus argument to display information about J2EE applications that have been imported into the J2EE server.**

This argument lists information about the J2EE applications that have been imported into the J2EE server specified by the -t option.

If a J2EE server cluster is specified, the processing is expanded to include its members. If a logical server that is not a J2EE server (including a J2EE server cluster member) or that is not a J2EE server cluster is specified by the -t option, an error occurs.

logicalServerName displays in the header of the output information the name of the J2EE server specified by the -t option.

appName of the header of the output information displays the display names of the applications that are imported into the J2EE server. Note that if the J2EE server is not active, a null character ("") is displayed. If the J2EE server is active and if no application has been imported, the records will not be output.

The status types are working, stopped, or unknown (J2EE server is not active or the J2EE server is not managing the applications).

- **Use the resStatus argument to display information about J2EE resources that have been imported into the J2EE server or batch server.**

  This argument lists information about the J2EE resources that have been imported into the J2EE server or batch server specified by the -t option.

  If a J2EE server cluster is specified, the processing is expanded to include its members. If a logical server that is not a J2EE server (including a J2EE server cluster member) or batch server, or that is not a J2EE server cluster is specified by the -t option, an error occurs.

  logicalServerName displays in the header of the output information the name of the J2EE server or batch server specified by the -t option.

  resourceName of the header of the output information displays the display name of the resource adapters that are imported into the J2EE server. Note that if the J2EE server is not active, a null character ("") is displayed.

  The status types are working, stopped, or unknown (J2EE server is not active or the J2EE server is not managing the resource adapters).

- **Use the resJavaBeansStatus argument to display information about JavaBeans resources that have been imported into the J2EE server or batch server.**

  This argument lists information about the JavaBeans resources that have been imported into the J2EE server or batch server specified by the -t option.

  If a J2EE server cluster is specified, the processing is expanded to include its members. If a logical server that is not a J2EE server (including a J2EE server cluster member) or batch server, or that is not a J2EE server cluster is specified by the -t option, an error occurs.

  logicalServerName displays in the header of the output information the name of the J2EE server or batch server specified by the -t option.

  JavaBeansResourceName of the header of the output information displays the display name of the JavaBeans resources that are imported into the J2EE server. Note that if the J2EE server is not active, a null character ("") is displayed.

  The status types are working, stopped, or unknown (J2EE server is not active or the J2EE server is not managing the resources).

- **Use the queues argument to display information about CTM queues.**

  This argument lists information about the queues belonging to the CTM or host specified by the -t option.

  The CTM name is displayed in logicalServerName of the header. The queue name is displayed in queueName.

  The status types are scheduling (scheduling-enabled state), preparing (preparing the queue), stopping (stopping the queue), closing[in] (locking the queue entrance), or closing[out] (locking the queue exit).

7.3.2 get

This subcommand acquires the values specified by the argument for the logical server or host specified by the `-t` option. The arguments listed in *Table 7-3* can be specified. Note that arguments other than `domainName` are referred to as *metric category*.

When a logical server is specified by the `-t` option, an error occurs if a logical server (Web server, Naming Service, or smart agent, for example) that is not a logical server that belongs to the *metric category* (J2EE server, or CTM) is specified.

To monitor statistical information at a set interval, you can collect the statistical information on a regular basis by setting the sampling time to be equal to or greater than the interval.

If a J2EE application was started in the test mode, information is output in the format *application-name*`_TEST`.

The following table lists and describes the arguments that can be specified for the `get` subcommand. For details on the arguments that can be specified for the `get` subcommand, see *Appendix A. Extended MIB object definition file* in the *uCosminexus Application Server Definition Reference Guide*.

Table 7–3: Arguments that can be specified for the get subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`domainName`	Acquires the management domain.	--	--
`j2eeContainer`	Acquires J2EE container information.	Y	Y
`webContainer`	Acquires Web container information.	Y	Y
`jvm`	Acquires JavaVM information.	Y	Y
`transaction`	Acquires transaction information.	Y	Y
`httpServer`	Acquires Management Server information. We recommend that users need not acquire this information because it is management information that is used internally.	Y	Y
`httpSvrConn`	Acquires Web server and Web container connection information.	Y	Y
`dataSource`	Acquires data source (JDBC) information.	Y	Y
`dataSrcFull`	Acquires data source (OTS 1.2-compatible JTA) information.	Y	Y
`resAdapter`	Acquires resource adapter information.	Y	Y
`j2eeApps`	Acquires J2EE application information.	Y	Y
`ejbApps`	Acquires EJB application (EJB-JARs) information.	Y	Y
`statelessBean`	Acquires Stateless Session Bean information.	Y	Y
`statelessBeanHome`	Acquires Stateless Session Bean remote home interface information.	Y	Y
`statelessBeanHomeMethod`	Acquires information on the Stateless Session Bean remote home interface method.	Y	Y
`statelessBeanLocalHome`	Acquires Stateless Session Bean local home interface information.	Y	Y
`statelessBeanLocalHomeMethod`	Acquires information on the Stateless Session Bean local home interface method.	Y	Y

Argument	Explanation	Target specification	
		Logical server	Host
statelessBeanRemote	Acquires Stateless Session Bean remote component interface information.	Y	Y
statelessBeanRemoteMethod	Acquires information on the Stateless Session Bean remote component interface method.	Y	Y
statelessBeanLocalComponent	Acquires Stateless Session Bean local component interface information.	Y	Y
statelessBeanLocalComponentMethod	Acquires information on the Stateless Session Bean local component interface method.	Y	Y
statefulBean	Acquires Stateful Session Bean information.	Y	Y
statefulBeanHome	Acquires Stateful Session Bean remote home interface information.	Y	Y
statefulBeanHomeMethod	Acquires information on the Stateful Session Bean remote home interface method.	Y	Y
statefulBeanLocalHome	Acquires Stateful Session Bean local home interface information.	Y	Y
statefulBeanLocalHomeMethod	Acquires information on the Stateful Session Bean local home interface method.	Y	Y
statefulBeanRemote	Acquires Stateful Session Bean remote component interface information.	Y	Y
statefulBeanRemoteMethod	Acquires information on the Stateful Session Bean remote component interface method.	Y	Y
statefulBeanLocalComponent	Acquires Stateful Session Bean local component interface information.	Y	Y
statefulBeanLocalComponentMethod	Acquires information on the Stateful Session Bean local component interface method.	Y	Y
entityBean	Acquires Entity Bean information.	Y	Y
entityBeanHome	Acquires Entity Bean remote home interface information.	Y	Y
entityBeanLocalHome	Acquires Entity Bean local home interface information.	Y	Y
entityBeanRemote	Acquires Entity Bean remote component interface information.	Y	Y
entityBeanLocalComponent	Acquires Entity Bean local component interface information.	Y	Y
msgDrivenBean	Acquires Message-driven Bean information.	Y	Y
webApps	Acquires Web application information.	Y	Y
servlets	Acquires servlet information.	Y	Y
requestUrl	Acquires information on each requested URL.	Y	Y
queues	Acquires information about the CTM schedule (queue state).	Y	Y
queueApps	Acquires information about the J2EE application connected to the CTM queue.	Y	Y

Legend:

Y: Can be specified.

--: Cannot be specified.

7.3.3 set

This subcommand specifies two arguments and sets the value specified in the second argument for the variable specified for the first argument.

If the target logical J2EE server, or J2EE application is restarted or redeployed after the value is setup , reset the value. If a logical server other than a logical J2EE server, or logical performance tracer is specified in the `-t` option, an error occurs.

The following table lists and describes the arguments that can be specified for the `set` subcommand.

Table 7–4: Arguments that can be specified for the set subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`jvmSamplingTime` *n*	Sets the JavaVM sampling time to *n* seconds.#1	Y	--
`webContainerSamplingTime` *n*	Sets the Web container sampling time to *n* seconds.#1	Y	--
`tranSamplingTime` *n*	Sets the transaction sampling time to *n* seconds.#1, #2	Y	--
`httpSvrSamplingTime` *n*	Sets Management Server sampling time to *n* seconds.#1 We recommend that users need not acquire this information because it is Management Server information that is used internally.	Y	--
`httpSvrConnSamplingTime` *n*	Sets the HTTP server connector sampling time to *n* seconds.#1	Y	--
`dataSrcFullSamplingTime` *n*	Sets the data source (OTS 1.2-compatible JTA) sampling time to *n* seconds.#1, #3	Y	--
`resAdapterSamplingTime` *n*	Sets the resource adapter sampling time to *n* seconds.#1, #3	Y	--
`ejbSamplingTime` *n*	Sets the EJB sampling time to *n* seconds.#1, #3	Y	--
`webAppSamplingTime` *n*	Sets the Web application sampling time to *n* seconds.#1, #3	Y	--
`servletSamplingTime` *n*	Sets the servlet sampling time to *n* seconds. #1, #3	Y	--
`reqUrlSamplingTime` *n*	Sets the sampling time for each URL requested after setting to *n* seconds.#1, #3	Y	--
`allPrfTraceLevel STANDARD|DETAIL` | *tracelevel*	Sets a PRF trace collection level for all performance tracers within a management domain.#4	--	--
`prfTraceLevel STANDARD|DETAIL` | *tracelevel*	Sets a PRF trace collection level for the specified performance tracer or the performance tracer within the specified host.#4	Y	Y

Legend:

Y: Can be specified.

--: Cannot be specified.

#1

Specify an integer in the range -2147483647 to 3600 (seconds) for *n*. If a value outside this range is specified, an error occurs. If *n* is 0 or smaller, the statistical value collection switch is turned off. If $0 < n < 10$, $n = 10$ is used. Various specification values and the corresponding operations are described below.

If a value that is 0 or smaller is specified, statistical information collection is stopped.

If a value in the range 1 to 9 is specified, the sampling time is set to the default (10 seconds) and statistical information collection begins.

If a value of 10 or greater is specified, the sampling time is set to the specified value and statistical information collection begins.

#2

This argument must be specified after the first transaction has started.

#3

If a J2EE application is deployed after this variable has been set, the variable value must be reset.

#4

A PRF trace collection level is set only for active performance tracers.

`STANDARD`

Sets the PRF trace collection level to `STANDARD`.

`DETAIL`

Sets the PRF trace collection level to `DETAIL`.

7.3.4 start

This subcommand starts the specified logical server, J2EE application, or J2EE resource.

The following table lists and describes the arguments that can be specified for the `start` subcommand.

Table 7–5: Arguments that can be specified for the start subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`allServers`	Starts the logical servers defined in the management domain in the defined starting order.	--	--
`server`	Starts the logical server specified by the `-t` option.	Y	Y
`app` *displayName*	Starts the J2EE application specified by *displayName* that has been imported into the logical server specified by the `-t` option.#	Y	--
`resAdapter` *displayName*	Starts the J2EE resource adapter specified by *displayName* that has been imported into the logical server specified by the `-t` option.#	Y	--
`resJavaBeans` *displayName*	Starts the JavaBeans resource specified by *displayName* that has been imported into the logical server specified by the `-t` option.#	Y	--

Legend:

Y: Can be specified.

--: Cannot be specified.

#

displayName indicates the display name of a J2EE application, J2EE resource, or JavaBeans resource.

You can use the `start` subcommand to execute the following two types of operations:

- **Specify the allServers argument to start the specified logical servers.**
  Starts the logical servers defined in the management domain in the defined starting order.

When `server` is specified for the argument, the subcommand starts the logical server specified by the `-t` option (smart agent, naming service, J2EE server, J2EE server cluster, CTM, CTM domain manager, performance tracer, Web server, Web server cluster, or user server).

- **Specify two arguments for the start subcommand to start the specified J2EE application, J2EE resource adapter, or JavaBeans resource.**

  When `app`, `resAdapter`, or `resJavaBeans` is specified for the first argument, the subcommand starts the J2EE application, resource adapter, or JavaBeans resource that is specified by *displayName* (the second argument) and has been imported into the J2EE server specified by the `-t` option. In the case of a J2EE server cluster, the operation is expanded to its member J2EE servers.

  If a logical server that is not a J2EE server (including a J2EE server cluster member) or that is not a J2EE server cluster is specified by the `-t` option, an error occurs. A host name cannot be specified by the `-t` option.

Notes

- If execution of the `start` or `stop` subcommand is immediately followed by a similar operation on the same logical server, specify the `-s` option in the subcommand so that the subsequent command is executed after completion of the subcommand.
- If the `list` subcommand is specified, the status existing when the subcommand is invoked is reflected in the information that the command returns, regardless of the execution states of other subcommands (such as `start` and `stop`). Therefore, the command might return the status *working* before the processing of the `start` subcommand is completed or the status *stopped* before the processing of the `stop` subcommand is completed.

7.3.5 stop

This subcommand stops the specified logical servers, J2EE application, or J2EE resources.

The following table shows the arguments that can be specified for the `stop` subcommand.

Table 7–6: Arguments that can be specified for the stop subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`allServers`	Stops the logical servers defined in the management domain in reverse order from the defined starting order.	--	--
`server [graceful[:`*waitTime*`]]`	Stops the logical server specified by the `-t` option. When `graceful` is specified, planned termination is executed.	Y	Y
`app` *displayName* `[force]`	Stops the J2EE application specified by *displayName* that has been started on the logical server specified by the `-t` option.# When `force` is specified, the application is stopped forcibly.	Y	--
`resAdapter` *displayName*	Stops the J2EE resource adapter specified by *displayName* that has been started on the logical server specified by the `-t` option.#	Y	--
`resJavaBeans` *displayName*	Stops the JavaBeans resource specified by *displayName* that has been started on the logical server specified by the `-t` option.#	Y	--

Legend:

Y: Can be specified.

--: Cannot be specified.

#

displayName indicates the display name of a J2EE application, J2EE resource, or JavaBeans resource.

You can use the `stop` subcommand to execute the following two types of operations:

- **Specify the allServers argument to stop the specified logical servers.**

  Stops the logical servers defined in the management domain in reverse order from the defined starting order. When `server` is specified for the argument, the subcommand stops the logical server specified by the `-t` option (smart agent, naming service, J2EE server, J2EE server cluster, CTM, CTM domain manager, performance tracer, Web server, Web server cluster, or user server).

  When `server` is specified for the first argument, you can specify `graceful` for the second argument. When `graceful` is specified and the logical server specified by the `-t` option is a Web server or Web server cluster, planned termination is applied to the logical server. Planned termination means that the logical server is stopped only after all requests that have been accepted have been processed. If the logical server specified by the `-t` option is not a Web server or Web server cluster, or if a host name is specified for the `-t` option, the `graceful` argument is ignored. You can also specify with the `graceful` argument a *waitTime* to set a maximum amount of time (in seconds) to wait for the stop to occur. Specify a value between 60 and 1,800 seconds for *waitTime*. If the request has not terminated by the time the specified amount of wait time has elapsed, the logical server is terminated forcibly. If **:***waitTime* is omitted, the stop monitoring time specified in the `mstartup.watchtime` parameter of the Smart Composer functionality is setup.

- **Specify two arguments for the stop subcommand to stop the specified J2EE application, J2EE resource adapter, or JavaBeans resource.**

  When `app`, `resAdapter`, or `resJavaBeans` is specified for the first argument, the subcommand stops the J2EE application, resource adapter, or JavaBeans resource that is specified by *displayName* (the second argument) and has been started on the J2EE server specified by the `-t` option. In the case of a J2EE server cluster, the operation is expanded to its member J2EE servers.

  If a logical server that is not a J2EE server (including a J2EE server cluster member) or that is not a J2EE server cluster is specified by the `-t` option, an error occurs. A host name cannot be specified by the `-t` option.

  When `app` is specified for the first argument, you can specify `force` for the third argument. When the `force` argument is specified, the logical server is terminated forcibly without waiting for it to complete its processing even if the J2EE application is executing a request.

  A J2EE application that has been started in the test mode cannot be stopped.

Notes

- If execution of the `start` or `stop` subcommand is immediately followed by a similar operation on the same logical server, specify the `-s` option in the subcommand so that the subsequent command is executed after completion of the subcommand.
- If the `list` subcommand is specified, the status existing when the subcommand is invoked is reflected in the information that the command returns, regardless of the execution states of other subcommands (such as `start` and `stop`). Therefore, the command might return the status *working* before the processing of the `start` subcommand is completed or the status *stopped* before the processing of the `stop` subcommand is completed.
- Of the logical servers to be stopped, the ones placed in *abnormal ended* status are assumed to have already been stopped. Attempts are not made to retry the subcommand to stop these logical servers. In 09-70 and earlier versions, however, attempts are made to retry the subcommand. In this case, when stop processing is performed for a logical server *abnormal ended* status, the subcommand waits until the maximum monitoring time expires and then terminates with the return value 1. The maximum monitoring time is specified in the `-l` option and its default value is 60 seconds.
- If you want to stop the logical CTM server that is set in the CTM to which a logical J2EE server is connected, stop the logical J2EE server first. After you confirm that the processing to stop the logical J2EE server is complete,

stop the logical CTM server. If you attempt to stop the logical CTM server before the processing to stop the logical J2EE server is complete, the attempt might fail. You can check whether the processing to stop the logical J2EE server is complete from whether the J2EE server process (`cjstartsv`) has stopped.

7.3.6 reload

This subcommand reloads the configuration file for the component specified in the argument.

The following table lists and describes the argument that can be specified for the `reload` subcommand.

Table 7–7: Argument that can be specified for the reload subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`userAdmin`	Reloads the `jaas.conf` file that is used by integrated user management. Because the subcommand cannot reload the `ua.conf` file, to apply the settings in this file, you must restart the logical J2EE server. If the logical server specified by the `-t` option does not use integrated user management, an error occurs. If `userAdmin` is specified in the sub-command `reload`, or if you specify a logical server other than the logical J2EE server in the `-t` option, an error occurs.	Y	--

Legend:

Y: Can be specified.

--: Cannot be specified.

7.3.7 hold

This subcommand holds the services of the queue in the arguments.

The following table describes the arguments that can be specified for the subcommand `hold`:

Table 7–8: Arguments that can be specified for the hold subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`queue <queueName> { in[:`*waitTime*`] | out | force[:`*waitTime*`]}`	Locks the queue with the name specified in `<queueName>` that belong to the CTM specified by the `-t` option.	Y	--
`queues { in[:`*waitTime*`] | out | force[:`*waitTime*`] }`	Locks the queues belonging to the CTM or host specified by the `-t` option.	Y	Y
`allQueues { in[:`*waitTime*`] | out | force[:`*waitTime*`] }`	Locks all CTM queues in the management domain.	--	--

Legend:

Y: Can be specified.

--: Cannot be specified.

You can use the hold subcommand to lock queues with the following three types of methods:

- **Specify the queue argument to lock a queue with a specific name.**
  Locks the queue with the name <queueName> belonging to the CTM specified by the -t option. Make sure to specify the -t option and <queueName>. Note that you cannot specify the host name in the -t option.
  Specify in (locking the queue entrance), out (locking the queue exit), or force (force-locking the queue) as the lock conditions for the queue. When in is specified, you can specify the waiting time for the completion of a request being queued. Specify the following values for the waiting time, in the format in:*waitTime*:

  0:
  Locks the entrance of the queue, and waits until all requests being queued are completed.

  1 to 2147483647:
  Locks the entrance of the queue, and waits for the specified number of seconds for the completion of the requests being queued.

  -1:
  Locks the entrance of the queue, and performs error return for all requests being queued.

  If only in is specified, in:-1 will be setup.
  If you specify out and lock the exit of the queue, requests will be received in the locked state, but the requests will not be distributed to the J2EE application. To replace a J2EE application in the online state, specify out, and then lock the queue.
  When you specify force, the entrance of the queue will be locked in the same way as is locked when in:-1 is specified, and error return will be performed for all requests being queued, but locking can be executed at a faster speed as compared to when in:-1 is specified. Furthermore, you can specify the waiting time in the format force:*waitTime*. The specified values are same as for the case when in is specified.
- **Specify the queues argument to lock multiple queues.**
  Locks all queues belonging to the CTM or host specified by the -t option. Make sure to specify the -t option. in, out, and force are specified in the same way as for the case when the queue argument is specified.
- **Specify the allQueues argument to lock all queues.**
  Locks all queues of the management domain. in, out, and force are specified in the same way as for the case when the queue argument is specified.

7.3.8 release

This subcommand releases the services of the queue specified in the arguments.

The following table describes the arguments that can be specified for the subcommand release:

Table 7–9: Argument that can be specified for the release subcommand

Argument	Explanation	Target specification	
		Logical server	Host
queue *queueName*	Unlocks the queue with the name specified in *queueName* belonging to the CTM specified by the -t option.	Y	--
Queues	Unlocks the queues belonging to the CTM or host specified by the -t option.	Y	Y

Argument	Explanation	Target specification	
		Logical server	Host
`allQueues`	Unlocks all CTM queues in the management domain.	--	--

Legend:
Y: Can be specified.
--: Cannot be specified.

You can use the `release` subcommand to unlock queues with the following three types of methods:

- **Specify the queue argument to unlock a queue with a specific name.**
  Unlocks the queue with the name *queueName* belonging to the CTM specified by the `-t` option. Make sure to specify the `-t` option and *queueName*. Note that you cannot specify the host name in the `-t` option.
- **Specify the queues argument to unlock multiple queues.**
  Unlocks all queues belonging to the CTM or host specified by the `-t` option. Make sure to specify the `-t` option.
- **Specify the allQueues argument to unlock all queues.**
  Unlocks all queues of the management domain.

7.3.9 collect

This subcommand collects the files and other items specified in the argument. If a logical server other than a performance tracer or CTM is specified by the `-t` option, an error occurs.

The following table lists and describes the argument that can be specified for the `collect` subcommand.

Table 7–10: Argument that can be specified for the collect subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`allPrfTraces`	Collects performance analysis traces for all performance tracers in the management domain.	--	--
`prfTrace`	Collects a performance analysis trace for the specified performance tracer or for the performance tracer at the specified host.	Y	Y
`allCtmStatistics`	Collects the statistics of all CTMs in the management domain.	--	--
`ctmStatistics`	Collects the statistics of the specified CTM, or a CTM in the specified host.	Y	Y
`snapshot [`*n*`]`#	Collects a snapshot log at the specified host.	--	Y

Legend:
Y: Can be specified.
--: Cannot be specified.

#
[*n*] specifies one of the following:
`1`: Collects a snapshot log that becomes the primary data to be sent.
`2`: Collects a snapshot log that becomes the secondary data to be sent and a performance analysis trace file.

Omitted: Collects snapshot logs and performance analysis trace files for all targets.

You can use the `collect` subcommand to execute the following three types of operations:

- **Specify the allPrfTraces or prfTrace argument to collect performance analysis traces for active performance tracers.**

  When `allPrfTraces` is specified for the argument, the subcommand collects performance analysis traces for all performance tracers in the management domain.

  When `prfTraces` is specified for the argument, the subcommand collects a performance analysis trace for the performance tracer specified by the `-t` option or the performance tracer in the host specified by the `-t` option.

  The performance analysis trace is output to *Manager-log-output-directory*`\prf\` (in Windows) or *Manager-log-output-directory*`/prf/` (in UNIX).

  The performance analysis trace file is output with the file names given in the following table, for each trace information collection target:

  - When the domain is specified: *management-domain-name-date-and-time*[#]`.zip`
  - When the host is specified: *host-name*`-`*date-and-time*[#]`.zip`
  - When the logical server is specified: *logical-server-name-date-and-time*[#]`.zip`

- **Specify the allCtmStatistics or ctmStatistics argument to collect the statistics of a running CTM.**

  When `allCtmStatistics` is specified for the argument, the subcommand collects the statistics of all CTMs in the management domain.

  When `ctmStatistics` is specified for the argument, the subcommand collects the statistics of the CTM specified by the `-t` option, or a CTM in the specified host.

  The file for collecting the CTM statistics output in CSV format in the CTM startup host is archived in the ZIP format, and the *host-name*`-`*logical-server-name*`-`*date-and-time*`.zip` file is created. Furthermore, when the file is forwarded to Management Server, it is saved in the *Manager-log-output-directory*`\ctm\` (in Windows), or the *Manager-log-output-directory*`/ctm/` (in UNIX). If the domain or the host is specified, multiple files are saved as one file in the ZIP format, and if the logical server is specified, the file name is changed and saved.

  - When the domain is specified: *domain-name*`-`*date-and-time*[#]`.zip`
  - When the host is specified: *host-name*`-`*date-and-time*[#]`.zip`
  - When the logical server is specified: *logical-server-name*`-`*date-and-time*[#]`.zip`

- **Specify the snapshot argument to collect a snapshot log.**

  When `snapshot` is specified for the argument, the subcommand collects a snapshot log in the host specified by the `-t` option. Installation information and OS status information are also collected. If a logical server is specified for the `-t` option, an error occurs.

  When collection is successful, the following file names created in ZIP format are displayed:

  - Primary data to be sent: `snapshot-`*host-name*`-log-`*date-and-time*[#]`.zip`
  - Secondary data to be sent: `snapshot-`*host-name*`-log-`*date-and-time*[#]`.2.zip`

#

The value of the *date-and-time* portion has one of the following formats:
- *yyyyMMddHHmmss*
- *yyyyMMddHHmmss+hhmm*
- *yyyyMMddHHmmss-hhmm*

7.3.10 change

This subcommand changes the value set for the number of concurrently executable threads, as specified by the arguments. A J2EE server must be specified by the `-t` option.

The following table lists and describes the argument that can be specified for the `change` subcommand.

Table 7–11: Argument that can be specified for the change subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`webAppThreadCtrl` *webApplicationContextRoot*`,`*maxThreads*`,`*exclusiveThreads*`,`*queueSize*	Manages dynamically the number of threads that can be executed concurrently by the Web applications specified in the J2EE server specified by the `-t` option. This argument cannot be omitted.	Y	--

Legend:

Y: Can be specified.

--: Cannot be specified.

When `webAppThreadCtrl` is specified for the argument, the subcommand manages dynamically the number of threads that can be executed concurrently by the Web applications belonging to the J2EE server specified by the `-t` option.

For the argument `webApplicationContextRoot`, specify a Web application (J2EE application WAR) context root and the number of concurrently executable threads. You can use the `get webApps` subcommand to obtain the Web application context root value. If no context root has been set, specify a forward slash (`/`).

For the number of concurrently executing threads, specify the maximum number of threads, the number of dedicated threads, and the size of the pending queue for Web applications, in that order, delimited by a comma (`,`).

If any of the values for the arguments `maxThreads` (maximum number of threads), `exclusiveThreads` (number of dedicated threads), and `queueSize` (size of the pending queue for Web applications) is not to be changed, its specification might be omitted. However, you cannot omit all three items.

Example: To change only the number of dedicated threads: `,20,`

Specify the various concurrent thread values within the ranges described below.

- `maxThreads` (maximum number of threads)#:

  Specify a value that is equal to or less than the number of requests processed concurrently by the Web container, in the range from 1 to 1024.

- `exclusiveThreads` (number of dedicated threads)#:

  Specify a value in the range 0 to 1024.

- `queueSize` (size of the pending queue for Web applications):

  Specify a value in the range 0 to 2147483647.

#: *Maximum-number-of-threads* ≥ *Number-of-dedicated-threads*

Note that a number of concurrently executable threads that has been set dynamically is valid only during execution of that J2EE application.

7.3.11 check

This subcommand checks whether Management Server and Administration Agent are active.

The following table lists and describes the arguments that can be specified for the `check` subcommand.

Table 7–12: Arguments that can be specified for the check subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`Mngsvr`	Checks whether or not Management Server is active. If a target is specified by the `-t` option, it is ignored.	--	--
`adminAgent`	Checks whether or not the Administration Agent is active at the host specified by the `-t` option. An error occurs when a value other than `host` is specified by the `-k` option, a value other than a host name is specified by the `-t` option, or the `-t` option is not specified.	--	Y

Legend:

Y: Can be specified.

--: Cannot be specified.

The `check` subcommand returns one of the following values:

`0`:

Active.

`1`:

Command execution error occurred#.

`2`:

Command syntax error occurred.

`103`:

Not active#.

#: If no response is returned from the Management Server before the operation check timeout time specified by the `-w` option elapses, the value that the subcommand returns differs depending on the specified argument as follows:

- If the `mngsvr` argument is specified, the subcommand returns the end code `103`.
- If the `adminAgent` argument is specified, the subcommand returns the end code `1`.

7.3.12 dump

This subcommand outputs the javacore of an active logical server.

The following table lists and describes the argument that can be specified for the `dump` subcommand.

Table 7–13: Argument that can be specified for the dump subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`server [addition]`#	Outputs the javacore (active time information) for the logical server specified by the `-t` option. Only a J2EE server (including a J2EE cluster member), a J2EE server cluster, CTM, or the naming service can be specified as the logical server. If `addition` is specified, the subcommand acquires a core file for the logical server specified in the `-t` option. In Windows, do not specify `addition`.	Y	--

Legend:

Y: Can be specified.

--: Cannot be specified.

#

When `server addition` is specified, the method of monitoring the activity of the specified logical server switches to process existence checking only.

The commands that are executed to output the javacore and the javacore file output destinations are described for each OS type.

(1) In Windows

The table below shows the commands that are executed to output the javacore and the javacore file output destinations for each logical server type in Windows.

Logical server	addition specified	Command to be executed	Output information	javacore file output destination directory
J2EE server (including server cluster)	Not specified	`cjdumpsv`	javacore	*J2EE-server-work-directory*`\ejb\`*executing-server-name*`\`
CTM	Specified or not specified#1	`hdumpns`	javacore#2	*Cosminexus-installation-directory*`\TPB\logj\`
Naming service	Specified or not specified#1	`hdumpns`	javacore	*Cosminexus-installation-directory*`\TPB\logj\`

#1

The `addition` specification is ignored and the activity monitoring method is not changed.

#2

The `javacore` that is output when CTM is specified in the logical server, is not the information about the CTM daemon, but is the information about the Naming Service started for the CTM.

(2) In UNIX

The table below shows the commands that are executed to output the javacore and the javacore file output destinations for each logical server type in UNIX.

Logical server	addition specified	Command to be executed	Output information	javacore file output destination directory
J2EE server (including cluster)	Specified	`javacore -f -p`#1	javacore, core	*J2EE-server-work-directory*`/ejb/`*real-server-name*`/`

Logical server	addition specified	Command to be executed	Output information	javacore file output destination directory
	Not specified	`cjdumpsv`	javacore	*J2EE-server-work-directory*`/ejb/`*real-server-name*`/`
CTM	Specified or not specified[#2]	`kill -3`	javacore[#3]	`/opt/Cosminexus/TPB/logj/`
Naming service	Specified or not specified[#2]	`kill -3`	javacore	`/opt/Cosminexus/TPB/logj/`

#1

The gdb package must be installed.

#2

The `addition` specification is ignored and the activity monitoring method is not changed.

#3

The `javacore` that is output when CTM is specified in the logical server, is not the information about the CTM daemon, but is the information about the Naming Service started for the CTM.

7.3.13 add

This subcommand adds logical user servers.

The following table lists and describes the arguments that can be specified for the `add` subcommand.

Table 7–14: Arguments that can be specified for the add subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`userserver` *userServiceDefinitionFile*	Adds logical user servers based on the content of the logical user server definition file specified in *userServiceDefinitionFile*. To change the logical user server definition file contents, first delete the logical user servers and then add the new set of logical user servers.	--	--

Legend:

--: Cannot be specified.

If multiple logical user servers are specified, they are added in the order they are defined. The addition processing continues even if an error occurs midway. In such case, the return value is `1` (execution error). An error is caused by one of the following reasons:

- The name of an existing logical server is specified.
- The name of an undefined host is specified.

7.3.14 delete

This subcommand deletes a logical user server.

The following table lists and describes the arguments that can be specified for the `delete` subcommand.

Table 7–15: Arguments that can be specified for the delete subcommand

Argument	Explanation	Target specification	
		Logical server	Host
`userserver` *logicalServerName*	Deletes the logical user server whose name is specified in *logicalServerName*.	--	--

Legend:
--: Cannot be specified.

8 Commands Used with the Smart Composer Functionality

This chapter describes the input formats and functions of the commands used with the Smart Composer functionality.

8.1 List of commands used with the Smart Composer functionality

This section lists and describes the commands used with the Smart Composer functionality.

Note:

If access to the Management Server occurs by running, for example, the management command (`mngsvrutil`) or a Smart Composer function immediately after the Administration Agent or Management Server starts, either of the following actions must be taken beforehand:

- Enable the `-sync` option when the Administration Agent or Management Server starts so that startup of the Administration Agent or Management Server is immediately followed by command execution.
- Use the `mngsvrutil check` or `adminagentcheck` command to confirm that the Management Server or Administration Agent has already started.

8.1.1 List of commands usable in the systems that execute J2EE applications

The following table lists and describes the commands usable in the systems that execute J2EE applications:

Table 8–1: List of commands used with the Smart Composer functionality (For the systems that execute J2EE application)

Classification	Command name	Description
Environment Settings	`cmx_admin_passwd`	Sets up management user account of Management Server. Alternatively, changes or cancels the set management user account.
Build a Web system	`cmx_build_model`	Generates the Web system information model on Management Server.
	`cmx_build_system`	Builds a Web system from the Web system information model on Management Server.
	`cmx_change_model`	Changes the Web system information model on Management Server.
	`cmx_delete_system`	Deletes the built Web system and service units on the Web system.
	`cmx_resume_lb`	Releases the dormant state of the load balancer and restarts the set process.
	`cmx_test_lb`	Tests the connection for confirming that there is no problem in the connection with the load balancer.
	`cmx_trans_param`	Deploys the abstract parameter in effective parameters.
Service unit operations	`cmx_list_status`	Displays the operating status of the service unit and the built status of the operating environment.
	`cmx_start_target`	Starts a single service unit or all the service units in the Web system.
	`cmx_stop_target`	Stops a single service unit or all the service units in the Web system.
Reference the configuration information	`cmx_list_model`	Outputs, in the CSV format, the contents of the Web system information model built on Management Server.

Classification	Command name	Description
Output the settings of the built system	cmx_export_model	Outputs the settings of the built system in the Easy Setup definition file format.

Note:

The execution status of the commands used with the Smart Composer functionality is output as the Application Server log (command maintenance log). For the Application Server log (command maintenance log), see *4.3 Application Server log (Systems for executing J2EE applications)* in the *uCosminexus Application Server Maintenance and Migration Guide*.

8.1.2 List of commands usable in the systems that execute batch applications

In the systems that execute batch applications, some of the usable commands are different. The following table lists and describes the commands usable in the systems that execute batch applications:

Table 8–2: List of commands used with the Smart Composer functionality (For the systems that execute batch applications)

Classification	Command name	Description
Environment Settings	cmx_admin_passwd	Sets up management user account of Management Server. Alternatively, changes or cancels the set management user account.
Build a Web system	cmx_build_model	Generates the Web system information model on Management Server.
	cmx_build_system	Builds a Web system from the Web system information model on Management Server.
	cmx_change_model	Changes the Web system information model on Management Server.
	cmx_delete_system	Deletes the built Web system and service units in the Web system.
Service unit operations	cmx_list_status	Displays the operating status of the service unit and the built status of the operating environment.
	cmx_start_target	Starts a single service unit or all the service units in the Web system.
	cmx_stop_target	Stops a single service unit or all the service units in the Web system.
Reference the configuration information	cmx_list_model	Outputs, in the CSV format, the contents of the Web system information model built on Management Server.
Output the settings of the built system	cmx_export_model	Outputs the settings of the built system in the Easy Setup definition file format.

Note:

The execution status of the commands used with the Smart Composer functionality is output as the Application Server log (command maintenance log). For the Application Server log (command maintenance log), see *4.4 Application Server log (Systems for executing batch applications)* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Note the following points in the systems that execute batch applications:

- In the systems that execute batch applications, j2ee-tier or ctm-tier is used as the service unit. The description related to other tiers is not applicable to the systems that execute batch applications.

- With the Smart Composer functionality commands, batch servers are handled as J2EE servers. Therefore, while reading this chapter, you substitute J2EE server with batch server.

8.2 Exclusive control when multiple commands are executed concurrently

When you concurrently execute multiple commands of the Smart Composer functionality, depending on the command, the commands executed later include ones that are mutual-exclusive controlled and ones that are not mutual-exclusive controlled.

The following table describes the commands of the Smart Composer functionality that are mutual-exclusive controlled and that are not mutual-exclusive controlled:

Table 8–3: Commands that are and that are not mutual-exclusive controlled

Command types	Command name	Target of mutual-exclusive control
Commands for the entire Web system	`cmx_build_model`	Y
	`cmx_change_model`	Y
Commands for individual Web system	`cmx_admin_passwd`	--
	`cmx_build_system`	Y
	`cmx_delete_system`	Y
	`cmx_export_model`	--
	`cmx_list_model`	--
	`cmx_list_status`	--
	`cmx_resume_lb`	Y
	`cmx_start_target`	Y
	`cmx_stop_target`	Y
	`cmx_test_lb`	Y
	`cmx_trans_param`	--

Legend:

Y: The command is mutual-exclusive controlled. In these commands, you can specify the `-wait` or `-nowait` option that exists with common arguments in the subsection *8.3 Details of commands used with the Smart Composer functionality*.

--: The command is not mutual-exclusive controlled. The command can be executed even when a command is being executed.

In the commands that are mutual-exclusive controlled, the operations differ when multiple commands are executed simultaneously depending on the specification of the `-wait` or `-nowait` option with the common arguments of the command. Additionally, the commands might or might not be mutual-exclusive controlled depending on the combination of the command type and the Web system for which the command is executed.

The following table describes the mutual exclusive control rules when multiple commands are executed simultaneously. For details on the types of commands classified as *Commands for the entire Web system* and *Commands for individual Web systems* in the table, see *Table 8-3*.

Table 8–4: Mutual-exclusive control rules

Commands to be executed later			Commands being executed	
Types of commands	Target system	Specification of common arguments	Types of commands	
			Commands for the entire Web system	Commands for individual Web system
Commands for the entire Web system	--	-wait	W	W
		-nowait	E	E
Commands for individual Web system	Same Web system	-wait	W	W
		-nowait	E	E
	Different Web systems	-wait	W	Y
		-nowait	E	Y

Legend:

Y: Commands to be executed later will be executed.

W: Commands to be executed later will wait until the command being executed terminates.

E: Commands to be executed later will return an exclusive error.

--: Not applicable

8.3 Details of commands used with the Smart Composer functionality

This subsection describes the input format and functions of each command used with the Smart Composer functionality.

Command storage destination

The commands used with the Smart Composer functionality are saved in the following directory:

- In Windows
  Cosminexus-installation-directory\manager\bin\
- In UNIX
  /opt/Cosminexus/manager/bin/

Common arguments

In each command, the following arguments will be specified as common arguments. You can set the default values to be used when the values are not specified for common arguments in .cmxrc (client settings property file) or cmxclient.properties (client common settings property file). For the .cmxrc file, see *4.2.2 .cmxrc (client setting properties file)* in the *uCosminexus Application Server Definition Reference Guide*. For the cmxclient.properties file, see *4.2.3 cmxclient.properties (common client setting properties file)* in the *uCosminexus Application Server Definition Reference Guide*.

Format

```
Command-name [-m host-name[: port-number]]
             [-u management-user-ID] [-p management-user-password]
             [-wait | -nowait] [-verbose | -noverbose]
```

Description

-m *host-name*[: *port-number*]

Indicates Management Server host name and the port number.

- *host-name*
  Specifies the IP address in dot notation (*xxx.xxx.xxx.xxx*) or the host name that can be resolved. Specify each *xxx* as an integer within 0 to 255.
- *port-number*
  Complies with the settings for Management Server. The default value is 28080.

-u *management-user-ID*

Sets the management user ID of Management Server that is specified in Management Server setup. For the Management Server setup, see *4.1.14 Setting the management functionality* in the *uCosminexus Application Server System Setup and Operation Guide*. When you try to enable the functionality for omitting the admin user account, the functionality is not enabled even though the admin user ID is specified. For the functionality for omitting the admin user account, see *4.1.15(3) Settings when the management user account is not set* in the *uCosminexus Application Server System Setup and Operation Guide*.

-p *management-user-password*

Sets the management user password of Management Server that is specified in Management Server setup. For the Management Server setup, see *4.1.14 Setting the management functionality* in the *uCosminexus Application Server System Setup and Operation Guide*. *W*hen you try to enable the functionality for omitting the admin user account, the functionality is not enabled even though the admin user password is specified. For the functionality for omitting the admin user account, see *4.1.15(3) Settings when the management user account is not set* in the *uCosminexus Application Server System Setup and Operation Guide*.

`-wait | -nowait`

Either specifies that the command will wait until processing is executable (`-wait`) or that the command will return an error without waiting (`-nowait`), when a command needs to be excluded from another command that is already running at the command runtime. For details, see the subsection *8.2 Exclusive control when multiple commands are executed concurrently*.

`-verbose | -noverbose`

Either specifies that the detailed command execution result will be output (`-verbose`) or the execution result will not be output (`-noverbose`).

The specification of common arguments might be valid or invalid depending on the command. If an invalid argument is specified for the command, the argument is ignored. The following table describes the specification of common arguments for each command:

Table 8–5: Specifiable common arguments

Command name	Common arguments				
	-m	-u	-p	-wait -nowait	-verbose -noverbose
cmx_admin_passwd	Y	Y	Y	--	--
cmx_build_model	Y	Y	Y	Y	--
cmx_build_system	Y	Y	Y	Y	Y
cmx_change_model	Y	Y	Y	Y	--
cmx_delete_system	Y	Y	Y	Y	Y
cmx_export_model	Y	Y	Y	--	--
cmx_list_model	Y	Y	Y	--	--
cmx_list_status	Y	Y	Y	--	--
cmx_resume_lb	Y	Y	Y	Y	Y
cmx_start_target	Y	Y	Y	Y	Y
cmx_stop_target	Y	Y	Y	Y	Y
cmx_test_lb	Y	Y	Y	Y	Y
cmx_trans_param	--	--	--	--	--

Legend:

Y: Specification of common arguments is valid.

--: Specification of common arguments is invalid. If specified, the argument will be ignored.

Termination code

The commands used with the Smart Composer functionality return values in the following range:

Table 8–6: Return values of commands used with the Smart Composer functionality

Return values	Meaning
0	The processing of the command terminated normally.
1 to 63	A minor error occurred in the processing of the command.
64 to 127	The processing of the command terminated abnormally.

cmx_admin_passwd (Set up a management user account of a Management Server)

Format

```
cmx_admin_passwd [Common-arguments] [-np new-management-user-password] [-nu
new-management-user-ID]
```

Function

This command sets up a management user account for logging into Management Server. When you specify a new management user account, the existing management user account changes to the new management user account. Additionally, if a null character ("") is specified in the -np option, the set up management user password is released.

Arguments

-np *new-management-user-password*

Specifies the management user password of the new Management Server.

-nu *new-management-user-ID*

Specifies the management user ID of the new Management Server.

Input examples

- To set up a new management user account

```
cmx_admin_passwd -m localhost -u admin01 -p p1574809
```

- To change the existing management user account

```
cmx_admin_passwd -m localhost -u admin01 -p p1574809 -np passwd123 -nu adm
in02
```

- To release the management user password

```
cmx_admin_passwd -m localhost -u admin01 -p p1574809 -np ""
```

Return values

0:

The command is terminated normally.

1:

The command is terminated with a warning.

64:

The command is terminated abnormally.

Notes

If you input the cmx_admin_passwd command specifying the -np option when the management user password has not been set up, the value specified in the -p option of the common arguments is ignored and a new management user password is set. Additionally, if you input the command specifying the -nu option when the management user ID has not been set, the value specified in the -u option of the common arguments is ignored and a new management user ID is

set up. When the functionality for omitting the admin user account is enabled, a message is displayed and the termination code `0` is output. Also, the admin user account is not specified. For the functionality to omit the admin user account, see *4.1.15(3) Settings when the management user account is not set* in the *uCosminexus Application Server System Setup and Operation Guide*.

cmx_build_model (Generate a Web system information model)

Format

```
cmx_build_model [Common-arguments] -f Easy-Setup-definition-file
```

Function

The `cmx_build_model` command defines hosts and logical servers in Management Server and builds the Web system information model according to the contents of the Easy Setup definition file.

For details on the rules for defining logical server names on Management Server using the `cmx_build_model` command, see *cmx_build_system*.

Arguments

`-f` *Easy-Setup-definition-file*

Specifies the path of the Easy Setup definition file.

Input examples

```
cmx_build_model -f MyWebSystemDef.xml
```

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated with a warning.

`64`:

The command is terminated abnormally.

Notes

- If a built Web system is specified for processing, an error occurs.
- We recommend that you use the `cmx_build_system` command, which performs the operations required to build a web system all at one time from generating the information model for the web system.

cmx_build_system (Build a Web system)

Format

- Building a Web system
  - To build a Web system from the Easy Setup definition file
    `cmx_build_system [`*Common-arguments*`] -f` *Easy-Setup-definition-file*
    `[-lb {keepvs|deletevs}][-sd]`
  - To build a Web system on the basis of the registered information model
    `cmx_build_system [`*Common-arguments*`] [-s` *web-system-name*`]`
    `[-lb {keepvs|deletevs}]`
  - To build a system containing logical servers that are not associated with Web systems
    `cmx_build_system [`*Common-arguments*`] -ns`
- Changing parameters of the built system
  - To change parameters of the built system with the Easy Setup definition file
    `cmx_build_system [`*Common-arguments*`] -f` *Easy-Setup-definition-file* `-change`

Function

This command builds Web systems. Additionally, this command also changes parameters of the built system.

- **Building a Web system**
  This command builds a Web system in conformity with the registered Web system information model or the command generates a Web system information model in accordance with the Easy Setup definition file, and then builds the Web system as per the information model.
  The `cmx_build_system` command sets up a Web server and a J2EE server for each host and the environment for each logical server. Additionally, this command also creates a virtual server and a real server as and when required in the load balancer.
  The method of building Web systems differs when you build a Web system on the basis of the registered information model, when you build a Web system using the Easy Setup definition file or when you build a system containing the logical server that is not associated with the Web system.
  - **To build a Web system using the Easy Setup definition file**
    This command builds a Web system information model according to the contents of the specified Easy Setup definition file. After that, this command builds a Web system according to the information model. You can build the Web system without registering the model using the `cmx_build_model` command in advance. The setting information of the logical server is distributed regardless of whether the setting information is distributed to the server of each host. If you want to distribute only the setting information of the logical server for which the setting information is not distributed, specify the `-sd` option and execute the command.
  - **To build a Web system on the basis of the registered information model**
    This command builds a Web system according to the Web system information model registered using the `cmx_build_model` command or the `cmx_change_model` command.
  - **To build a system containing the logical server that is not associated with the Web system**
    This command builds a system containing logical servers that are not associated with Web systems, according to the Web system information model that is registered using the `cmx_build_model` command or the `cmx_change_model` command.
- **Changing parameters of the built system**

By specifying the `-change` option, you change parameters of the built system into the parameters defined in the Easy Setup definition file specified using the `-f` option.

- **To change parameters of the built system by specifying the -change option**
  Specify the Easy Setup definition file with the changed parameters in the `-f` option, and then you specify the `-change` option. The Web system information model is re-generated with the changed parameters as per the contents of the Easy Setup definition file specified in the `-f` option. Furthermore, the Web system is rebuilt on the basis of the information model. However, you cannot change the configuration.

When you build a Web system, if a logical server name is not defined in the Easy Setup definition file, the logical server name is defined on Management Server. Note that when you build the Web system according to the registered information model, the logical server name is defined when the `cmx_build_model` command is executed. The following are the rules for defining the logical server name on Management Server:

Rules for defining the logical server name

The logical server name is defined in the following format:

Format

```
cmx_web-System-name_Service-unit-name_Type_Serial-number
```

Type depends on the logical server type. The following table describes the relationship between the logical server type and *type*:

Table 8–7: Relationship between the logical server type and type

Logical server type	Type
Logical Web server	HTTP
Logical J2EE server	J2EE
Logical performance tracer	PRF
Logical CTM domain manager	CTMDM
Logical CTM	CTM
Logical Smart Agent	SA
Logical user server	USER

Basically `01` is set as *serial-number*. However, when multiple logical servers are deployed such as the system that uses CTM, a unique number is assigned.

Real server name when ACOS is used

When using ACOS as the load balancer, the `cmx_build_system` command creates a real server with the following name as the real server showing the destination to which the load balancer distributes requests; therefore, make sure that you do not delete the real server by mistake:

Format

```
cmx_rs_IP-address-of-Web-server-machine
```

Arguments

`-s` *web-system-name*

Specifies the Web system name.

The specified Web system is built from the registered information model.

If you omit this option, the value that is set in the cmx.websystem.name key of the .cmxrc file or the cmxclient.properties file is used. Note that if the cmx.websystem.name key is not specified in the .cmxrc file and the cmxclient.properties file, and if you execute the cmx_build_system command by omitting the -s option, an error occurs.

The -s option is invalid, when the -f option is specified.

-lb

This option is valid only when the type of load balancer used is BIG-IPv9, BIG-IPv10.1, and BIG-IPv10.2.

Specifies whether to initialize the virtual server of load balancer. Specify this option to scale out Web systems that use the load balancer built with the host-based management model.

- keepvs

  Initializes the virtual server of the load balancer. You specify this option, when multiple hosts share the virtual server of the load balancer.

- deletevs

  Initializes the virtual server of the load balancer.

If you omit this option, the value set in the cmx.lb key of the .cmxrc file or the cmxclient.properties file will be used. Note that if the cmx.lb key is not specified in the .cmxrc file and the cmxclient.properties file and if you omit the -lb option, deletevs is used. For the .cmxrc file, see *4.2.2 .cmxrc (client setting properties file)* in the *uCosminexus Application Server Definition Reference Guide*. For the cmxclient.properties file, see *4.2.3 cmxclient.properties (common client setting properties file)* in the *uCosminexus Application Server Definition Reference Guide*.

-sd

The setting information of only that logical server, for which the setting information is not distributed, is distributed to the server of each host. Set up this option when you do not want to distribute the setting information to the server of each host forcefully (overwrite).

-ns

You specify this option to build the system containing the logical server that is not associated with the Web system using the registered information model.

When you specify this option, you must use the cmx_build_model command to register the information model. For details on the cmx_build_model command, see *cmx_build_model*.

-change

You specify this option to change parameters.

This option re-generates the Web system information model according to the contents of the Easy Setup definition file that is specified in the -f option. This option also re-builds the Web system on the basis of the information model.

Input examples

- To build a Web system using the Easy Setup definition file

```
cmx_build_system -f MyWebSystemDef.xml
```

- To build a Web system on the basis of the registered information model

```
cmx_build_system -s sample-system
```

- To build a system containing the logical server that is not associated with the Web system

```
cmx_build_system -ns
```

- To change parameters of the built system using the Easy Setup definition file

```
cmx_build_system -f MyWebSystemDef2.xml -change
```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated with a warning.

`64`:

The command terminated abnormally.

Notes

When you specify the `-change` option, note the following points:

- If an attempt is made to make changes, apart from changing the parameters of the built Web system, an error occurs.
- If the schema version of the Easy Setup definition file that is specified in the `-f` option is earlier than the schema version of the Easy Setup definition file that is used for building the system, operations might not function normally.
- If the schema version of the Easy Setup definition file used for building the system is earlier than the version 2.1, you specify the `<host-ref>` tag for the host definition in the Easy Setup definition file that is specified with the `-f` option as follows:

  Value specified for the <host-ref> tag

  Value specified within the `<operational-ip>` tag of the host definition in the Easy Setup definition file used for building a system.

cmx_change_model (Change a Web system information model)

Format

```
cmx_change_model [Common-arguments] -f configuration-change-definition-file
```

Function

This command changes (adds service units or hosts, or changes parameters in a batch) the Web system information model according to the contents of the configuration change definition file.

- Adding service units or hosts

  This command adds service units or hosts defined in the configuration change definition file into the Web system information model. For hosts to be specified in the service unit, you can specify a new host and the host that is included in the Web system information model on Management Server.

  Using the `cmx_change_model` command, you define hosts and logical servers corresponding to service units on Management Server. For details on the rules for specifying logical server names, see *cmx_build_system*.

- Changing parameters in a batch

  This command changes parameters into the information of the configuration definition for the logical server that is specified in the configuration change definition file.

Arguments

`-f` *configuration-change-definition-file*

Specifies the path of the configuration change definition file.

Input examples

```
cmx_change_model -f MyWebSystemDef.xml
```

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated with a warning.

`64`:

The command is terminated abnormally.

Notes

- If the schema version of the configuration change definition file that is specified in the `-f` option is earlier than the schema version of the Easy Setup definition file that is used for building the system, the operations might not function normally.
- If the schema version of the Easy Setup definition file used for building the system is earlier than the version 2.1, you specify the `<host-ref>` tag for the host definition in the configuration change definition file that is set in the `-f` option as follows:

  Value specified for the <host-ref> tag

  Value specified within the `<operational-ip>` tag of the host definition in the Easy Setup definition file that is used for building systems.

cmx_delete_system (Delete a Web system)

Format

- To delete a Web system

```
cmx_delete_system [Common-arguments] [-s web-system-name] [-lb {keepvs|del
etevs}]
```

- To delete a service unit

```
cmx_delete_system [Common-arguments] [-s web-system-name] -unit service-un
it-name
```

- To delete all the logical servers that are not associated with Web systems and hosts

```
cmx_delete_system [Common-arguments] -ns
```

Function

This command deletes Web systems or service units of Web systems. If you do not specify the `-unit` option, Web systems will be deleted and if you specify the `-unit` option, service units of Web systems will be deleted. For a Web system that is built using the host-based management model, if multiple application servers (hosts) share the virtual server of load balancers, you specify whether to delete the virtual server with the `-lb` option, and then delete the Web system.

Additionally, when you specify the `-ns` option, all the logical servers that are not associated with the Web system and the hosts will be deleted.

Note that this command also deletes the Web system information model registered with Management Server, the information set in the load balancer, and all the hosts associated with Web systems or service units to be deleted. However, the hosts referenced from other Web systems and service units that are not to be deleted and the hosts in which a logical server is added without using the Smart Composer functionality will not be deleted. To delete hosts registered in the management domain and not associated with Web systems, you must temporarily associate the hosts to be deleted with Web systems and service units, and then delete the host for each associated Web system or service unit.

Arguments

`-s` *web-system-name*

Specifies names of Web systems.

If you omit this option, the value set in the `cmx.websystem.name` key of the `.cmxrc` file or the `cmxclient.properties` file is used. Note that if the `cmx.websystem.name` key is not specified in the `.cmxrc` file and the `cmxclient.properties` file and if you execute the `cmx_delete_system` command by omitting the `-s` option, an error occurs.

`-unit` *service-unit-name*

Specifies names of service units.

`-lb`

Specifies whether the virtual server of the load balancer will be deleted. Specify this option to scale out the Web systems that are built with the host-based management model.

- `keepvs`

  Does not delete the virtual server of load balancers. Deleted the load balancer settings. You specify this option when multiple hosts share the virtual server of the load balancer.

- `deletevs`

  Deletes the virtual server of load balancers and load balancer settings.

If you omit this option, the value set in the `cmx.lb` key of the `.cmxrc` file or the `cmxclient.properties` file is used. Note that if the `cmx.lb` key is not specified in the `.cmxrc` file and the `cmxclient.properties` file and if you omit the `-lb` option, `deletevs` is used. For the `.cmxrc` file, see *4.2.2 .cmxrc (client setting properties file)* in the *uCosminexus Application Server Definition Reference Guide*. For the `cmxclient.properties` file, see *4.2.3 cmxclient.properties (common client setting properties file)* in the *uCosminexus Application Server Definition Reference Guide*.

`-ns`

Deletes all the logical servers that are not associated with Web systems and hosts.

Input examples

```
cmx_delete_system -s sample-system -unit unit1
```

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated with a warning.

`64`:

The command is terminated abnormally.

Notes

- If you use this command to delete Web systems and service units, the Web server and J2EE server environments are retained in the hosts that configure service units.

  To re-use this host using the Smart Composer functionality, unset up the server environment as follows:

  - Unset up the Web server environment

    You use the Cosminexus HTTP Server utility to unset up the environment.

    Specify the Web server name specified in the utility in the format "`HWS_`*logical-server-name-of-Web-server*". You can use the `cmx_list_model` command to reference the logical server name of the Web server. Confirm the logical server name before you execute the `cmx_delete_system` command.

    However, if the real server name of the Web server is specified in the `realservername` parameter of the physical tier, specify "`HWS_` *real-server-of-the-Web-server* " as the server name to be specified in the utility.

  - Unset up the J2EE server environment

    You use the server management command *cjsetup (set up or unsetup J2EE server)* to unset up the environment.

    Using the command, you specify the logical server name of J2EE servers. You can use the `cmx_list_model` command to reference the logical server name of J2EE servers. Confirm the logical server name before you execute the `cmx_delete_system` command.

    However, if the real server name of the J2EE server is specified in the `realservername` parameter of the physical tier, you specify the real server name as the server name to be specified in the command.

  The following are the examples for deleting the environments of the respective servers:

  Example for deleting the Web server environment

  In Windows

  Cosminexus-installation-directory`\httpsd\admin\bin\hwsserveredit -delete HWS_cmx_sample-system_unit1_HTTP_01`

  In UNIX

  `/opt/hitachi/httpsd/admin/bin/hwsserveredit -delete HWS_cmx_sample-system_unit1_HTTP_01`

  Example for deleting the J2EE server environment

  In Windows

  Cosminexus-installation-directory`\CC\server\bin\cjsetup -d cmx_sample-system_unit1_J2EE_01`

  In UNIX

  `/opt/Cosminexus/CC/server/bin/cjsetup -d cmx_sample-system_unit1_J2EE_01`

  For details on the Cosminexus HTTP Server utility, see the *uCosminexus Application Server HTTP Server User Guide*.

- If you execute the `cmx_delete_system` command, the logical user server is also deleted simultaneously.

cmx_export_model (Output an Easy Setup definition file)

Format

```
cmx_export_model [Common-arguments] [-indent indent-size] [-myhost host-name
-to-be-replaced] [-encoding character-encoding-name] -o output-file
```

Function

This command outputs the Easy Setup definition file in accordance with the contents of a built Web system.

Arguments

`-indent` *indent-size*

Specifies the indent size of the tags in the Easy Setup definition file. You specify the value within 0 to 8 as the single-byte space characters to be moved to the right, from the upper tags as the starting position of the lower tags.

Output examples when `-indent 4` is specified

```
<web-system>
Δ Δ Δ Δ<name>MyWebSystem</name>
Δ Δ Δ Δ<tier>
Δ Δ Δ Δ Δ Δ Δ Δ<tier-type>combined-tier</tier-type>
Δ Δ Δ Δ</tier>
 :
```

Legend

Δ: 1 single-byte space character

If you omit this option, the value set in the `cmx.indent` key of the `.cmxrc` file or the `cmxclient.properties` file is used. Note that if the `cmx.indent` key is not specified in the `.cmxrc` file and the `cmxclient.properties` file and if you execute the `cmx_export_model` command by omitting the `-indent` option, `2` is specified.

`-myhost` *host-name-to-be-replaced*

Specifies the host name of Management Server machine for the Easy Setup definition file to be output.

You specify this option to migrate the host-based management model system to another host.

If you omit this option, the value set in the `cmx.myhost` key of the `.cmxrc` file or the `cmxclient.properties` file is used. Note that if the `cmx.myhost` key is not specified in the `.cmxrc` file and the `cmxclient.properties` file and if you execute the `cmx_export_model` command by omitting the `-myhost` option, the host name of Management Server machine will not set in the output Easy Setup definition file.

Note that this option is valid in the migration destination environment in the following cases:

- An IP address matching with the IP address of Management Server machine in the migration destination environment or a host name that can be converted into an IP address matching with the IP address of Management Server machine in the migration destination environment is specified in `<host-name>` of the host definition.
- The `localhost` or loopback address is specified in `<host-name>` of the host definition.

If you specify a host name that does not achieve the above conditions, the specification becomes invalid.

The specified value is the host name of Management Server machine in the migration destination environment or `@myhost`. The following is the description related to the substitution of the host name, when you specify the host name of Management Server machine in the migration destination environment and when you specify `@myhost`:

When the host name of Management Server machine in the migration destination environment is specified

If you specify the host name of Management Server machine in the migration destination environment, the following tag values are substituted by the specified host name in the output Easy Setup definition file:

- <host-name> tag in the host definition
- <host-ref> tag in the unit definition
- Host name of the parameter specified in the logical server configuration

When @myhost is specified

If you specify @myhost, the following tag values are substituted by @myhost in the output Easy Setup definition file:

- <host-ref> tag in the unit definition
- Host name of the parameter specified in the logical server configuration

If you specify @myhost, the host definition is not output. However, when @myhost is specified, if you specify a value within the <display-name> tag, <description> tag, <agent-host> tag, or the <agent-port> tag in the host definition, the host definition is output.

-encoding *character-encoding-name*

Specifies the character encoding for the Easy Setup definition file that is output. If the value is not specified, UTF-8 is set up.

You can set up the character encoding supported in JavaVM. For details on the character encoding supported in JavaVM, see the description related to the supported encoding in *JDK documentation*.

If you omit this option, the value set in the cmx.encoding key of the .cmxrc file or the cmxclient.properties file is used. Note that if the cmx.encoding key is not specified in the .cmxrc file and the cmxclient.properties file and if you execute the cmx_export_model command by omitting the -encoding option, UTF-8 will set up.

-o *output-file*

Specifies the output destination of the Easy Setup definition file.

Input examples

```
Cosminexus-installation-directory\manager\bin\cmx_export_model -o c: \temp\M
yWebSystemexport.xml
```

Output format

The cmx_export_model command will be output as the Easy Setup definition file in the XML file format. For examples of the Easy Setup definition file that is output, see *4.3 Easy Setup definition file* in the *uCosminexus Application Server Definition Reference Guide*.

cmx_list_model (Get a Web system information model)

Format

- To acquire the Web system information model

```
cmx_list_model [Common-arguments] -modeltype {SERVER|APPLICATION|RESOURCE|
RESADAPTER|RESJAVABEANS|SERVEREX} [{-s web-system-name|-all|-r}]
```

- To acquire a list of logical servers that are not associated with Web systems

```
cmx_list_model [Common-arguments] -ns
```

Function

- To acquire the Web system information model

  This command acquires the registered Web system information model and outputs the acquired results to standard output.

  If the Web system name is specified in the `-s` option or in the `cmx.websystem.name` key of the `.cmxrc` file or the `cmxclient.properties` file, only that Web system name is the target.

- To acquire a list of logical servers that are not associated with the Web system

  This command acquires the list of logical servers that are not associated with the Web system and outputs the acquired results to standard output. The list also displays the logical server type.

Arguments

`-modeltype`

Specifies the display targets.

- `SERVER`

  Displays the list of logical servers in the Web system information model.

- `APPLICATION`

  Displays the list of J2EE applications in the Web system information model.

- `RESOURCE`#

  Displays the list of resource adapters in the Web system information model.

- `RESADAPTER`

  Displays the list of resource adapters in the Web system information model.

- `RESJAVABEANS`

  Displays the list of JavaBeans resources in the Web system information model.

- `SERVEREX`

  Displays the list of logical servers in the Web system information model. The list also displays the logical server type.

This is a compatibility argument. We recommend that you use `RESADAPTER`.

`-s` *web-system-name*

Specifies the Web system name.

If you omit this option, the value set in the `cmx.websystem.name` key of the `.cmxrc` file or the `cmxclient.properties` file is used.

`-all`

Displays all the registered Web systems.

`-r`

Specify this option to display a list of J2EE applications or resource adapters.

`-ns`

Displays the list of logical servers that are not associated with the Web system.

Output format

The `cmx_list_model` command is output in the CSV format.

- To acquire the Web system information model
- For the list of logical servers (when `SERVER` is specified)

```
logical-server-name, host-name, tier-type#, service-unit-name, web-system
-name
```

#

For logical user servers, a null character is output as the tier type.

- For the list of logical servers (when `SERVEREX` is specified)

```
logical-server-name, logical-server-type, host-name, tier-type#, service-u
nit-name, web-system-name
```

#

For logical user servers, a null character is output as the tier type.

- For the list of applications associated with the Web system

```
application-display-name, application-version, web-system-name
```

- For the list of registered J2EE applications

```
application-display-name, application-version
```

- For the list of resource adapters associated with the Web system

```
resource-adapter-display-name, web-system-name
```

- For the list of registered resource adapters

```
resource-adapter-display-name
```

- For the list of JavaBeans resources associated with the Web system

```
JavaBeans-resource-display-name, web-system-name
```

- For the list of registered JavaBeans resources

```
JavaBeans-resource-display-name
```

- List of logical servers that are not associated with the Web system

```
logical-server-name, logical-server-type, host-name
```

Input and Output examples

- List of logical servers (when `SERVER` is specified)

```
>cmx_list_model -modeltype SERVER
cmx_Web01_Unit01_PRF_01, Host01, combined-tier, Unit01, Web01
cmx_Web01_Unit01_J2EE_01, Host01, combined-tier, Unit01, Web01
cmx_Web01_Unit01_HTTP_01, Host01, combined-tier, Unit01, Web01
cmx_Web01_Unit02_PRF_01, Host01, combined-tier, Unit02, Web01
cmx_Web01_Unit02_J2EE_01, Host01, combined-tier, Unit02, Web01
```

```
cmx_Web01_Unit02_HTTP_01, Host01, combined-tier, Unit02, Web01
cmx_Web02_Unit01_PRF_01, Host01, combined-tier, Unit01, Web02
cmx_Web02_Unit01_USER_01, Host01, , Unit01, Web02
..
```

- List of logical servers (when SERVEREX is specified)

```
>cmx_list_model -modeltype SERVER
cmx_Web01_Unit01_PRF_01, PRF, Host01, combined-tier, Unit01, Web01
cmx_Web01_Unit01_J2EE_01, J2EEServer, Host01, combined-tier, Unit01, Web01
cmx_Web01_Unit01_HTTP_01, Webserver, Host01, combined-tier, Unit01, Web01
cmx_Web01_Unit02_PRF_01, PRF, Host01, combined-tier, Unit02, Web01
cmx_Web01_Unit02_J2EE_01, J2EEServer, Host01, combined-tier, Unit02, Web01
cmx_Web01_Unit02_HTTP_01, Webserver, Host01, combined-tier, Unit02, Web01
cmx_Web02_Unit01_PRF_01, PRF, Host01, combined-tier, Unit01, Web02
cmx_Web02_Unit01_USER_01, UserServer, Host01, , Unit01, Web02
..
```

- List of applications associated with Web systems

```
>cmx_list_model -modeltype APPLICATION
App01, Ver01, Web01
App02, Ver02, Web02
App03, Ver01, Web02
```

- List of registered applications

```
>cmx_list_model -modeltype APPLICATION -r
App01, Ver01
App02, Ver01
App02, Ver02
App03, Ver01
```

- List of resource adapters associated with Web systems

```
>cmx_list_model -modeltype RESADAPTER
Rar01, Web01
Rar02, Web02
```

- List of registered resource adapters

```
>cmx_list_model -modeltype RESADAPTER -r
Rar01
Rar02
Rar03
Rar04
```

- List of JavaBeans resources associated with Web systems

```
>cmx_list_model -modeltype RESJAVABEANS
Jar01, Web01
Jar02, Web02
```

- List of registered JavaBeans resources

```
>cmx_list_model -modeltype RESJAVABEANS -r
Jar01
Jar02
```

```
Jar03
Jar04
```

- List of logical servers that are not associated with Web systems

```
>cmx_list_model -ns
PRF_01, PRF, Host01
J2EE_01, J2EEServer, Host01
HTTP_01, Webserver, Host01
..
```

Return values

0:

The command is terminated normally.

1:

The command is terminated with a warning.

64:

The command is terminated abnormally.

Notes

- If the -s option , the -all option , and the cmx.websystem.name key in the .cmxrc file or the cmxclient.properties file are all omitted, all the registered Web systems will be displayed.
- When the Web system name is specified in the cmx.websystem.name key of the .cmxrc file or the cmxclient.properties file, you specify the -all option to acquire all the Web system models.
- If modeltype SERVER and the -r option are specified simultaneously, an error occurs.
- For Web systems of the integrated naming scheduler server, if you specify APPLICATION, RESOURCE, RESADAPTER, or RESJAVABEANS in the -modeltype option, nothing will be displayed.

cmx_list_status (Display a status of service unit)

Format

- To acquire the status of service units in Web systems

```
cmx_list_status [Common-arguments] [-s web-system-name] [-unit service-uni
t-name]
```

- To acquire the status of the logical servers that are not associated with Web systems

```
cmx_list_status [Common-arguments] -ns
```

Function

To acquire the status of the service unit in the Web system

This command acquires the service unit operating status and the executed status of the cmx_build_system command for the service unit and outputs the acquired results to standard output.

- Service unit operating status

  This command acquires the service unit executed status and outputs the acquired results to standard output. The following is the status that is output for the service unit operating status:

  - `working`

    Displays the operating status. This status indicates that all the logical servers in the service unit are running and that the requests are distributed from the load balancer (`blockade` status). In the absence of a load balancer, this status indicates that the `cmx_start_target` command is executed by specifying `ALL` in the `-mode` option.

  - `ready`

    Displays the ready status. This status indicates that all the logical servers in the service unit are running and that the distribution of requests from the load balancer is controlled (`Blockade` status). In the absence of a load balancer, this status indicates that the `cmx_start_target` command is executed by specifying `READY` in the `-mode` option.

    Normally, operations such as application testing are executed after changing the stopped status to the ready status, the application is not deployed, and the external connections are not established.

  - `hold`

    Displays the blockade status. This status indicates that the Web server in the service unit is terminated in a planned manner (another logical server is running) and the distribution of requests from the load balancer is controlled (`Blockade` status). Normally, operations such as substitution of J2EE applications are executed after changing the operating status to the blockade status.

    Note that the only difference between the blockade status and ready status is whether the Web server is running.

  - `stopped`

    Displays the stopped status. This status indicates that all the logical servers in the service unit are stopped and that the distribution of requests from the load balancer is controlled (`Blockade` status).

  - `no working`

    Indicates `no working` status. This status indicates that a part of the logical server in the service unit is running or all the logical servers have stopped, and the requests from the load balancer are distributed (`Blockade cancellation` status). This status is not output if the load balancer is not present.

  - `no ready`

    Indicates `no ready` status. This status indicates that the Web server in the service unit is stopped and a part of the other logical server is running, or the Web server in the service unit is running and a part of the logical server is running or all the logical servers have stopped, and the distribution of requests from the load balancer is controlled (`Blockade` status).

- Executed status of the `cmx_build_system` command.

  This command acquires the executed status of the `cmx_build_system` command for the service unit and outputs the acquired results to standard output as `done` (executed) and `not done` (not executed). Execution status of the `cmx_build_system` command that is output is as follows:

  - `done`

    Displays the executed status. This status indicates that the `cmx_build_system` command is executed, and the load balancer and the logical server are already set up.

  - `not done`

    Displays the executed status. This status indicates that an attempt to execute the `cmx_build_system` command has failed (any of the load balancer or the logical server is not setup or is not distributed).

If the service unit is specified in the command option, the specific service unit will be displayed and if the service unit is not specified in the command option, all the units in the Web system will be displayed.

To learn about the operating status of each J2EE application and each logical server, you use the `mngsvrutil` command. For details on the `mngsvrutil` command, see *mngsvrutil (Management Server management command)* in *7.2 Details of commands used with Management Server*

To acquire the status of the logical server that is not associated with the Web system

- Logical server operating status

  This command acquires the status of the logical server and outputs the acquired results in the standard output. For the status that is output for the service unit operating state, see *4.4 Monitoring the logical server operations* in the *uCosminexus Application Server Management Portal User Guide*.

- Executed status of the distribution of logical server preference information

  This command acquires the executed status of the distribution of logical server preference information and outputs the acquired result to standard output as `done` (executed) and `not done` (not executed). The status, specifying that the preference information be distributed, indicates the following types of status:

  - Status indicating that the `cmx_build_system` command was executed with the `-ns` option in the argument and the system setup was completed normally.

Arguments

`-s` *web-system-name*

Specifies the Web system name.

If you omit this option, the value set in the `cmx.websystem.name` key of the `.cmxrc` file or the `cmxclient.properties` file will be used. Note that if the `cmx.websystem.name` key is not specified in the `.cmxrc` file and the `cmxclient.properties` file and if you execute the `cmx_list_status` command by omitting the `-s` option, an error occurs.

`-unit` *service-unit-name*

Specifies the service unit name.

`-ns`

Specify this option to acquire the status of the logical server that is not associated with the Web system.

Output format

This command is output in the CSV format.

- To display the status of the service unit in the Web system

```
service-unit-name, web-system-name, execution-status-of-cmx_build_system,
service-unit-operating-state
```

- To display the status of the logical server that is not associated with the Web system

```
logical-server-name, execution-status-of-distribution-of-logical-server-pr
eference-information#, logical-server-operating-state
```

#

If the type of logical server is not J2EE server, or Web server, the execution status of the distribution of logical server preference information is displayed as a null character.

Input and Output examples

- To display the status of the service unit in the Web system

```
>cmx_list_status -s sample-system
unit01, sample-system, done, working
unit02, sample-system, done, ready
unit03, sample-system, done, hold
unit04, sample-system, done, stopped
unit05, sample-system, done, no working
unit06, sample-system, not done, no ready
```

- To display the status of the logical server that is not associated with the Web system

```
>cmx_list_status -ns
PRF01, , working
J2EE01, done, working
HTTP01, done, working
```

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated with a warning.

`64`:

The command is terminated abnormally.

Notes

- For a service unit of CTM and a service unit for the integrated naming scheduler server, the status of the service unit operating state displays three status types; `working`, `stopped`, and `no ready`.
- When multiple J2EE servers are deployed on a service unit for CTM, if the service unit starts normally and some of the J2EE servers terminate abnormally, the operating status of the service unit displays `no working` or `no ready`.

cmx_resume_lb (Restart load balancer settings)

Format

```
cmx_resume_lb [Common-arguments] [-s web-system-name]
```

Function

This command releases the dormant status of the load balancer in which a failure occurred and restarts the setting up process in the system in which the load balancer is redundant.

In the system in which the load balancer is redundant, if you input the `cmx_build_system` command, the same settings are executed concurrently for two load balancers. If an error occurs in one load balancer, the settings for the load balancer with the error are controlled and the settings are only executed in the other load balancer. In this case, you restore the load balancer with failure to the same settings as the normal load balancer, and then execute the `cmx_resume_lb`

command. If the cmx_resume_lb command is accepted normally, the operation is recovered so that the same settings are executed concurrently for both the load balancers.

Arguments

-s *web-system-name*

Specifies the Web system name.

If you omit this option, the value set in the cmx.websystem.name key of the .cmxrc file or the cmxclient.properties file is used. Note that if the cmx.websystem.name key is not specified in the .cmxrc file and the cmxclient.properties file and if you execute the cmx_resume_lb command by omitting the -s option, an error occurs.

Input examples

```
cmx_resume_lb -s sample-system
```

Return values

0:

The command is terminated normally.

1:

The command is terminated with a warning.

64:

The command is terminated abnormally.

Notes

If the system does not have a redundant load balancer or if the load balancer is not in a dormant state, an error occurs.

cmx_scaleout_host (Changing information model of Web system)

Format

```
cmx_scaleout_host [common-arguments] -f host-definition-file-for-scaleout
```

Function

This command changes the information model for a Web system of the host unit management model as per the contents of the host definition file for scale out. JP1/SC/DPM is used to scale out the Web system of the host unit management model. Execute this command on the copy destination host.

Arguments

-f *host-definition-file-for-scaleout*

Specifies the path of the host definition file for scale out.

Input examples

```
cmx_scaleout_host -f MyWebSystemHostScaleout.xml
```

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated with a warning.

`64`:

The command is terminated abnormally.

Notes

- If this command is executed for a host of the Web system of Management Server model, an error will occur.
- Note the following points when executing this command in a system using the load balancer and the CTM:
  - For systems using load balancers

    The hosts of the copy source and the copy destination share the virtual server of the load balancer. Set up the host definition file for scale out, in such a way so that the range of the allocation rules of the server ID used with the load balancer is not repeated between the hosts.
  - For systems using CTM

    The hosts of the copy source and the copy destination belong to the same CTM domain. When the CTM identifier is defined to the host of the copy source, the same CTM identifier is defined to the host of the copy destination, and therefore, there will be duplication of CTM identifiers in the CTM domain. However, we recommend that you omit the settings of the CTM identifier for the host of the copy source. When the settings of the CTM identifier are omitted, the CTM identifier is automatically set up for Management Server, in such a way so that the CTM identifier is unique between the hosts.

    Note that when the CTM identifier is defined to the host of the copy source, execute this command, and set up a unique CTM identifier of the host of the copy destination to the CTM domain.

cmx_start_target (Start the Web system or service unit)

Format

- To start a Web system

```
cmx_start_target [Common-arguments] [-s web-system-name] [-unit service-unit-name] -mode { ALL|READY } [-strict]
```

- To start a system containing a logical server that is not associated with the Web system

```
cmx_start_target [Common-arguments] -ns
```

Function

This command starts a system. The operations differ when a Web system is started and when a system containing a logical server that is not associated with the Web system is started. The following is the description for each operation:

- When you start a Web system

  This command sets the status of the service unit configuring the start target to the operating status or the ready status depending on the specified mode. In the operating status, all the logical servers in the service unit are running and the requests are distributed from the load balancer. In the ready status, all the logical servers in the service unit are running and the distribution of requests from the load balancer is controlled.

  If a service unit is specified in the command option, the specific service unit will be started and if the service unit is not specified, all the service units in the Web system will be started.

  You can confirm the status of the service unit with the `cmx_list_status` command. For details on the types of service unit status and the methods of referencing the service unit status, see *cmx_list_status*.

- When you start a system containing a logical server that is not associated with the Web system

  This command starts all the logical servers contained in the system configuring the start target and sets the status to the operating status. An already running logical server continues to be in the operating status and is not restarted by this operation.

  You can reference the status of the logical server that is not associated with the Web system by specifying the `-ns` option in the `cmx_list_status` command. For details on the types of logical server status and the methods of referencing the logical server status, see *cmx_list_status*.

Arguments

`-s` *web-system-name*

Specifies the Web system name.

If you omit this option, the value set in the `cmx.websystem.name` key of the `.cmxrc` file or the `cmxclient.properties` file will be used. Note that if the `cmx.websystem.name` key is not specified in the `.cmxrc` file and the `cmxclient.properties` file and if you execute the `cmx_start_target` command by omitting the `-s` option, an error occurs.

`-unit` *service-unit-name*

Specifies the service unit name.

`-mode { ALL|READY }`

Specifies the start mode.

- ALL

  Upgrades the stopped status, blockade status, and the ready status to the operating status.

- READY

  Upgrades the stopped status and the blockade status to the ready status.

  You cannot downgrade a service unit in the operating status to the ready status.

`-strict`

Specify this option to interrupt the starting of subsequent logical servers, when an attempt to start a logical server fails.

If you execute the `cmx_start_target` command by omitting the `-strict` option and if an attempt to start a logical server fails, the starting of the subsequent logical servers continues.

`-ns`

Specify this option to start a system containing the logical server that is not associated with the Web system.

Input examples

```
cmx_start_target -s sample-system -unit unit1 -mode ALL
```

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated with a warning.

`64`:

The command is terminated abnormally.

The following table describes the details of the return values:

Return values	For one service unit	For multiple service units
`0`	All the logical servers are started successfully.	All the service units are started successfully#1.
`1`	--	Some of the service units have failed#2 to start.
`64`	Some of the logical servers have failed to start.	All the service units have failed#2 to start.

Legend

--: None.

#1 The successful starting of a service unit means all the logical servers in the service unit started successfully.

#2 The failed starting of a service unit means some of the logical servers in the service unit has failed to start.

Notes

- Take caution when you specify the service unit for CTM or for the integrated naming scheduler server in the `-unit` option. In this case, specifying `READY` for the `-mode` option causes an error to occur. If `READY` is specified for the `-mode` option when the `-unit` option is omitted, the status of the service unit for CTM or for the integrated naming scheduler server in the web system is elevated to *working*.
- The logical user server included in the service unit configuring the start target is started, irrespective of whether the `-mode` option is specified. When the logical user server is included in the service unit configuring the start target and if an attempt to start the logical user server fails, this description assumes that the service unit has also failed to start. In this case, the `cmx_start_target` command specifying the `-unit` option terminates abnormally and the `cmx_start_target` command that does not specify the `-unit` option terminates with a warning.
- When you start a service unit for the CTM on which multiple J2EE servers are deployed, even if the start processing fails on some of the J2EE servers, the start processing is executed for all the J2EE servers. In this case, the `cmx_start_target` command will terminate abnormally.
- If service units are started in a batch, the logical server that configures the service units is started in an ascending order of the startup sequence that is set for each logical server. With the Smart Composer functionality, the process continues as it is even if the logical server fails to start during the batch starting process. However, the batch starting process is aborted if the logical server fails to start in the case of a system with a logical server that is not related to the Web system. If the logical server fails to start, errors such as problems in receiving requests or processing the received requests occur. When the `-strict` option is specified for a batch startup, the batch startup of service unit can be aborted if the startup of the logical server fails.

  The process for each system is explained with an example when the logical J2EE server fails to start in the following startup sequence:

  Startup sequence of the logical server

  1. Logical performance trace
  2. Logical J2EE server

3. Logical Web server

- System processing when batch starting is continued.

  A logical Web server is started and request is received. The received request cannot be processed because the logical J2EE server fails to start.

- System processing when the batch startup is aborted

  A logical Web server is not started. Therefore, a request cannot be received.

cmx_stop_target (Stop a Web system or a service unit)

Format

- To stop a Web system

```
cmx_stop_target [Common-arguments] [-s web-system-name] [-unit service-uni
t-name] -mode { ALL|HOLD }
```

- To stop a system containing a logical server that is not associated with the Web system

```
cmx_stop_target [Common-arguments] -ns [-normal]
```

Function

- To stop a Web system

  This command sets the status of service units, configuring stop targets, to the stopped status or the blockade status depending on the specified mode. In the stopped status, all the logical servers in the service unit are stopped and the distribution of requests from the load balancer is controlled. In the blockade status, the Web server in the service unit is terminated in a planned manner (other logical servers are running) and the distribution of requests from the load balancer is controlled.

  If a service unit is specified in the command option, the specific service unit will be stopped and if the service unit is not specified, all the service units in the Web system will be stopped.

  Note that in this command, the Web server is terminated in a planned manner so that a client request that is being processed is not interrupted.

  You can confirm the status of the service unit with the `cmx_list_status` command. For details on the types of service unit status and the methods of referencing the service unit status, see *cmx_list_status*.

- To stop a system containing a logical server that is not associated with the Web system

  This command stops all the logical servers included in the start target. A logical server that has already stopped continues to remain in the stopped status.

  Additionally, this command terminates the Web server in a planned manner. Planned termination means the command waits for the processing of all the requests received currently to end, and then stops the logical server. For not terminating the Web server in a planned manner, you specify the `-normal` option.

  You can reference the status of the logical server that is not associated with the Web system by specifying the `-ns` option in the `cmx_list_status` command. For details on the types of logical server status and the methods of referencing the logical server status, see *cmx_list_status*.

Arguments

`-s` *web-system-name*

Specifies the Web system name.

If you omit this option, the value set in the cmx.websystem.name key of the .cmxrc file or the cmxclient.properties file will be used. Note that if the cmx.websystem.name key is not specified in the .cmxrc file and the cmxclient.properties file and if you execute the cmx_stop_target command by omitting the -s option, an error occurs.

-unit *service-unit-name*

Specifies the service unit name.

-mode { ALL | HOLD }

Specifies the stop mode.

- ALL

  Downgrades the operating status, ready status, and the blockade status to the stopped status.

- HOLD

  Downgrades the operating status and the ready status to the blockade status.

  You cannot upgrade a service unit, from the stopped status to the blockade status.

-ns

Specify this option to stop a system containing the logical server that is not associated with the Web system.

-normal

You specify this option, for not terminating the Web server in a planned manner. If you execute the cmx_stop_target command without specifying this option, the Web server will terminate in a planned manner.

Input examples

```
cmx_stop_target -s sample-system -unit unit1 -mode ALL
```

Return values

0:

The command is terminated normally.

1:

The command is terminated with a warning.

64:

The command is terminated abnormally.

Notes

- Take caution when you specify the service unit for CTM or for the integrated naming scheduler server in the -unit option. In this case, specifying HOLD for the -mode option causes an error to occur. If HOLD is specified for the -mode option when the -unit option is omitted, the status of the service unit for CTM or for the integrated naming scheduler server in the web system does not change from *working*.
- When a logical server is included in a service unit building stop targets, and if you specify HOLD in the -mode option, the service unit will be blocked, but the logical user server will not stop. Also, when a logical user server is included in the service unit building stop targets, and if you specify ALL in the -mode option, the logical user server will be stopped. If an attempt to stop the logical user server fails, this description assumes that the service unit has also failed to stop. In this case, the cmx_stop_target command specifying the -unit option terminates abnormally and the cmx_stop_target command that does not specify the -unit option terminates with a warning.

- When you stop a service unit for the CTM on which multiple J2EE servers are deployed, even if the stop processing fails on some of the J2EE servers, the stop processing is executed for all the J2EE servers. In this case, the `cmx_stop_target` command will terminate abnormally.
- If service unit is stopped in a batch, then a service unit which is to be stopped is cut from load balancer function and all logical servers within the service unit are stopped after processing the request during operation. Logical servers are stopped in descending order of the startup sequence that is set for each logical server.

  In case of batch stop, the operation when logical server fails to stop differs according to the system that is stopped.

  - In case of Web system

    If logical Web server fails to stop, batch stop process is aborted. If any other logical server fails to stop, the process continues.
  - In case of system with logical server that is not related to Web system

    A process is continued even if logical server fails to stop. If logical Web server fails to stop, receiving of requests is continued. In this case, -mode option is specified at the time of batch stop and a target system is first changed to blockade state and then changed to stop state.

cmx_test_lb (Test connection with load balancer)

Format

```
cmx_test_lb [Common-arguments] [-s web-system-name]
```

Function

This command tests whether the load balancer defined in the Web system that is specified in the argument can be operated.

You can use this command to confirm whether the load balancer definition in the Easy Setup definition file, the Environment Settings of the Smart Composer functionality, and the Environment Settings of `JP1/Cm2/NC` are specified correctly.

Arguments

`-s` *web-system-name*

Specifies the Web system name.

If you omit this option, the value set in the `cmx.websystem.name` key of the `.cmxrc` file or the `cmxclient.properties` file will be used. Note that if the `cmx.websystem.name` key is not specified in the `.cmxrc` file and the `cmxclient.properties` file and if you execute the `cmx_test_lb` command by omitting the `-s` option, an error occurs.

Input examples

```
cmx_test_lb -s sample-system
```

Return values

`0`:

An attempt to connect with the load balancer was successful.

1:

The load balancer is not defined in the specified Web system.

64:

An attempt to connect with the load balancer has failed.

cmx_trans_param (Deploy an abstract parameter)

Format

```
cmx_trans_param -i input-file -p specification-of-the-abstract-parameter -o
output-file
```

Function

This command deploys the specified abstract parameter for the specified Easy Setup definition file or the configuration change definition file (for changing logical server parameters) and generates a physical tier configuration appropriate for the Web system.

This command can be used in V9 compatibility mode only. The parameter that must be specified in the Easy Setup definition file is as follows:

- Web server

  Parameter name: `manager.web.send_request_method`

  Parameter value: `redirector`

- J2EE server

  Parameter name: `manager.j2ee.compat`

  Parameter value: `V9`

> **Reference note**
>
> When building a Web system initially, you use the Easy Setup definition file and when changing the configuration of a built Web system (changing the logical server parameters), you use the configuration change definition file.
>
> Note that the configuration change definition file includes the file for changing logical server parameters and the file for adding service units or hosts. The `cmx_trans_param` command is used for building a Web system initially and for changing the settings of the entire Web system; and therefore, you cannot specify the configuration change definition file for adding service units or hosts.

Arguments

`-i` *input-file*

Specifies the Easy Setup definition file or the configuration change definition file (for changing logical server parameters).

`-p` *specification-of-the-abstract-parameter*

In *specification-of-the-abstract-parameter*, this option specifies abstract parameters and the value in the format "*abstract-parameter* = *value*".

Specify the maximum number of concurrently processed requests in abstract parameters. The parameter name of the maximum number of concurrently processed requests is `UnitMaxParallelCount`, so in *specification-of-the-abstract-parameter*, you specify "`UnitMaxParallelCount = Value`".

For details about abstract parameters, see *Appendix I. Abstract parameters available with the Smart Composer Functionality (in V9 compatibility mode)*.

`-o` *output-file*

Specifies the output file used after abstract parameters are deployed.

Input examples

```
cmx_trans_param -i MyWebSystemDef.xml -p UnitMaxParallelCount=10 -o outMyWeb
SystemDef.xml
```

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated with a warning.

`64`:

The command is terminated abnormally.

Notes

If the physical tier specified in *input-file* is not combined-tier, an error occurs.

9 Commands Used with Virtual Systems (INTENTIONALLY DELETED)

(INTENTIONALLY DELETED)

9.1 (INTENTIONALLY DELETED)

(INTENTIONALLY DELETED)

10 Commands Used in Java VM

This chapter describes the input formats and functionality of the commands used in JavaVM of a product (hereafter, referred to as JavaVM).

Note that Java VMs conform to Java SE 8 or Java SE 9. For details about the JavaVM specifications, see the *uCosminexus Application Server Overview*. For details about the commands that can be used in JDK 8 or 9, see the JDK 8 or 9 documentation provided by Oracle.

10.1 List of commands used in Java VM

The table below lists the commands used in Java VM.

Table 10–1: List of commands used in Java VM

Command name	Function	Description
car_tar_gz#	core archiving functionality	Collects the core file and related libraries by using the gzip command and outputs them to a single archive file. This command is for UNIX only.
car_tar_Z#	Core archiving	Gathers a core file and its related libraries by using the compress command and outputs them to a single archive file. This command is for UNIX only.
eheapprof	Output of extended thread dump containing the Explicit heap detailed information	Outputs the Explicit heap detailed information to the thread dump.
javacore (Acquiring the core file and thread dump/in UNIX)	• Acquiring the core file • Acquiring thread dump	Collects a core file and a thread dump simultaneously. This command is for UNIX only.
javacore (Acquiring the thread dump/in Windows)	Acquiring thread dump	Acquires thread dump. This command is for Windows only.
javagc	Forcibly performing Full GC	Performs Full GC in the event of a memory leak or system failure and for the purpose of application debugging. The user can execute this command at any time of their choice. This command can also release Explicit memory blocks when performing Full GC.
javatrace	Trace information collection	Collects stack trace information from a core file. This command is for UNIX only.
jheapprof	Output of the extended thread dump containing the Hitachi class-wise statistical information	Output the Hitachi class-wise statistical information to thread dump.
jheapprofanalyzer	Output of the Hitachi class-wise statistical information analysis file in CSV format	Outputs the Hitachi class-wise statistical information analysis file in CSV format.

#

Cannot be used in AIX; instead, use the snapcore command.

10.2 Details of commands used in Java VM

This section describes the input formats and functions of the commands used in Java VM.

Command storage destination

The commands used in Java VM are stored in the following directory:

- In Windows:
  Cosminexus-installation-directory\jdk\bin\
- In UNIX:
  /opt/Cosminexus/jdk/bin/

car_tar_gz (core archiving function)

Format

```
car_tar_gz [-i executable-file-name] [-f] [-s|-S] [core-file-name] > output
-file-name
```

Function

Collects the core file and the related libraries and outputs to a single archive file. The car_tar_gz command compresses the file and the libraries, by using the gzip command. This command is for UNIX.

Arguments

-i *executable-file-name*

Specifies an executable file name.

-f

Acquires files such as the libraries with a path name.

-s

Reports the size (unit: bytes) of an archive file to be output.

In such cases, the archive file is not output.

-S

Outputs a shell script for creating an archive file.

When you specify this option, specify the shell script name in *output-file-name*.

When you execute the output shell script, the archive file is output.

core-file-name

Specify the core file name. When you omit the specification, *core* is specified.

output-file-name

Specify a name of the archive file or shell script file.

Input example

When creating an archive file

```
car_tar_gz -f core.8326 > corefile.tar.gz
```

When checking the size of an archive file

```
car_tar_gz -s core.8326
```

When creating an archive file from a shell script

1. Creating a shell script
   `car_tar_gz -S core.8326 > collect_cores.csh`
2. Assigning execution permission to a shell script
   `chmod +x ./collect_cores.csh`
3. Creating an archive file by using the shell script
   `./collect_cores.csh > corefile.tar.gz`

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

Output messages

When the system outputs the following messages, a normal archive file is not output.

Table 10–2: Error messages output when using the car_tar_gz command

No.	Error message	Explanation
1	`usage: car_tar_gz [ -i executable-file ] [ -f ] [ -s | -S ] [ core-file ]`	Arguments of the command are invalid.
2	`car_tar_gz: inner error!`	This is an internal error of the `car_tar_gz` command.
3	`car_tar_gz: cannot create temporary name`	A file to be temporarily used cannot be created. Delete or migrate the file `car_exec??` (*??* is a number from 00 through 99) in the current directory.
4	`car_tar_gz: ~ : file not found`	A file is not found. Check the executable file specified in the `core` file and the `-i` option.
5	`car_tar_gz: ~ : not supported platform`	The OS is not supported.

Notes

- You must assign the write permission to the current directory.
- In the same directory, you cannot concurrently execute the `car_tar_Z` and `car_tar_gz` commands for the same core file or different core files having the same creation time.
- The `tar` and `gzip` commands must have been installed in the system.

- If you forcibly terminate the `car_tar_gz` command during execution, temporary files or the directory created by the `car_tar_gz` command remain behind in the current directory.

  Temporarily created files: `car_exec??` (*??* is a number from 00 through 99)

  A temporarily created directory: `carYYMMDDhhmm/` (*YYMMDDhhmm* is the creation year, month, date, hours and minutes of the `core` file).

car_tar_Z (core archiving)

Format

```
car_tar_Z [-i executable-file-name] [-f] [-s|-S] [core-file-name] > output-file-name
```

Function

This command gathers a `core` file and its related libraries and outputs them to a single archive file. The `car_tar_Z` command compresses the file and the related libraries by using the `compress` command. This command is for UNIX only.

Arguments

`-i` *executable-file-name*

Specifies the name of an executable file.

`-f`

Collects library and other files, along with their path names.

`-s`

Reports the size (in bytes) of the archive file that would be output (but without outputting the archive file).

`-S`

Outputs a shell script for creating the archive file.

When you specify this option, specify a shell script name for *output-file-name*.

To output the archive file, you must execute the output shell script.

core-file-name

Specifies the name of a core file. If omitted, `core` is assumed.

output-file-name

Specifies a file name for the archive file or shell script.

Input examples

Create an archive file:

```
car_tar_Z -f core.8326 > corefile.tar.Z
```

Check the size of an archive file:

```
car_tar_Z -s core.8326
```

Create an archive file from a shell script:

1. Create a shell script.
   ```
   car_tar_Z -S core.8326 > collect_cores.csh
   ```
2. Assign execution rights to the shell script.
   ```
   chmod +x ./collect_cores.csh
   ```
3. Execute the shell script and create an archive file.
   ```
   ./collect_cores.csh > corefile.tar.Z
   ```

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

Output messages

If any of the messages described below is issued, a normal archive file was not output.

Table 10–3: Error messages output by the car_tar_Z command

No.	Error message	Explanation
1	`usage: car_tar_Z [ -i executable-file ] [ -f ] [ -s | -S ] [ core-file ]`	A command argument is invalid.
2	`car_tar_Z: inner error!`	An internal error occurred in the `car_tar_Z` command.
3	`car_tar_Z: cannot create temporary name`	A temporary file cannot be created. Either delete or move the file `car_exec??` (where *??* is an integer in the range 00 to 99) located in the current directory.
4	`car_tar_Z:` (omitted)`: file not found`	File was not found. Check the core file and the executable file specified by the `-i` option.
5	`car_tar_Z:` (omitted)`: not supported platform`	The OS is not supported.

Notes

- You must have write permission to write data into the current directory.
- You cannot execute the `car_tar_Z` and `car_tar_gz` commands concurrently under the same directory for the same core file or for core files that have the same creation time.
- The `tar` command and the `compress` command must both be installed in the system.
- If the `car_tar_Z` command is terminated forcibly, temporary files and directories created by it remain in the current directory.

  Temporary files: `car_exec??` (where *??* is an integer in the range 00 to 99)

  Temporary directory: `car`*YYMMDDhhmm*`/` (where *YYMMDDhhmm* is the date and time the core file was created)

eheapprof (Output of extended thread dump containing the Explicit heap detailed information)

Format

```
eheapprof [-i|-f] [-force] [-freeratio] -p process-ID
```

Function

This command outputs the extended thread dump containing the Explicit heap detailed information for java processes of the process ID specified in arguments. You can also output the statistical information of an object within the Explicit memory block, and the release ratio information of the Explicit memory block to an extended thread dump.

Arguments

`-i`

Displays a message confirming the execution of the output processing for an extended thread dump containing the Explicit heap detailed information. You input either `y` or `n`. If you input `y`, the extended thread dump containing the Explicit heap detailed information will output. If you input `n`, no information will be displayed and the processing will terminate. Even if you omit this option, the option is valid as long as the `-f` option is not specified.

`-f`

Disables the `-i` option. If you omit this option, the `-i` option will become valid.

`-force`

Requests the output of an extended thread dump for the java process indicated by the process ID that is specified with the `-p` option, without confirming the existence of the `/tmp/hsperfdata_`*user-name*`/`*process-ID* file created in the java process.

Note that this option is for UNIX.

`-freeratio`

Enables the output of the object release ratio information of the Explicit memory block and outputs an extended thread dump.

When you execute the `eheapprof` command by specifying this option, JavaVM executes the following process and acquires the object release ratio information.

- Full GC
- An Explicit memory block release process

The execution of these processes lead to a risk of stopping the execution of an application for a few seconds and hence we recommend that you output the object release ratio information of the Explicit memory block during system development or when operations are stopped.

`-p` *process-ID*

Specifies the process ID of the java program that outputs the extended thread dump containing the Explicit heap detailed information.

Return values

`0`:

Terminated normally.

1:

Terminated abnormally.

2:

There is no response indicating that the output processing has terminated within the fixed time for the extended thread dump containing the Explicit heap detailed information.

Output messages

If the following error messages or warning messages are issued, the extended thread dump containing the Explicit heap detailed information is not output:

Table 10–4: Messages issued by the eheapprof command (For Windows)

No.	Error message	Explanation
1	`usage: eheapprof [-f|-i] [-freeratio] -p process-id`	The argument specified in the `eheapprof` command is wrong.
2	`eheapprof: illegal option -- option`	*option* specified in the `eheapprof` command is invalid.
3	*process-ID*`: Now processing previous request, this request canceled`	The process indicated by *process-ID* specified in the argument of the `eheapprof` command outputs the current Explicit heap detailed information.
4	*process-ID*`: Not owner`	`0` is specified in *process-ID* specified in the argument of the `eheapprof` command.
5	`eheapprof: can't create work file at temporary directory , this request canceled`	If the user does not have permission to reference or write data into the directory for temporary files, the extended thread dump containing the Explicit heap detailed information cannot be output. The output request for the extended thread dump containing the Explicit heap detailed information is cancelled.
6	`eheapprof: can't get temporary directory, this request canceled`	If the directory for temporary files cannot be acquired, the extended thread dump containing the Explicit heap detailed information cannot be output. The output request for the extended thread dump containing the Explicit heap detailed information is cancelled.
7	`eheapprof: please delete` *name-of-undeleted-file* `in` *full-path-of-undeleted-file*	The internal files could not be deleted when the `eheapprof` command is terminated. Delete the un-deleted files that exist in the full path of the un-deleted files.

8	`eheapprof: unexpected error occurred:` *error-cause*	An unexpected error occurred when executing the `eheapprof` command.
		error-cause might display the followings:
		• When an attempt to secure the memory for an operation fails
		`malloc systemcall fail (errno=Y)`
		• When an attempt to close the object fails
		`close systemcall fail (errno=Y)`

9	`eheapprof: can't communicate with process` *process-ID*	There is a problem with the process indicated by *process-ID* specified in the argument of the `eheapprof` command and an error occurred during the communication, and therefore, the communication cannot be performed. Alternatively, the process indicated by *process-ID* specified in the argument of the `eheapprof` command does not exist.
10	*process-ID*`: Timeout occurred. Java process not responding`	The process indicated by *process-id* specified in the argument of the `eheapprof` command did not return a response indicating that the output processing terminated within the fixed time for the Explicit heap detailed information.

Table 10–5: Messages issued by the eheapprof command (In UNIX)

No.	Error message	Description
1	`usage: eheapprof [-f|-i] [-force] [-freeratio] -p process-id`	The argument specified in the `eheapprof` command is wrong.
2	`eheapprof: illegal option --` *option*	*option* specified in the `eheapprof` command is invalid.
3	*process-ID*`: Now processing previous request, this request canceled`	The process indicated by *process-ID* specified in the argument of the `eheapprof` command outputs the current Explicit heap detailed information.
4	*process-ID*`: No such process`	The process indicated by *process-ID* specified in the argument of the `eheapprof` command is not found or the process indicated by *process-ID* specified in the `eheapprof` command is not a java process.
5	*process-ID*`: Not owner`	The user is not the owner of the process of *process-ID* specified in the argument of the `eheapprof` command.
6	`eheapprof: can't create work file at /tmp , this request canceled`	If the user does not have permission to reference or write data into the directory for temporary files, the extended thread dump containing the Explicit heap detailed information cannot be output. The output request for the extended thread dump containing the Explicit heap detailed information is cancelled.
7	`eheapprof: please delete` *name-of-undeleted-file* `in` *full-path-of-undeleted-file*	The internal files could not be deleted when the `eheapprof` command ends. Delete the un-deleted files that exist in the full path of the un-deleted files.

8	`eheapprof: unexpected error occurred:` *error-cause*	An unexpected error occurred when executing the `eheapprof` command.
		error-cause might display the following:
		• When an attempt to secure the memory for the operation fails
		`malloc systemcall fail (errno=Y)`
		• When an attempt to close the object fails
		`close systemcall fail (errno=Y)`

9	*process-ID*`: Timeout occurred. Java process not responding`	The process indicated by *process-id* specified in the argument of the `eheapprof` command did not return a response indicating that the output processing has terminated within the fixed time for the Explicit heap detailed information.

Notes

- The `eheapprof` command is provided as a utility for developing programs. Do not use this command in system operations.
- The `eheapprof` command cannot be executed concurrently for the same java process. You execute the command after the Explicit heap detailed information is output to the extended thread dump by the earlier `eheapprof` command.
- In Windows, communication is initialized using `MailSlot`, when a Java process is started. If this initialization fails, a message is displayed and the processing is interrupted.
- In Windows, the `eheapprof` command can also be executed by the user who is not a java process owner indicated by the process ID specified in the argument.
- In UNIX, if the user, who is not a java process owner indicated by the process ID specified in the argument, executes this command, a message is output and the processing will end. However, if the user is the `root`, the processing will continue.

- In UNIX, the `eheapprof` command sends the `SIGQUIT` signal to the specified process. If a non-java program is specified by mistake, other programs might stop.
- In UNIX, you use the `/tmp/hsperfdata_`*user-name*`/`*process-ID* file, when executing the `eheapprof` command. If the applicable file do not exist, the extended thread dump containing the Explicit heap detailed information cannot be output by the `eheapprof` command. However, if the `-force` option is specified, the output of an extended thread dump is requested for the java process indicated by the process ID that is specified in the `-p` option without confirming the existence of the `/tmp/hsperfdata_`*user-name*`/`*process-ID* file.

javacore (Acquiring the core file and thread dump/in UNIX)

Format

```
javacore [-i|-f] [-force] -p process-ID
```

Function

This command collects a core file and a thread dump simultaneously during execution. This command is for UNIX only.

Arguments

`-i`

Displays the messages for checking the execution of the `core` file and the thread dump output process. Enter `y` or `n` for the displayed messages. In such cases, when you enter `y`, the thread dump is output and when you enter `n`, the process ends without performing any operation. When omitted, this option is valid as long as the `-f` option is not specified.

`-f`

Invalidates the `-i` option. If omitted, the `-i` option is enabled.

`-force`

Outputs `core` for the java process with the process ID specified in the `-p` option without confirming the existence of the `/tmp/hsperfdata_`*user-name*`/`*process-ID* file created with the java process.

`-p` *process-ID*

Specifies the process ID of the Java program from which the core file and thread dump are to be collected.

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

The core generation process did not return a response within the specified timeout time.

Input example

1. Execution of the `javacore` command, with the `-f` option omitted:

```
javacore -p 8326
```

2. A message for confirming the execution of the `core` file and the thread dump output process is displayed:

```
send SIGQUIT to 8326:?(y/n)
```

3. Enter `y` to collect the core file and thread dump (otherwise enter `n`):

```
send SIGQUIT to 8326:?(y/n)y
```

4. When the core file and thread dump are collected, the Java program being executed outputs the following message:

```
Now generating core file (javacore8662.030806215140.core)...
done

(thread-dump-output)

Writing Java core to javacore8662.030806215140.txt... OK
```

5. The Java program being executed creates the following files under the current directory and continues the program:

   Core file

   `javacore`*process-id*.*time*`.core`

   Thread dump

   `javacore`*process-id*.*time*`.txt`

Output messages

If any of the error messages described below or a warning message is issued, the core file and thread dump have not been collected.

Table 10–6: Error messages output by the javacore command

No.	Error message	Explanation
1	`usage: javacore [-f|-i] [-force] -p process-id`	A command argument is invalid.
2	`javacore: can't create work file at /tmp, this request canceled`	The user does not have permission to reference or write data into `/tmp`.
3	`javacore: illegal option --`*option*	The indicated option specified in the command arguments is invalid.
4	`javacore: unexpected error occurred:` *error-cause*	An unexpected error occurred during command execution.
5	`javacore: please delete` *name-of-undeleted-file* `in` *full-path-of-undeleted-file*	When the command terminated, a file created by the internal process of the `javacore` command could not be deleted. Delete the non-deleted file in the *full-path-of-the-non-deleted-file*.
6	*process-id*`: No such process`	No process is found that matches the process indicated by *process-id* specified in the argument of the `javacore` command or the process indicated by *process-id* specified in the `javacore` command is not the java process.
7	*process-id*`: Not owner`	The executing user is not the owner of the process indicated by *process-id* specified in the command.

No.	Error message	Explanation
8	*process-id*: Now processing previous request, this request canceled	The process indicated by *process-id* specified in the command is currently generating a core.
9	*process-id*: Timeout occurred. Java process not responding.	The process indicated by *process-id* specified in the argument of the command does not return a response indicating that the core output processing terminated within the fixed time.

Notes

- The javacore command sends the SIGQUIT signal to the specified process. If a program other than a Java program is specified by mistake, other programs may stop.
- The javacore command cannot be executed concurrently for the same Java process. You execute the command after the core output processing by the previous javacore command has terminated.
- If a Java VM process has not responded to a thread dump collection request and has gone onto no-response status, you cannot use the javacore command to collect the core file. In such a case, execute the kill -6 command to terminate the Java VM process forcibly, then collect the core file.
- In Linux, generate core with the gcore command of gdb. If gdb is not installed, the following error message will be output as the standard output:

  Error occurred in generating core file, gdb not found.

  Furthermore, if the installed gdb is from an old version, the following message will be output as the standard output:

  Error occurred in generating core file, gdb version 5.2 or later needed.
- The javacore command uses the /tmp/hsperfdata_*user-name*/*process-ID* file at runtime. If the applicable file does not exist, the core file cannot be output by the javacore command. However, if the -force option is specified, core is output for the Java process indicated by the process ID that is specified in the -p option without confirming the existence of the /tmp/hsperfdata_*user-name*/*process-ID* file.

javacore (Acquiring the thread dump/in Windows)

Format

```
javacore [-i|-f] -p process-ID
```

Function

Acquires the thread dump when executing the command. This command is for Windows.

Arguments

-i

A message for confirming the execution of the thread dump output process is displayed. Enter y or n for the displayed message. In such cases, if you enter y, the thread dump is output and if you enter n, the process ends without performing any operation. If you omit this option, this option is enabled, when the -f option is not specified.

-f

Disables the -i option. If you omit this option, the -i option is enabled.

-p *process-ID*

In *process-ID*, specify the process ID of a Java program for acquiring the thread dump.

Return values

`0`:

The command is terminated normally.

`1`:

The command is terminated abnormally.

`2`:

A response of the thread dump output process termination was not received in a specified time.

Input example

1. Execute the `javacore` command by omitting the `-f` option.

```
% javacore -p 8326
```

2. A message for checking the execution of the thread dump output process is displayed.

```
Output a thread dump:?(y/n)
```

3. Enter `y`, when you want to output the thread dump and enter `n`, when you do not want to output the thread dump.

```
Output a thread dump:?(y/n)y
```

4. The running java program creates the following file in the current directory and continues the program.

   The thread dump

   `javacore` *process-ID.date-and-time*.txt

Output messages

When the following error messages or warning messages are output, the thread dump is not acquired:

Table 10–7: Error messages output by the javacore command

No.	Error message	Explanation
1	`usage: javacore [-f|-i] -p process-id`	An argument of the command is invalid.
2	`javacore: illegal option --` *option*	*option* specified in an argument of the command is invalid.
3	`javacore: can't communicate with process` *process-ID*.	A problem occurred in *process-ID* specified in an argument and hence the communication is not possible, or a process corresponding to *process-ID* specified in an argument does not exist.
4	*process-ID*`: Not owner`	`0` has been specified in *process-ID* specified in an argument of the command.
5	*process-ID*`: Now processing previous request, this request canceled`	A process given in *process-ID* specified in an argument of the command is already running.
6	`javacore: can't create work file at temporary directory, this request canceled`	A reference permission and write permission is not assigned to the directory for temporary files.
7	`javacore: can't get temporary directory, this request canceled`	As `GetTempPath()API` returned an error, a directory for temporary files cannot be acquired.

No.	Error message	Explanation
8	`javacore: unexpected error occurred:` *error-cause*	An unexpected error occurred while executing a command.
9	*process-ID*`: Timeout occurred. Java process not responding.`	A response of the thread dump output process termination is not received within a specified time, from a process corresponding to *process-ID* specified in an argument of the command.
10	`javacore: please delete` *non-deleted-file-name* `in` *full-path-of-the-non-deleted-file*.	A file created in an internal process of the `javacore` command, when the command termination could not be deleted. Delete the non-deleted file in *full-path-of-the-non-deleted-file*.

Notes

- You cannot concurrently execute the `javacore` command for the same Java processes. Execute the command when the thread dump output process by the previous `javacore` command ends.
- In the following cases, a message *process-ID*`: Timeout occurred. Java process not responding.` is sometimes output and the `javacore` command terminates.
  - When you execute the `javacore` command for a Java process for which the used memory size exceeds `1` Gigabyte
  - When you execute the `javacore` command when the system is highly loaded

  Even if a message is output, if `core.`*process-ID* is created in the current directory of the target Java process and the file size increases gradually, you can consider that the process is normally performed. In such cases, do not stop the Java process.

javagc (forcibly perform GC)

Format

```
javagc [-i|-f] [-v] [-s] [-force] [-ehgc] -p process-ID
```

Function

This command performs Full GC for a specific Java process (the process specified by *process-ID*) in the event of a memory leak or system failure and for the purpose of application debugging. The user can execute this command at any time of their choice. This command can also release Explicit memory blocks when performing Full GC.

The SIGQUIT signal is used for communicating with a Java process. When the command is executed, requests user to check the process contents of the command. When the response is `n` (do not generate, execute, or send), the command does not execute the process contents of the command (the return value is `1`). You can omit this configuration step by specifying the `-f` option.

If the specified Java process is already performing Copy GC or Full GC triggered by a non-critical event, the command starts processing after the GC is completed.

Arguments

`-i`

Ask the user to check the following process contents:

- Whether to perform GC for the specified process (in Windows only)

- Whether to execute the Explicit memory block release for the process given in *process-ID*
- Whether to send the SIGQUIT signal in order to perform GC (in UNIX only)

A specification of the `-f` option before the `-i` option is ignored.

`-f`

Does not ask the user to check the following process contents:

- Whether to perform GC for the specified process (in Windows only)
- Whether to execute the Explicit memory block release
- Whether to send the SIGQUIT signal in order to perform GC (in UNIX only)

A specification of the `-i` option before the `-f` option is ignored.

`-v`

If the `-XX:+HitachiVerboseGC` option is not specified, creates a Java VM log file according to the Java VM log file creation rules and outputs the extended `verbosegc` information.

In such cases, output the extended `verbosegc` information of the contents, also with the effect of the following option values:

- `-XX:+HitachiVerboseGCPrintDate`
- `-XX:+HitachiVerboseGCPrintCause`
- `-XX:+HitachiVerboseGCCpuTime`
- `-XX:+HitachiCommaVerboseGC`

`-s`

Outputs the extended `verbosegc` information to the standard output.

In such cases, `-s` outputs the extended `verbosegc` information of the contents in which the following option values are also reflected:

- `-XX:+HitachiVerboseGCPrintDate`
- `-XX:+HitachiVerboseGCPrintCause`
- `-XX:+HitachiVerboseGCCpuTime`
- `-XX:+HitachiCommaVerboseGC`

`-force`

If this option is specified, the command forcibly performs GC (and releases Explicit memory blocks) for the Java process specified for the `-p` option without confirming that the `/tmp/hsperfdata_`*user-name*`/`*process-ID* file has already been created by the Java process.

Note that this option is for UNIX.

`-ehgc`

If this option is specified, the command releases Explicit memory blocks when performing Full GC for the specified Java process. For the Explicit memory block release, see *7.9 Releasing Explicit memory blocks by using the javagc command* in the *uCosminexus Application Server Expansion Guide*.

`-p` *process-ID*

Specifies the ID of the process for which you want to perform Full GC (and release Explicit memory blocks).

For the Hitachi-specific Java VM extension options, see the following locations:

- *14.1 List of Hitachi-specific JavaVM extension options* in the *uCosminexus Application Server Virtual System Setup and Operation Guide*.

- *14.2 Details of JavaVM extension options* in the *uCosminexus Application Server Definition Reference Guide*.

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

A report on completion of GC was not returned within a certain length of time.

Input examples

1. Execution of the `javagc` command, with the `-i` option specified:

```
javagc -i -v -p 8326
```

2. In Windows, the command asks the user whether to perform GC. In UNIX, the command asks the user whether the target process ID is correct.
   - In Windows:
     `Force VM to execute GC ? (y/n)`
   - IN UNIX:
     `send SIGQUIT to 8326:?(y/n)`

3. In Windows, the user enters `y` to perform GC (or `n` not to perform GC). In UNIX, the user enters `y` to send the SIGQUIT signal (or `n` not to send the signal).
   - In Windows:
     `Force VM to execute GC ? (y/n)y`
   - In UNIX:
     `send SIGQUIT to 8326:?(y/n)y`

Output example

```
 [VGC]<Wed Mar 17 00:42:30 2004>(Skip Full:0,Copy:0)[Full GC 149K->149K(1984
K), 0.0786038 secs][DefNew::Eden: 264K->0K(512K)][DefNew::Survivor: 0K->63K(
64K)][Tenured: 85K->149K(1408K)][Metaspace: 3634K(4492K, 4492K)->3634K(4492K
, 4492K)][class space: 356K(388K, 388K)->356K(388K, 388K)][cause:JavaGC Comm
and]
```

Output messages

Table 10–8: Messages output by the javagc command (in Windows)

No.	Error message	Explanation
1	`usage: javagc [-f|-i] [-v] [-s] [-ehgc] -p process-id`	An argument specified in the `javagc` command is invalid.
2	`javagc: illegal option --`*option*	The indicated option (*option*) specified in the `javagc` command arguments is invalid.

No.	Error message	Explanation
3	`javagc: can't communicate with process` *process-id*	Communication with the process specified in the `javagc` command was not possible because the process has a problem or an error occurred in communication.
4	*process-id*`: Not owner`	`0` was specified in *process-id* specified in the `javagc` command.
5	*process-id*`: Now processing previous request, this request canceled`	The process specified in the `javagc` command is currently performing GC by the `javagc` command executed previously. The new GC request by the `javagc` command is canceled.
6	`javagc: can't create work file at temporary directory, this request canceled`	A GC request file cannot be created in the temporary file directory because view and write permissions are not set for the directory. This GC request is canceled.
7	`javagc: can't get temporary directory, this request canceled`	A GC request file cannot be created because the temporary file directory cannot be retrieved. This GC request is canceled.

8	`javagc: unexpected error occurred:`*error-cause*	An unexpected error occurred during `javagc` command execution.
		The following are examples of causes that may be displayed in *error-cause*:
		• When work memory could not be allocated:
		`malloc systemcall fail (errno=Y)`
		• When an object could not be closed:
		`close systemcall fail (errno=Y)`

9	*process-id*`: Timeout occurred. Java process not responding.`	The process specified in the `javagc` command did not return a report on completion of GC within a certain length of time.
10	`javagc: please delete` *name-of-undeleted-file* `in` *full-path-of-undeleted-file*	When the `javagc` command terminated, it could not delete an internal file. Delete the indicated file on the indicated full path.
11	*process-id*`: Failed to retry GC. Java process is GC locked.`	GC could not be performed because GC for the process specified in the `javagc` command is blocked.

Table 10–9: Messages output by the javagc command (in UNIX)

No.	Error message	Explanation
1	`javagc [-f|-i][-v][-s] [-ehgc][-force] -p process-id`	An argument specified in the `javagc` command is invalid.
2	`javagc: illegal option --`*option*	The indicated option (*option*) specified in the `javagc` command arguments is invalid.
3	*process-id*`: No such process`	The process indicated by *process-id* specified in the argument of the `javagc` command is not found or the process indicated by *process-id* specified in the `javagc` command is not the java process.
4	*process-id*`: Not owner`	The executing user is not the owner of the process indicated by *process-id* specified in the `javagc` command.
5	*process-id*`: Now processing previous request, this request canceled`	The process specified in the `javagc` command is currently performing GC by the `javagc` command executed previously. The new GC request by the `javagc` command is canceled.
6	`javagc: can't create work file at /tmp, this request canceled`	A GC request file cannot be created in the `/tmp` directory because view and write permissions are not set for the directory. This GC request is canceled.
7	`javagc: unexpected error occurred:`*error-cause*	An unexpected error occurred during `javagc` command execution. The following are examples of causes that may be displayed in *error-cause*: • When work memory could not be allocated: `malloc systemcall fail (errno=Y)` • When an object could not be closed:

No.	Error message	Explanation
		close systemcall fail (errno=Y)
8	*process-id*: Timeout occurred. Java process not responding.	The process specified in the javagc command did not return a report on completion of GC within a certain length of time.
9	javagc: please delete *name-of-undeleted-file* in *full-path-of-undeleted-file*	When the javagc command terminated, it could not delete an internal file. Delete the indicated file on the indicated full path.
10	*process-id*: Failed to retry GC. Java process is GC locked.	GC could not be performed because GC for the process specified in the javagc command is blocked.

Notes

- Two or more instances of the javagc command cannot be executed for the same Java process. If GC performed by the javagc command is in progress, wait until the processing ends, and then execute the javagc command. You can confirm that the previous GC has ended in the Java VM log file. If the previous GC has ended, the string JavaGC Command has been output as the cause of GC by the extended verbosegc function.
- In Windows, even the users other than the java process owner indicated by the process ID specified in the arguments can execute the javagc command.
- In UNIX, the javagc command sends the SIGQUIT signal to the specified process ID. If you specify a process ID of a non-java process by mistake, the other programs might stop.
- In UNIX, the javagc command uses the /tmp/hsperfdata_*user-name*/*process-ID* file at runtime. This file needs to exist in order for the javagc command to request GC. However, if the -force option is specified, the command forcibly performs GC for the Java process specified for the -p option without confirming that the /tmp/hsperfdata_*user-name*/*process-ID* file exists.

javatrace (trace information collection)

Format

```
javatrace core-file-name executable-file-name [output-file-name] [-l library
-file-name ...]
```

Function

This command collects stack trace information from a core file. This command is for UNIX only.

When a Java VM terminates abnormally and generates a core file, this command is executed to collect the information that is needed to identify the cause of the abnormal termination. You can use this command for conducting a detailed investigation of the cause of a process failure.

Arguments

core-file-name

Specifies the name of a core file.

executable-file-name

Specifies the name of the executable file that generated the core file.

output-file-name

Specifies a name for the output file.

If omitted, the trace information is output to `javatrace.log` under the current directory.

`-l` *library-file-name*

Specifies the library file to be used.

You do not need to specify this argument if you execute `javatrace` at the machine on which the core file was generated.

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

Input example

When a Java VM terminates abnormally and generates a core file, the message shown below is issued. Execute the `javatrace` command character string within this message.

Note that this message is also output to the error report file (`hs_err_pid`*process-id*`.log`), which is generated during abnormal termination.

```
  :
# You can get further information from javatrace.log file generated
# by using javatrace command.
# usage: javatrace core-file-name loadmodule-name [out-file-name] [-l(librar
y-name)...]
# Please use javatrace command as follows and submit a bug report
# to Hitachi with javatrace.log file:
# [/opt/Cosminexus/jdk/bin/javatrace core /opt/Cosminexus/CC/server/bin/cjst
artsv]
#
```

When the name of the core file is `core`:

```
/opt/Cosminexus/jdk/bin/javatrace core /opt/Cosminexus/CC/server/bin/cjsta
rtsv
```

Depending on the OS, the name of the actual core file that is output may be `core.`*process-id*. If this is the case, specify the name of the actual core file that is output in the `javatrace` command argument.

When the name of the core file is `core.`*process-id*:

```
/opt/Cosminexus/jdk/bin/javatrace core.8326 /opt/Cosminexus/CC/server/bin/
cjstartsv
```

Output messages

If any of the error messages described below or a warning message is issued, the stack trace information was not output.

Table 10–10: Error messages output by the javatrace command

No.	Error message	Explanation
1	`usage : javatrace core-filename loadmodule-name [out-filename] [-l library-name...]`	An argument specified in the `javatrace` command is invalid.
2	`javatrace: Cannot open` *file-name*`: No such file or directory`	A file (*file-name*), other than the one specified in *output-file-name*, could not be found.
3	`javatrace: Cannot open` *file-name*`: Permission denied`	Loading of a file (*file-name*) is not permitted.
4	`javatrace : Cannot create` *file-name*`: Already exist`	The file (*file-name*) specified in *output-file-name* already exists.
5	`* unknown core type(`*XXXXXXX*`) ignored.`	The file specified in *core-file-name* is not a core file.
6	`* ERROR :` *file-name*`, unknown magic(0x`*XXXX*`)`	The file specified in *executable-file-name* is not an executable file.
7	`WARNING : core file may not match loadmodule (core file from '`*loadmodule-name*`')`	The file specified in *executable-file-name* does not match the executable file (*loadmodule-name*) extracted from the core file specified in *core-file-name*.
8	`javatrace : Bad argument :` *argument-name* `is directory`	A specified file (*argument-name*) is actually a directory.
9	`* ERROR :` *library-name* `open : No such file or directory`	A shared library (*library-name*) included in the executable file could not be found. If the shared library was included using a relative path, you must use the `-l` option to explicitly specify it.
10	`javatrace : illegal option --` *x*	An invalid option character (*x*) is specified.
11	`javatrace : Cannot create` *file-name*`: Permission denied`	Writing of data into the file (*file-name*) specified in *output-file-name* is not permitted.

Notes

- You execute the `javatrace` command on a machine on which the `core` file is generated.
- In the message output to the standard output and the error report file, when JavaVM terminates abnormally, the second argument of the `javatrace` command is not always the load module name of the absolute path, as given below:

```
#
# You can get further information from javatrace.log file generated
# by using javatrace command.
# usage: javatrace core-file-name loadmodule-name [out-file-name] [-l(libr
ary-name)...]
# Please use javatrace command as follows and submit a bug report
# to Hitachi with javatrace.log file:
# [/opt/Cosminexus/jdk/bin/javatrace /users/Java/core ../java]
#
```

  In such cases, first convert the load module name specified in the second argument of the `javatrace` command to the absolute path, and then execute the command.

jheapprof (Output of extended thread dump containing Hitachi class-wise statistical information)

Format

```
jheapprof [-i|-f] [-class class-name] [-staticroot|-nostaticroot]
          [-explicit|-noexplicit] [-fullgc|-copygc|-nogc]
          [-garbage|-nogarbage] [-rootobjectinfo|-norootobjectinfo]
          [-rootobjectinfost value ] [-force] -p process-ID
```

Function

This command outputs an extended thread dump that contains the Hitachi class-wise statistical information for the java process indicated by the process ID specified in the argument.

Arguments

`-i`

Displays the message confirming the execution of the output processing for an extended thread dump containing the Hitachi class-wise statistical information. You input either `y` or `n`. If you input `y`, the extended thread dump containing the Hitachi class-wise statistical information is output. If you input `n`, no information is output and the processing terminates. Even if you omit this option, the option is valid as long as the `-f` option is not specified.

`-f`

Disables the `-i` option. If you omit this option, the `-i` option becomes valid.

`-class` *class-name*

Creates a list of the classes that include the specified class as a member, and outputs the list within the thread dump.

`-staticroot`

Enables the reference related information output functionality that is based on the static field and outputs the reference related information based on the static field. The functionality is enabled even if this option is omitted, unless the `-nostaticroot` option is specified.

The specification of the `-class` option is a prerequisite for this option. When you do not specify the `-class` option, this option is disabled.

If this option is concurrently specified with the `nostaticroot` option, the option specified at the end is enabled.

`-nostaticroot`

Disables the reference related information output functionality based on the static field. If this option is omitted, the `-staticroot` option takes effect.

If this option is concurrently specified with the `-staticroot` option, the option specified at the end is enabled.

`-explicit`

The Explicit heap is included in the statistics of the instance statistics function. If omitted, this option is enabled unless the `-noexplicit` option is specified.

Note that if this option and the `-noexplicit` option are specified concurrently, the option specified last is enabled.

`-noexplicit`

The Explicit heap is not included in the statistics of the instance statistics function. If it is omitted , this option is enabled as long as `-copygc` and `-nogc` option are not specified. If omitted, the `-explicit` option is enabled. Note that if this option and the `-explicit` option are specified concurrently, the option specified last is enabled.

`-fullgc`

If this option is specified, the command performs Full GC before compiling statistics. If omitted, this option is enabled unless the `-copygc` option and `-nogc` option is specified.

Note that if you concurrently specify this option with the `-copygc` option or the `-nogc` option, the option that is specified last is applied.

`-copygc`

If this option is specified, the command performs Copy GC before compiling statistics. If this option and the `-nogc` option are omitted, the `-fullgc` option is enabled.

Note that if you concurrently specify this option with the `-fullgc` option or the `-nogc` option, the option that is specified last is applied.

`-nogc`

If this option is specified, the command does not perform GC before compiling statistics. If this option and the `-copygc` option are omitted, the`-fullgc` option is enabled. Note that if you concurrently specify this option with the `-fullgc` option or the `-copygc` option, the option that is specified last is applied.

`-garbage`

Enables the unused object statistic function in the Tenured area and outputs the Hitachi class-wise statistical information for the statistic information of the unused objects to the Tenured area. The instance statistic function and the STATIC member statistic function are disabled. If omitted, the `-nogarbage` option is enabled. For selection of the type of GC to be performed before compiling statistics, the `-fullgc` and `-copygc` options are disabled, and the `-nogc` option is enabled. Therefore, the command does not perform GC before compiling statistics. Note that if you specify this option concurrently with the`-nogarbage` option, the option that is specified last will be applied.

`-nogarbage`

The unused object statistic function in the Tenured area is disabled. Therefore, the Hitachi class-wise statistical information is not output for the statistic information of the unused objects to the Tenured area. If omitted, this option is enabled unless you specify the `-garbage` option. Note that if you specify this option concurrently with the `-garbage` option, the option that is specified last will be applied.

`-rootobjectinfo`

The output functionality of the base object list for increasing the Tenured area is enabled and outputs the base object for increasing the Tenured area.

For this option, you must enable the `-garbage` option. Also, when you enable the `-nogarbage` option, this option is disabled. If omitted, this option is enabled unless you specify the `-norootobjectinfo` option. Note that if you specify this option concurrently with the `-norootobjectinfo` option, the option specified last will be applied.

`-norootobjectinfo`

The base object list output functionality for increasing the Tenured area is disabled. Therefore, the base object list for increasing the Tenured area is not output. If you omit the output of the base object list, the `-rootobjectinfo` option is enabled. Note that if you specify this option concurrently with the `-rootobjectinfo` option, the option specified last will be applied.

`-rootobjectinfost` *value*

Controls the volume of the information of the basic object list for increasing the Tenured area.

The class information, with the total instance size greater than the specified *value*, is output to the basic object list for increasing the tenured area. If you omit this value, `0` is specified.

For this option, you must enable the `-rootobjectinfo` option. Therefore, when you enable the `-norootobjectinfo` option, this option is disabled. You can specify a whole number in *value*. When you specify any number other than a whole number or a character string, the process ends with an error message indicating that there is an error in specifying the argument.

`-force`

Requests the output of the extended thread dump for the java process indicated by the process ID specified in the `-p` option, without confirming the existence of the `/tmp/hsperfdata_`*user-name*`/`*process-ID* file created in the java process.

Note that this option is for UNIX.

`-p` *process-ID*

Specifies the process ID of the Java program for which the Hitachi class wise statistical information is to be output.

Return values

`0`:

The command terminated normally.

`1`:

The command terminated abnormally.

`2`:

There is no response indicating that the output processing has terminated within the fixed time for the Hitachi class-wise statistical information.

Input example

1. Execution of the `jheapprof` command, with the `-f` option omitted:

```
% jheapprof -p 2463
```

2. In Windows, a message confirming the output of the extended thread dump containing the Hitachi class-wise statistical information is displayed. In UNIX, the process ID confirmation message is displayed:
   - In Windows:
     `Force VM to output HitachiJavaHeapProfile: ? (y/n)`
   - In UNIX:
     `send SIGQUIT to 2463: ? (y/n)`
3. In Windows, input `y` to output the extended thread dump containing the Hitachi class-wise statistical information (Alternatively, you input `n`). In UNIX, enter `y` to send the SIGQUIT signal or enter `n` to not send the signal:
   - In Windows:
     `Force VM to output HitachiJavaHeapProfile: ? (y/n)y`
   - In UNIX:
     `send SIGQUIT to 2463: ? (y/n)y`
4. When the extended thread dump containing the Hitachi class-wise statistical information is output, the running java program issues the following message:

```
Writing Java core to javacore2463.030806215140.txt... OK
```

5. The running java program creates an extended thread dump containing the Hitachi class-wise statistical information (`javacore`*process-id*`.`*date*`.txt`) in the current directory and continues.

Output format

For the output format of the Hitachi class-wise statistical information, see *9.10 Class-wise statistical information analysis functionality* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Output messages

If the following error messages or warning messages are issued, the extended thread dump containing the Hitachi class-wise statistical information is not output:

Table 10–11: Error messages output by the jheapprof command (in Windows)

No.	Error message	Explanation
1	`usage: jheapprof [-f|-i] [-class classname] [-staticroot|-nostaticroot] [-explicit|-noexplicit] [-fullgc|-copygc|-nogc] [-garbage|-nogarbage] [-rootobjectinfo|-norootobjectinfo] [-rootobjectinfostsize] -p process-id`	An argument specified for the `jheapprof` command is invalid.
2	`jheapprof: illegal option --`*option*	The indicated option (*option*) specified in the `jheapprof` command is invalid.
3	*process-id*`: Now processing previous request, this request canceled`	The process indicated by *process-id* specified in the argument of the `jheapprof` command is currently engaged in the output of the class-wise statistical information.
4	*process-id*`: Not owner`	`0` is specified in *process-id* specified in the argument of the `jheapprof` command.
5	`jheapprof: can't create work file at temporary directory, this request canceled`	If the user does not have permission to reference or write data into the directory for temporary files, the extended thread dump containing the Hitachi class-wise statistical information cannot be output. The output request for the extended thread dump containing the Hitachi class-wise statistical information is cancelled.
6	`jheapprof: can't get temporary directory, this request canceled`	If directory for temporary files cannot be acquired, the extended thread dump containing the Hitachi class-wise statistical information cannot be output. The output request for the extended thread dump containing the Hitachi class-wise statistical information is cancelled.
7	`jheapprof: please delete` *name-of-undeleted-file* `in` *full-path-of-undeleted-file*	When the `jheapprof` command terminated, it could not delete an internal file. Delete the indicated file on the indicated full path.

8	`jheapprof: unexpected error occurred:` *error-cause*	An unexpected error occurred during `jheapprof` command execution.
		The following are examples of causes that may be displayed in *error-cause*:
		• When work memory could not be allocated:
		`malloc systemcall fail (errno=Y)`
		• When an object could not be closed:
		`close systemcall fail (errno=Y)`

9	`jheapprof: can't communicate with process` *process-id*	Communication with the process indicated by *process-id* specified in the `jheapprof` command was not possible because the

No.	Error message	Explanation
		process has a problem or an error occurred in communication.
10	*process-id*: Timeout occurred. Java process not responding.	The process indicated by *process-id* specified in the jheapprof command did not return a response indicating that the process for output of Hitachi class wise statistics was completed within the specified amount of time. Or, the indicated process (*process-id*) is not a Java process.

Table 10–12: Error messages output by the jheapprof command (in UNIX)

No.	Error message	Explanation
1	usage: jheapprof [-f|-i] [-class classname] [-staticroot|-nostaticroot] [-explicit|-noexplicit] [-fullgc|-copygc|-nogc] [-garbage|-nogarbage] [-rootobjectinfo|-norootobjectinfo] [-rootobjectinfostsize] [-force] -p process-id	An argument specified for the jheapprof command is invalid.
2	jheapprof: illegal option --*option*	The indicated option (*option*) specified in the jheapprof command is invalid.
3	*process-id*: Now processing previous request, this request canceled	The process indicated by *process-id* specified in the argument of the jheapprof command is currently engaged in the output of the class-wise statistical information.
4	*process-id*: No such process	The process indicated by *process-id* specified in the argument of the jheapprof command is not found or the process indicated by *process-id* specified in the jheapprof command is not the java process.
5	*process-id*: Not owner	The user is not the owner of the process indicated by *process-id* specified in the argument of the jheapprof command.
6	jheapprof: can't create work file at temporary directory, this request canceled	If the user does not have permission to reference or write data into the directory for temporary files, the extended thread dump containing the Hitachi class-wise statistical information cannot be output. The output request for the extended thread dump containing the Hitachi class-wise statistical information is cancelled.
7	jheapprof: please delete *name-of-undeleted-file* in *full-path-of-undeleted-file*	When the jheapprof command terminated, it could not delete an internal file. Delete the indicated file on the indicated full path.
8	jheapprof: unexpected error occurred: *error-cause*	An unexpected error occurred during jheapprof command execution. The following are examples of causes that may be displayed in *error-cause*: • When work memory could not be allocated: malloc systemcall fail (errno=Y) • When an object could not be closed: close systemcall fail (errno=Y)

No.	Error message	Explanation
9	*process-id*: Timeout occurred. Java process not responding.	The process indicated by *process-id* specified in the argument of the jheapprof command did not return a response indicating that the output processing terminated within the fixed time for the Hitachi class-wise statistical information.

Notes

- The jheapprof command is provided as a utility for program development. You do not use this command in system operations.
- The jheapprof command cannot be executed concurrently for the same java process. Execute the command after the class-wise statistical information is output to the extended thread dump by a previous jheapprof command.
- In Windows, the communication is initialized using MailSlot when a Java process is started. If this initialization fails, a message is displayed and the processing is interrupted.
- In Windows, even the users other than the java process owner indicated by the process ID specified in the arguments can execute the jheapprof command.
- In UNIX, if a user who is not the owner of the Java process indicated by the process ID specified in the arguments tries to execute this command, a message is output and the processing terminates. If the user is root, the processing continues.
- In UNIX, the jheapprof command sends the SIGQUIT signal to the specified process. If you specify a program other than the java program by mistake, the other program might stop.
- In UNIX, the jheapprof command uses the /tmp/hsperfdata_*user-name*/*process-ID* file at runtime. If the applicable file does not exist, the statistical information by the class is not output from the jheapprof command.
- To include the Explicit heap in the statistics of the instance statistical information, you specify -XX:+HitachiUseExplicitMemory, and then specify the -explicit option using the jheapprof command for the java process in which the Explicit Memory Management functionality is enabled. Note that if -XX:-HitachiUseExplicitMemory is specified and the Explicit Memory Management functionality is disabled, even if you specify -explicit, the instance in the Explicit heap will not be included in the statistics of the instance statistical information.
- If the jheapprof command is used when G1 GC is in use, the command outputs the following error message and does not output a thread dump:
  jheapprof: can't use jheapprof and g1gc at the same time.
- The Java process that is executing the jheapprof command stops all other processing to acquire class-wise statistical information.

jheapprofanalyzer (CSV output of Hitachi class-wise statistical information analysis file)

Format

```
jheapprofanalyzer [-J option-name] [file-name]
```

Function

The Hitachi class-wise statistical information analysis file is output in CSV format.

For the input file used in the Hitachi class-wise statistical information analysis file, see *9.10 Class-wise statistical information analysis functionality* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Arguments

`-J` *option-name*

You can specify the following options in *option-name*. Also, when you specify options excluding the following options, the operation is not guaranteed:

- `-Xms`

  Specify the initial size of the memory allocation pool in number of bytes.

- `-Xmx`

  Specify the maximum size of memory allocation pool in number of bytes.

- `-DJP.co.Hitachi.soft.jvm.tools.jheapprofanalyzer.threshold=num`

  `num`: Specifies the threshold value of the instance total size. The range is from `0` to $2^{63}-1$ (`Long.MAX_VALUE`). Only the classes where the instance total size is more than `num` are output. The default value is `1024`.

file-name

You can specify the extended thread dump file containing the Hitachi class-wise statistical information. There are no special rules for specifying file names. Moreover, you can specify the files in any order without any limitations on the file count.

Return values

`0`:

The command is terminated normally.

Above `1`:

The command is terminated abnormally.

Input example

```
jheapprofanalyzer -J-Xms1024m -J-Xmx1024m -J-DJP.co.Hitachi.soft.jvm.tools.j
heapprofanayzer.threshold=5000
javacore22356.080523161703.txt  javacore22356.080523161711.txt
```

Output format

For the output format of the Hitachi class-wise statistical information analysis file, see *9.10 Class-wise statistical information analysis functionality* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Output message

When the following error message is output, the Hitachi class-wise statistical information analysis file is not output. Also, if any error message other than the message mentioned above is output, the default exception processing is executed.

Table 10–13: Error messages output by the jheapprofanalyzer command

No.	Error message	Explanation	Operation after output
1	`usage: jheapprofanalyzer [options] file...`	An argument specified for the `JheapprofAnalyzer` class is invalid.	(a)

No.	Error message	Explanation	Operation after output

	`where options include:`
	`-J-Xms<size> set initial Java heap size`
	`-J-Xmx<size> set maximum Java heap size`
	`-J-DJP.co.Hitachi.soft.jvm.tools.jheapprofanalyzer.threshold=<num> set instance total size threshold`		

2	`JheapprofAnalyzer: Illegal property value<num>. Default is assumed.`	A value other than an integer is specified in *num* of `JP.co.Hitachi.soft.jvm.tools.jheapprofanalyzer.threshold` or the *num* is out of range.	(b)
3	`JheapprofAnalyzer: can't open input file` *file-name*	*file-name* does not exist in the directory or the file does not open due to some other factors.	(c)
4	`JheapprofAnalyzer: can't read input file` *file-name*	Failed in loading *file-name*	(c)
5	`JheapprofAnalyzer: Illegal input file format` *file-name*	*file-name* is not an extended thread dump file containing the Hitachi class-wise statistical information.	(c)
6	`JheapprofAnalyzer: can't open output file` *file-name*	Unable to open the output file. The following status can be considered as the reasons for error: • The output file is changed to a directory. • There is no output file. • Unable to open the output file due to some other reasons.	(a)
7	`JheapprofAnalyzer: can't write output file` *file-name*	Failed in writing *file-name*.	(a)

Legend:

(a): The process ends abnormally.

(b): Continues executing the process assuming the default value.

(c): Continues the process and checks the error of all the specified input files.

Notes

In the Hitachi class-wise statistical information analysis functionality, the file is opened only when the date is acquired and when data is loaded. Therefore, the result is not guaranteed for updating and deleting the input data, when the command is being executed.

11 Commands Used in Log Operations

This chapter describes the input formats and functions of the commands used in log operations.

11.1 List of commands used in log operations

The table below lists the commands used in log operations:

Table 11–1: List of commands used in log operations

Command name	Function	Description
snapshotlog	Collect snapshot logs	Collects logs that are output by software programs that comprise the Cosminexus system.

11.2 Details of commands used in log operations

This section describes the input formats and functions of the commands used in log operations.

Command storage destination

The commands used in log operations are stored in the following directory:

- In Windows:
  Cosminexus-installation-directory\manager\bin\
- In UNIX:
  /opt/Cosminexus/manager/bin/

snapshotlog (collect snapshot logs)

Format

```
snapshotlog output-file-name [snapshot-log-collection-target-definition-file-name]
```

Function

This command collects snapshot logs. You can use snapshot logs for investigative purposes when a problem has occurred in a job system. You can execute this command even when Management Server is not being used for operations. You can also use this command for collecting the defined delivery material.

For the snapshot log information, see *2.3.3 Collecting the Snapshot Log* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Arguments

output-file-name

Specifies the zipped file to which the collected snapshot logs are to be output.

If a file name only is specified, a zipped file with the specified name is created under the current directory.

If a file path is specified, a zipped file with the specified name is created under the specified directory.

Even if an extension other than .zip is specified, the logs are output to the file in zipped format.

snapshot-log-collection-target-definition-file-name

Specifies the full path for the snapshot log collection target definition file. If this argument is omitted, the file given below becomes the collection target. If the file name contains a space, the file name must be enclosed in double quotation marks ("").

- In Windows:
  Cosminexus-installation-directory\manager\config\snapshotlog.conf
- In UNIX:
  /opt/Cosminexus/manager/config/snapshotlog.conf

For the snapshot log collection target definition file, see *10.2.1 Definition file for snapshot log collection* in the *uCosminexus Application Server Definition Reference Guide*.

Input examples

Output logs to the current directory:

```
snapshotlog snapshot.zip
```

Output logs to a specified directory:

- In Windows:

```
  snapshotlog c:\tmp\snapshot.zip
```

- In UNIX:

```
  snapshotlog /tmp/snapshot.zip
```

Specify a snapshot log collection target definition file:

- In Windows:

```
  snapshotlog snapshot.zip c:\temp\snapshotlog.conf
```

- In UNIX:

```
  snapshotlog snapshot.zip /temp/snapshotlog.conf
```

Output the defined material to the specified directory:

- In Windows:

```
  snapshotlog c:\tmp\snapshot.zip Application-Server-installation-director
y\manager\config\snapshotlog.param.conf
```

- In UNIX:

```
  snapshotlog /tmp/snapshot.zip /opt/Cosminexus/manager/config/snapshotlog
.param.conf
```

Return values

`0`:

The command is terminated normally.

`1`:

An error occurred while executing the command.

`2`:

A syntax error occurred.

12 Commands Used for Setting Audit Log (INTENTIONALLY DELETED)

(INTENTIONALLY DELETED)

12.1 (INTENTIONALLY DELETED)

(INTENTIONALLY DELETED)

13 Commands Used in Java Applications

This chapter describes the input formats and functions of the commands used in Java applications.

13.1 List of commands used in Java applications

The table below lists the commands used in Java applications.

Table 13–1: List of commands used in Java applications

Command name	Function	Description
cjcldumpap	Acquire the thread dump for Java application	Acquires the JavaVM thread dump when a failure occurs in the Java application started using the cjclstartap command.
cjclstartap	Start Java application	Starts a Java application.

13.2 Details of commands used in Java applications

This section describes the input formats and functions of the commands used in Java applications.

Command storage destination

The commands used in Java applications are stored in the following directory:

- In Windows:

  Cosminexus-installation-directory\CC\client\bin\#
- In UNIX:

  /opt/Cosminexus/CC/client/bin/

#

When using uCosminexus Client, replace *Cosminexus-installation-directory*\CC\ with *Cosminexus-installation-directory*\CCL\.

cjcldumpap (get thread dump of Java application)

Format

```
cjcldumpap [process-ID]
```

Function

This command outputs the thread dump for the Java application started using the cjclstartap command, in the current directory where the cjclstartap command is running. You can also output the thread dump of the specified cjclstartap process.

When you do not want to specify the process, execute this command in the current directory where the cjclstartap command for which you want to output the thread dump is running.

Arguments

process-ID

Specifies the process ID of the cjclstartap command to output the thread dump of a specific process. When no argument is specified, the thread dump is output for the cjclstartap process invoked from the current directory where the cjcldumpap command is executed. If a non-existing process ID is specified, an error message is displayed and then the command is terminated abnormally.

If a value other than the process ID is specified, the command usage is displayed.

Return value

0:

The command is terminated normally.

1:

The command is terminated abnormally.

Notes

- Only a user who executed the `cjclstartap` command or the superuser can execute the `cjcldumpap` command.
- When the `cjclstartap` command is executed without specifying `false` in `ejb.client.directory.shareable` of `usrconf.cfg`, an error message might be displayed and the thread dump might not be output, if the `cjcldumpap` command is executed without specifying *process-ID* in the argument.
- If you start a Java application from Manager or as a Windows service, you might fail to acquire the thread dump.

cjclstartap (start Java application)

Format

```
cjclstartap [[Java-option]...] Java-application-class-name
            [[Argument-passed-to-main-method] ...]
```

Function

This subcommand starts a Java application.

Arguments

When no arguments are specified, the command's usage is displayed.

Java-option

Specifies the invoke JavaVM option.

If you specify the same option in the *Java-option* and option definition file (`usrconf.cfg`), the contents specified in the *Java-option* become valid.

You can specify the following options:

- `-cp`
- `-classpath`
- `-D<name>=<value>`
- `-verbose[:class|gc|jni]`
- `-ea[:<packagename>...|:<classname>]`
- `-enableassertions[:<packagename>...|:<classname>]`
- `-da[:<packagename>...|:<classname>]`
- `-disableassertions[:<packagename>...|:<classname>]`
- `-esa | -enablesystemassertions`
- `-dsa | -disablesystemassertions`
- `-agentlib:<libname>[=<options>]`
- `-agentpath:<pathname>[=<options>]`
- `-javaagent:<jarpath>[=<options>]`
- `-Xmixed`

- `-Xint`
- `-Xbootclasspath:`<*directories and zip/jar files separated by ;*>
- `-Xbootclasspath/a:`<*directories and zip/jar files separated by ;*>
- `-Xbootclasspath/p:`<*directories and zip/jar files separated by ;*>
- `-Xnoclassgc`
- `-Xloggc:`<*file*>
- `-Xbatch`
- `-Xms`<*size*>
- `-Xmx`<*size*>
- `-Xmn`<*size*>
- `-Xss`<*size*>
- `-Xprof`
- `-Xrunhprof[:help]|[:`<*option*>`=`<*value*>`, ...]`
- `-Xdebug`
- `-Xrs`
- `-Xcheck:jni`
- `-XX:MetaspaceSize=`<*size*>
- `-XX:MaxMetaspaceSize=`<*size*>
- `-XX:SurvivorRatio=`<*value*>
- `-XX:TargetSurvivorRatio=`<*value*>
- `-XX:MaxTenuringThreshold=`<*value*>

You cannot specify the following options:

- `-jar jarfile` (substitute with `-cp jarfile` *Java-application-class-name*)
- `-client` (substitute by specifying `jvm.type=client` in the `usrconf.cfg` file)
- `-server` (substitute by specifying `jvm.type=server` in the `usrconf.cfg` file)
- `-hotspot`
- `-version`
- `-showversion`
- `-? -help`
- `-X`
- `-XX`
- `-Xfuture`

Java-application-class-name

Specifies the user-created Java application class name.

Argument-passed-to-main-method

Specifies the argument passed to the `main` method of Java application.

Return value

Values other than the following return values return the Java application termination code. However, if SIGHUP, SIGINT, or SIGTERM occurs in UNIX, this command returns the value with +128 added to the signal number.

1:

An error occurred in the start Java application command.

143:

The following operations are performed when the command is running (in Windows):

- The **x** button is clicked for closing the command prompt window from which the command is invoked.
- The Windows system shuts down.
- The Windows system logs out.

Notes

- When you specify the directory path where the option definition file (usrconf.cfg) and user property file (usrconf.properties) are saved, you must specify the storage destination environment variable of the user definition file (CJCLUSRCONFDIR). For setting up the environment variables of Java applications, see *3.3.2 When using the cjclstartap command* in the *uCosminexus Application Server EJB Container Functionality Guide*.

  The storage destination environment variable of the user definition file is not specified, the current directory is referenced. When the option definition file (usrconf.cfg) or the user property file (usrconf.properties) does not exist in the directory specified with the environment variable, an error message is displayed and the command is terminated abnormally.
- This command executes the main method of the Java application main class. The main method must be declared as *public static void main(String[])*.
- The class path specified in the CLASSPATH environment variable is ignored.
- You must have the write permission for the current directory and log output destination directory to execute this command.
- In UNIX, set 0 for umask for enabling multiple users to use the log output destination.
- If you specify false in the ejb.client.directory.shareable option or if you try to invoke multiple processes that use the same current directory or the same log output destination directory concurrently, an error message is displayed and the command terminates abnormally.
- If false is specified in the ejb.client.directory.shareable option, the file storing the process ID (.cjclstartap.pid) and the lock file (.cjclstartap.lock) are created in the current directory. In UNIX, the pipe file (.COSMINEXUS_CC_EJBCLIENT_*process_ID*) is created. If you edit or delete these files, the log file and thread dump might not be output properly.
- The hs_err<pid>.log in the JavaVM event log and the core dump are output in the current directory.
- In Windows, if you specify a path containing UNC name as the current directory, the log might not be output.
- In UNIX, if you specify anfs mounted disk as the current directory, the log might not be output.
- When false is not specified in the ejb.client.directory.shareable option of usrconf.cfg, or when Java log is output simultaneously from multiple cjclstartap commands specifying the same log output destination, the Java log might not be output correctly. In such cases, change the directory path specified in the ejb.client.log.directory.
- If the -cp option and -classpath option are not specified, the current directory is not used as the default class path.

- If you specify multiple `-cp` and `-classpath` options, all the specified options become valid.
- If you execute this command while logging off from the account, the invocation of the command might fail.
- This command sends the `Ctrl+Break` signal to itself, for the output of the thread dump. In this case, all the applications, which share the console with the `cjclstartap` command and do not ignore `Ctrl+Break` are terminated.
- In Windows, execute this command in a directory for which you have write permission. If you execute this command with the general user permission in `%ProgramFiles%` and the subdirectories, the current directory is redirected, and hence the operations will become as follows:
  - The log file, lock file, or pid file are redirected.
  - If multiple users execute this command, the processing is executed for all the users at the same time.
  - Only the user who executes this command can execute the `cjcldumpap` command.
- This command sets the directory path of a library provided by the product to an environment variable or a class path. When you acquire the information of the class path from a Java application, ignore the information of the directory path of a library provided by the product.
- This command does not support execution of Java applications that expect the use of Security Manager.
- The `-D` option cannot be used to specify customization keys for Java applications. For details about customization keys, see *12.2.2 usrconf.properties (User property file for Java applications)* in the *uCosminexus Application Server Definition Reference Guide*.

14 Commands Used in Web Applications

This chapter describes the input formats and functions of the commands used in Web applications.

14.1 List of commands used in Web applications

The following table lists the commands used in Web applications:

Table 14–1: List of commands used for the Web applications

Command name	Function	Description
cjjspc	Pre-compile JSP	Generates class files by generating and compiling Java source files from JSP files.

14.2 Details of commands used in Web applications

This section explains the input formats and functions of the commands used in Web applications.

Command storage destination

The commands used in Web applications are stored in the following directory:

- In Windows
  Cosminexus-installation-directory\CC\web\bin\
- In UNIX
  /opt/Cosminexus/CC/web/bin/

cjjspc (pre-compile JSP)

Format

In Windows

```
cjjspc [-jspworkdir jsp-work-directory-name]
       [-classpath class-path-1[;class-path-2...]]
       [-excludefile jsp-file-path-1[;jsp-file-path-2...]|
       -excludelist compilation-target-exclusion-list-file-path]
       [-keepgenerated]
       [-source {1.6|6|1.7|7|1.8|8|9}]
       [-pageencoding character-encoding]
       [-resultlist execution-results-listings-file-path]
       [-customactiondeclarevariable]
       [-customactionignorecaseattributename]
       [-usebeannocheckclass]
       [-usebeannocheckduplicateid]
       [-tagnocheckrtexprvalue]
       [-tagrtexprvalueterminate]
       [-taglibnocheckprefix]
       [-debugging]
       [-jsppagedisablebom]
       [-nojavaeetaglib]
       [-lowerversion {2.4|2.5}]
       [-addimport <class-name-1>[,<class-name-2>...]]
       -root web-application-root-directory
       [jsp-file-path...]
```

In UNIX

```
cjjspc [-jspworkdir jsp-work-directory-name]
       [-classpath class-path-1[:class-path-2...]]
       [-excludefile jsp-file-path-1[:jsp-file-path-2...]|
       -excludelist compilation-target-exclusion-list-file-path]
       [-keepgenerated]
       [-source {1.6|6|1.7|7|1.8|8|9}]
       [-pageencoding character-encoding]
       [-resultlist execution-results-listings-file-path]
       [-customactiondeclarevariable]
       [-customactionignorecaseattributename]
       [-usebeannocheckclass]
```

```
        [-usebeannocheckduplicateid]
        [-tagnocheckrtexprvalue]
        [-tagrtexprvalueterminate]
        [-taglibnocheckprefix]
        [-debugging]
        [-jsppagedisablebom]
        [-nojavaeetaglib]
        [-lowerversion {2.4|2.5}]
        [-addimport <class-name-1>[,<class-name-2>...]]
        -root web-application-root-directory
        [jsp-file-path...]
```

Function

This command generates class files by generating and compiling Java source files from JSP files. The log from execution of this command is output to the standard output or to the standard error output. You can compile all the JSP files included in the Web application.

By specifying the `-excludelist` or `-excludefile` option, you can specify JSP files that are to be excluded from compilation. You specify for compilation exclusion files that satisfy any of the conditions listed below (i.e., files that do not require compilation or files that need not be re-compiled):

- Files that satisfy one of the following conditions and do not require compilation:
  - Files whose extension is `.jsp` or `.jspx`
  - Files specified by `<jsp-file>` of Deployment Descriptor (`/WEB-INF/web.xml`)
  - Files that matches the `<jsp-property-group><url-pattern>` tag of Deployment Descriptor (`/WEB-INF/web.xml`)
  - Files specified in the `cjjspc` command arguments
- Files that have already been compiled and thus need not be re-compiled

You cannot specify `-excludelist` and `-excludefile` at the same time. If they are both specified, an error message is displayed and processing terminates.

You can also specify the same file in the `-resultlist` option and the `-excludelist` option to set the successfully compiled JSP file as the file that is not to be compiled. Also, if an attempt to compile a JSP file has failed and that JSP file is not required to be compiled, you can delete hash mark (#) at the beginning of the path of the JSP file for which an attempt to compile has failed and which is also output to the execution result list file. As a result, the JSP file will not be compiled.

Arguments

`-jspworkdir` *jsp-work-directory-name*

Specifies a new work directory name when you wish to change the directory name of the JSP work directory (*web-application-root-directory*`/WEB-INF/cosminexus_jsp_work`). You must specify a character string consisting of the alphanumeric characters 0-9, A-Z, or a-z, and the underscore (_). The following directory names cannot be specified (in upper case or lower case):

- lib
- tags
- classes

`-classpath` *class-path*

Specifies the absolute path for a class path that is needed for JSP compilation. The default class paths are as follows.

- *web-application-root-directory*/WEB-INF/classes
- JAR file contained in *web-application-root-directory*/WEB-INF/lib
- Class library used by the Cosminexus system, containing Servlet 2.5 API, for example

To specify multiple class paths, delimit them with the semicolon (;) in Windows and the colon (:) in UNIX. If the class file in the class library used for the Application Server system and the class file in the jar files included in the class path that is specified in the -classpath option are repeated, the former is given the priority.

-excludefile *jsp-file-path*

Specifies a JSP file that is to be excluded as a compilation target.

To specify multiple JSP file paths, delimit them with the semicolon (;) in Windows and the colon (:) in UNIX. You specify a JSP file in terms of its relative path from the root directory of the web application. If you include the asterisk wildcard character (*) or a blank, you must enclose the specification in double quotation marks (").

You cannot use the delimiter character (semicolon in Windows, colon in UNIX) in the file path. If you need to include the delimiter character in the file path, you must use a compilation target exclusion list file (specified in the -excludelist option).

The specification methods follow.

Specification method (in Windows)

```
cjjspc -excludefile jsp-file-path-1;jsp-file-path-2;... -root web-appli
cation-root-directory
```

Specification method (in UNIX)

```
cjjspc -excludefile jsp-file-path-1:jsp-file-path-2:... -root web-appli
cation-root-directory
```

-excludelist *compilation-target-exclusion-list-file-path*

Specifies a compilation target exclusion list file that describes JSP files to be excluded from compilation. A compilation target exclusion list file is a text file for describing JSP files that are to be excluded from compilation when JSP pre-compilation is executed using a command.

Specify a relative or absolute path for the file.

The specification method and the file format follow.

Specification method for a compilation target exclusion list file

```
cjjspc -excludelist compilation-target-exclusion-list-file-path -root w
eb-application-root-directory
```

File format of a compilation target exclusion list file

```
# comment
jsp-file-path-1-to-be-excluded-from-compilation
jsp-file-path-2-to-be-excluded-from-compilation
...
```

-keepgenerated

Specifies that when a JSP file is compiled, the Java source file generated during JSP translation is to be retained. The generated Java source file is created in the same directory as the compiled class file.

The specification method follows.

Specification method

```
cjjspc -keepgenerated -root web-application-root-directory
```

`-source {1.6|6|1.7|7|1.8|8|9}`

Specifies that when a JSP file is compiled, a Java source file is to be generated during JSP translation. You can specify the version of the Java language specification to be used during Java source file compilation. For example, if program codes that depend on the J2SE 1.6 language specifications are described in the JSP file, you would specify `1.6` in this option. If this option is omitted, the Java source file is compiled according to the Java language specifications of the installed JDK.

The specification method follows.

Specification method

```
cjjspc -source version -root web-application-root-directory
```

`-pageencoding` *character-encoding*

Specifies the default character encoding of a JSP file. The character encoding supported by the JavaVM can be specified as the default character encoding. For details on the character encoding supported by the JavaVM, see the explanation related to the supported encoding in the *JDK documentation*.

The character strings that you can specify are the character encoding described in the canonical name for the `java.nio API` and canonical name for the `java.lang API` and their optional names. If you specify a character encoding that is not supported, an error message is displayed and the process is terminated.

`-resultlist` *execution-results-listings-file-path*

Specifies the absolute path or relative path from the current directory for the compilation execution results listings file. The following lists are output to the compilation execution results listings file:

- JSP file paths that were excluded from compilation
- JSP file paths that were compiled successfully
- JSP file paths that could not be compiled

The specification method and the file formats follow.

Specification method

```
cjjspc -resultlist execution-results-listings-file-path -root web-appli
cation-root-directory
```

Execution results listings file output format

```
# Excluded JSP files.
compilation-target-exclusion-jsp-file-list
# Compiled JSP files.
jsp-files-that-were-successfully-compiled
# jsp-files-that-could-not-be-compiled
...
```

If a file with the name that is specified already exists, it is overwritten and processing continues.

`-customactiondeclarevariable`

Specify this option, when the variable declaration of the script variable corresponding to the second custom tag is to be output in the Java code that is generated from JSP file, when the scope of the script variable name and script variable overlaps in multiple custom tags. If you do not specify this option, the variable declaration of the script variable will not be output.

You can specify the scope of a (*) script variable either in the subclass of the `javax.servlet.jsp.tagext.TagExtraInfo` class, or in the `scope` element that exists in the `variable` element of TLD file.

-customactionignorecaseattributename

Specify this option for confirming whether the attributes specified in the custom tag are defined in the TLD file or in the tag file, and the values are case sensitive.

-usebeannocheckclass

Specify this option when the class attribute value of the <jsp:useBean> tag is not to be verified during the JSP compilation.

-usebeannocheckduplicateid

Specify this option when the id attribute value of the <jsp:useBean> tag is not to be verified during the JSP compilation.

-tagnocheckrtexprvalue

Specify this option, when the specification of Expression is not to be verified in the attribute value of tag in which Expression cannot be specified.

-tagrtexprvalueterminate

Specify this option, when the value enclosed within double quotation marks (") (or single quotation marks (')) is to be treated as a string, when the attribute value of tag begins with "<%=" (or '<%=), but does not end with %>" (or %>').

-taglibnocheckprefix

Specify this option when it is not to be checked whether the custom tag that uses prefix specified in the taglib directive is described before the taglib directive.

-debugging

Specify this option to enable the JSP debug functionality.

When the JSP debug functionality is enabled, SMAP is embedded in the class file of the servlets created from JSP files. Different class names are output when this option is specified or not specified. For details, see *2.4 JSP debug functionality* in the *uCosminexus Application Server Web Container Functionality Guide*.

-jsppagedisablebom

Specify this option when the BOM-based character encoding is not to be determined for the JSP pages of Web applications in Servlet 2.5 and later specifications.

-nojavaeetaglib

Specify this option when the tag libraries included in the Java EE specifications (JSTL and JSF) are not to be automatically mapped in the Web applications of Servlet 2.5 and later specifications. In a Web application conforming to Servlet 2.5 or later specifications, specify the libraries used besides the tag libraries (JSTL, JSF) provided by Application Server.

-lowerversion {2.4|2.5}

You can use the version of the built Web application to compile JSP files.

The specification method is as follows:

Specification method

```
cjjspc -lowerversion version -root Web-application-root-directory
```

-addimport *class-name-1*[,*class-name-2*...]

Specifies the class names to be imported implicitly (full qualified class name or 'package name.*'). To specify multiple class names, use a ',' (comma) to demarcate the class names. For details on implicit import, see *2.3.7 Implicitly importing the import attribute of the page/tag directive* in the *uCosminexus Application Server Web Container Functionality Guide*.

`-root` *web-application-root-directory*

Specifies the web application root directory that contains the JSP to be compiled. Specify either a relative path from the current directory or an absolute path. If the path name contains a space, enclose it in double quotation marks (").

jsp-file-path `...`

Specifies that compilation is to be executed on the basis of JSP file units. For the JSP file path, specify a relative path from the Web application root directory specified by `-root`. Use a forward slash (`/`) as the path delimiter. You must add a forward slash (`/`) at the beginning of the path name. For specifying multiple JSP file paths, delimit them with the single byte space, and then specify. If this option is omitted, all JSP files within the Web application become compilation targets. If a path name includes an asterisk (`*`) or a space, enclose each JSP file path within double quotation marks (").

Return values

`0`:

The command terminated normally.

`1`:

An option analysis error occurred.

`2` or greater:

The command terminated abnormally.

Notes

- When this command is executed, it checks whether Deployment Descriptor (`/WEB-INF/web.xml`) and the TLD file conform to the DTD or XML schema. If Deployment Descriptor (`/WEB-INF/web.xml`) does not conform to the schema, an error occurs and processing terminates. If the TLD file does not conform to the schema, an error occurs when the JSP is being translated. In other words, when the schema is not adhered to, an error occurs and command processing terminates.
- When a tag file, statically included file, or TLD file is updated, compile all JSP files that reference the updated file.
- If you set up the environment variable `CJ_CMD_JVM_ARGS`, you can change the JavaVM invocation option operated by the `cjjspc` command.

  By default, `-Xmx512m` (maximum Java heap memory area is 512 MB) is set up in the JavaVM invocation option. If you use the `cjjspc` command to compile a large-sized Web application, the maximum Java heap memory area is exceeded and `java.lang.OutOfMemoryError` might occur. Therefore, when you want to compile a large-sized Web application, you must first specify an appropriate Java heap memory area in the environment variable `CJ_CMD_JVM_ARGS`.

  Note that the constants `shift_jis`, `csshiftjis`, `ms_kanji`, and `x-sjis`, which were used as character encoding aliases for `MS932` in JDK 1.4.0, are, in JDK 1.4.2 or later, used as aliases for `SJIS`. If existing programs that use these constants as aliases for `MS932` are executed in the new versions of JDK, character corruption might occur. If you want these constants to be handled as aliases for `MS932` in the new versions of JDK also, specify `-Dsun.nio.cs.map=Windows-31J/Shift_JIS` for the `CJ_CMD_JVM_ARGS` environment variable.

Appendixes

A. Port Numbers Used by Java VM and How to Change Their Settings

The table below shows the port numbers used by a Java VM, their purposes, and how to change port number settings.

Table A–1: Port numbers used by a Java VM

Port number	Purpose	Change method
`1049` (TCP)	Used by the `orbd` command to receive a request for a persistent object.	Can be changed using the `-port` option of the `orbd` command. `% orbd -port` *port-number*
`1080` (TCP)	Used by the SOCKS protocol.	Can be changed by specifying a port number for the `socksProxyPort` property. # `% java -DsocksProxyPort=`*port-number*
`1098` (TCP)	Used by the `rmid` command to start an internal registry.	Can be change using the `-port` option of the `rmid` command. `% rmid -port` *port-number*
`1099` (TCP)	Used by the `rmiregistry` command to create a remote object registry.	Can be changed by specifying a port number in the `rmiregistry` command. `% rmiregistry` *port-number*

#

You specify socks properties as part of the system properties for a J2EE server, Web container server, or EJB client application.

B. Setting Up and Deleting a System that Executes J2EE Applications

This appendix explains the procedure for editing files and executing commands to set up and delete a system that executes J2EE applications.

B.1 Flow of setting up a system

For editing files and executing commands to set up a system that executes J2EE applications, you use commands and user-defined files that are provided with Application Server and build an operating environment for the system.

(1) Files used when setting up the system

This subsection describes the main files used when setting up a system that executes J2EE applications. For details on each file, see *2. Files Used in J2EE Servers* in the *uCosminexus Application Server Definition Reference Guide*.

Important note

To change a file, stop the J2EE server. The operation will not be guaranteed if you change the contents of a file while the J2EE server is running.

- `usrconf.properties` (user property file for J2EE server)

  This file specifies the user properties of a J2EE server. It specifies the Naming Service, transaction, connection, container, log, and security that the J2EE server uses.

  The file storage destination is as follows:

  - **In Windows**

    Cosminexus-installation-directory`\CC\server\usrconf\ejb\`*server-name*`\usrconf.properties`
  - **In UNIX**

    `/opt/Cosminexus/CC/server/usrconf/ejb/`*server-name*`/usrconf.properties`
- `usrconf.cfg` (option definition file for J2EE server)

  This file specifies the JavaVM startup options of a J2EE server.

  The file storage destination is as follows:

  - **In Windows**

    Cosminexus-installation-directory`\CC\server\usrconf\ejb\`*server-name*`\usrconf.cfg`
  - **In UNIX**

    `/opt/Cosminexus/CC/server/usrconf/ejb/`*server-name*`/usrconf.cfg`
- `server.policy` (security policy file for J2EE server)

  This file specifies the security policy of a JavaVM on which the J2EE server is running.

  The file storage destination is as follows:

  - **In Windows**

    Cosminexus-installation-directory`\CC\server\usrconf\ejb\`*server-name*`\server.policy`
  - **In UNIX**

    `/opt/Cosminexus/CC/server/usrconf/ejb/`*server-name*`/server.policy`
- `hitachi_web.properties` (Web application property file for J2EE server)

This file specifies the properties of each Web application. Note that the setup of the properties of the entire J2EE server is specified in `usrconf.properties`.

The file storage destination is as follows:

- **In Windows**
  WEB-INF-directory-of-Web-application`\hitachi_web.properties`
- **In UNIX**
  WEB-INF-directory-of-Web-application`/hitachi_web.properties`

When you change `hitachi_web.properties`, create a WAR file, and re-import.

(2) Flow of setting up a system that execute J2EE applications

To set up a system that executes J2EE applications by editing files and executing commands:

1. Set up a J2EE server.

   If you are using the default settings, you need not set up a J2EE server.

   If during installation you want to use a server name that is different from the name of an already set up J2EE server, set up the J2EE server. For details, see *B.2 Setting up J2EE servers*.

2. Specify the operation settings of the J2EE server.

   If you are using the default settings, you need not specify the operation settings.

   For changing the operation of the functionality to be used and for using the specific functionality, you use user-defined files and commands provided with the Application Server to set up and change operations of the J2EE server.

   The functionality for which you can set up or change the operation of the J2EE server are as follows:

   - Naming Service
   - Transaction
   - JavaVM startup options
   - Container extension library
   - Scheduling of requests by CTM

3. Specify the settings for collecting data on troubleshooting.

   If you are using the default settings, you need not specify the settings. However, if you do not specify the settings beforehand for collecting the following data, you will not be able to collect data. This data is required for troubleshooting, and therefore, we recommend that you collect this data.

   - Statistics of the OS, user dump (in Windows), or `core` dump (in UNIX)
   - Java VM GC log

   When collecting this data or when changing the settings for collecting some other data, specify the settings for collecting the troubleshooting data. For details on data required for troubleshooting, or whether or not specifying the settings for troubleshooting is required, see *B.1(3) Data required for troubleshooting*.

4. Specify the settings for integrating with the Web server.

   If you do not want to integrate with the Web server, you need not specify the settings.

   In this step, you specify the settings required to link with the web server, including the request distribution by using a reverse proxy, communication timeout, and error page customization.

5. Specify the settings for the integrated user management functionality.

If you are not using the integrated user management functionality, you need not specify the settings.

Specify the settings for performing integrated management for a user who logs into the Cosminexus system. Set up the LDAP directory for saving the user authentication information, and also set up the configuration file for integrated user management. For details on specifying the settings, see *5.13 Procedures to set up the integrated user management function* in the *uCosminexus Application Server Security Management Guide*.

6. Specify the settings for increasing the system availability.

   If you are not using the functionality to increase the system availability, you need not specify the settings.

   Specify the settings for inheriting the session information into the J2EE server using the session failover functionality. For details on specifying the settings, see *5. Inheriting Session Information Between J2EE Servers* in the *uCosminexus Application Server Expansion Guide*.

7. Specify the settings for resources and J2EE applications.

   Use server management commands to define the properties of the resource adapters and J2EE applications, and import them into the J2EE server. For details on specifying the settings, see *3. Connecting Resources and Managing Transactions* in the *uCosminexus Application Server Common Container Functionality Guide*.

8. Start the system, and check the system operation.

   For details on starting and stopping the system, see *C. Starting and Stopping a System that Executes J2EE Applications (in Windows)*, or *D. Starting and Stopping a System that Executes J2EE Applications (in UNIX)*.

(3) Data required for troubleshooting

The following table describes data required for troubleshooting, and whether or not specifying the settings for troubleshooting is required. For details on specifying the settings, see *3. Preparing for Troubleshooting* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Table B–1: Types of troubleshooting data and whether or not specifying the settings (for a system that executes J2EE applications)

Type of data	Possibility of specifying the settings
snapshot log	Δ[#1]
Trace based performance analysis file	N[#2]
J2EE server log	Δ
Web server log	Δ
J2EE application user log	Y
Statistics file	Δ
Resource adapter log	Δ
Trace file of Cosminexus TPBroker	Δ
Log of Cosminexus DABroker Library	N
Statistical information of the OS	Y
User dump	Y
`core` dump	Y
JavaVM data	Y
Log of server management commands	Δ

Legend:

Y: Settings must be specified when collecting data.

Δ: Settings must be specified only when changing the default settings for collecting data.

N: Settings need not be specified.

#1

Collect the snapshot logs using the `snapshotlog` command. In such a case, during the execution of the command, specify the already set up list files as arguments. For details on the `snapshotlog` command, and the snapshot logs that can be collected with the default settings, see *snapshotlog (collect snapshot logs)*of *11.2 Details of commands used in log operations*. To change the snapshot log collection destination, edit the definition files for which the snapshot logs are to be collected. For the snapshot log collection target definition files, see *10.2.1 Definition file for snapshot log collection* in the *uCosminexus Application Server Definition Reference Guide*.

#2

During daily system operations, when you start the performance tracer by executing the `cprfstart` command, you can specify the PRF trace collection level and the number of files. For collecting the trace based performance analysis file, see *7.3.1 How to collect a trace based performance analysis file* in the *uCosminexus Application Server Maintenance and Migration Guide*.

The logs described in the Table B-1 can be collected in a batch as the snapshot log. However, some trace files of Cosminexus TPBroker can be collected, while some cannot be collected. Besides this, you must specify the settings for collecting the log that cannot be collected with the default settings of the snapshot log, and add them to the snapshot log collection destination.

Note that you cannot change the log output destination of the following logs:

- `install.log` created during setup, and log files of the migration commands
- Java thread dump files that are output to the following directory:

  In Windows

  work-directory`\ejb\`*server-name*

  In UNIX

  work-directory`/ejb/`*server-name*

For the types and default values of logs, channel names, details of the logs that can be collected and collection methods, see *2.4 Types of Required Data* in the *uCosminexus Application Server Maintenance and Migration Guide*.

B.2 Setting up J2EE servers

This subsection describes the setup of J2EE servers configuring an Application Server system.

J2EE servers are already setup during the installation of the product. During the default settings, the J2EE server name is the host name. If you want to change the server name to another name, set up the J2EE server. When multiple J2EE servers are to be started on the same host, you must allocate a separate name to each J2EE server, and therefore, you must set up the J2EE servers.

The procedure for setting up a J2EE server is as follows. For details on the precautions to be taken when setting up a J2EE server, see *B.2 (3) Precautions to be taken during setup*, and take action, if necessary. For details on the precautions to be taken when allocating server names during the startup of multiple J2EE servers on the same host, see *B.2 (4) Precautions to be taken when starting multiple J2EE servers*.

(1) In Windows

To set up a J2EE server in Windows:

1. Move the current directory using the following command:

   `cd` *Cosminexus-installation-directory*`\CC\server\bin`

2. Set up the J2EE server using the `cjsetup` command.

   `cjsetup` *server-name*

   An example of setting up a J2EE server is as follows. In this example, the Cosminexus installation directory is `C:\Program Files\Hitachi\Cosminexus`, and the server name is *MyServer*.

```
C:\>cd C:\Program Files\Hitachi\Cosminexus\CC\server\binC:\Program Files\H
itachi\Cosminexus\CC\server\bin>cjsetup MyServer
```

(2) In UNIX

To set up a J2EE server in UNIX:

1. Set up the J2EE server using the `cjsetup` command. You must have the root permission (when the Component Container Administrator is not set up), or the permission of the Component Container Administrator (when the Component Container Administrator is set up), to execute the command.

   `/opt/Cosminexus/CC/server/bin/cjsetup` *server-name*

   An example of setting up a J2EE server is as follows. In this example, the server name is *MyServer*.

```
/opt/Cosminexus/CC/server/bin/cjsetup MyServer
```

(3) Precautions to be taken during setup

- Set up the J2EE server only once. If you specify the settings for setting up an already set up J2EE server, an error message will be output.
- If you do not customize the J2EE server after setup, a CORBA Naming Service with the host name *localhost* and port number *900* will be invoked automatically and used in the J2EE server as an in-process. Change the CORBA Naming Service to be used with the `ejbserver.naming.host` key and `ejbserver.naming.port` key of `usrconf.properties`. Change the startup mode of the CORBA Naming Service with the `ejbserver.naming.startupMode` key of `usrconf.properties`.
- Before starting the J2EE server, make sure that the value of the environment variable `OSAGENT_PORT` and the value of the `vbroker.agent.port` key of `usrconf.properties` are matching.
- For details on the characters that can be used in the server name, see the explanation about the `cjsetup` command. For details on the `cjsetup` command, see *2.2 Commands used for operating J2EE servers*.
- The server name is used as a directory name within the work directory. Specify the server name in consideration of the fact that the path length below the work directory does not reach the upper limit of the platform. For details on estimating the path length of the work directory, see *Appendix C.1 Work directory of the J2EE server* in the *uCosminexus Application Server System Setup and Operation Guide*.

(4) Precautions to be taken when starting multiple J2EE servers

A J2EE server is identified by the server name. During installation, the host name of the already installed host is set up as the default server name. Therefore, when multiple J2EE servers are started on the same host, a serve name is allocated to each J2EE server, and the J2EE servers are set up.

When allocating a server name to a J2EE server, you must consider the following two conditions:

- You cannot set up more than one J2EE server with the same server name on the same host. If you use the same server name to set up another J2EE server, an error will occur.
- If you are using the same CORBA Naming Service, you cannot set up more than one J2EE server with the same server name even in different hosts.

The precautions to be taken regarding the setup of the host name and port number of the CORBA Naming Service to be connected to the J2EE server, and also regarding the setup of the Smart Agent to be used in the CORBA Naming Service are as follows:

Setting up the host name and port number

When starting multiple J2EE servers simultaneously on the same host, make sure that no two host names or port numbers used to connect to the CORBA Naming Service are same. Set up the host name and port number in `usrconf.properties`.

Furthermore, specify different values for the port numbers set up in the `webserver.connector.nio_http.port` key and `ejbserver.http.port` key of `usrconf.properties` for J2EE servers that are started simultaneously.

Setting up the Smart Agent

When you want to use a Smart Agent in the CORBA Naming Service to which the J2EE server is connected, use a unique J2EE server name within the same Smart Agent (when the connection is established using the same port number). If you do not use a unique J2EE server name, the message *KDJE37302-E* will be output by the server management command, and the server management command might not run.

Note that the Smart Agent can be used in the CORBA Naming Service in the following cases:

When the CORBA Naming Service is invoked manually as an out-process

When you invoke the CORBA Naming Service by specifying `manual` in the `ejbserver.naming.startupMode` key, specify `vbroker.agent.enableLocator=true` (the default value is `true`) in the argument during the invocation of the CORBA Naming Service.

When the CORBA Naming Service is invoked automatically as an out-process or in-process

When you invoke the CORBA Naming Service by specifying `automatic` or `inprocess` in the `ejbserver.naming.startupMode` key, specify `vbroker.agent.enableLocator=true` (the default value is `false`) in `usrconf.properties` to enable the usage of the Smart Agent.

B.3 Flow of deleting a system

For editing files and executing commands to delete the system that executes J2EE applications, you use the commands provided with the Application Server to unset up the J2EE server, and then delete the system.

To delete a system that executes J2EE applications by editing files and executing commands:

1. Stop the system.

   For details on the procedure and method of stopping the system, see *C. Starting and Stopping a System that Executes J2EE Applications (in Windows)*, or *D. Starting and Stopping a System that Executes J2EE Applications (in UNIX)*.

2. Unset up the J2EE server.

   For details, see *B.4 Unsetting up J2EE servers*.

B.4 Unsetting up J2EE servers

This subsection describes the unsetup of J2EE servers configuring an Application Server system. The procedure for unsetting up a J2EE server is explained for each OS.

(1) In Windows

To unset up a J2EE server in Windows:

1. Move the current directory using the following command:
   `cd` *Cosminexus-installation-directory*`\CC\server\bin`

2. Specify `-d` in the argument of the `cjsetup` command, and unset up the J2EE server.
   `cjsetup -d` *server-name*
   An example of unsetting up a J2EE server is as follows. In this example, the Cosminexus installation directory is `C:\Program Files\Hitachi\Cosminexus`, and the server name is *MyServer*.

```
C:\>cd C:\Program Files\Hitachi\Cosminexus\CC\server\binC:\Program Files\H
itachi\Cosminexus\CC\server\bin>cjsetup -d MyServer
```

(2) In UNIX

To unset up a J2EE server in UNIX:

1. Specify `-d` in the argument of the `cjsetup` command, and unset up the J2EE server. You must have the root permission (when the Component Container Administrator is not set up), or the permission of the Component Container Administrator (when the Component Container Administrator is set up), to execute the command.
   `/opt/Cosminexus/CC/server/bin/cjsetup -d` *server-name*
   An example of unsetting up a J2EE server is as follows. In this example, the server name is *MyServer*.

```
/opt/Cosminexus/CC/server/bin/cjsetup -d MyServer
```

C. Starting and Stopping a System that Executes J2EE Applications (in Windows)

This appendix explains the procedure for starting and stopping a system that executes J2EE applications, in Windows.

C.1 Procedure for starting a system

The procedure for starting a system is explained in this section.

Important note

In some system configurations, you need to start not only the application server, but also the integrated naming scheduler server.

If you need to start the application server and the integrated naming scheduler server, note the following:

- You can start the integrated naming scheduler servers in any order.

The following describes the procedure for starting the application server and the procedure for starting the integrated naming scheduler server.

Note that as a prerequisite, the related products such as database, LDAP directory server, and EIS must be already started. If you are using a database, LDAP directory server, and EIS, start them in advance, as required.

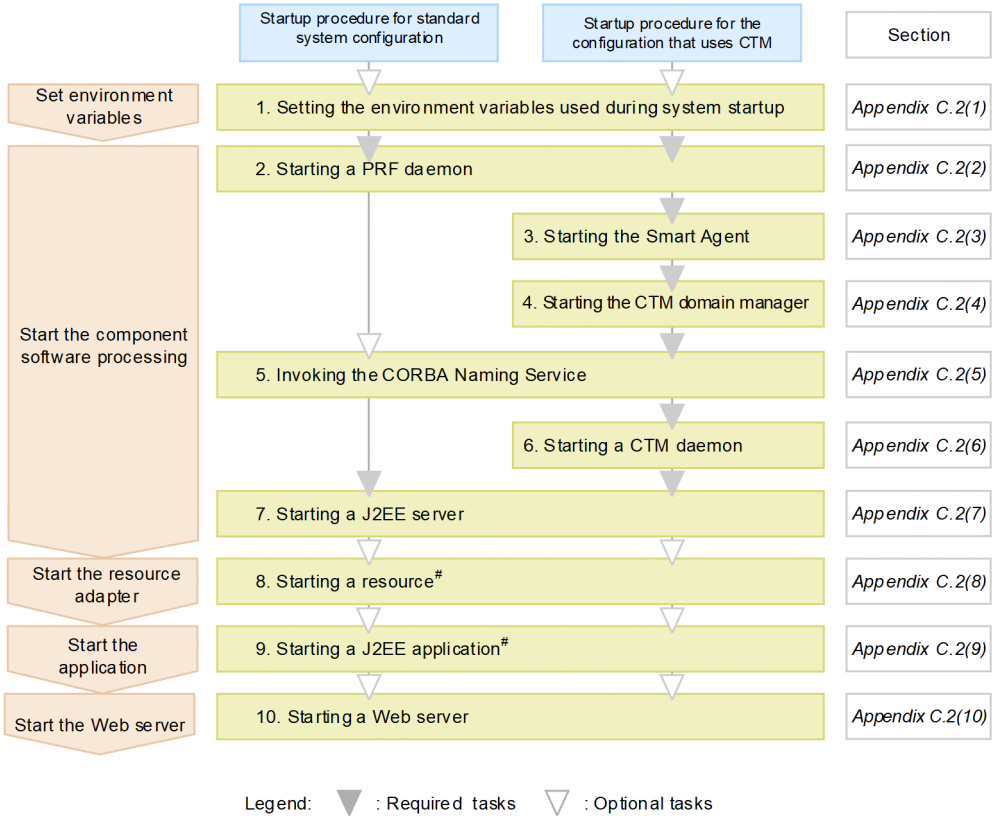
(1) Flow of starting an Application Server

The flow of starting an Application Server is explained.

Here, the flow of starting an Application Server is explained for a standard system configuration, and for a configuration using CTM.

The following figure shows the flow of starting an Application Server:

Figure C–1: Flow of starting an Application Server (in Windows)



This process is required only when the resource or J2EE application is stopped, while the J2EE server is being started.

Steps 1 to 10 shown in the figure are explained below:

1. Setting the environment variables used during system startup

   Specify environment variables. For details on specifying the environment variables, see *C.2 (1) Specifying environment variables when a system is started*.

2. Starting a PRF daemon

   Start a PRF daemon using the `cprfstart` command. For details on starting a PRF daemon, see *C.2 (2) Starting a PRF daemon*.

3. Starting the Smart Agent

   If you are not using CTM, this operation is not required.

   Start the Smart Agent using the `osagent` command. For details on starting the Smart Agent, see *C.2 (3) Starting the Smart Agent*.

4. Starting the CTM domain manager

   If you are not using CTM, this operation is not required.

   Start the CTM domain manager using the `ctmdmstart` command. For details on starting the CTM domain manager, see *C.2 (4) Starting the CTM domain manager*.

5. Invoking the CORBA Naming Service

   We recommend that you invoke the CORBA Naming Service for the J2EE server as an in-process, when you start the J2EE server.

   For details on invoking the CORBA Naming Service as an out-process, see *C.2 (5) Invoking the CORBA Naming Service*.

6. Starting a CTM daemon

   If you are not using CTM, this operation is not required.

   Start a CTM daemon using the `ctmstart` command. For details on starting a CTM daemon, see *C.2 (6) Starting a CTM daemon*.

7. Starting a J2EE server

   Start a J2EE server using the `cjstartsv` command. For details on starting a J2EE server, see *C.2 (7) Starting a J2EE server*.

8. Starting a resource

   If you are not using any resources, this operation is not required. Additionally, when you are using a resource adapter included in the J2EE application, this operation is not required.

   Start resources using the server management command (`cjstartrar` or `cjstartjb`). For details on starting resources, see *C.2 (8) Starting a resource*.

9. Starting a J2EE application

   Start a J2EE application using the server management command (`cjstartapp`). Note that for a J2EE application containing resource adapters, all the resource adapters included in the J2EE application are started at the same time.

   For details on starting a J2EE application, see *C.2 (9) Starting a J2EE application*.

10. Starting a Web server

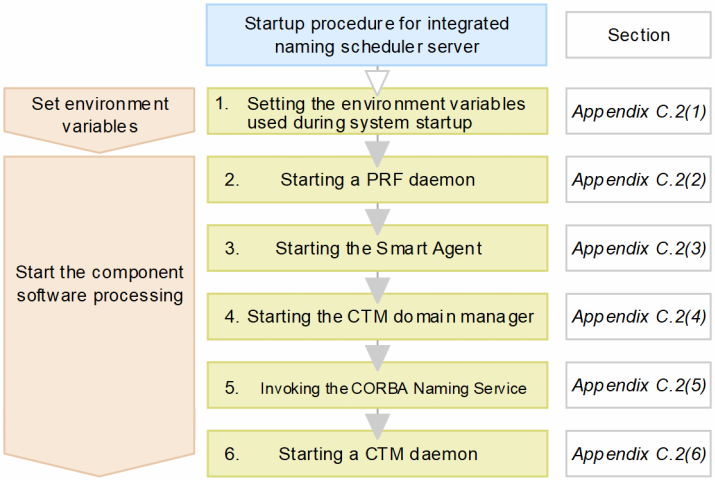
    For details on starting a Web server, see the manual on the Web server you are using.

    Note that the timing of starting a Web server depends on the form of system operation, but you can start the Web server in the given order for controlling the request receptions in the J2EE application. After starting the Web server, start the reception of requests in the J2EE application from Web clients. For details on starting a Web server, see *C.2 (10) Starting a Web server*.

(2) Flow of starting an integrated naming scheduler server

The following figure shows the flow of starting an integrated naming scheduler server:

Figure C–2: Flow of starting an integrated naming scheduler server (in Windows)



Steps 1 to 6 shown in the figure are as follows:

1. Setting the environment variables used during system startup

   Specify environment variables. For details on specifying the environment variables, see *C.2 (1) Specifying environment variables when a system is started*.

2. Starting a PRF daemon

   Start a PRF daemon using the `cprfstart` command. For details on starting a PRF daemon, see *C.2 (2) Starting a PRF daemon*.

3. Starting the Smart Agent

   Start the Smart Agent using the `osagent` command. For details on starting the Smart Agent, see *C.2 (3) Starting the Smart Agent*.

4. Starting the CTM domain manager

   Start the CTM domain manager using the `ctmdmstart` command. For details on starting the CTM domain manager, see *C.2 (4) Starting the CTM domain manager*.

5. Invoking the CORBA Naming Service

   Invoke the global CORBA Naming Service for CTM. For details on invoking the CORBA Naming Service, see *C.2 (5) Invoking the CORBA Naming Service*.

6. Starting a CTM daemon

   Start a CTM daemon using the `ctmstart` command. For details on starting a CTM daemon, see *C.2 (6) Starting a CTM daemon*.

C.2 How to start a system

This section explains how to invoke each process in the component software, resources and J2EE applications.

(1) Specifying environment variables when a system is started

The following describes the environment variables to be set on the application server and integrated naming scheduler server.

Specify the settings of the following environment variables using the `set` command:

```
set PATH=Cosminexus-installation-directory\jdk\bin;%PATH%
set PATH=Cosminexus-installation-directory\TPB\bin;%PATH%
set VBROKER_ADM=Cosminexus-installation-directory\TPB\adm
set TPDIR=Cosminexus-installation-directory\TPB
set CTMDIR=Cosminexus-installation-directory\CTM#
set CTMSPOOL=Cosminexus-installation-directory\CTM\spool#
```

#:

You must set up these environment variables in Application Server and the integrated naming scheduler server, when using CTM.

- Specify *JST-9* in the environment variable *TZ*, and register in the system environment variable.
- When you manually start the CORBA Naming Service, specify *Cosminexus-installation-directory*`\jdk\bin` at the beginning of the environment variable *PATH*.
- When using HiRDB or Oracle, specify the path of respective libraries in the environment variable *PATH*. If the path is already specified in the system environment variable, you are not required to execute the `set` command.
- During installation, *system-drive*`:\Common Files\Hitachi` is added to the environment variable *PATH*, and is registered automatically in the system environment variable.

- During installation, *Cosminexus-installation-directory*\PRF\spool is specified in the environment variable *PRFSPOOL*, and is registered automatically in the system environment variable.

For the contents of environment variables, see *H. System Environment Variables*.

(2) Starting a PRF daemon

To start a PRF daemon:

1. Move the current directory using the cd command.

```
cd "Cosminexus-installation-directory\PRF\bin"
```

2. Start the PRF daemon using the cprfstart command.

```
cprfstart
```

(3) Starting the Smart Agent

To start a Smart Agent:

1. Move the current directory using the cd command.

```
cd "Cosminexus-installation-directory\TPB\bin"
```

2. Start the Smart Agent using the osagent command.
   You must have the Administrator permission to execute the command.

```
osagent
```

(4) Starting the CTM domain manager

To start the CTM domain manager:

1. Move the current directory using the cd command.

```
cd "Cosminexus-installation-directory\CTM\bin"
```

2. Start the CTM domain manager using the ctmdmstart command.
   You must have the Administrator permission to execute the command.

```
ctmdmstart
```

When you start the CTM domain manager, do not specify the library path of the performance tracer (*Cosminexus-installation-directory*\PRF\lib) simultaneously. If you specify the library path of the performance tracer simultaneously, an error will occur in the CTM domain manager when the library of the performance tracer is loaded, and you will not be able to start the CTM domain manager.

(5) Invoking the CORBA Naming Service

This subsection explains how to invoke the CORBA Naming Service.

We recommend that you invoke the CORBA Naming Service for a J2EE server as an in-process, while you start the J2EE server. For invoking the CORBA Naming Service as an out-process, use the `nameserv` command.

How to invoke the CORBA Naming Service as an out-process using the `nameserv` command is explained here. For details on invoking the CORBA Naming Service as an in-process when you start a J2EE server, see *C.2 (7) Starting a J2EE server*.

Consider the following point when invoking the CORBA Naming Service:

- When using CTM, invoke the CORBA Naming Service for J2EE server and for CTM. Manually invoke the global CORBA Naming Service for CTM using the `nameserv` command, and automatically invoke the CORBA Naming Service for J2EE server as an in-process during the startup of the J2EE server.

For manually invoking the CORBA Naming Service using the `nameserv` command:

1. Cancel the settings of the environment variable *CLASSPATH* using the `set` command.

```
set CLASSPATH=
```

2. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\TPB\bin"
```

3. Manually start the local CORBA Naming Service using the `nameserv` command.

   You need to have the Administrator permission to execute the command.

```
nameserv -J-Dvbroker.agent.enableLocator=false
-J-Djava.security.policy=="Cosminexus-installation-directory\
CC\server\sysconf\cli.policy"
-J-Dvbroker.se.iiop_tp.scm.iiop_tp.listener.port=port-number
```

Caution

- When you start the CORBA Naming Service manually, specify *Cosminexus-installation-directory*`\jdk\bin` at the beginning of the environment variable PATH.
- If the value of the option specified using the `nameserv` command contains a directory that includes a space, enclose the entire value within double quotation marks (″).
- Change the value specified using the `nameserv` command in conformity with the environment.
- Invoke the CORBA Naming Service with the port number specified using the following option:
  `-J-Dvbroker.se.iiop_tp.scm.iiop_tp.listener.port=`*port-number*

(6) Starting a CTM daemon

To start a CTM daemon:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CTM\bin"
```

2. Start the CTM daemon using the `ctmstart` command.

   You must have the Administrator permission to execute the command.

```
ctmstart -CTMINSRef host-name:port-number
```

Specify the host name and port number in which the global CORBA Naming Service is invoked.

When you start a CTM daemon, do not specify the library path of the performance tracer (*Cosminexus-installation-directory*\PRF\lib) simultaneously. If you specify the library path of the performance tracer simultaneously, an error will occur in the CTM daemon when the library of the performance tracer is loaded, and you will not be able to start the CTM daemon.

Reference note

You can specify the following files when executing the ctmstart command used to start a CTM daemon:

- **CTM user environment variable definition file**
  This file is specified with the -CTMEnviron option. When you want to specify the environment variables that the processes managed in CTM daemon use, describe the environment variables in this file.
- **CTM command option file**
  This file is specified with -CTMRegOption. When you want to specify the command options during the automatic start of a CTM regulator, describe the command options in this file.

If necessary, create these files.

(7) Starting a J2EE server

This subsection explains the method for starting a J2EE server.

We recommend that you invoke the following processes as the in-process, when starting a J2EE server:

- CORBA Naming Service for a J2EE server
- Transaction service (when you use a transaction service)

When using CTM, invoke the CORBA Naming Service for J2EE server as an in-process.

The procedure for starting a J2EE server in the following cases is explained in (a) - (d):

- When you invoke the CORBA Naming Service as an in-process in a standard system configuration
- When you invoke the CORBA Naming Service and transaction service as the in-process in a configuration using CTM
- When you invoke the CORBA Naming Service as an out-process in a standard system configuration

You also consider the following point when starting a J2EE server:

- When you share a single naming service among multiple J2EE servers, start J2EE servers one-by-one. If you try to start more than one J2EE servers at the same time, the attempt to start J2EE servers will fail.

(a) When invoking the CORBA Naming Service as an in-process in a standard system configuration

For starting a J2EE server, when you invoke the CORBA Naming Service as an in-process in a standard configuration:

1. Move the current directory using the cd command.

```
cd "Cosminexus-installation-directory\CC\server\bin"
```

2. Start the J2EE server using the `cjstartsv` command.

   You need to have the Administrator permission to execute the command.

```
cjstartsv server-name
```

(b) When invoking the CORBA Naming Service and transaction service as the in-process in a configuration using CTM

The procedure for starting a J2EE server, when you invoke the CORBA Naming Service for J2EE server, and the transaction service as the in-process in a configuration using CTM is explained here.

The prerequisite for invoking the CORBA Naming Service for J2EE server, and the transaction service as the in-process is as follows:

- The TCP port number of the CORBA Naming Service for J2EE server must be set up in the `ejbserver.naming.port` key of the `usrconf.properties` file.

  `ejbserver.naming.port` = *TCP-port-number*

To start a J2EE server:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CC\server\bin"
```

2. Start the J2EE server using the `cjstartsv` command.

   You must have the Administrator permission to execute the command.

```
cjstartsv server-name
```

(c) When invoking the CORBA Naming Service as an out-process in a standard system configuration

For starting a J2EE server, when you invoke the CORBA Naming Service used for a J2EE server as an out-process in a standard system configuration.

The prerequisites for starting the CORBA Naming Service used for a J2EE server as an out-process are as follows:

- Before you start a J2EE server, you need to invoke the CORBA Naming Service for the J2EE server. For details on invoking the CORBA Naming Service manually, see *C.2 (5) Invoking the CORBA Naming Service*.
- You need to set *manual* in the `ejbserver.naming.startupMode` key of the `usrconf.properties` file.
- Take precaution that the TCP port number to be set in the `ejbserver.naming.port` key of the `usrconf.properties` file does not have the same value as another CORBA Naming Service running on the same host.

To start a J2EE server:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CC\server\bin"
```

2. Start the J2EE server using the `cjstartsv` command.

   You need to have the Administrator permission to execute the command.

```
cjstartsv server-name
```

(8) Starting a resource

This subsection explains the method for starting a resource.

Start a resource using the server management command (`cjstartrar` or `cjstartjb` command).

Note that the resource to be started needs to be deployed in a J2EE server in advance, as a J2EE resource. You use server management commands also for deploying the resource in the J2EE server.

This operation is not required when you use a resource adapter included in the J2EE application.

For details, see *6. Settings for J2EE Resources other than Resource Adapters* in the *uCosminexus Application Server Application Setup Guide*.

Important note

- When you want to start Cosminexus RM, start DB Connector for Cosminexus RM in advance. If you try to start Cosminexus RM without starting DB Connector for Cosminexus RM, an error will occur.

(9) Starting a J2EE application

This subsection explains how to start a J2EE application.

Start a J2EE application using server management commands. Note that you need to have the Administrator permission to execute server management commands.

To start a J2EE application, use the server management command (`cjstartapp`).

The J2EE application that is to be started needs to be imported in advance in the J2EE server. A J2EE application is an EAR in which the Enterprise Bean (`EJB-JAR`), and the servlet and JSP (`WAR`) are compiled together as one. You use server management commands to start and terminate in each J2EE application.

You also use server management commands to import a J2EE application to a J2EE server. You can also change a WAR and EJB-JAR created in the development environment to a J2EE application using server management commands.

For details, see the following locations:

- *4.1.29 Setting and starting the business application (when using CUI)* in the *uCosminexus Application Server System Setup and Operation Guide*.
- *8.1 Importing the J2EE applications* in the *uCosminexus Application Server Application Setup Guide*.

(10) Starting a Web server

For details on starting a Web server, see the manual on the Web server you are using.

Note that the timing to start the Web server depends on the mode of the system operation, but you can start the Web server in this order for controlling the reception of requests in a J2EE application. After starting the Web server, start the reception of requests in the J2EE application from the Web client.

C.3 Procedure for terminating a system

This section explains how to terminate each process of the configuration software, resources, and J2EE applications.

(1) Flow of terminating a system

The procedure for terminating a system is the reverse of the procedure for starting a system. If you are using a database, LDAP directory server, and EIS, terminate them at the end, as required.

Important note

In some system configurations, you need to stop not only the application server, but also the integrated naming scheduler server.

If you need to stop the application server and the integrated naming scheduler server, note the following:

- You can terminate the integrated naming scheduler servers in any order.

Terminate a system as per the termination operation explained below:

- **Terminate the Web server**

  For details on terminating a Web server, see the manual on the Web server you are using.

  Note that the timing of terminating the Web server depends on the mode of the system operation, but you can first terminate the Web server for controlling the reception of requests in a J2EE application.

- **Terminate J2EE applications**

  Terminate a J2EE application using the server management command (`cjstopapp`). For details on terminating a J2EE application, see *C.4 (2) Terminating a J2EE application*.

  Note that the next time you start a J2EE application and J2EE server at the same time, you need not terminate the J2EE application.

- **Terminate resources**

  If you are not using J2EE resources, this operation is not required.

  Terminate the J2EE resource using the server management command (`cjstoprar` or `cjstopjb`). For details on terminating resources, see *C.4 (3) Terminating a resource*.

  Note that the next time you start a J2EE resource while starting a J2EE server, you need not terminate the J2EE resource.

- **Terminate J2EE servers**

  Terminate the J2EE server using the `cjstopsv` command. For details on terminating a J2EE server, see *C.4 (4) Terminating a J2EE server*.

- **Terminate a CTM daemon**

  If you are not using CTM, this operation is not required.

  Terminate a CTM daemon using the `ctmstop` command. For details on terminating a CTM daemon, see *C.4 (5) Terminating a CTM daemon*.

- **Terminate the CORBA Naming Service**

  The method to terminate the CORBA Naming Service differs depending on how it is invoked. For details on terminating the CORBA Naming Service, see *C.4 (6) Terminating the CORBA Naming Service*.

- **Terminate the CTM domain manager**

  If you are not using, this operation is not required.

Terminate the CTM domain manager using the `ctmdmstop` command. For details about how to terminate the CTM domain manager, see *C.4 (7) Terminating the CTM domain manager*.

- **Terminate the Smart Agent**
  If you have not started the Smart Agent, this operation is not required.
  For details on terminating the Smart Agent, see *C.4 (8) Terminating the Smart Agent*.
- **Terminate the PRF daemon**
  Terminate the PRF daemon using the `cprfstop` command. For details on terminating a PRF daemon, see *C.4 (9) Terminating a PRF daemon*.

C.4 How to terminate a system

This section explains how to terminate each process of the configuration software, resources, and J2EE applications.

(1) Terminating a Web server

For details on terminating a Web server, see the manual on the Web server you are using.

Note that the timing of terminating a Web server depends on the form of system operation. However, you can first terminate the Web server for controlling the reception of requests in the J2EE application.

(2) Terminating a J2EE application

This point explains how to terminate a J2EE application.

You terminate the J2EE application using the server management command (`cjstopapp`).

Note that you need to have the Administrator permission for executing server management commands.

In some cases, the request processing within a J2EE application does not finish even when the J2EE application is terminated, and hence, the termination processing is not complete. In such a case, you need to forcefully terminate the J2EE application. To forcefully terminate a J2EE application, specify the `-force` option in the `cjstopapp` command, and then execute the command.

For the specific procedure for terminating J2EE applications, see *10.2.2 Stopping J2EE applications* in the *uCosminexus Application Server Application Setup Guide*.

(3) Terminating a resource

This point explains how to terminate resources.

You terminate resources using the server management command (`cjstoprar` or `cjstopjb`).

Note that you need to have the Administrator permission to execute server management commands.

This operation is not required if you use a resource adapter included in the J2EE application.

Important note

- When you want to terminate DB Connector for Cosminexus, terminate Cosminexus RM in advance. If you try to terminate DB Connector for Cosminexus RM without terminating Cosminexus RM, an error will occur.
- A J2EE resource for which an optional name is defined cannot be terminated if a J2EE application is running on the J2EE server. If you try to terminate the J2EE resource, a message will be output and the processing will fail. To terminate a J2EE resource for which an optional name is specified, terminate all the J2EE applications running on the J2EE server, and then terminate the J2EE resource.

(4) Terminating a J2EE server

To terminate a J2EE server:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CC\server\bin"
```

2. Terminate the J2EE server using the `cjstopsv` command.

   You need to have the Administrator permission to execute the command.

```
cjstopsv server-name
```

An example of executing the `cjstopsv` command is explained below. In this example, the Cosminexus installation directory is `C:\Program Files\Hitachi\Cosminexus`, and the server name is *MyServer*.

```
C:\>cd "C:\Program Files\HITACHI\Cosminexus\CC\server\bin"
C:\Program Files\HITACHI\Cosminexus\CC\server\bin>cjstopsv MyServer
C:\Program Files\HITACHI\Cosminexus\CC\server\bin>
```

Note that in some cases, the processing in a J2EE server does not finish even when the J2EE server is terminated, and hence, the termination processing is not complete. In such cases, you need to forcefully terminate the J2EE server. To forcefully terminate a J2EE server, specify the `-f` option or `-fd` option in the `cjstopsv` command, and then execute the command. If you specify the `-fd` option, the J2EE server is forcefully terminated after you acquire the failure information of the J2EE server.

Caution

If the CORBA Naming Service is invoked automatically, it will also terminate automatically when you terminate the J2EE server.

(5) Terminating a CTM daemon

To terminate a CTM daemon:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CTM\bin"
```

2. Terminate the CTM daemon using the `ctmstop` command.

   You must have the Administrator permission to execute the command.

```
ctmstop
```

Note that in some cases even after you terminate the CTM daemon, the termination processing of the CTM daemon does not finish. In such cases, you must terminate the CTM daemon forcibly. For forceful termination of the CTM daemon, specify the `-CTMForce` option in the `ctmstop` command, and then execute the command.

(6) Terminating the CORBA Naming Service

The procedure for terminating the CORBA Naming Service differs depending on how the CORBA Naming Service is invoked.

- **When invoking the CORBA Naming Service as an in-process during J2EE server startup**
  The CORBA Naming Service also terminates automatically when you terminate the J2EE server.
- **When invoking the CORBA Naming Service as an out-process**
  1. Terminate the J2EE server.
     For details on terminating a J2EE server, see *C.4 (4) Terminating a J2EE server*.
  2. Terminate CORBA Naming Service manually with the **Ctrl** + **C** key.

(7) Terminating the CTM domain manager

To terminate CTM domain manager:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CTM\bin"
```

2. Terminate the CTM domain manager using the `ctmdmstop` command.
   You must have the Administrator permission to execute the command.

```
ctmdmstop
```

Note that in some cases even after you terminate the CTM domain manager, the termination processing of the CTM domain manager does not finish. In such cases, you must terminate the CTM domain manager forcibly. For forceful termination of the CTM domain manager, specify the `-CTMForce` option in the `ctmdmstop` command, and then execute the command.

(8) Terminating the Smart Agent

To terminate the Smart Agent:

1. Right click the **Smart Agent** icon displayed in the task bar of Windows, and choose **Exit** to terminate the Smart Agent.

(9) Terminating a PRF daemon

To terminate a PRF daemon:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\PRF\bin"
```

2. Terminate the PRF daemon using the `cprfstop` command.

   The user who executes the `cprfstart` command will execute this command.

```
cprfstop
```

Note that in some cases, even after you terminate the PRF daemon, the termination processing of the PRF daemon does not finish. In such cases, you need to forcefully terminate the PRF daemon. To terminate the PRF daemon forcefully, specify the `-Force` option in the `cprfstop` command, and then execute the command.

D. Starting and Stopping a System that Executes J2EE Applications (in UNIX)

This appendix explains the procedure for starting and stopping a system that executes J2EE applications, in UNIX.

D.1 Procedure for starting a system

This section explains a procedure for starting a system.

Important note

In some system configurations, you need to start not only the application server, but also the integrated naming scheduler server.

If you need to start the application server and the integrated naming scheduler server, note the following:

- You can start the integrated naming scheduler servers in any order.

The following describes the procedure for starting the application server and the procedure for starting the integrated naming scheduler server.

Note that as a prerequisite, the related products such as database, LDAP directory server, and EIS must already be started. When you use a database, LDAP directory server, and EIS, start them in advance, as required.

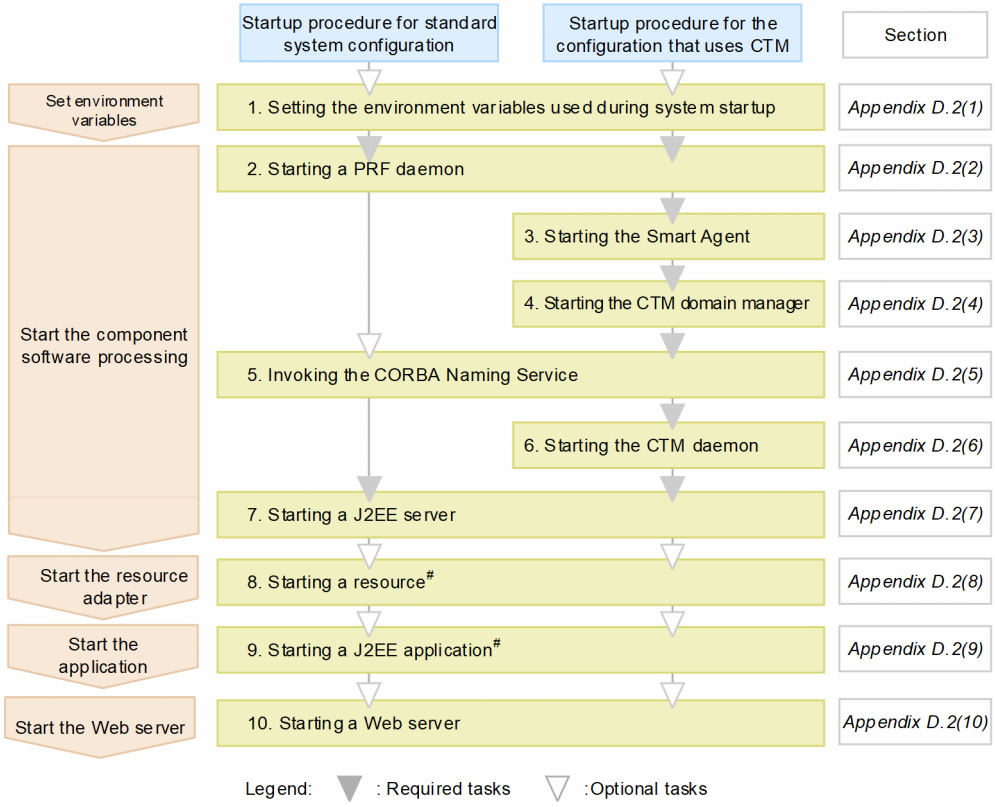
(1) Flow of starting an Application Server

This point explains the flow of starting the Application Server that you use in the system.

Here, the flow of starting an application server is explained for a standard system configuration, and for a configuration using CTM.

The following figure shows the flow of starting an Application Server:

Figure D–1: Flow of starting an Application Server (in UNIX)



This process is required only when the resource or J2EE application is stopped, while the J2EE server is being started.

Steps 1 to 10 of the figure are explained below:

1. Setting the environment variables used during system startup

   Specify environment variables. For details on setting environment variables, see *D.2 (1) Specifying environment variables when a system is started*.

2. Starting a PRF daemon

   Start a PRF daemon using the `cprfstart` command. For details on starting a PRF daemon, see *D.2 (2) Starting a PRF daemon*.

3. Starting the Smart Agent

   If you are not using CTM, this operation is not required.

   Start the Smart Agent using the `osagent` command. For details on starting the Smart Agent, see *D.2 (3) Starting the Smart Agent*.

4. Starting the CTM domain manager

   If you are not using CTM, this operation is not required.

   Start the CTM domain manager using the `ctmdmstart` command. For details on starting the CTM domain manager, see *D.2 (4) Starting the CTM domain manager*.

5. Invoking the CORBA Naming Service

   We recommend that you invoke the CORBA Naming Service for a J2EE server as an in-process, when you start the J2EE server.

   For details on invoking the naming service as an out-process, see *D.2 (5) Invoking the CORBA Naming Service*.

6. Starting a CTM daemon

   If you are not using CTM, this operation is not required.

   Start a CTM daemon using the `ctmstart` command. For details on starting a CTM daemon, see *D.2 (6) Starting a CTM daemon*.

7. Starting a J2EE server

   Start a J2EE server using the `cjstartsv` command. For details on starting J2EE servers, see *D.2 (7) Starting a J2EE server*.

8. Starting a resource

   This operation is not required if you are not using any resources.

   Additionally, this operation is also not required if you are using resource adapters included in the J2EE application.

   Start a resource using server management commands. For details on starting resources, see *D.2 (8) Starting a resource*.

9. Starting a J2EE application

   Start a J2EE application using server management commands. Note that in the case of a J2EE application containing resource adapters, all the resource adapters included in the J2EE application are started at the same time. For details on starting a J2EE application, see *D.2 (9) Starting a J2EE application*.

10. Starting a Web server

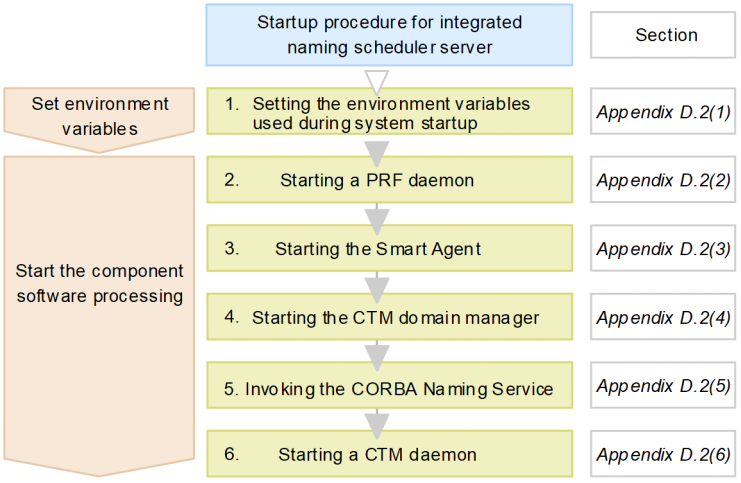
    For details on starting a Web server, see the manual on the Web server you are using.

    Note that the timing of starting the Web server depends on the mode of system operation, but you can start the Web server in this order for controlling the reception of requests in the J2EE application. After starting the Web server, the reception of requests in the J2EE applications from the Web client starts. For details on starting a Web server, see *D.2 (10) Starting a Web server*.

(2) Flow of starting an integrated naming scheduler server

The following figure shows the flow of starting an integrated naming scheduler server:

Figure D–2: Flow of starting an integrated naming scheduler server (in UNIX)



Steps 1 to 6 shown in the figure are as follows:

1. Setting the environment variables used during system startup

   Specify environment variables. For specifying the environment variables, see *D.2 (1) Specifying environment variables when a system is started*.

2. Starting a PRF daemon

   Start a PRF daemon using the `cprfstart` command. For details on starting a PRF daemon, see *D.2 (2) Starting a PRF daemon*.

3. Starting the Smart Agent

   Start the Smart Agent using the `osagent` command. For details on starting the Smart Agent, see *D.2 (3) Starting the Smart Agent*.

4. Starting the CTM domain manager

   Start the CTM domain manager using the `ctmdmstart` command. For details on starting the CTM domain manager, see *D.2 (4) Starting the CTM domain manager*.

5. Invoking the CORBA Naming Service

   Invoke the global CORBA Naming Service for CTM. For details on invoking the CORBA Naming Service, see *D.2 (5) Invoking the CORBA Naming Service*.

6. Starting a CTM daemon

   Start a CTM daemon using the `ctmstart` command. For details on starting a CTM daemon, see *D.2 (6) Starting a CTM daemon*.

D.2 How to start a system

This section explains how to invoke each process of the configuration software, resources, and J2EE applications.

(1) Specifying environment variables when a system is started

The following describes the environment variables to be set on the application server and integrated naming scheduler server.

In the case of C shell, set the below-mentioned environment variables using the `setenv` command:

```
set path=( /opt/Cosminexus/jdk/bin /opt/Cosminexus/TPB/bin /bin $path)
setenv SHLIB_PATH "${SHLIB_PATH}:/opt/Cosminexus/TPB/lib:/opt/Cosminexus/PRF
/lib:/opt/hitachi/common/lib"
setenv VBROKER_ADM /opt/Cosminexus/TPB/adm
setenv TPDIR /opt/Cosminexus/TPB
setenv PRFSPOOL /opt/Cosminexus/PRF/spool
setenv CTMDIR /opt/Cosminexus/CTM#
setenv CTMSPOOL /opt/Cosminexus/CTM/spool#
setenv TZ JST-9
```

#:

You must set up these environment variables in Application Server and the integrated naming scheduler server, when using CTM.

- The underscored strings are OS-specific variable names. In AIX, they are replaced by `LIBPATH`. In Linux, they are replaced by `LD_LIBRARY_PATH`.
- When you start the CORBA Naming Service manually, specify `/opt/Cosminexus/jdk/bin` at the beginning of the environment variable PATH.

- When using HiRDB or Oracle, set the path of the respective libraries in the environment variable LIBPATH (in AIX) or LD_LIBRARY_PATH (in Linux). If the path is already set in the environment variable, you need not execute the `setenv` command.

For the contents of environment variables, see *H. System Environment Variables*.

(2) Starting a PRF daemon

To start a PRF daemon:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/PRF/bin
```

2. Start the PRF daemon using the `cprfstart` command.

```
# cprfstart
```

(3) Starting the Smart Agent

To start the Smart Agent:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/TPB/bin
```

2. Start the Smart Agent using the `osagent` command

```
# osagent &
```

(4) Starting the CTM domain manager

To start the CTM domain manager:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/CTM/bin
```

2. Start the CTM domain manager using the `ctmdmstart` command.

```
# ctmdmstart
```

(5) Invoking the CORBA Naming Service

This point explains how to invoke the CORBA Naming Service.

We recommend that you invoke the CORBA Naming Service for a J2EE server as an in-process, when you start the J2EE server. To invoke the CORBA Naming Service as an out-process, use the `nameserv` command.

The method for invoking the CORBA Naming Service as an out-process using the `nameserv` command is explained here. For details on invoking the CORBA Naming Service as an in-process when you start a J2EE server, see *D.2 (7) Starting a J2EE server*.

Consider the following when invoking the CORBA Naming Service:

- When using CTM, invoke the CORBA Naming Service for J2EE server and for CTM. Manually invoke the global CORBA Naming Service for CTM using the `nameserv` command, and automatically invoke the CORBA Naming Service for J2EE server as an in-process during the startup of the J2EE server.

To manually invoke the CORBA Naming Service using the `nameserv` command:

1. Cancel the settings of the environment variable *CLASSPATH* using the `unsetenv` command. (for C shell)

```
# unsetenv CLASSPATH
```

2. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/TPB/bin
```

3. Manually start the local CORBA Naming Service using the `nameserv` command.
   You need to have the root permission to execute the command.

```
# nameserv -J-Dvbroker.agent.enableLocator=false
-J-Djava.security.policy==/opt/Cosminexus/CC/server/sysconf/cli.policy
-J-Dvbroker.se.iiop_tp.scm.iiop_tp.listener.port=port-number &
```

Caution

- When you start the CORBA Naming Service manually, specify `/opt/Cosminexus/jdk/bin` at the beginning of the environment variable PATH.
- If the value of the option specified using the `nameserv` command contains a directory that includes a blank, enclose the entire value within double quotation marks (″).
- Change the value specified using the `nameserv` command in conformity with the environment.
- Invoke the CORBA Naming Service with the port number specified using the following option:
  `-J-Dvbroker.se.iiop_tp.scm.iiop_tp.listener.port=`*port-number*

(6) Starting a CTM daemon

To start a CTM daemon:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/CTM/bin
```

2. Start the CTM daemon using the `ctmstart` command.

```
# ctmstart -CTMINSRef host-name:port-number
```

   Specify the host name and port number in which the global CORBA Naming Service is invoked.

Reference note

You can specify the following files when executing the `ctmstart` command used to start a CTM daemon:

- **CTM user environment variable definition file**
  This file is specified with the `-CTMEnviron` option. When you want to specify the environment variables that the processes managed in CTM daemon use, describe the environment variables in this file.

- **CTM command option file**
  This file is specified with `-CTMRegOption`. When you want to specify the command options during the automatic start of a CTM regulator, describe the command options in this file.

If necessary, create these files.

(7) Starting a J2EE server

This point explains how to start a J2EE server.

We recommend that you invoke the following process as in-process, when starting a J2EE server:

- CORBA Naming Service for a J2EE server
- Transaction service (when you use a transaction service)

When using CTM, invoke the CORBA Naming Service for J2EE server as an in-process.

The procedure for starting a J2EE server in the following cases is explained in (a) - (d):

- When you invoke the CORBA Naming Service as an in-process in a standard system configuration
- When you invoke the CORBA Naming Service and transaction service as the in-process in a configuration using CTM
- When you invoke the CORBA Naming Service as an out-process in a standard system configuration

Additionally, consider the following when starting a J2EE server:

- When you share a single naming service among multiple J2EE servers, start J2EE servers one-by-one. If you try to start more than one J2EE servers at the same time, the attempt to start J2EE servers will fail.
- You need to have the root permission (when the Component Container Administrator is not set) or permission of the Component Container Administrator (when the Component Container Administrator is set) to execute the `cjstartsv` command.
- If a user who does not have the root permission is set as Component Container Administrator, you need to set a value of 1024 or more in the port number of the CORBA Naming Service for the J2EE server. If you do not specify a value of 1024 or more, it will result in an error and you will not be able to start the J2EE server.
- If the error message KDJE47500-E is output when you start a J2EE server, the attempt to start the J2EE server will fail because the CORBA Naming Service you want to use is already running. Terminate the already running CORBA Naming Service, and then start the J2EE server.

(a) When invoking the CORBA Naming Service as an in-process in a standard system configuration

To start a J2EE server when you invoke the CORBA Naming Service as an in-process in the standard configuration:

1. Use the `cd` command to move the current directory.

```
# cd /opt/Cosminexus/CC/server/bin
```

2. Use the `cjstartsv` command to start the J2EE server.

   You need to have the root permission (when the Component Container Administrator is not set) or permission of Component Container Administrator (when the Component Container Administrator is set) to execute the command.

```
# cjstartsv server-name
```

(b) When invoking the CORBA Naming Service and transaction service as the in-process in a configuration using CTM

The procedure for starting a J2EE server, when you invoke the CORBA Naming Service for J2EE server, and the transaction service as the in-process in a configuration using CTM is as follows:

The prerequisite for invoking the CORBA Naming Service for J2EE server, and the transaction service as the in-process is as follows:

- The TCP port number of the CORBA Naming Service for J2EE server must be set up in the `ejbserver.naming.port` key of the `usrconf.properties` file.

  `ejbserver.naming.port` = *TCP-port-number*

To start a J2EE server:

1. Move the current directory using the `cd` command.

   ```
   # cd /opt/Cosminexus/CC/server/bin
   ```

2. Start the J2EE server using the `cjstartsv` command.

   You must have the root permission (when the Component Container Administrator is not set up), or the permission of the Component Container Administrator (when the Component Container Administrator is set up), to execute the command.

   ```
   # cjstartsv server-name
   ```

(c) When invoking the CORBA Naming Service as an out-process in a standard system configuration

This subsection explains the procedure for starting a J2EE server when the CORBA Naming Service for J2EE server is invoked as an out-process in the standard system configuration.

The prerequisites for starting the CORBA Naming Service for J2EE server as an out-process are as follows:

- Before you start the J2EE server, you need to invoke the CORBA Naming Service for J2EE server. For details on invoking the CORBA Naming Service manually, see *D.2 (5) Invoking the CORBA Naming Service*.
- You need to set *manual* in the ejbserver.naming.startupMode key of the `usrconf.properties` file.
- Take precaution that the TCP port number to be set in the ejbserver.naming.port key of the `usrconf.properties` file does not have the value same as another CORBA Naming Service running on the same host.

To start a J2EE server:

1. Use the `cd` command to move the current directory.

   ```
   # cd /opt/Cosminexus/CC/server/bin
   ```

2. Use the `cjstartsv` command to start the J2EE server.

   You need to have the root permission (when the Component Container Administrator is not set) or permission of Component Container Administrator (when the Component Container Administrator is set) to execute the command.

```
# cjstartsv server-name
```

(8) Starting a resource

This point explains how to start a resource.

You use the server management command (`cjstartrar` command or `cjstartjb` command) for starting a resource.

Note that the resource that is to be started needs to be deployed on the J2EE server in advance, as a J2EE resource. You use server management commands also for deploying resources in the J2EE server.

When you use a resource adapter included in a J2EE application, this operation is not required.

For details, see *6. Settings for J2EE Resources other than Resource Adapters* in the *uCosminexus Application Server Application Setup Guide*.

Important note

- When you want to start Cosminexus RM, start DB Connector for Cosminexus RM in advance. If you try to start Cosminexus RM without starting DB Connector for Cosminexus RM, an error will occur.

(9) Starting a J2EE application

This point explains how to start a J2EE application.

You use server management commands to start a J2EE application. Note that you must have the root permission (when the Component Container Administrator is not set) or permission of Component Container Administrator (when the Component Container Administrator is set) to execute server management commands.

To start a J2EE application, use the `cjstartapp` server management command.

The J2EE application to be started needs to be imported in the J2EE server in advance, as a *J2EE application*. A J2EE application is an EAR that includes the Enterprise Bean (EJB-JAR), servlets, and JSPs (WAR) that are the configuration elements of the J2EE application created in an application development environment. You use server management commands for starting and terminating in the J2EE application unit.

You also use server management commands for importing a J2EE application in to a J2EE server. Additionally, you can also use server management commands for changing a WAR and EJB-JAR created in the development environment to a J2EE application.

For details, see the followings.

- *4.1.29 Setting and starting the business application (when using CUI)* in the *uCosminexus Application Server System Setup and Operation Guide*.
- *8.1 Importing J2EE application* in the *uCosminexus Application Server Application Setup Guide*.

(10) Starting a Web server

For details on starting a Web server, see the manual on the Web server you are using.

Note that the timing of starting a Web server depends on the mode of the system operation, but you can start the Web server in this order for controlling the reception of requests in a J2EE application. After starting the Web server, the reception of requests in the J2EE applications from the Web client starts.

D.3 Procedure for terminating a system

This section explains how to terminate each process of the configuration software, resources, and J2EE applications.

(1) Flow of terminating a system

The procedure for terminating a system is the reverse of the procedure for starting a system. If you are using a database, LDAP directory server, or EIS, terminate them at the end as required.

Important note

In some system configurations, you need to stop not only the application server, but also the integrated naming scheduler server.

If you need to stop the application server and the integrated naming scheduler server, note the following:

- You can terminate the integrated naming scheduler servers in any order.

You terminate a system based on the termination operation explained below:

- **Terminate the Web server**

  For details on terminating a Web server, see the manual on the Web server you are using.

  Note that the timing of terminating a Web server depends on the mode of system operation, but you can terminate the Web server first for controlling the reception of requests in the J2EE application.

- **Terminate J2EE applications**

  Use the server management command (`cjstopapp`) to terminate the J2EE application. For details on terminating J2EE applications, see *D.4 (2) Terminating a J2EE application*.

  Note that the next time you start a J2EE application and J2EE server at the same time, you need not terminate the J2EE application.

- **Terminate resources**

  When you are not using J2EE resources, this operation is not required.

  You use the server management command (`cjstoprar`) to terminate a J2EE resource. For details on terminating resources, see *D.4 (3) Terminating a resource*.

  Note that the next time you start a J2EE resource while a J2EE server is being started, you need not terminate the J2EE resource.

- **Terminate J2EE servers**

  You use the `cjstopsv` command to terminate the J2EE server. For details on terminating a J2EE server, see *D.4 (4) Terminating a J2EE server*.

- **Terminate a CTM daemon**

  If you are not using CTM, this operation is not required.

  Terminate a CTM daemon using the `ctmstop` command. For details on terminating a CTM daemon, see *D.4 (5) Terminating a CTM daemon*.

- **Terminate the CORBA Naming Service**

How to terminate the CORBA Naming Service differs depending on how it is invoked. For details on methods for terminating the CORBA Naming Service, see *D.4 (6) Terminating the CORBA Naming Service*.

- **Terminate the CTM domain manager**

  If you are not using CTM, this operation is not required.

  Terminate the CTM domain manager using the `ctmdmstop` command. For details about how to terminate the CTM domain manager, see *D.4 (7) Terminating the CTM domain manager*.

- **Terminate the Smart Agent**

  If you have not started the Smart Agent, this operation is not required.

  For details on terminating the Smart Agent, see *D.4 (8) Terminating the Smart Agent*.

- **Terminate the PRF daemon**

  You use the `cprfstop` command to terminate the PRF daemon. For details on terminating a PRF daemon, see *D.4 (9) Terminating a PRF daemon*.

D.4 How to terminate a system

This section explains how to terminate each process of configuration software, resources, and J2EE applications.

(1) Terminating a Web server

For details on terminating a Web server, see the manual on the Web server you are using.

Note that the timing of terminating a Web server depends on the form of system operation, but you can first terminate the Web server for controlling the reception of requests in the J2EE application.

(2) Terminating a J2EE application

This point explains how to terminate a J2EE application.

You terminate a J2EE application with server management commands. To stop J2EE application, use the `cjstopapp` server management command.

Note that you must have the root permission, or the permission of the Component Container Administrator to execute server management commands.

In some cases the request processing within a J2EE application does not finish even when the J2EE application is terminated, and hence, the termination processing is not complete. In such cases, you need to terminate the J2EE application forcefully. For forceful termination of a J2EE application, specify the `-force` option in the `cjstopapp` command, and then execute the command.

For specific procedures for terminating J2EE applications, see *10.2.2 Stopping J2EE applications* in the *uCosminexus Application Server Application Setup Guide*.

(3) Terminating a resource

This point explains how to terminate a resource.

You terminate a resource using the server management command (`cjstoprar` or `cjstopjb`).

Note that you must have root permission or Component Container administrator permission to execute the server management commands.

When you use a resource adapter included in the J2EE application, this operation is not required.

Important note

- When you want to terminate DB Connector for Cosminexus RM, terminate the Cosminexus RM in advance. If you try to terminate DB Connector for Cosminexus RM without terminating the Cosminexus RM, an error will occur.
- A J2EE resource for which an optional name is defined cannot be terminated when a J2EE application is running on the J2EE server. If you try to terminate the J2EE resource, a message will be output and the processing will fail. For terminating the J2EE resource for which an optional name is specified, terminate all the J2EE applications running on the J2EE server, and then terminate the J2EE resource.

(4) Terminating a J2EE server

To terminate a J2EE server:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/CC/server/bin
```

2. Terminate the J2EE server using the `cjstopsv` command.

   You must have the root permission (when the Component Container Administrator is not set) or permission of Component Container Administrator (when the Component Container Administrator is set) for executing the command.

```
# cjstopsv server-name
```

An example for executing the `cjstopsv` command is explained below. In this example, the server name is 'MyServer'.

```
# cd /opt/Cosminexus/CC/server/bin
# cjstopsv MyServer
#
```

Note that in some cases the processing on the J2EE server does not finish even when the J2EE server is terminated, and hence, the termination processing is not complete. In such cases, you must terminate the J2EE server forcefully. To forcefully terminate a J2EE server, specify the `-f` option or `-fd` option in the `cjstopsv` command, and then execute the command. If you specify the `-fd` option, the J2EE server is terminated forcefully after acquiring the failure information of the J2EE server.

Caution

If the CORBA Naming Service is invoked automatically, it will also terminate automatically when you terminate the J2EE server.

(5) Terminating a CTM daemon

To terminate a CTM daemon:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/CTM/bin
```

2. Terminate the CTM daemon using the `ctmstop` command.

```
# ctmstop
```

Note that in some cases even after you terminate the CTM daemon, the termination processing of the CTM daemon does not finish. In such cases, you must terminate the CTM daemon forcibly. For forceful termination of the CTM daemon, specify the `-CTMForce` option in the `ctmstop` command, and then execute the command.

(6) Terminating the CORBA Naming Service

The procedure for terminating the CORBA Naming Service differs depending on how the CORBA Naming Service is invoked.

- **When invoking the CORBA Naming Service as an in-process during the J2EE server startup**
  The CORBA Naming Service also terminates automatically when you terminate the J2EE server.
- **When invoking the CORBA Naming Service manually in the foreground**
  You terminate with the **Ctrl** + **C** key.
- **When invoking the CORBA Naming Service manually in the background**
  Specify the process ID of the CORBA Naming Service, and terminate with the `kill` command.

The details of the procedure for terminating the CORBA Naming Service when it is invoked manually in the background are explained below.

When you invoke the CORBA Naming Service manually in the background, it is not discriminated from other Java processes, and you may not understand which process is the CORBA Naming Service. As a result, how to acquire the process ID of the CORBA Naming Service differs depending on the existence of other active Java processes. Note that in AIX, if you execute the `ps -ef` command, the process arguments are displayed longer than in other platforms, and therefore, you can identify the CORBA Naming Service.

When no other Java process is running

1. Acquire the process ID of CORBA Naming Service.

```
# ps -ef | grep java
```

2. Specify the acquired process ID, and terminate the CORBA Naming Service.

```
# kill Process-ID-of-CORBA-Naming-Service
```

When other Java processes are running

1. Acquire the process ID of CORBA Naming Service.

   If you use the shell script for invoking the CORBA Naming Service, you can output the process ID of CORBA Naming Service in the `namesv_pid` file that is generated in the current working directory.

   An example of the shell script for invoking the CORBA Naming Service is illustrated below:

```
#!/bin/sh
export VBROKER_ADM=/opt/Cosminexus/TPB/adm
export SHLIB_PATH="${SHLIB_PATH}:/opt/Cosminexus/TPB/lib"

# start name server process
exec /opt/Cosminexus/TPB/bin/nameserv \
-J-Dvbroker.agent.enableLocator=false \
-J-Djava.security.policy==/opt/Cosminexus/CC/server/sysconf/cli.polic
y \
```

```
-J-Dvbroker.se.iiop_tp.scm.iiop_tp.listener.port=900 &

# save background java process pid
echo $! > ./namesv_pid
```

Note that the underscored strings are OS-specific variable names. In AIX, they are replaced by `LIBPATH`. In Linux, they are replaced by `LD_LIBRARY_PATH`.

2. Specify the acquired process ID, and terminate the CORBA Naming Service.

```
# kill 'cat namesv_pid'
```

(7) Terminating the CTM domain manager

To terminate CTM domain manager:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/CTM/bin
```

2. Terminate the CTM domain manager using the `ctmdmstop` command.

```
# ctmdmstop
```

Note that in some cases even after you terminate the CTM domain manager, the termination processing of the CTM domain manager does not finish. In such cases, you must terminate the CTM domain manager forcibly. For forceful termination of the CTM domain manager, specify the `-CTMForce` option in the `ctmdmstop` command, and then execute the command.

(8) Terminating the Smart Agent

The procedure for terminating the Smart Agent is as follows:

The method of terminating the Smart Agent will differ depending on how you started the Smart Agent.

When the Smart Agent is started manually at the foreground

Terminate with the **Ctrl** + **C** key.

When the Smart Agent is started manually at the background

To terminate the Smart Agent:

1. Acquire the process ID of the Smart Agent.

```
# ps -ef | grep osagent
```

2. Specify the acquired process ID, and terminate the Smart Agent.

```
# kill smart-agent-process-ID
```

(9) Terminating a PRF daemon

To terminate a PRF daemon:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/PRF/bin
```

2. Terminate the PRF daemon using the `cprfstop` command.

```
# cprfstop
```

Note that in some cases even after you terminate the PRF daemon, the termination processing of the PRF daemon does not finish. In such cases, you must terminate the PRF daemon forcefully. For forceful termination of the PRF daemon, specify the `-Force` option in the `cprfstop` command, and then execute the command.

E. Setting Up and Deleting a System that Executes Batch Applications

This appendix explains the procedure for setting up and deleting a system that executes batch applications by editing files and executing commands.

E.1 Flow of setting up a system

For editing files and executing commands to set up a system for executing batch applications, you use commands and user-defined files provided with the Application Server and the operating environment of the system.

(1) Files used when setting up the system

This subsection describes the main files used when setting up a system that executes batch applications. For details on each file, see *3. Files Used in Batch Servers* in the *uCosminexus Application Server Definition Reference Guide*.

Important note

To change a file, stop the batch server. The operation will not be guaranteed if you change the contents of a file while the batch server is running.

- `usrconf.properties` (user property file for batch server)

  This file specifies user properties of batch servers. The file specifies the Naming Service, connection, container, log, security, and the CTM usage that a batch server uses.

  The file storage destination is as follows:

  - **In Windows**

    Cosminexus-installation-directory`\CC\server\usrconf\ejb\`*server-name*`\usrconf.properties`
  - **In UNIX**

    `/opt/Cosminexus/CC/server/usrconf/ejb/`*server-name*`/usrconf.properties`
- `usrconf.cfg` (option definition file for batch server)

  This file specifies the JavaVM startup options of a batch server.

  The file storage destination is as follows:

  - **In Windows**

    Cosminexus-installation-directory`\CC\server\usrconf\ejb\`*server-name*`\usrconf.cfg`
  - **In UNIX**

    `/opt/Cosminexus/CC/server/usrconf/ejb/`*server-name*`/usrconf.cfg`
- `server.policy` (security policy file for batch server)

  This file specifies the security policy of a JavaVM on which the batch server is running.

  The file storage destination is as follows:

  - **In Windows**

    Cosminexus-installation-directory`\CC\server\usrconf\ejb\`*server-name*`\server.policy`
  - **In UNIX**

    `/opt/Cosminexus/CC/server/usrconf/ejb/`*server-name*`/server.policy`

(2) Flow of setting up a system that executes batch applications

To set up a system that executes batch applications by editing files and executing commands:

1. Set up a batch server.

   For details, see *E.2 Setting up batch servers*.

2. Specify the operation settings of the batch server.

   When changing operations of the functionality to be used or using the specific functionality, you use user-defined files and commands that are provided with the Application Server for setting up or changing operations of the batch server. However, you make sure that the transaction is set to the local transaction.

   The functionality for which you can set up or change the operation of the batch server are as follows:

   - Naming Service
   - JavaVM startup options
   - Container extension library

   For the settings of the main functionality provided with the Application Server, see *2.3.10 Settings in the execution environment (batch server settings)* in the *uCosminexus Application Server Expansion Guide*.

3. Specify the settings for using the job scheduling functionality.

   These settings are required only for scheduling the execution of batch applications. The scheduling functionality uses CTM. You specify the operation settings for using CTM in the following files:

   - The `ejbserver.ctm.enabled` property in `usrconf.properties` (user property file for batch servers)

     For details, see *3.2.2 usrconf.properties (User property file for batch servers)* in the *uCosminexus Application Server Definition Reference Guide*.

   - The `batch.ctm.enabled` option in `usrconf.cfg` (option definition file for batch applications) for the commands (`cjexecjob`, `cjkilljob`, and `cjlistjob`) used in batch applications

     For details, see *3.2.5 usrconf.cfg (Option definition file for batch applications)* in the *uCosminexus Application Server Definition Reference Guide*.

4. Specify the settings for collecting data on troubleshooting.

   If you are using the default settings, you need not specify the settings. However, if you do not specify the settings beforehand for collecting the following data, you will not be able to collect data. This data is required for troubleshooting, and therefore, we recommend that you collect this data.

   - Statistics of the OS, user dump (in Windows), or `core` dump (in UNIX)
   - Java VM GC log

   When collecting this data, or when changing the settings for collecting some other data, specify the settings for collecting the troubleshooting data. For details on data required for troubleshooting, or whether or not specifying the settings for troubleshooting is required, see *E.1(3) Data required for troubleshooting*.

5. Specify the settings for resources.

   Use server management commands to define the properties of resource adapters, and import them into the batch server. For details on specifying the settings, see *2.7.6 Procedure for setting a resource adapter* in the *uCosminexus Application Server Expansion Guide*.

6. Start the system, and check the system operation.

   For details on starting and stopping the system, see *F. Starting and Stopping a System that Executes Batch Applications (in Windows)*, or *G. Starting and Stopping a System that Executes Batch Applications (in UNIX)*.

(3) Data required for troubleshooting

The following table describes data required for troubleshooting, and whether or not specifying the settings for troubleshooting is required. For details on specifying the settings, see *3. Preparing for Troubleshooting* in the *uCosminexus Application Server Maintenance and Migration Guide*.

Table E–1: Types of troubleshooting data and whether or not specifying the settings (for a system that executes batch applications)

Type of data	Possibility of specifying the settings
snapshot log	Δ#1
Trace based performance analysis file	N#2
Batch server log	Δ
Application user log	Y
Statistics file	Δ
Resource adapter log	Δ
Trace file of Cosminexus TPBroker	Δ
Log of Cosminexus DABroker Library	Δ
Statistical information of the OS	Y
User dump	Y
`core` dump	Y
JavaVM data	Y
Log of server management commands	Δ

Legend:

Y: Settings must be specified when collecting data.

Δ: Settings must be specified only when changing the default settings for collecting data.

N: Settings need not be specified.

#1

Collect the snapshot logs using the `snapshotlog` command. In such a case, during the execution of the command, specify the already set up list files as the arguments. For details on the `snapshotlog` command, and the snapshot logs that can be collected with the default settings, see *snapshotlog (collect snapshot logs)* of *11.2 Details of commands used in log operations*. To change the snapshot log collection destination, edit the snapshot log collection target definition files. For the snapshot log collection target definition files, see *10.2.1 Definition file for snapshot log collection* in the *uCosminexus Application Server Definition Reference Guide*.

#2

During daily system operations, when you start the performance tracer by executing the `cprfstart` command, you can specify the PRF trace collection level and the number of files. For collecting the trace based performance analysis file, see *7.3.1 How to collect a trace based performance analysis file* in the *uCosminexus Application Server Maintenance and Migration Guide*.

The logs described in the table can be collected in a batch as the snapshot log. However, some trace files of Cosminexus TPBroker can be collected, while some cannot be collected. Besides this, you must specify the settings for collecting the log that cannot be collected with the default settings of the snapshot log, and add them to the snapshot log collection destination.

Note that you cannot change the log output destination of the following logs:

- `install.log` created during setup, and log files of the migration commands
- Java thread dump files that are output to the following directory:

In Windows

work-directory\ejb*server-name*

In UNIX

work-directory/ejb/*server-name*

For the types and default values of logs, channel names, details of the logs that can be collected and collection methods, see *2.4 Types of Required Data* in the *uCosminexus Application Server Maintenance and Migration Guide*.

E.2 Setting up batch servers

This subsection describes the setup of batch servers configuring an Application Server system.

During the default settings, the batch server name is the host name. When multiple batch servers are to be started on the same host, allocate a separate name to each batch server. For details on the precautions to be taken when allocating a server name, see *E.2 (4) Precautions to be taken when starting multiple batch servers*.

The procedure for setting up batch servers is as follows. For details on the precautions to be taken when setting up batch servers, see *E.2 (3) Precautions to be taken during setup*, and take action, if necessary.

(1) In Windows

To set up a batch server in Windows:

1. Move the current directory using the following command:

   cd *Cosminexus-installation-directory*\CC\server\bin

2. Set up the batch server using the cjsetup command.

   cjsetup -batch *server-name*

   An example of setting up a batch server is as follows. In this example, the Cosminexus installation directory is C:\Program Files\Hitachi\Cosminexus, and the server name is *MyServer*.

```
C:\>cd C:\Program Files\Hitachi\Cosminexus\CC\server\bin
C:\Program Files\Hitachi\Cosminexus\CC\server\bin>cjsetup -batch MyServer
```

(2) In UNIX

To set up a batch server in UNIX:

1. Set up the batch server using the cjsetup command. You must have the root permission (when the Component Container Administrator is not set up), or the permission of the Component Container Administrator (when the Component Container Administrator is set up), to execute the command.

   /opt/Cosminexus/CC/server/bin/cjsetup -batch *server-name*

   An example of setting up a batch server is as follows. In this example, the server name is *MyServer*.

```
/opt/Cosminexus/CC/server/bin/cjsetup -batch MyServer
```

(3) Precautions to be taken during setup

- Set up the batch server only once. If you specify the settings for setting up an already setup batch server, an error message will be output.

- If you do not customize the batch server after setup, a CORBA Naming Service with the host name *localhost* and port number *900* will be invoked automatically and used in the batch server as an in-process. Change the CORBA Naming Service to be used with the `ejbserver.naming.host` key and `ejbserver.naming.port` key of `usrconf.properties`.
- Before starting the batch server, make sure that the value of the environment variable `OSAGENT_PORT` and the value of the `vbroker.agent.port` key of `usrconf.properties` is matching.
- For details on the characters that can be used in the server name, see the explanation about the `cjsetup` command. For details on the `cjsetup` command, see *3.2 Commands used for operating batch servers*.
- The server name is used as a directory name within the work directory. Specify the server name in consideration of the fact that the path length below the work directory does not reach the upper limit of the platform. For estimating the path length of the work directory, see *Appendix C.2 Work directory of the batch server* in the *uCosminexus Application Server System Setup and Operation Guide*.

(4) Precautions to be taken when starting multiple batch servers

A batch server is identified by the server name. During installation, the host name of the already installed host is set up as the default server name. Therefore, when multiple batch servers are started on the same host, a serve name is allocated to each batch server, and the batch servers are set up.

When allocating a server name to a batch server, you cannot set up more than one batch server with the same server name on the same host. If you use the same server name to set up another batch server, an error will occur.

The precautions to be taken regarding the setup of the host name and port number of the CORBA Naming Service to be connected to the batch server are as follows:

Setting up the host name and port number

When starting multiple batch servers simultaneously on the same host, make sure that no two host names or port numbers used to connect to the CORBA Naming Service are same. Set up the host name and port number in `usrconf.properties`.

Furthermore, specify the different values for the port numbers set up in the `webserver.connector.ajp13.port` key and `ejbserver.http.port` key of `usrconf.properties` for batch servers that are started simultaneously.

E.3 Flow of deleting a system

For editing files and executing commands to delete a system that executes batch applications, you use the commands provided with the Application Server to unset up the batch server, and then delete the system.

To delete a system that executes batch applications by editing files and executing commands:

1. Stop the system.

   For details on the procedure and method of stopping the system, see *F. Starting and Stopping a System that Executes Batch Applications (in Windows)*, or *G. Starting and Stopping a System that Executes Batch Applications (in UNIX)*.

2. Unset up the batch server.

   For details, see *E.4 Unsetting up batch servers*.

E.4 Unsetting up batch servers

This subsection describes the unsetup of batch servers configuring an Application Server system. The procedure for unsetting up a batch server is explained for each OS.

(1) In Windows

To unset up a batch server in Windows:

1. Move the current directory using the following command:
   `cd` *Cosminexus-installation-directory*`\CC\server\bin`

2. Specify `-d` in the argument of the `cjsetup` command, and unset up the batch server.
   `cjsetup -d` *server-name*
   An example of unsetting up a batch server is as follows. In this example, the Cosminexus installation directory is `C:\Program Files\Hitachi\Cosminexus`, and the server name is *MyServer*.

```
C:\>cd C:\Program Files\Hitachi\Cosminexus\CC\server\bin
C:\Program Files\Hitachi\Cosminexus\CC\server\bin>cjsetup -d MyServer
```

(2) In UNIX

To unset up a batch server in UNIX:

1. Specify `-d` in the argument of the `cjsetup` command, and unset up the batch server. You must have the root permission (when the Component Container Administrator is not set up), or the permission of the Component Container Administrator (when the Component Container Administrator is set up), to execute the command.
   `/opt/Cosminexus/CC/server/bin/cjsetup -d` *server-name*
   An example of unsetting up a batch server is as follows. In this example, the server name is *MyServer*.

```
/opt/Cosminexus/CC/server/bin/cjsetup -d MyServer
```

F. Starting and Stopping a System that Executes Batch Applications (in Windows)

This appendix explains the procedure for starting and stopping a system that executes batch applications in Windows.

F.1 Procedure for starting a system

The procedure for starting a system is explained in this section.

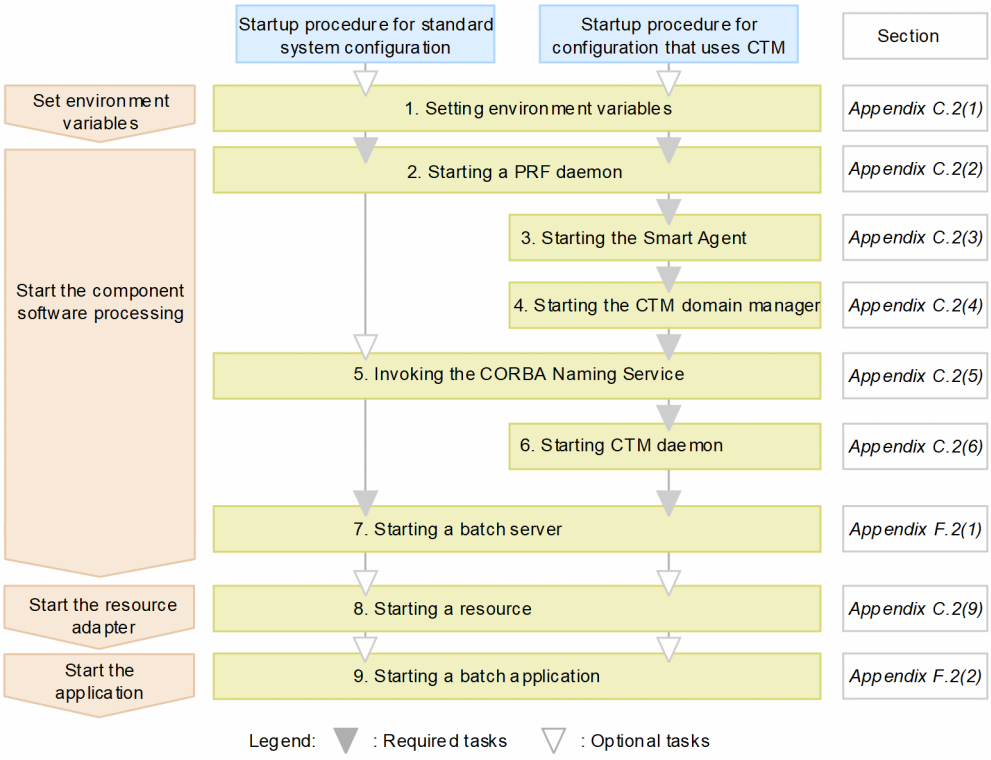
Note that as a prerequisite, database must be already started. If you are using a database, start it in advance, if necessary.

(1) Flow of starting an Application Server

The flow of starting an Application Server used in the system is explained.

The following figure shows the flow of starting Application Server:

Figure F–1: Flow of starting Application Server (in Windows)



Steps 1 through 9 shown in the figure are as follows:

1. Specifying environment variables

   Specify environment variables. For details on specifying environment variables, see *C.2(1) Specifying environment variables when a system is started*.

2. Starting a PRF daemon

   Start a PRF daemon using the `cprfstart` command. For details on starting a PRF daemon, see *C.2(2) Starting a PRF daemon*.

3. Starting the Smart Agent

   This operation is not required when CTM is not used.

   You use the `osagent` command to start the Smart Agent. For details on starting the Smart Agent, see *C.2(3) Starting the Smart Agent*.

4. Starting the CTM domain manager

   This operation is not required when CTM is not used.

   You use the `ctmdmstart` command to start the CTM domain manager. For details on starting the CTM domain manager, see *C.2(4) Starting the CTM domain manager*.

5. Invoking the CORBA Naming Service

   This operation is not required when CTM is not used.

   When using CTM, you start the CORBA Naming Service for CTM with the `nameserv` command. For details on starting the CORBA Naming Service, see *C.2(5) Invoking the CORBA Naming Service*.

6. Starting CTM daemon

   This operation is not required when CTM is not used.

   You use the `ctmstart` command to start the CTM daemon. For details on starting the CTM daemon, see *C.2(6) Starting a CTM daemon*.

7. Starting a batch server

   Start a batch server using the `cjstartsv` command. For details on starting batch servers, see *F.2(1) Starting a batch server*.

8. Starting a resource

   If you are not using any resources, this operation is not required.

   Start resources using a server management command (`cjstartrar`). For details on starting resources, see *C.2(8) Starting a resource*.

9. Starting a batch application

   Execute a batch application using the `cjexecjob` command.

   For details on executing batch applications, see *F.2(2) Executing batch applications*.

F.2 How to start a system

This section explains how to start a batch server, and also how to execute batch applications.

(1) Starting a batch server

The method of starting a batch server is as follows:

To start a batch server when the CORBA Naming Service is invoked as an in-process in the standard system configuration:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CC\server\bin"
```

2. Start the batch server using the `cjstartsv` command.

You must have the Administrator permission to execute the command.

```
cjstartsv server-name -nosecurity
```

(2) Executing batch applications

The method of executing batch applications is as follows:

Execute a batch application using the `cjexecjob` command. Note that you must have the Administrator permission to execute the `cjexecjob` command. In Windows, execute the command as a user with administrator privileges.

To execute a batch application:

1. Change the current directory using the `cd` command.

   ```
   cd "Cosminexus-installation-directory\CC\batch\bin"
   ```

2. Execute the batch application using the `cjexecjob` command.

   You must have the Administrator permission to execute the command.

   The method of specifying the server, to be connected to, depends upon whether the batch application uses the job scheduling functionality or not.

   When the job scheduling functionality is not used

   Specify the batch server that can execute the job.

   ```
   cjexecjob server-name Java-application-class-name
   ```

   When the job scheduling functionality is used

   Specify the job-scheduling group.

   ```
   cjexecjob [schedule-group-name] [-jobID job-ID] Java-application-class
   -name
   ```

F.3 Procedure for terminating a system

The procedure for terminating a batch application and a batch server is explained in this section.

(1) Flow of terminating a system

The procedure for terminating a system is the reverse of the procedure for starting a system. If you are using a database, terminate it at the end, if necessary.

Terminate a system based on the termination operation explained below:

- **Terminate batch applications**

  If the batch applications are not terminated, use the `cjkilljob` command to terminate a batch application. For details on terminating a batch application, see *F.4 (1) Terminating batch applications*.

- **Terminate resources**

  When you are not using resources, this operation is not required.

  Use the server management command (`cjstoprar`) to terminate a resource. For details on terminating resources, see *C.4 (3) Terminating a resource*.

- **Terminate a batch server**
  Terminate a batch server using the `cjstopsv` command. For details on terminating a batch server, see *F.4 (2) Terminating a batch server*.
- **Terminate the CTM daemon**
  This operation is not required when CTM is not used.
  You use the `ctmstop` command to terminate the CTM daemon. For details on terminating the CTM daemon, see *C.4(5) Terminating a CTM daemon*.
- **Terminate the CORBA Naming Service**
  You use **Ctrl** + **C** to terminate CORBA Naming Service.
- **Terminate the CTM domain manager**
  This operation is not required when CTM is not used.
  You use the `ctmdmstop` command to terminate the CTM domain manager. For details on terminating the CTM domain manager, see *C.4(7) Terminating the CTM domain manager*.
- **Terminate the Smart Agent**
  To terminate the Smart Agent, right click the **Smart Agent** icon, and then choose **Exit**.
- **Terminate a PRF daemon**
  Terminate a PRF daemon using the `cprfstop` command. For details on terminating a PRF daemon, see *C.4 (9) Terminating a PRF daemon*.

F.4 How to terminate a system

This section explains how to terminate a batch application and a batch server.

(1) Terminating batch applications

The method of terminating a batch application is as follows:

If a batch application is not terminated, use the `cjkilljob` command to terminate the batch application. Note that you must have the Administrator permission to execute the `cjkilljob` command. In Windows, execute the command as a user with administrator privileges.

The `cjkilljob` command terminates batch applications using the `cancel` method or the CTM. If a failure occurs in terminating the batch application, terminate the batch server forcibly.

To terminate a batch application:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CC\batch\bin"
```

2. Terminate the batch server using the `cjkilljob` command.
   You must have the Administrator permission to execute the command.
   To terminate the batch application, the server name and the job ID might be specified.

   When the server name is specified
   The batch application is terminated using the `cancel` method.

```
cjkilljob server-name
```

When the job ID is specified

The batch application is terminated using the CTM.

This command can only be used when you use the job scheduling functionality.

```
cjkilljob -jobID job-ID
```

(2) Terminating a batch server

To terminate a batch server:

1. Move the current directory using the `cd` command.

```
cd "Cosminexus-installation-directory\CC\server\bin"
```

2. Terminate the batch server using the `cjstopsv` command.

   You must have the Administrator permission to execute the command.

```
cjstopsv server-name
```

An example of executing the `cjstopsv` command is as follows. In this example, the Cosminexus installation directory is `C:\Program Files\Hitachi\Cosminexus`, and the server name is *MyServer*.

```
C:\>cd "C:\Program Files\HITACHI\Cosminexus\CC\server\bin"
C:\Program Files\HITACHI\Cosminexus\CC\server\bin>cjstopsv MyServer
C:\Program Files\HITACHI\Cosminexus\CC\server\bin>
```

Note that in some cases, the termination processing of the batch server does not finish because of the processing in the batch server is not complete. In such cases, you must terminate the batch server forcibly. For forceful termination of the batch server, specify the `-f` option or the `-fd` option in the `cjstopsv` command, and then execute the command. If you specify the `-fd` option, the batch server is terminated forcibly after the error information of the batch server is collected.

G. Starting and Stopping a System that Executes Batch Applications (in UNIX)

This appendix explains the procedure for starting and stopping a system that executes batch applications.

G.1 Procedure for starting a system

The procedure for starting a system is explained in this section.

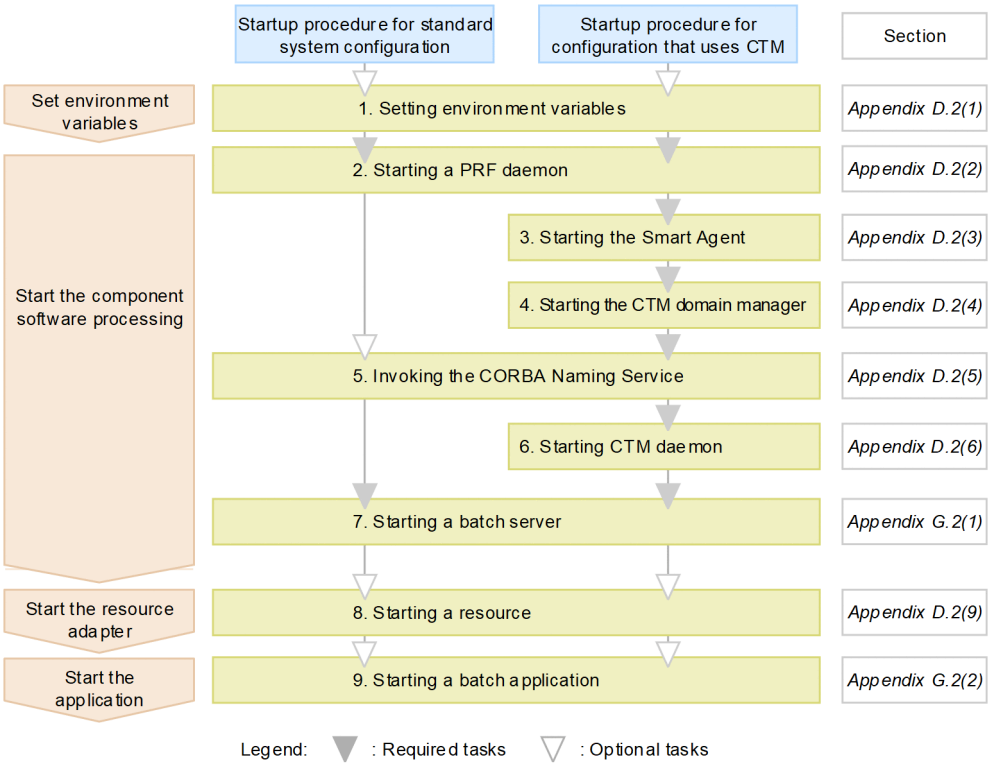
Note that as a prerequisite, database must be already started. If you are using a database, start it in advance, if necessary.

(1) Flow of starting an Application Server

The flow of starting an Application Server used in the system is explained.

The following figure shows the flow of starting an Application Server:

Figure G–1: Flow of starting an Application Server (in UNIX)



The steps 1 through 9 are as follows:

1. Specifying environment variables

   Specify environment variables. For details on specifying environment variables, see *D.2(1) Specifying environment variables when a system is started*.

2. Starting a PRF daemon

   Start a PRF daemon using the `cprfstart` command. For details on starting a PRF daemon, see *D.2(2) Starting a PRF daemon*.

3. Starting the Smart Agent
   This operation is not required when CTM is not used.
   You use the `osagent` command to start the Smart Agent. For details on starting the Smart Agent, see *D.2(3) Starting the Smart Agent*.

4. Starting the CTM domain manager
   This operation is not required when CTM is not used.
   You use the `ctmdmstart` command to start the CTM domain manager. For details on starting the CTM domain manager, see *D.2(4) Starting the CTM domain manager*.

5. Invoking CORBA Naming Service
   This operation is not required when CTM is not used.
   When using CTM, you use the `nameserv` command to start the CORBA Naming Service for CTM. For details on starting the CORBA Naming Service, see *D.2(5) Invoking the CORBA Naming Service*.

6. Starting a CTM daemon
   This operation is not required when CTM is not used.
   You use the `ctmstart` command to start the CTM daemon. For details on starting a CTM daemon, see *D.2(6) Starting a CTM daemon*.

7. Starting a batch server
   Start a batch server using the `cjstartsv` command. For details on starting batch servers, see *G.2(1) Starting a batch server*.

8. Starting a resource
   If you are not using any resources, this operation is not required.
   Start resources using a server management command. For details on starting resources, see *D.2(8) Starting a resource*.

9. Starting a batch application
   Start a batch application using the `cjexecjob` command. For details on starting batch applications, see *G.2(2) Executing batch applications*.

G.2 How to start a system

This section explains how to start a batch server, and also how to execute batch applications.

(1) Starting a batch server

The method of starting a batch server is as follows:

Take note of the following points when starting a batch server:

- You must have the root permission (when the Component Container Administrator is not set up), or the permission of the Component Container Administrator (when the Component Container Administrator is set up) to execute the `cjstartsv` command.
- If a user who does not have the root permission is set as the Component Container Administrator, 1024 or a greater value must be specified in the port number of the CORBA Naming Service for batch server, when invoking the

CORBA Naming Service. If you do not specify 1024 or a greater value, an error will occur, and you will not be able to start the batch server.

- If the error message KDJE47500-E is output when a batch server is started, it indicates that the CORBA Naming Service you attempted to use was already started, and therefore, the batch server will fail to start. Stop the already started CORBA Naming Service, and then start the batch server.

To start a batch server when the CORBA Naming Service is invoked as an in-process in the standard system configuration:

1. Move the current directory using the cd command.

```
# cd /opt/Cosminexus/CC/server/bin
```

2. Start the batch server using the cjstartsv command

   You must have the root permission (when the Component Container Administrator is not set up), or the permission of the Component Container Administrator (when the Component Container Administrator is set up) to execute the command.

```
# cjstartsv server-name -nosecurity
```

(2) Executing batch applications

The method of executing batch applications is as follows:

Execute a batch application using a server management command. Note that you must have root permission or Component Container administrator permission to execute the server management commands.

To execute a batch application:

1. Move the current directory using the cd command.

```
cd /opt/Cosminexus/CC/batch/bin/cjexecjob
```

2. Execute the batch application using the cjexecjob command.

   You must have root permission or Component Container administrator permission to execute this command.

   The method of specifying the server, to be connected to, depends upon whether the batch application uses the job scheduling functionality or not.

   When the job scheduling functionality is not used

   Specify the batch server that can execute the job.

```
cjexecjob.exe server-name Java-application-class-name
```

   When the job scheduling functionality is used

   Specify the job scheduling group.

```
cjexecjob [schedule-group-name] [-jobID job-ID] Java-application-class
-name
```

G.3 Procedure for terminating a system

The procedure for terminating a batch application and a batch server is explained in this section.

(1) Flow of terminating a system

The procedure for terminating a system is the reverse of the procedure for starting a system. If you are using a database, terminate it at the end, if necessary.

Terminate a system based on the termination operation explained below:

- **Terminate batch applications**
  If the batch applications are not terminated, use the `cjkilljob` command to terminate batch applications. For details on terminating a batch application, see *G.4 (1) Terminating a batch application*.
- **Terminate resources**
  When you are not using resources, this operation is not required.
  Terminate resources using the server management command (`cjstoprar`). For details on terminating resources, see *D.4 (3) Terminating a resource*.
- **Terminate a batch server**
  Terminate a batch server using the `cjstopsv` command. For details on terminating a batch server, see *G.4 (2) Terminating a batch server*.
- **Terminate the CTM daemon**
  This operation is not required when CTM is not used.
  You use the `ctmstop` command to terminate the CTM daemon. For details on terminating a CTM daemon, see *D.4(5) Terminating a CTM daemon*.
- **Terminate the CORBA Naming Service**
  You use **Ctrl** + **C** to terminate CORBA Naming Service.
- **Terminate the CTM domain manager**
  This operation is not required when CTM is not used.
  You use the `ctmdmstop` command to terminate the CTM domain manager. For details on terminating the CTM domain manager, see *D.4(7) Terminating the CTM domain manager*.
- **Terminate the Smart Agent**
  You use **Ctrl** + **C** to terminate Smart Agent.
- **Terminate a PRF daemon**
  Terminate a PRF daemon using the `cprfstop` command. For details on terminating a PRF daemon, see *D.4 (9) Terminating a PRF daemon*.

G.4 How to terminate a system

This section explains how to terminate a batch application and a batch server.

(1) Terminating a batch application

The method of terminating a batch application is as follows:

If a batch application is not terminated, use the `cjkilljob` command to terminate the batch application. Note that you must have root permission or Component Container administrator permission to execute the `cjkilljob` command.

The `cjkilljob` command terminates batch applications using the `cancel` method or the CTM. If a failure occurs in terminating the batch application, terminate the batch server forcibly.

To terminate a batch application:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/CC/batch/bin
```

2. Terminate the batch application using the `cjkilljob` command.

   You must have root permission or Component Container administrator permission to execute the command.

   To terminate batch applications, server names or job IDs might be specified.

   When the server name is specified

   The batch application is terminated using the `cancel` method.

```
cjkilljob server-name
```

   When the job ID is specified

   The batch application is terminated by CTM.

   This command can only be used when you use the job scheduling functionality.

```
cjkilljob -jobID job-ID
```

(2) Terminating a batch server

To terminate a batch server:

1. Move the current directory using the `cd` command.

```
# cd /opt/Cosminexus/CC/server/bin
```

2. Terminate the batch server using the `cjstopsv` command.

   You must have root permission or Component Container administrator permission to execute the command.

```
# cjstopsv server-name
```

An example of executing the `cjstopsv` command is as follows. In this example, the server name is *MyServer*.

```
# cd /opt/Cosminexus/CC/server/bin
# cjstopsv MyServer
#
```

Note that in some cases, the termination processing of the batch server does not finish because of the processing in the batch server is not complete. In such cases, you must terminate the batch server forcibly. For forceful termination of the batch server, specify the `-f` option or the `-fd` option in the `cjstopsv` command, and then execute the command. If you specify the `-fd` option, the batch server is terminated forcibly after the error information of the batch server is collected.

H. System Environment Variables

This appendix describes the system environment variables that are required for configuring the system without using Management Server.

H.1 System environment variables common to OSs

The following table lists the system environment variables to be specified in common to the OSs. The setting of system environment variables differs depending on whether the system uses the scheduling functionality by CTM.

Table H–1: Setting values and settings of system environment variables (Common to OSs)

System environment variable name	Explanation	Setting value	Settings of the environment variable	
			When not using CTM	When using CTM
LIBPATH, LD_LIBRARY_PATH[#1] [#2]	Specifies the path.	/opt/Cosminexus/TPB/lib	Y	Y
		/opt/Cosminexus/PRF/lib	Y	Y
		/opt/Cosminexus/CTM/lib	--	Y
		/opt/hitachi/common/lib	Y	Y
PATH	Specifies the path.	• In Windows *Application-Server-installation-directory*\jdk\bin[#3] • In UNIX /opt/Cosminexus/jdk/bin[#3]	Y	Y
		• In Windows *Application-Server-installation-directory*\TPB\bin • In UNIX /opt/Cosminexus/TPB/bin	Y	Y
		• In Windows *Application-Server-installation-directory*\PRF\bin[#4] • In UNIX /opt/Cosminexus/PRF/bin[#4]	Y	Y
		• In Windows *Application-Server-installation -directory*\CTM\bin[#4] • In UNIX /opt/Cosminexus/CTM/bin[#4]	--	Y
		ProgramFiles\Common Files\Hitachi[#5]	N	N
		/bin[#1]	Y	Y
		/usr/bin[#1]	Y	Y

System environment variable name	Explanation	Setting value	Settings of the environment variable	
			When not using CTM	When using CTM
TPDIR	Specifies the installation directory of TPBroker.	• In Windows *Application-Server-installation-directory*\TPB • In UNIX /opt/Cosminexus/TPB	Y	Y
VBROKER_ADM	Specifies a management directory of the log output destination.	• In Windows *Application-Server-installation-directory*\TPB\adm[#6] • In UNIX /opt/Cosminexus/TPB/adm[#6]	Y	Y
PRFSPOOL	Specifies the execution environment directory of the performance tracer. An installer creates a default directory. To change the default directory, create the execution environment directory of the performance tracer and specify the directory in this environment variable. Specify such that the total length of the setting value of PRFSPOOL and the PRF identifier (maximum length is 32 bytes) is less than 201 bytes. If the environment variable is not specified, the performance tracer fails to operate. In Windows, when changing the directory to other than the default directory, set the access permission for the specified directory and all the directories included in the path of the specified directory, to *full control*, and specify *Everyone* as the users to whom the full control is to be assigned. In UNIX, set access permission (777) to all the execution environment directories and all the directories included in the path to the execution environment directory.	• In Windows *Application-Server-installation-directory*\PRF\spool • In UNIX /opt/Cosminexus/PRF/spool	N[#7]	N[#7]
OSAGENT_PORT	Specify a port number used by Smart Agent (osagent) in the range of 5,001 through 65,535.	14000[#6]	--	R
CTMDIR	Specify the CTM installation directory.	• In Windows *Application-Server-installation-directory*\CTM • In UNIX /opt/Cosminexus/CTM	--	Y
CTMSPOOL	Specify the execution environment directory of CTM. An installer	• In Windows %CTMDIR%\spool	--	R

System environment variable name	Explanation	Setting value	Settings of the environment variable	
			When not using CTM	When using CTM
	creates a default directory. To change the default directory, create the execution environment directory of CTM and specify the created directory in this environment variable. Use a case sensitive path name.	• In UNIX /opt/Cosminexus/CTM/spool		
TZ	Specify a time zone.	JST-9#6	Y	Y

Legend:

Y: Specification is required.

N: As it is set by the installer, the setting is not required.

R: The setting according to system environments is required.

--: The setting is not required.

When not using CTM: Indicates a system that does not use the scheduling functionality provided by CTM.

When using CTM: Indicates a system that uses the scheduling functionality provided by CTM.

#1: An environment variable to be specified in UNIX. Do not specify this variable in Windows.

#2: The environment variables that you specify differ depending on the OSs.

- In AIX: LIBPATH
- In Linux: LD_LIBRARY_PATH

#3: In the following case, specify at the beginning of the environment variable PATH.

- When manually starting CORBA Naming Service
- In Windows

#4: When starting the CTM domain manager or CTM, do not concurrently specify a path of the performance tracer (*Application-Server-installation-directory*\PRF\bin). If you concurrently specify a path of the performance tracer, an error occurs when CTM loads libraries of the performance tracer and the performance tracer fails to start.

#5: An environment variable to be specified in Windows. Do not specify this variable in UNIX. An installer specifies *ProgramFiles*\Common Files\Hitachi by default in the system environment variable. *ProgramFiles* is a directory that is normally specified in the system environment variable %ProgramFiles%.

#6: Specify this value generally. However, you can also specify other values.

#7: In Windows, an installer specifies the same. An installer does not specify this in UNIX.

Important note

CLASSPATH is disabled. Specify class paths for the add.class.path key in the option definition file for J2EE servers.

H.2 AIX specific environment variables

When the OS you use is AIX, you must specify the AIX specific system environment variables in addition to the environment variables described in *Appendix H.1 System environment variables common to OSs*. The following table lists the AIX specific system environment variables.

Table H–2: AIX specific system environment variable

System environment variable name	Specification value	Explanation
PSALLOC#	early	Specifies to immediately allocate the paging space required for memory allocation.
NODISCLAIM#	true	Specifies to deter the issue of disclaim(), as the call processing method for free().
AIXTHREAD_SCOPE	S	Specifies the validity range (1:1) of the system base contention as the contention validity range.
AIXTHREAD_MUTEX_DEBUG	OFF	Specifies not to use the debug list.
AIXTHREAD_RWLOCK_DEBUG	OFF	Specifies not to use the debug list.
AIXTHREAD_COND_DEBUG	OFF	Specifies not to use the debug list.
EXTSHM	ON	Specifies to cancel the restriction of the shared memory variables count of the process space.
LDR_CNTRL (optional)	MAXDATA=0x40000000	The specification for enabling the handling of a large size data area by the typical division of the kernel. Specify this as and when required. 0x40000000 is the malloc area size (unit: byte) of the J2EE server, when this variable is not specified. Change the specifications such as specifying a smaller size, to secure JavaHeap or shared memory of the mmap area.

#: If the memory estimation is not performed in the initial stages of system configuration, do not specify early in PSALLOC and true in NODISCLAIM, for HTTP Server. If you specify early and true, a sufficient paging space might not be allocated and the process might fail to start.

I. Abstract parameters available with the Smart Composer Functionality (in V9 compatibility mode)

The Smart Composer functionality provides the parameters that are related to each other as a combined parameter. This parameter is called as *abstract parameter*. The *abstract parameter* is not the effective parameter for individual product; rather this is the parameter that is defined as the performance requirement of systems from the standpoint of system designing. The following abstract parameter will be used with the Smart Composer functionality:

Maximum number of concurrently processed requests

This is the maximum number of requests processed concurrently in one service unit. A request is the series of business processes that originates with HTTP requests sent by clients.

When you execute the `cmx_trans_param` command, the defined abstract parameter values are deployed as multiple effective parameters according to deployment rules. Note that the default parameter values are used for other effective parameters. For details on the individual parameters, see *4. Files Used by the Smart Composer Functionality* in the *uCosminexus Application Server Definition Reference Guide*.

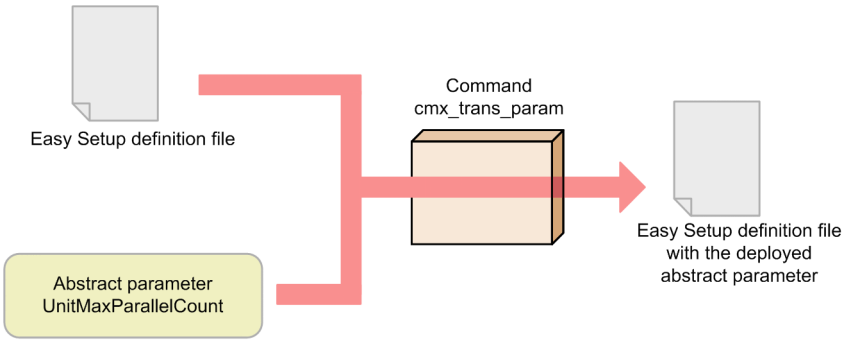
The deployment functionality of the abstract parameter can be used only when the physical tier is the combined-tier configuration. A physical tier that is not the combined-tier configuration requires a parameter definition design, same as for the Web system setup, when the Smart Composer functionality is not used.

This appendix describes the deployment of abstract parameters and effective parameters that are deployed by the abstract parameters.

I.1 Deploying abstract parameters

Input the Easy Setup definition file and the abstract parameter in the `cmx_trans_param` command to create the definition file (Easy Setup definition file with the deployed abstract parameter) deployed from the abstract parameter in the effective parameter. The following figure shows the image of deploying an abstract parameter:

Figure I–1: Image of deploying an abstract parameter



Note that in order to deploy an abstract parameter, you must design the abstract parameter. Before deploying the abstract parameter, you estimate the maximum number of concurrently processed requests.

The following is an example of deploying an abstract parameter when the maximum number of concurrently processed requests is estimated as 20:

In Windows

```
Cosminexus-installation-directory\manager\bin\cmx_trans_param -i arbitrary
-directory\MyWebSystemDef.xml -p UnitMaxParallelCount=20 -o arbitrary-dire
ctory\MyWebSystemDef2.xml
```

In UNIX

```
# /opt/Cosminexus/manager/bin/cmx_trans_param -i arbitrary-directory/MyWeb
SystemDef.xml -p UnitMaxParallelCount=20 -o arbitrary-directory/MyWebSyste
mDef2.xml
```

For details on the `cmx_trans_param` command, see *cmx_trans_param* in the subsection *8.3 Details of commands used with the Smart Composer functionality*.

I.2 Effective parameters deployed by abstract parameters

When you execute the *cmx_trans_param* command for the maximum number of concurrently processed requests that is the abstract parameter, the value will be deployed to the following seven effective parameters in the Easy Setup definition file:

- `ThreadsPerChild`
- `MaxClients`
- `StartServers`
- `HWSKeepStartServers`
- `KeepAliveTimeout`
- `webserver.connector.ajp13.backlog`
- `webserver.connector.ajp13.max_threads`

Additionally, you can use this abstract parameter to determine values of the following two parameters in the Connector property file. Note that the Connector property file is used for acquiring and editing resource adapter attributes.

- `MaxPoolSize`
- `MinPoolSize`

This subsection describes the rules for deploying effective parameters in the Easy Setup definition file and the rules for specifying the values of parameters that are set in the Connector property file.

(1) Effective parameters deployed in the Easy Setup definition file

This subsection describes the rules for each effective parameter when deploying values of maximum number of concurrently processed requests in each effective parameter and also describes the effective parameter. Note that `Setup destination file` in the description indicates the Cosminexus file in which the information of the Easy Setup definition file with the deployed abstract parameter is finally applied.

(a) ThreadsPerChild

Deployment rules

(KeepAliveTimeout + *average-processing-time-per-request*) / *average-processing-time-per-request* × *maximum-number-of-concurrently-processed-requests*

The deployment rule is as described above, and the calculation is as follows: *average-processing-time-per-request* = KeepAliveTimeout

Therefore, the formula is as follows:

maximum-number-of-concurrently-processed-requests × 2

Description related to the effective parameter

This parameter specifies the number of threads to be started as the Web server, using Cosminexus HTTP Server. The specified thread count indicates the maximum number of concurrent connections of the Web server.

For details, see the *uCosminexus Application Server HTTP Server User Guide*.

Setup destination file

httpsd.conf (Cosminexus HTTP Server definition file)

(b) MaxClients

Deployment rules

(KeepAliveTimeout + *average-processing-time-per-request*) / *average-processing-time-per-request* × *maximum-number-of-concurrently-processed-requests*

The deployment rule is as described above, and the calculation is as follows: *average-processing-time-per-request* = KeepAliveTimeout

Therefore, the formula is as follows:

maximum-number-of-concurrently-processed-requests × 2

Description related to the effective parameter

This parameter specifies the maximum number of clients that can connect concurrently with Cosminexus HTTP Server.

Setup destination file

httpsd.conf (Cosminexus HTTP Server definition file)

(c) StartServers

Deployment rules

(KeepAliveTimeout + *average-processing-time-per-request*) / *average-processing-time-per-request* × *maximum-number-of-concurrently-processed-requests*

The deployment rule is as described above, and the calculation is as follows: *average-processing-time-per-request* = KeepAliveTimeout

Therefore, the formula is as follows:

maximum-number-of-concurrently-processed-requests × 2

Description about the effective parameter

This parameter specifies the number of server processes used for starting the Web server, using Cosminexus HTTP Server.

For details, see the *uCosminexus Application Server HTTP Server User Guide*.

Setup destination file

httpsd.conf (Cosminexus HTTP Server definition file)

(d) HWSKeepStartServers

Deployment rules

`On` is deployed.

Description about the effective parameter

This parameter specifies whether the number of running server processes will be maintained at the number specified in the `StartServers` parameter by using Cosminexus HTTP Server. For details, see the *uCosminexus Application Server HTTP Server User Guide*.

Setup destination file

`httpsd.conf` (Cosminexus HTTP Server definition file)

(e) KeepAliveTimeout

Deployment rules

`3 (Seconds)` is deployed.

Description about the effective parameter

This parameter specifies the time for which the connection is maintained for `KeepAliveTimeout`, when HTTP 1.1 persistent connection is established.

When a persistent connection is used (when the `KeepAlive` directive is set to `On`) for a faster response, the connection is not broken even after a response is returned for the client request and the system waits for the next request from the same client. Therefore, you specify a timeout value for `KeepAliveTimeout`.

For details, see the *uCosminexus Application Server HTTP Server User Guide*.

Setup destination file

`httpsd.conf` (Cosminexus HTTP Server definition file)

(f) webserver.connector.ajp13.backlog

Deployment rules

`(KeepAliveTimeout +` *average-processing-time-per-request*`) /` *average-processing-time-per-request* `×` *maximum-number-of-concurrently-processed-requests*

The deployment rule is as described above, and the calculation is as follows: *average-processing-time-per-request* `= KeepAliveTimeout`

Therefore, the formula is as follows:

maximum-number-of-concurrently-processed-requests `× 2`

Description about the effective parameter

This parameter specifies the maximum number of pending matrix for the connection requests from the redirector.

Setup destination file

`usrconf.properties` (User property file for J2EE server)

(g) webserver.connector.ajp13.max_threads

Deployment rules

maximum-number-of-concurrently-processed-requests is deployed as it is.

Description about the effective parameter

This parameter specifies the number of requests processed concurrently by the Web container.

Setup destination file

`usrconf.properties` (User property file for J2EE server)

(2) Example of abstract parameter deployment

When you execute the `cmx_trans_param` command, the parameters listed in the following table are automatically deployed within the `<configuration>` tag of the physical tier definition (definition of the `<tier>` tag), and the Easy Setup definition file with the deployed abstract parameter is created:

Table I–1: List of parameters automatically deployed using the cmx_trans_param command

logical-server-type	param-name
web-server	ThreadsPerChild
	MaxClients
	StartServers
	HWSKeepStartServers
	KeepAliveTimeout
j2ee-server	webserver.connector.ajp13.backlog
	webserver.connector.ajp13.max_threads

For details on the parameters, see *4. Files Used by the Smart Composer Functionality* in the *uCosminexus Application Server Definition Reference Guide*.

The contents of the Easy Setup definition file with the deployed abstract parameter are as follows (excerpt):

Easy Setup definition file with the deployed abstract parameter

```
<?xml version="1.0" encoding="UTF-8"?>
<model-definition xmlns="http://www.cosminexus.com/mngsvr/schema/ModelDefi
nition-2.5">
 <web-system>
 <name>MyWebSystem</name>
 <!-- definition-of-the-load-balancer -->
 <load-balancer>
  :
 </load-balancer>
 <!-- definition-of-physical-tier-(combined-tier) -->
 <tier>
  <tier-type>combined-tier</tier-type>

  <!-- Generate web-server configuration by cmx_trans_param -->
  <configuration>
  <logical-server-type>web-server</logical-server-type>
  <param>
   <param-name>ThreadsPerChild</param-name>
   <param-value>40</param-value>
  </param>
  <param>
   <param-name>MaxClients</param-name>
   <param-value>40</param-value>
  </param>
  <param>
   <param-name>StartServers</param-name>
```

```
    <param-value>40</param-value>
   </param>
   <param>
    <param-name>HWSKeepStartServers</param-name>
    <param-value>On</param-value>
   </param>
   <param>
    <param-name>KeepAliveTimeout</param-name>
    <param-value>3</param-value>
   </param>
   </configuration>

   <!-- Generate j2ee-server configuration by cmx_trans_param -->
   <configuration>
   <logical-server-type>j2ee-server</logical-server-type>
   <param>
    <param-name>webserver.connector.ajp13.backlog</param-name>
    <param-value>40</param-value>
   </param>
   <param>
    <param-name>webserver.connector.ajp13.max_threads</param-name>
    <param-value>20</param-value>
   </param>
    ...
   </configuration>
  </tier>
  <!-- definition-of-service-unit -->
  <unit>
   ...
  </unit>
  </web-system>
  <!-- definition-of-host -->
  <host>
  ...
  </host>
</model-definition>
```

Note: Definitions that have been automatically expanded are indicated in bold type with a background color.

(3) Parameter values in the Connector property file

You can determine the settings for the `MaxPoolSize` and `MinPoolSize` parameters in the Connector property file on the basis of the value of the abstract parameter. The parameters are not automatically set using the `cmx_trans_param` command. You manually specify the parameters in the Connector property file, and then deploy resource adapters.

(a) MaxPoolSize

Set value

Specifies the value set in *maximum-number-of-concurrently-processed-requests*.

Description about the effective parameter

This parameter specifies the maximum value of the connection pool.

Setup destination file

Connector property file

(b) MinPoolSize

Set value

Specifies the value set in *maximum-number-of-concurrently-processed-requests*.

Description about the effective parameter

This parameter specifies the minimum value of the connection pool.

Setup destination file

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