



JobCenter

R13.2

<Guide for using the Web function>

-
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Introduction

This manual describes the basic functions and operating methods of JobCenter. Much of its content is devoted to presenting operating procedures that use the GUI displays that JobCenter offers to the user. Note that the sample screens shown herein may differ from the actual screens.

Note that this document is subject to change without prior notice.

1. Legend

The legend used in this manual is explained below.

		Information that you should pay attention to.
		Supplementary information about a description in the text.
Note		Explanation of a note that appears in the text.
—		The underlined parts in the descriptions for the installation window for UNIX mean inputs from a keyboard.

2. Related manuals

The following are manuals related to JobCenter. They are contained in JobCenter Media.

For information on the latest manuals, refer to the download page of the JobCenter product site.

<http://www.nec.co.jp/middle/WebSAM/products/JobCenter/download.html> (Japanese only)

Document title	Overview
JobCenter Installation Guide	Describes how to newly install JobCenter or upgrade it.
JobCenter Quick Start Guide (Japanese only)	Describes the basic functions of JobCenter, as well as a complete set of operations, for first-time users of JobCenter.
JobCenter Basic Guide	Describes the basic functions of JobCenter, as well as how to operate it.
JobCenter Environment Guide	Describes various setting methods on the construction of environments required for using JobCenter, transferring of environment, linkage with other products, etc.
JobCenter Guide for using NQS function (Japanese only)	Describes methods of using NQS functions, the basis of JobCenter, from JobCenter.
JobCenter Guide for using operation logs and execution logs	Describes the functions for acquiring operation logs and job network execution logs from JobCenter CL/Win, as well as how to set the functions.
JobCenter Command Reference (Japanese only)	Describes JobCenter commands for performing job network entry and execution state referencing, etc. from the command line like a GUI.
JobCenter Guide for using Cluster function	Describes linkage methods for operating JobCenter in the cluster system.
JobCenter Guide for using Helper function (Japanese only)	Describes the following three functions that enable efficient operation of JobCenter using Excel: JobCenter Definition Helper (definition information maintenance), JobCenter Report Helper (business report creation), and JobCenter Analysis Helper (performance analysis).
JobCenter Guide for using SAP function (Japanese only)	Describes how to link JobCenter and SAP.
JobCenter Guide for using UCXSingle job (Japanese only)	Describes how to link JobCenter and UCXSingle.
JobCenter Guide for using WebOTX Batch Server linkage function (Japanese only)	Describes how to link JobCenter and WebOTX Batch Server.
JobCenter Guide for Using the Web Function	Describes JobCenter CL/Web that is a function to monitor jobs by using a web browser.
JobCenter Guide for using the text definition function (Japanese only)	Describes how to define a job network, schedule, calendar, custom job template by using a text file.

JobCenter Guide for upgrading the version and applying the patches in a cluster environment (Japanese only)	Describes how to upgrade the version of JobCenter and apply the patches in a cluster environment.
JobCenter R13.2 Release Notes	Provides the information specific to JobCenter R13.2.

3. Revision history

Edition	Date of revision	Item	Format	Contents of revision
1	January 17, 2014	New	–	First Edition

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Chapter 1. Overview

This chapter provides an overview of JobCenter CL/Web.

JobCenter CL/Web enables execution state monitoring, immediate job network submission, and parameter checking by using a web browser.

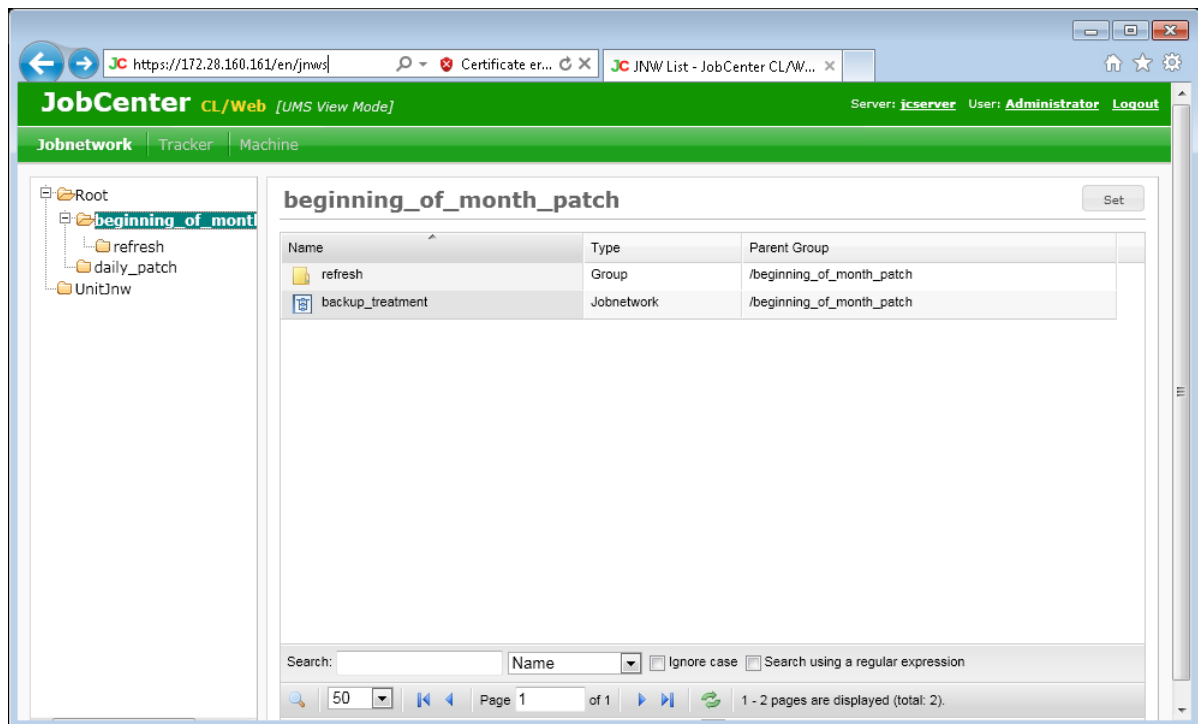


Figure 1.1. Image of the JobCenter CL/Web window

■ Conventions for abbreviations

JobCenter CL/Web is referred to as "CL/Web."

The JobCenter CL/Web Server is referred to as the "CL/Web Server."

1.1. Function Overview

The CL/Web functions are outlined below.

Table 1.1. CL/Web function list

Category	Function	Description
Job Network	Lists job networks.	For details, refer to Section 5.4.1, "Viewing a Group" .
	Submits a job network immediately.	For details, refer to Section 5.4.3, "Submitting a Job Network Immediately" .
	Lets you browse job network definition information.	For details, refer to Section 5.4.2, "Viewing a Job Network" .
	Searches the job network list.	For details, refer to Section 5.1.2, "Search Function" .
Tracker	Lists trackers.	For details, refer to Section 5.5.1.1, "Listing Trackers" .
	Lets you operate trackers and tracker parts.	For details, refer to Section 5.5.2.1, "Operating a Job Network Tracker" .
	Searches the tracker list.	For details, refer to Section 5.1.2, "Search Function" .
	Lets you set a monitoring filter.	For details, refer to Section 5.5.1.2, "Displaying the Tracker List with a Period Specified" .
	Sends the URL shown in the tracker window via mail.	For details, refer to Section 6.1.2, "Setting Character Code for Email" .
Schedule	Lists schedules.	For details, refer to Section 5.6.1, "Viewing a List of Schedules" .
	Lets you browse schedule definition information.	For details, refer to Section 5.6.2, "Viewing the Schedule Definition" .
	Enables/Disables schedules	For details, refer to Section 5.6.4, "Enabling or Disabling the Schedule" .
Machine	Lists machines.	For details, refer to Section 5.7.1, "Viewing a List of Machines" .
	Lists queues.	For details, refer to Section 5.7.2, "Viewing a List of Queues" .
	Lets you operate a queue.	For details, refer to Section 5.7.3, "Operating a Queue" .
	Lists users.	For details, refer to Section 5.7.4, "Viewing a List of Users" .
	Searches a list window.	For details, refer to Section 5.1.2, "Search Function" .
Calendar	Lists calendars.	For details, refer to Section 5.8.1, "Viewing a List of Calendars" .

Lets you browse calendar definition information.

For details, refer to [Section 5.8.2, "Viewing the Calendar Definition"](#).

1.2. Introduction Effects

CL/Web enables job operation and monitoring using an install-less client, including error job discovery and immediate job network submission.

■ Introduction effect 1

Previously, it was necessary to install a dedicated client (JobCenter CL/Win) for each monitoring terminal. Introducing CL/Web makes it possible to perform monitoring via a web browser without installing a dedicated client.

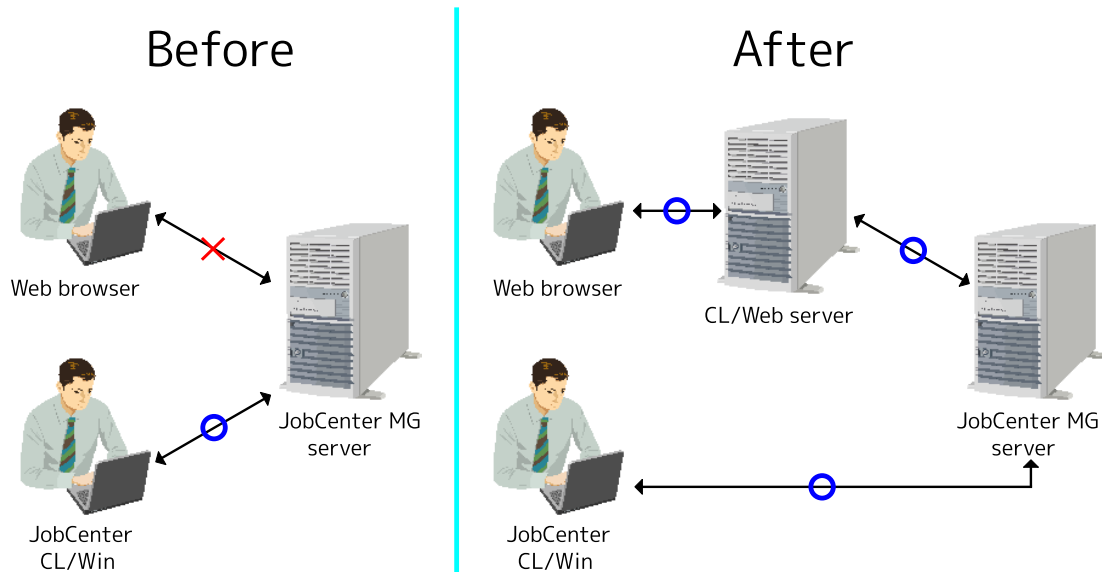


Figure 1.2. Introduction effect 1

■ Introduction effect 2

Previously, when an error occurred, the relevant tracker name was sent via mail. With the mail transmission function of MG, the URL information of the tracker window present when the error occurred can be sent to a specified mail address. For details, refer to [Section 6.1, "Details of the Mail Transmission Function"](#).

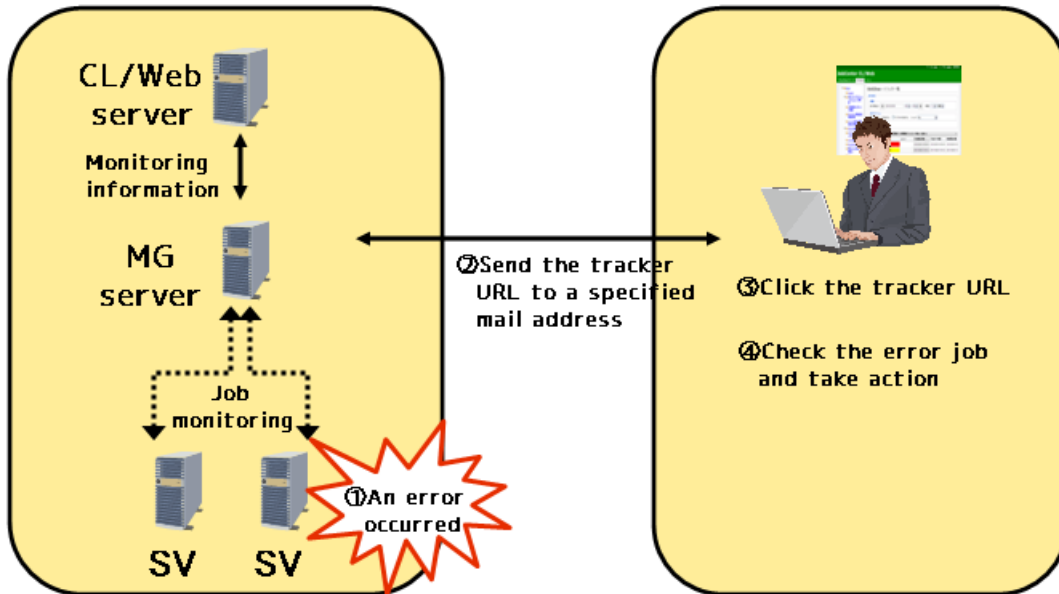


Figure 1.3. Introduction effect 2

■ Introduction effect 3

The event linkage function can output a macro that shows tracker URL information to an event message that is output by the viewer. For details, refer to [Section 6.2, "Macro Functions"](#).

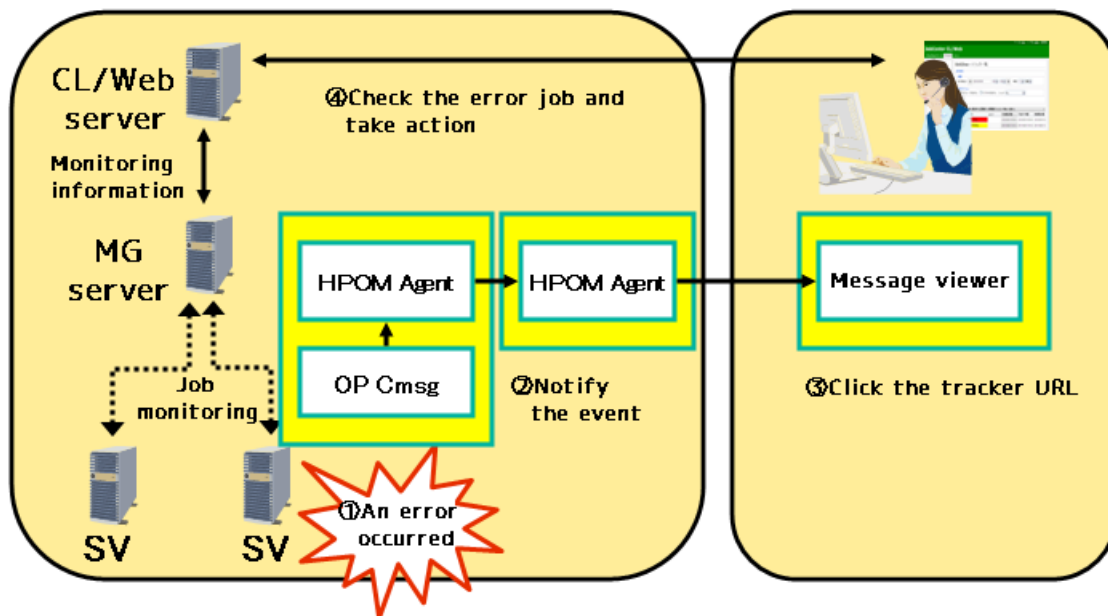


Figure 1.4. Introduction effect 3 (an example of the HPOM product)

1.3. About the License

CL/Web is offered as a chargeable option of JobCenter.

To use this function, you need to purchase the license of JobCenter CL/Web.

1.4. Operating Environment

For information about the operating environment of CL/Web, refer to Section 3.1.5, “Details of the OSs supported by JobCenter CL/Web, required software, and browsers” in <Release Notes>.

1.5. Glossary

The terms commonly used in relation to the Web functions are listed below.

Term	Description
JobCenter CL/Web	Name of this product. JobCenter CL/Web enables execution state monitoring, immediate job network submission, and parameter checking by using a web browser.
JobCenter CL/Web Server	Provides HTML contents and objects to be displayed in a web browser.

1.6. Flow of the Steps for Using JobCenter CL/Web

The flow of the steps for using JobCenter CL/Web is shown below.

Prepare for CL/Web Server installation	... Section 2.1.1, "Before Installation"
Install LicenseManager	... Section 2.1.2, "Installing LicenseManager"
Register the codeword	... Section 2.1.2, "Installing LicenseManager"
Install the CL/Web Server	... Section 2.1.3, "Installing the CL/Web Server"
Set up the CL/Web Server environment	... Section 3.1, "CL/Web Server"
Start the CL/Web Server	... Section 4.1, "Starting the CL/Web Server"
Set up the web browser environment	... Section 3.2, "Web Browser"
Access the CL/Web Server via the web browser	... Section 5.2, "Accessing the CL/Web Server Using a Browser"

Figure 1.5. Flow of the steps for using JobCenter CL/Web

Chapter 2. Installing and Uninstalling the CL/ Web Server

This chapter describes how to install and uninstall the CL/Web Server.

2.1. Installation

This section describes the procedures for installing LicenseManager and CL/Web Server.

2.1.1. Before Installation

This section describes the tasks you need to perform before installation and the points to note.

■ Installing the JRE

CL/Web is set up using Java in the installer. Therefore, before installing CL/Web Server, you need to install Java SE JRE6 or later supplied from Oracle.

Download the latest version from Oracle's website.



When installing CL/Web Server to Red Hat Linux 5, you need to install Java SE JRE6 or later supplied from Oracle, because the version of the default JRE is old.

■ Stopping and uninstalling CL/Web Server (common to UNIX and Windows)

If CL/Web Server is already installed, you need to stop and uninstall it.

For information about how to stop and uninstall CL/Web Server, refer to [Section 2.2, "Uninstallation"](#).

2.1.2. Installing LicenseManager

This section describes how to install LicenseManager.

LicenseManager is a product for license management.

You need to install LicenseManager because the product is required to run CL/Web Server. For information about how to install LicenseManager, refer to Section 2.2, "Installing LicenseManager" in <Installation Guide>.

For information about codeword registration, refer to Section 2.3, "Codeword Registration" in <Installation Guide>.

2.1.3. Installing the CL/Web Server

This section describes how to install the CL/Web Server.

The following table shows the fixed disk size and memory size required to install CL/Web Server.

Table 2.1. Fixed disk size and memory size required to install CL/Web Server

Fixed disk capacity	70 MB
Memory size	100 MB

2.1.3.1. Installing CL/Web Server for UNIX

This section describes the procedure for installing CL/Web Server for UNIX.

1. Log in as the root user.
2. Insert and mount the JobCenter media (DVD-ROM). For details about how to mount the DVD-ROM, refer to the product manual of the target OS and other relevant documents.
3. Expand the CL/Web package in the media to an appropriate directory.

```
root> cd <directory-to-which-to-expand-the-package>  
root> unzip <CLWEB_PRODUCT_PATH>
```



<CLWEB_PRODUCT_PATH> represents the path to the package file (<directory-to-which-to-mount-the-media>/PACKAGE/JB/OTHER/CLWEB/NECJCpkg-clweb.zip).



The path to the directory to which to expand the package must not contain any multibyte character. If any multibyte character is used, the execution of the install script described below will fail.

4. Execute the following script.

```
root> <directory-to-which-the-package-has-been-expanded>/clweb_install.sh
```

When asked about the installation path, select y if you will use the default path. To change the installation path, select n.

```
Do you use default installation path('/usr/local/jcclweb')? (y/n)
```

If you select n, the following message appears and you need to specify the installation path.

```
Please input installation path.  
/var/jcclweb
```



Here, an example of changing the installation path to [/var/jcclweb] is described.



- The installation path must not contain any space or multibyte character.
- If CL/Web Server is already installed, a warning is output and the installation is interrupted.
- If the specified folder already exists, a message (Already exists and is not an empty directory.) is output and the installation is interrupted. If the directory is empty, the installation continues.

If you select y or specify the installation path when asked about the default path, the installation starts.



If the message "Cannot find Java 1.5 or higher." is output and CL/Web Server cannot be installed even when the JRE is installed, set the JRE installation path in the environment variable JAVA_HOME before executing

[clweb_install.sh] (the following is a setting example in which /bin/sh is used).

```
JAVA_HOME=<JRE-install-path>  
export JAVA_HOME
```

5.If there is no error after command execution, the following message appears. The installation has been finished successfully.

```
Install finished successfully.
```

6.If the installation has been finished successfully, proceed to [Chapter 3, "Environment Setup"](#) .

2.1.3.2. Installing CL/Web Server for Windows

This section describes the procedure for installing CL/Web Server for Windows.



In the following description, Q: is assumed to be the CD/DVD-ROM drive. If the CD/DVD-ROM drive is assigned to a different drive, read the description accordingly.

1. Log in as the local administrator.
2. Set the JobCenter media (DVD-ROM) and copy the CL/Web package in the media (Q:\PACKAGE\JB\OTHER\CLWEB\NECJCpkg-clweb.zip) to a desired location on the local disk.
3. Expand "NECJCpkg-clweb.zip" to an appropriate directory using the expansion function of the OS or a decompression tool.



The path to the directory to which the package is to be expanded must not include multibyte characters. If multibyte characters are used, the execution of the install script described below will fail.

4. Open the command prompt. You can open the command prompt by selecting [Start], [All Programs], and then [Accessories].
5. At the command prompt, execute [clweb_install.bat].

```
<directory-to-which-the-package-has-been-expanded>\clweb_install.bat
```

When asked about the installation path, select y if you will use the default path. To change the installation path, select n.

```
Do you use default installation path('C:\jcclweb')? (y/n)
```

If you select n, the following message appears and you need to specify the installation path.

```
Please input installation path.  
D:\jcclweb
```



Here, an example of changing the installation path to [D:\jcclweb] is described.



- The installation path must not include multibyte characters.
- If CL/Web Server is already installed, a warning is output and the installation is interrupted.
- If the specified folder already exists, a message (Already exists and is not an empty directory.) is output and the installation is interrupted. If the folder is empty, the installation continues.

If you select y or specify the installation path when asked about the default path, the installation starts.



If the message "Cannot find Java 1.5 or higher." is output and CL/Web Server cannot be installed even when the JRE is installed, set the JRE installation path in the environment variable JAVA_HOME before executing [clweb_install.bat].

```
set JAVA_HOME=<JRE-install-path>
```

6. If there is no error after command execution, the following message appears. The installation has been finished successfully.

```
Start CL/Web service regist
Finish CL/Web service regist
Install finished successfully.
Finish. Please Push a Key...
```

After the above is displayed, press any key to return to the prompt.

7. If the installation has been finished successfully, proceed to [Chapter 3, "Environment Setup"](#) .

2.2. Uninstallation

This section describes how to uninstall LicenseManager and CL/Web Server.

2.2.1. Uninstalling LicenseManager

For information about how to uninstall LicenseManager, refer to Section 4.1, “Uninstalling LicenseManager” in <Installation Guide>.

2.2.2. Uninstalling the CL/Web Server

2.2.2.1. Uninstalling the CL/Web Server for UNIX

This section describes the procedure for uninstalling CL/Web Server for UNIX.

1. Stop the CL/Web Server services. For information about how to stop the services, refer to [Section 4.2.1, “Stopping the CL/Web Server for UNIX”](#).
2. Execute the following command to uninstall CL/Web Server for UNIX.

```
%InstallDirectory%/run/clweb_ctrl.sh uninstall
```

3. Delete %InstallDirectory%.

2.2.2.2. Uninstalling the CL/Web Server for Windows

This section describes the procedure for uninstalling CL/Web Server for Windows.

1. Stop the CL/Web Server service. For information about how to stop the service, refer to [Section 4.2.2, “Stopping the CL/Web Server for Windows”](#).
2. Execute the following command to uninstall CL/Web Server for Windows.

```
%InstallDirectory%\run\clweb_service.bat uninstall
```

3. Delete %InstallDirectory%.

2.3. Upgrade

This section describes the CL/Web Server upgrade procedure.

2.3.1. Upgrading CL/Web Server for UNIX

This section describes how to upgrade CL/Web Server for UNIX.

1. Stop the CL/Web Server services. For information about how to stop the services, refer to [Section 4.2.1, "Stopping the CL/Web Server for UNIX"](#).
2. Back up the CL/Web Server configuration file. Copy the following file to a directory unrelated with the CL/Web Server.

```
%InstallDirectory%/config/clweb.conf
```

Back up the CL/Web Server execution log file in the same way. Copy the following directory to a directory unrelated with the CL/Web Server.

```
%InstallDirectory%/log
```

3. Uninstall the CL/Web Server. For information about how to unistall the server, refer to [Section 2.2.2.1, "Uninstalling the CL/Web Server for UNIX"](#).
4. Install the new version of the CL/Web Server.
5. Restore the backed-up CL/Web Server configuration file.

2.3.2. Upgrading CL/Web Server for Windows

This section describes how to upgrade CL/Web Server for Windows.

1. Stop the CL/Web Server services. For information about how to stop the services, refer to [Section 4.2.2, "Stopping the CL/Web Server for Windows"](#).
2. Back up the CL/Web Server configuration file. Copy the following file to a folder unrelated with the CL/Web Server.

```
%InstallDirectory%\config\clweb.conf
```

Back up the CL/Web Server execution log file in the same way. Copy the following folder to a folder unrelated with the CL/Web Server.

```
%InstallDirectory%\log
```

3. Uninstall the CL/Web Server. For information about how to unistall the server, refer to [Section 2.2.2.2, "Uninstalling the CL/Web Server for Windows"](#).
4. Install the new version of the CL/Web Server.
5. Restore the backed-up CL/Web Server configuration file.

2.4. Case When Re-installing is Needed

The CL/Web Server needs to be re-installed in the following cases.

- The JRE installation path is changed due to a reason such as JRE upgrade.
- The LicenseManager installation path is changed due to a reason such as re-installation of LicenseManager.
- You want to change the CL/Web Server installation path.

2.4.1. Re-installing the CL/Web Server for UNIX

This section describes how to re-install the CL/Web Server for UNIX.

1. Stop the CL/Web Server services. For information about how to stop the services, refer to [Section 4.2.1, "Stopping the CL/Web Server for UNIX"](#).
2. Back up the CL/Web Server configuration file. Copy the following file to a directory unrelated with the CL/Web Server.

```
%InstallDirectory%/config/clweb.conf
```

Back up the CL/Web Server execution log file in the same way. Copy the following directory to a directory unrelated with the CL/Web Server.

```
%InstallDirectory%/log
```

3. Uninstall the CL/Web Server. For information about how to unistall the server, refer to [Section 2.2.2.1, "Uninstalling the CL/Web Server for UNIX"](#)
4. Upgrade JRE and re-install LicenseManager.
5. Re-install the CL/Web Server.
6. Restore the backed-up CL/Web Server configuration file.

2.4.2. Re-installing the CL/Web Server for Windows

This section describes how to re-install the CL/Web Server for Windows.

1. Stop the CL/Web Server services. For information about how to stop the services, refer to [Section 4.2.2, "Stopping the CL/Web Server for Windows"](#).
2. Back up the CL/Web Server configuration file. Copy the following file to a folder unrelated with the CL/Web Server.

```
%InstallDirectory%\config\clweb.conf
```

Back up the CL/Web Server execution log file in the same way. Copy the following folder to a folder unrelated with the CL/Web Server.

```
%InstallDirectory%\log
```

3. Uninstall the CL/Web Server. For information about how to unistall the server, refer to [Section 2.2.2.2, "Uninstalling the CL/Web Server for Windows"](#).
4. Upgrade JRE and re-install LicenseManager.

5. Re-install the CL/Web Server.
6. Restore the backed-up CL/Web Server configuration file.

Chapter 3. Environment Setup

This chapter describes the environment setup for CL/Web.

3.1. CL/Web Server

3.1.1. CL/Web Configuration File (clweb.conf)

Specify various CL/Web Server settings by editing the CL/Web configuration file (clweb.conf).

clweb.conf is stored in the following location:

```
%InstallDirectory%\config\clweb.conf
```

The default format of clweb.conf is as follows:

```
# $port = 443
# $bind = "0.0.0.0"
# $ssl_disable = false
# $tracker_auto_refresh = false
# $jccombase = 611
# $mail_server = "smtpserver"
# $mail_port = 25
# $mail_domain = ""
# $mail_authentication = "plain"
# $mail_username = "username"
# $mail_password = "password"
# $mail_from = ""
# $mail_charset_utf8 = true
# $relative_url_root = "/clweb"
# main menu tab order
# jnws: 1, trackers: 2, schedules: 3, machines: 4, calendars: 5
# $tab_order = "1 2 3 4 5"
```

3.1.2. Setting the Port to Use

The default communication protocol used by the CL/Web Server is SSL. Communication is enabled by setting the port number to be used in the CL/Web configuration file clweb.conf.

Set the port number in the clweb.conf file as follows:

1. Delete the # sign that is written at the beginning of the line containing the port variable \$port.

Text following the # sign is assumed to be commented out. The setting is disabled if the line has the # sign at the beginning. To enable the setting, the # sign needs to be deleted.

■ Setting example

Before the default port number is set

```
# $port=443
```

After the default port number is set

```
$port=443
```

2. The default port number is 443. If you do not use the default port number, change it to a desired number.



For the port used by the CL/Web Server, refer to Section 2.1.6, “https” in <Environment Guide>.

3. Save the clweb.conf file.

The format of the clweb.conf file and the items to be set are as shown below.

Table 3.1. Values to be set for the clweb.conf parameters (for specifying port number)

Setting	Description	Type	Default setting value
\$port	Specify an SSL port number required for communication between the CL/Web Server and web browsers. (If SSL is disabled, specify an HTTP port number.)	Numerical value	443
\$bind ^{Note 1}	If the server has more than one IP address, you need to specify an IP address.	Character string	0.0.0.0
\$ssl_disable	Specify true or false to determine whether to disable SSL for communication between the CL/Web Server and web browsers. true: Disable SSL. HTTP is used for communication between the CL/Web Server and web browsers. false: Enable SSL.	True/false value	false
\$jccombase	Specify the port (JCCOMBASE) to be used for the CL/Web Server to communicate with MG/SV. If the port to be used is not changed on the MG/SV side, this parameter does not need to be set.	Numerical value	611



- Note 1: Optional parameter. Do not change this parameter if it does not need to be set.
- When a character string is specified, it needs to be enclosed within double quotation marks.
- If a firewall exists in the machine where CL/Web Server is installed, you need to open a hole for the network port to be used by CL/Web.

3.1.3. Setting SSL Signature Certificate

If the CL/Web Server performs SSL communication, self-signed certificates are used by default. By storing a certificate file and a secret key file in the CL/Web environment, you can use your own SSL signature certificate.

The CL/Web configuration file is stored in the following location:

%InstallDirectory%\config

The certificate file and the secret key file are the following files:

Certificate file name	ssl_cert
Secret key file name	ssl_key
File format	The files are issued from the certificate authority and the format is the one used by OpenSSL.



- If either the ssl_cert file or the ssl_key file does not exist, CL/Web outputs an error message and CL/Web Server abnormally stops.
- If neither of the two files exists, a default self-signed certificate is used.

3.1.4. Setting Subdirectory of URL

The CL/Web Server access URL is https://<CL/Web Server host name or IP address>/ by default.

By setting the subdirectory, the access URL can be changed to https://<CL/Web Server host name or IP address>/<subdirectory>/.

Using this setting and the reverse proxy function provided by Apache, etc., the CL/Web Server and other servers can be in the same URL space.

Specify the URL subdirectory in the CL/Web configuration file clweb.conf.

The format and items included in clweb.conf related to URL subdirectory are as follows:

Table 3.2. Values to be set for the clweb.conf parameter (for specifying URL subdirectory)

Parameter	Description	Type	Setting value
\$relative_url_root	Specifies the subdirectory path.	Character string	Subdirectory path

3.2. Web Browser

This section describes the settings needed to start the web browser.

3.2.1. Setting Active Scripting

To use Internet Explorer, you need to have [Active scripting] enabled.

1. Start Internet Explorer, and click [Tools] - [Internet Options].
2. Select the [Security] tab, and click [Customize level] in [Internet Zone].
3. In the [Security Settings] dialog box, check that the option button for [Enable] is selected under [Active scripting]. If the option button for [Enable] is not selected, select it.

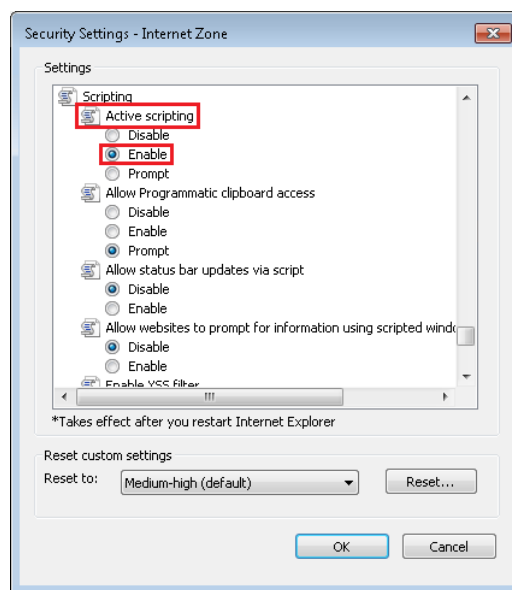


Figure 3.1. Active scripting setting window

3.2.2. Setting SSL

To use SSL for communication between the CL/Web Server and web browser (Internet Explorer), you need to have the browser set to use SSL.

1. Start Internet Explorer, and click [Tools] - [Internet Options].
2. Select the [Advanced] tab, and check that one of the following option buttons is selected in the [Security] section under [Settings]:
 - [Use SSL 3.0]
 - [Use TLS 1.0]
3. If neither option button is selected, select one of them.

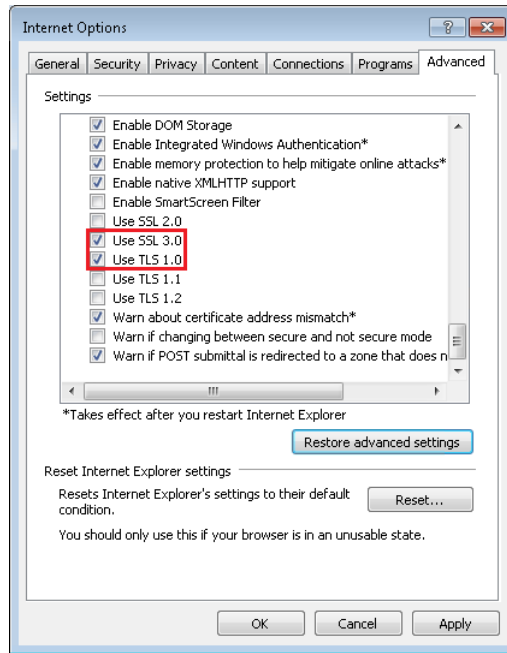


Figure 3.2. SSL setting window



SSL 2.0 is not supported.

3.2.3. Enabling Cookies

Because CL/Web uses cookies, you need to enable cookies.

Check your browser to see whether it is set to accept cookies. For details about the setting method, refer to the help of Internet Explorer.

3.2.4. Case When Safari Running on iOS Is Used

CL/Web uses JavaScript and cookies. Therefore, JavaScript and cookie must be enabled in Safari settings for devices run on iOS, such as iPad.

In this chapter and later, concerning operation of CL/Web, read "click" and "press" as "tap", and "right click" as "long tap" accordingly. When a long tap is performed, a magnifier may be displayed, which is Safari's behavior.

When CL/Web is used from Safari, to avoid transition of screens by an operation mistake, the linked pages are not displayed even if items on tables or parts of tracker flow are tapped. If you want to display the linked pages, long tap to display the shortcut menu and tap [Open].

Chapter 4. Starting and Stopping the CL/Web Server

This chapter describes how to start and stop the CL/Web Server.

4.1. Starting the CL/Web Server

4.1.1. Starting the CL/Web Server for UNIX

In the case of the CL/Web Server for UNIX, start the service by executing a script.

1. Execute the following script.

```
/etc/init.d/jcclweb start
```

4.1.2. Starting the CL/Web Server for Windows

To start the CL/Web Server for Windows, use the Windows service function.

1. In Windows, select [Start] - [Run], enter "services.msc" in [Open], and click [OK].

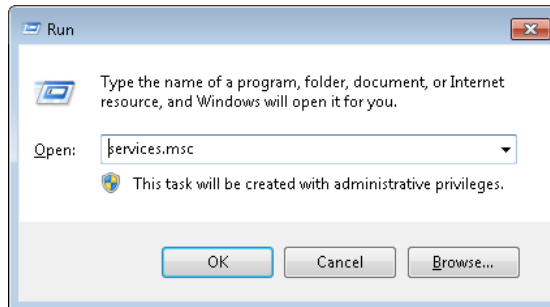


Figure 4.1. [Run] dialog box



How to start Windows services differs depending on the Windows versions. For how to start services in each Windows version, refer to Windows Help.

2. When the [Services] window opens, right-click "JobCenter CL/Web Service" under [Name] and select [Start].

Starting and Stopping the CL/Web Server

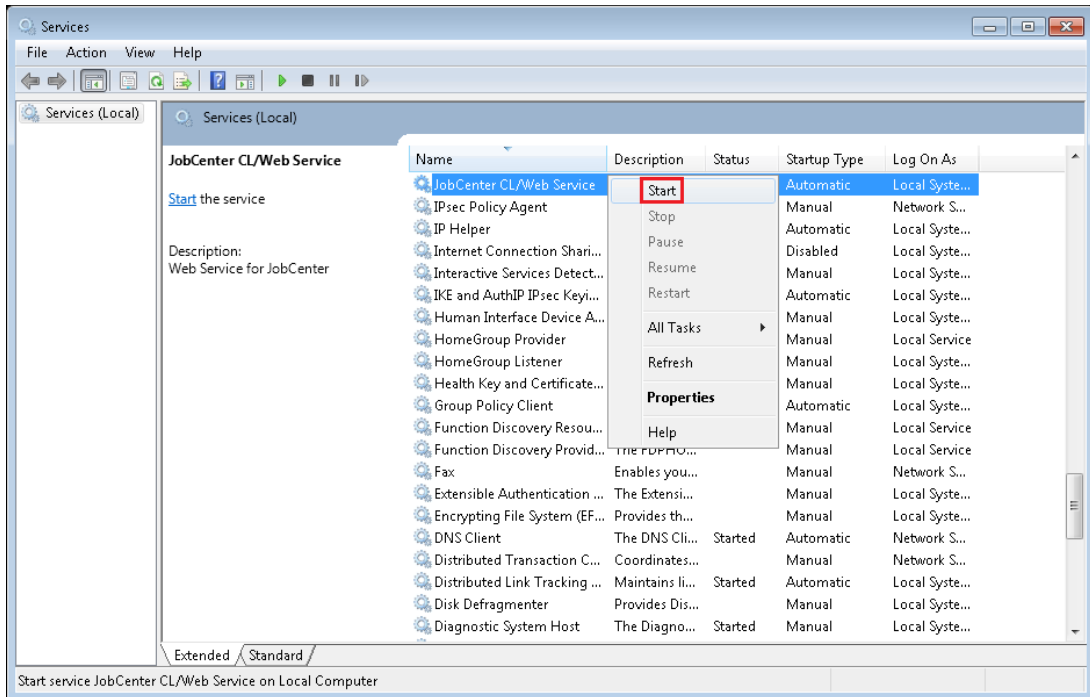


Figure 4.2. Service start window

3. When the status of "JobCenter CL/Web Service" is [Started], the procedure for starting CL/Web Server is complete.

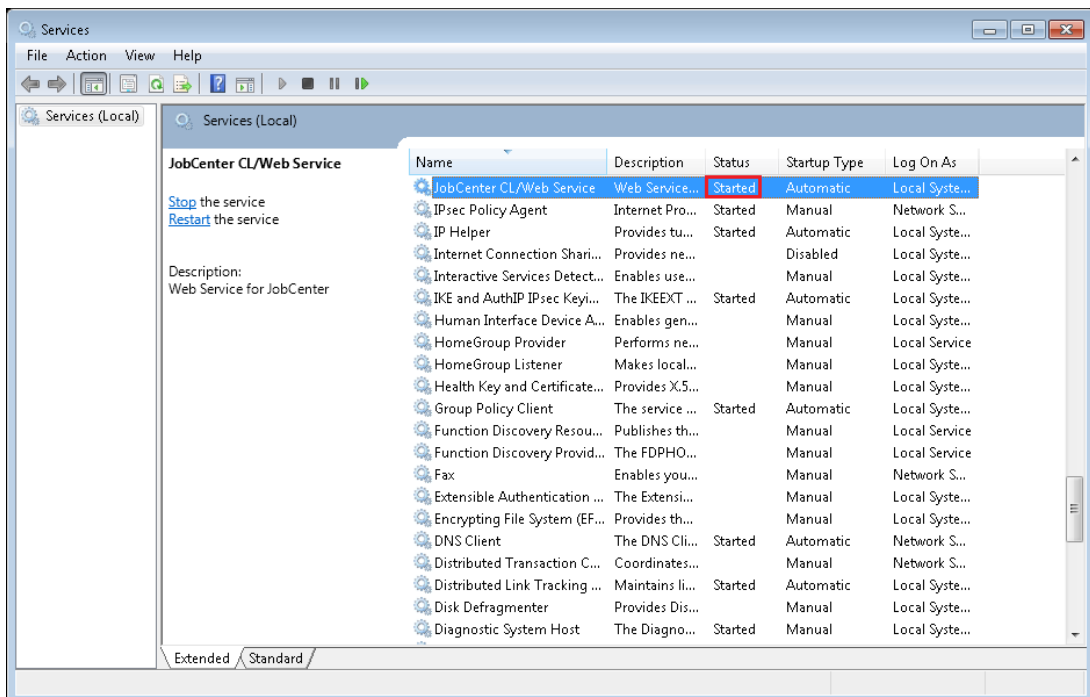


Figure 4.3. Window where the service is started



After CL/Web Server is installed, the service is stopped. You need to start it manually.

4.2. Stopping the CL/Web Server

4.2.1. Stopping the CL/Web Server for UNIX

In the case of the CL/Web Server for UNIX, stop the service by executing a script.

1. Execute the following script.

```
/etc/init.d/jcclweb stop
```

4.2.2. Stopping the CL/Web Server for Windows

To stop the CL/Web Server for Windows, use the Windows service function.

1. Start the Windows service. For details, refer to [Section 4.1.2, "Starting the CL/Web Server for Windows"](#).
2. When the [Services] window opens, right-click "JobCenter CL/Web Service" under [Name] and select [Stop].

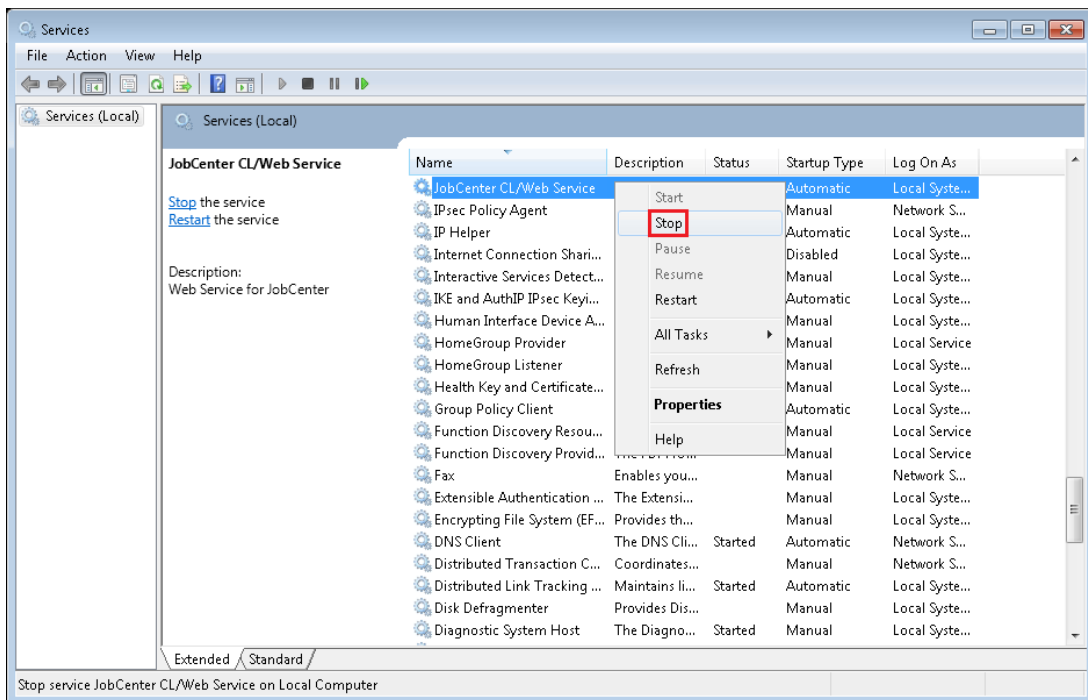


Figure 4.4. Service stop window

3. When the status of "JobCenter CL/Web Service" is blank as shown in the following screenshot, the procedure for stopping CL/Web Server is complete.

Starting and Stopping the CL/Web Server

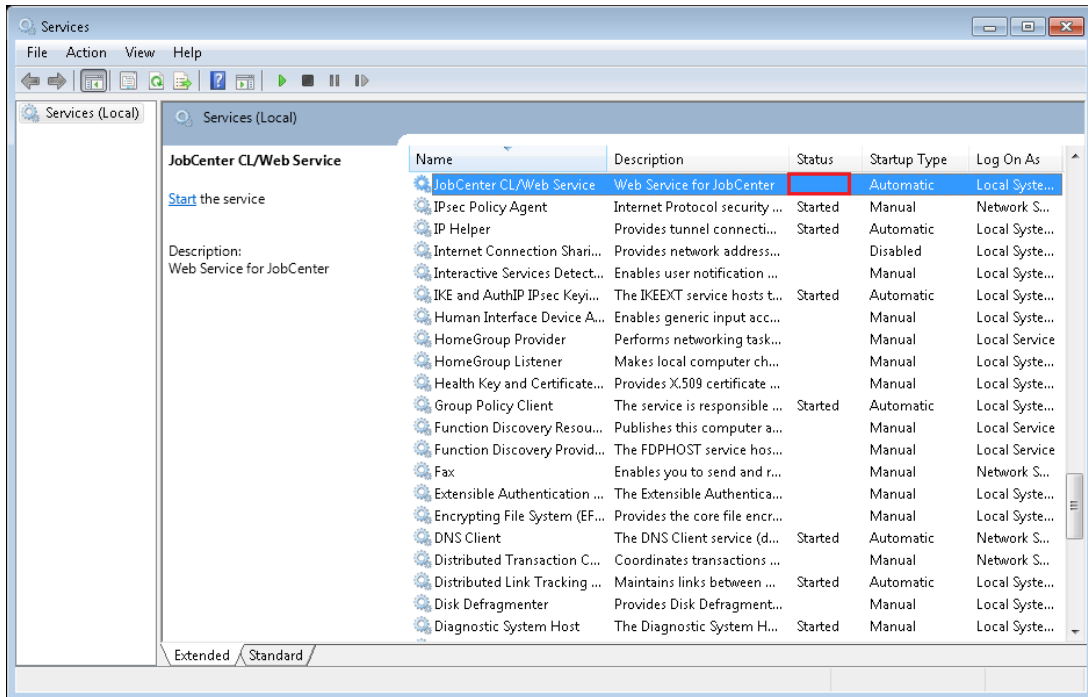


Figure 4.5. Window where the service is stopped

Chapter 5. Basic Operations

This chapter describes how to operate the basic functions of CL/Web.



The descriptions in this chapter assume that SSL is enabled. If SSL is disabled, "https" in the URL of the CL/Web Server shown in the descriptions should be replaced with "http."

5.1. Basic CL/Web Operations

The following sections describe how to perform the basic operations mentioned in this document by using examples.

5.1.1. Name and Outline of Each Part of the CL/Web Window

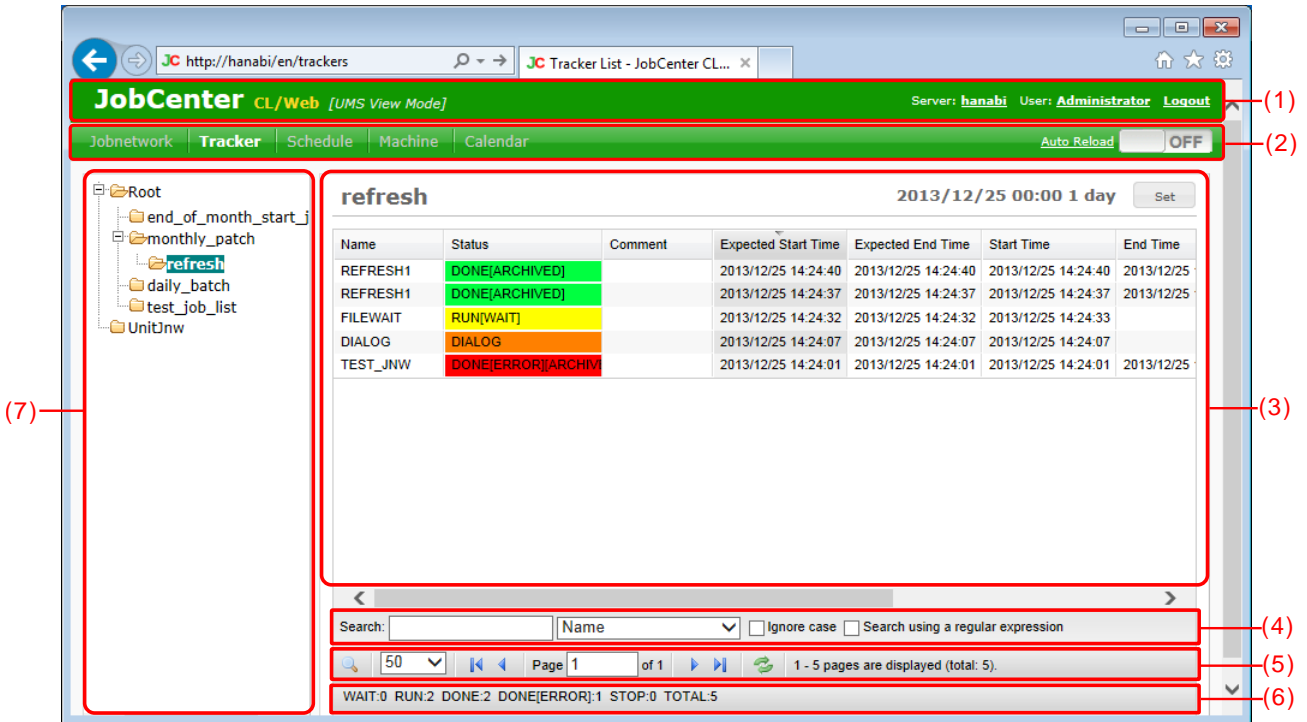


Figure 5.1. CL/Web window

The name and outline of each part of the CL/Web window are given below.

Area name	Description
(1) Title bar	<p>This is the header representing a JobCenter product.</p> <ul style="list-style-type: none"> ■ Product name JobCenter CL/Web is displayed. ■ User mode Either UMS or EUI is displayed depending on the user who logs in. Also, the mode selected at the time of login is displayed. For information about the login user-specific GUI screen mode and the registration mode selected at the time of server connection, refer to Section 2.3.3, “GUI Display Mode per Login User, Login Mode when Connecting Server” in <Basic Guide>. ■ Server: The server name is displayed.

Area name	Description
	<p>Clicking the server name displays a dialog box containing the server information.</p> <p>■ User:</p> <p>The name of the user logging in to CL/Web is displayed.</p> <p>Clicking the user name displays a dialog box containing the user information.</p> <p>■ Logout</p> <p>Clicking this part displays the login window.</p>
(2) Navigation bar	<p>This bar displays five menus: [Jobnetwork], [Tracker], [Schedule], [Machine], and [Calendar]. By changing the CL/Web configuration file, clweb.conf, the display order of tabs in the navigation bar can be set. For details, refer to Section 5.1.5, "Setting the Tab Display Order in the Navigation Bar".</p>
(3) Display table	<p>What is displayed here changes depending on the menu selected in the navigation bar.</p> <p>■ Job Network menu</p> <p>A list of job networks is displayed.</p> <p>■ Tracker menu</p> <p>A tracker menu list is displayed.</p> <p>■ Machine menu</p> <p>A list of machines is displayed.</p>
(4) Search bar	<p>A search can be done for an item selected from the pull-down menu.</p>
(5) Status bar	<p>This bar lets you select the number of trackers to be displayed, navigate through pages, and update the tracker window.</p>
(6) Statistic information bar	<p>The number of trackers is displayed for each tracker state (WAIT, RUN ,etc.). The statistic information bar is displayed only on the tracker window.</p>
(7) Tree view	<p>The tree structure of groups is displayed.</p>

5.1.2. Search Function

CL/Web has a search bar and a status bar for each navigation bar.

The following sections describe how to use the search bar and status bar.

5.1.2.1. Search Bar

1. From the pull-down menu, select the item you want to search for.

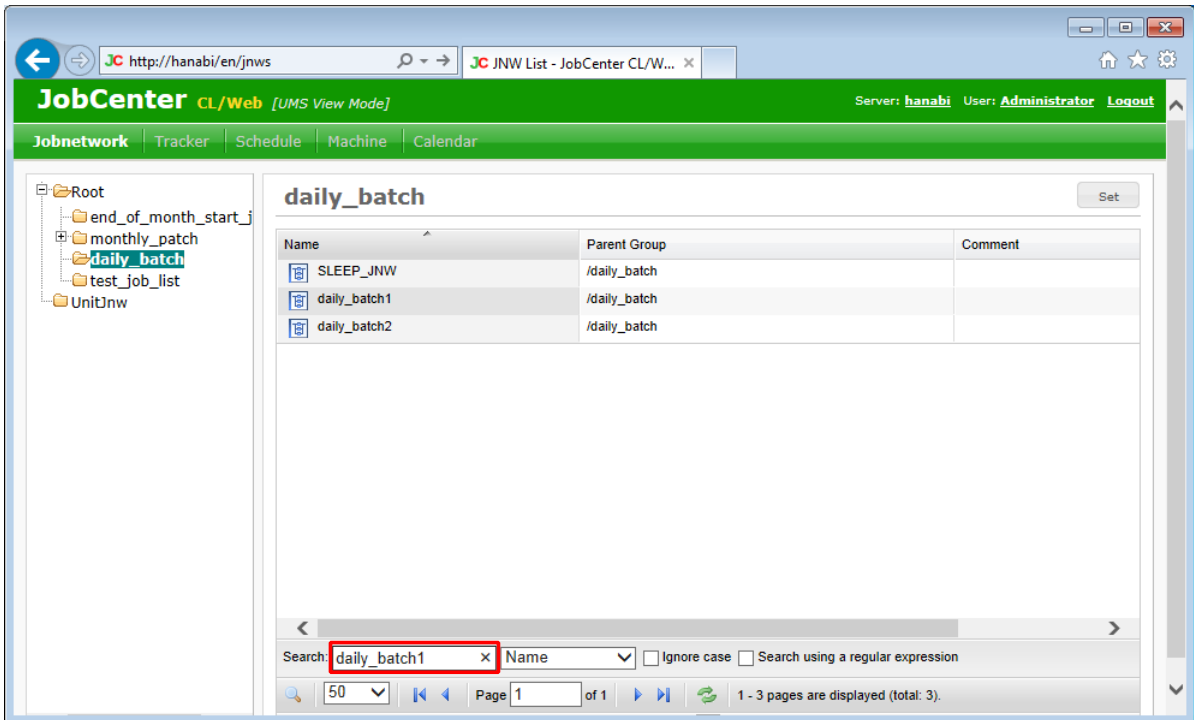


Figure 5.2. Search bar window

2. Enter a search name in the Search text box, and press "Enter" on the keyboard.
3. The search result is displayed according to the items set on the search bar.

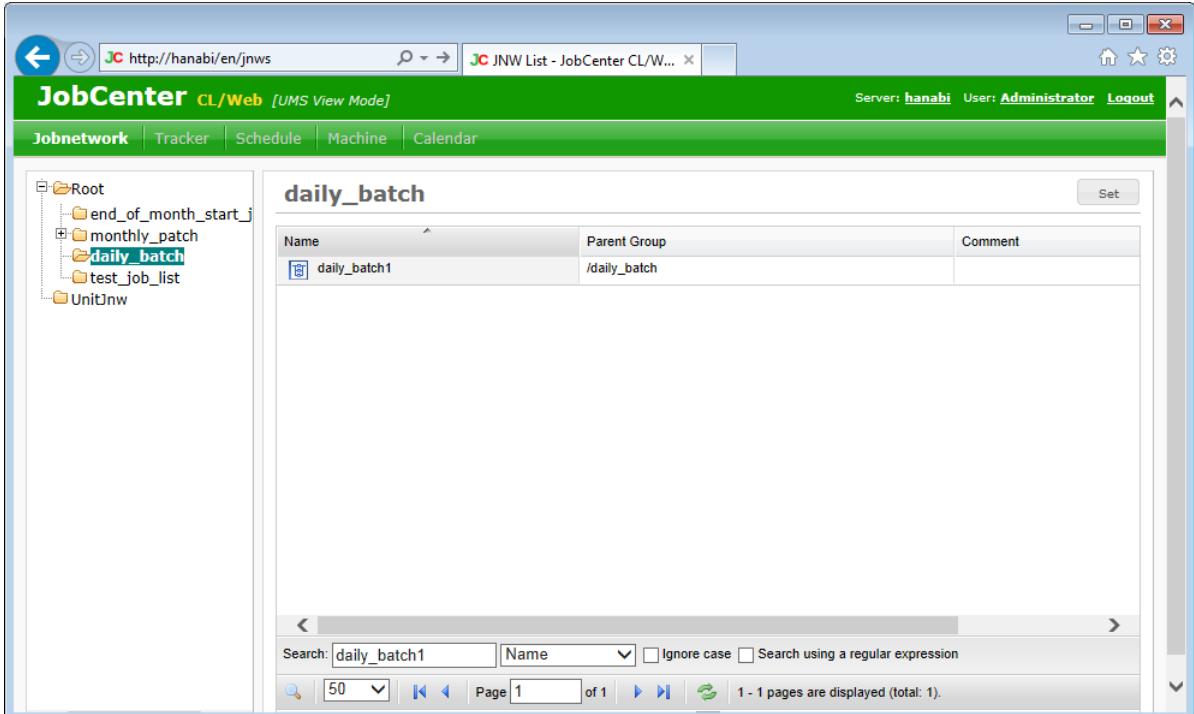


Figure 5.3. Search result window

The items to be set on the search bar are as follows.

- Search

Enter the string to search for.

■ Ignore case

If you select this check box, you can make the search case insensitive.

■ Search using a regular expression

If you select this check box, you can use a Perl-compatible regular expression.



If you do not select the [Search using a regular expression] check box, an exact match search is done.

5.1.2.2. Status Bar

The status bar lets you set the number of lines to be displayed, navigate through pages, update the display table, etc.



Figure 5.4. Status bar screenshot

The following table describes the functions of the status bar, each of which is given a number in the above screenshot.

Table 5.1. Description of the status bar functions

No.	Description
(1)	Clicking this icon hides the status bar. To put the status bar back on, click the icon again.
(2)	From the pull-down menu, you can specify the number of lines to be displayed in the display table. The specifiable values are 10, 15, 20, 30, 50, 100, and 200.
(3)	Clicking this icon displays the top page.
(4)	Clicking this icon displays the previous page.
(5)	The current page number is displayed. If you enter a page number and press "Enter" on the keyboard, the specified page is displayed.
(6)	Clicking this icon displays the next page.
(7)	Clicking this icon displays the last page.
(8)	Clicking this icon updates the display table to its latest state.
(9)	The number of displayed matches is displayed. The display range changes depending on the value specified in (2).
(10)	You can move the search bar and status bar up and down. If you click the bottom part of the status bar and move the cursor up or down while holding down the mouse key, the search bar and status bar moves up or down.



You cannot update the tree view by using the function of (8). To update the tree view, use the F5 key or the refresh function of the web browser.

5.1.3. Sort Function

You can sort a specific column in the display table in dictionary order.

The sorting method is described below.

1. Place the cursor on the desired column name tab, and click it.

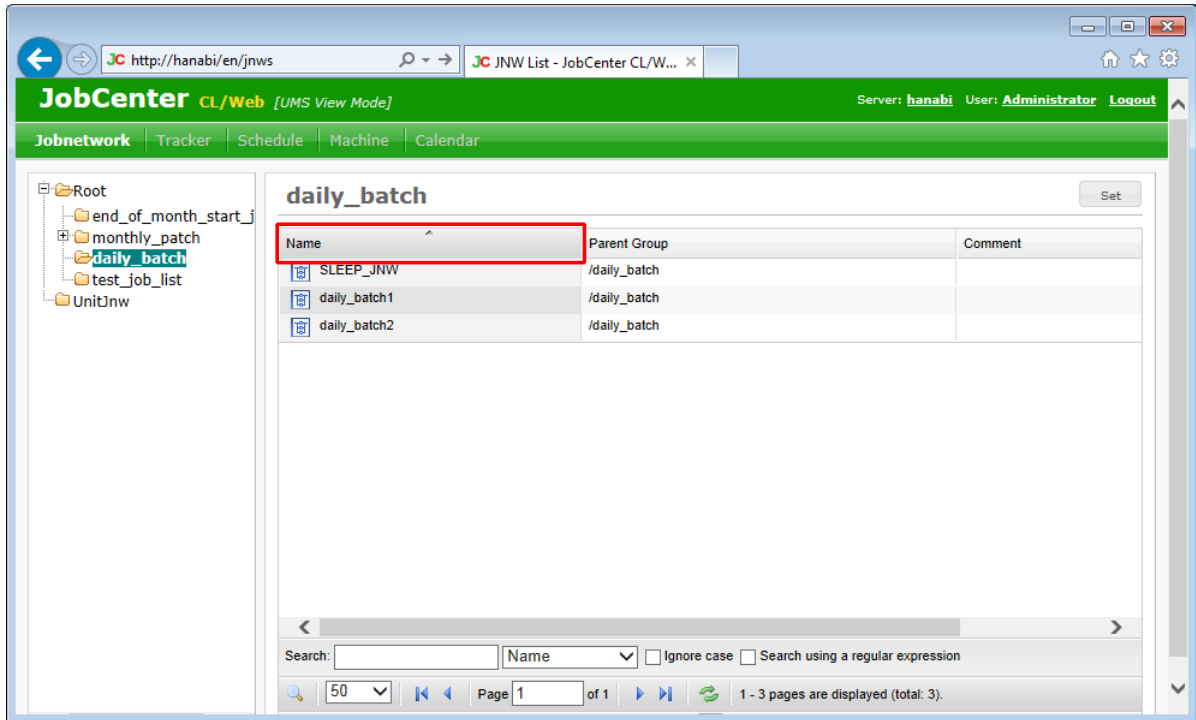


Figure 5.5. Window before sorting

2. The column is sorted in dictionary order. To restore its previous state, place the cursor on the column name tab and click it again.

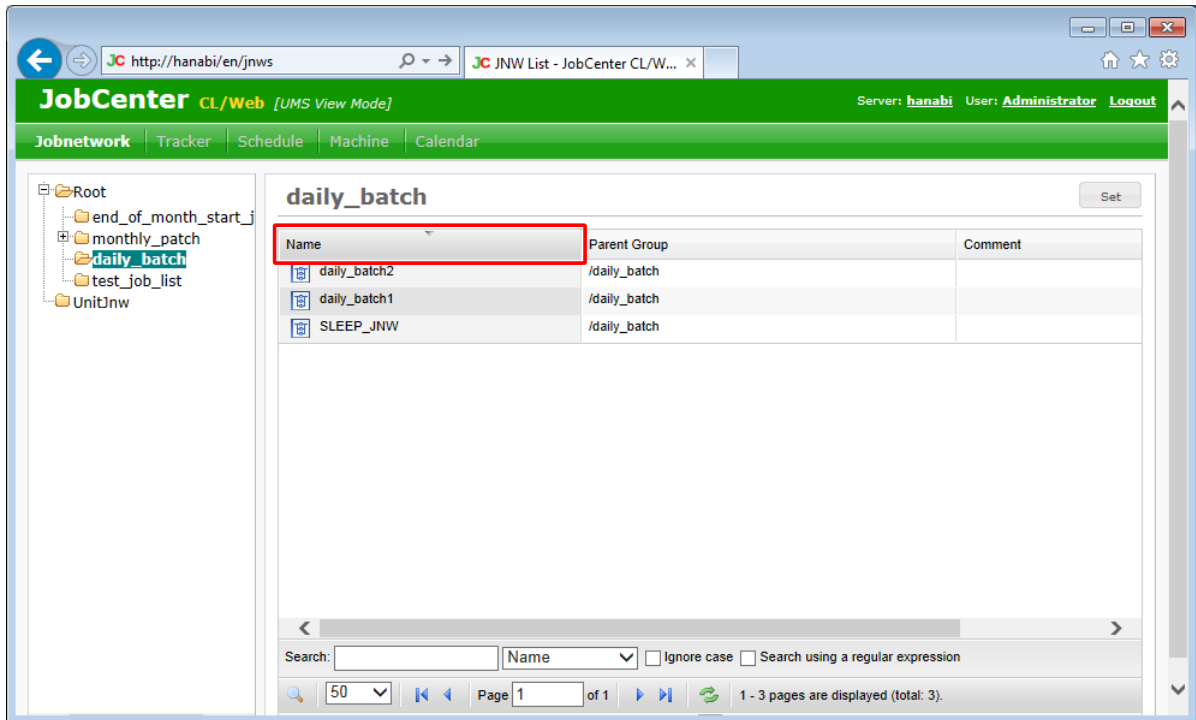


Figure 5.6. Window after sorting



The sort function can be used for all the columns.

5.1.4. Display Table Column Display Function

You can display columns other than the default values in the display table. You can also hide a specific column.

The display table column display function is described below.

1. If you place the cursor on a column name tab, the [Hide/Show Columns] button is displayed on the right. Click the [Hide/Show Columns] button.

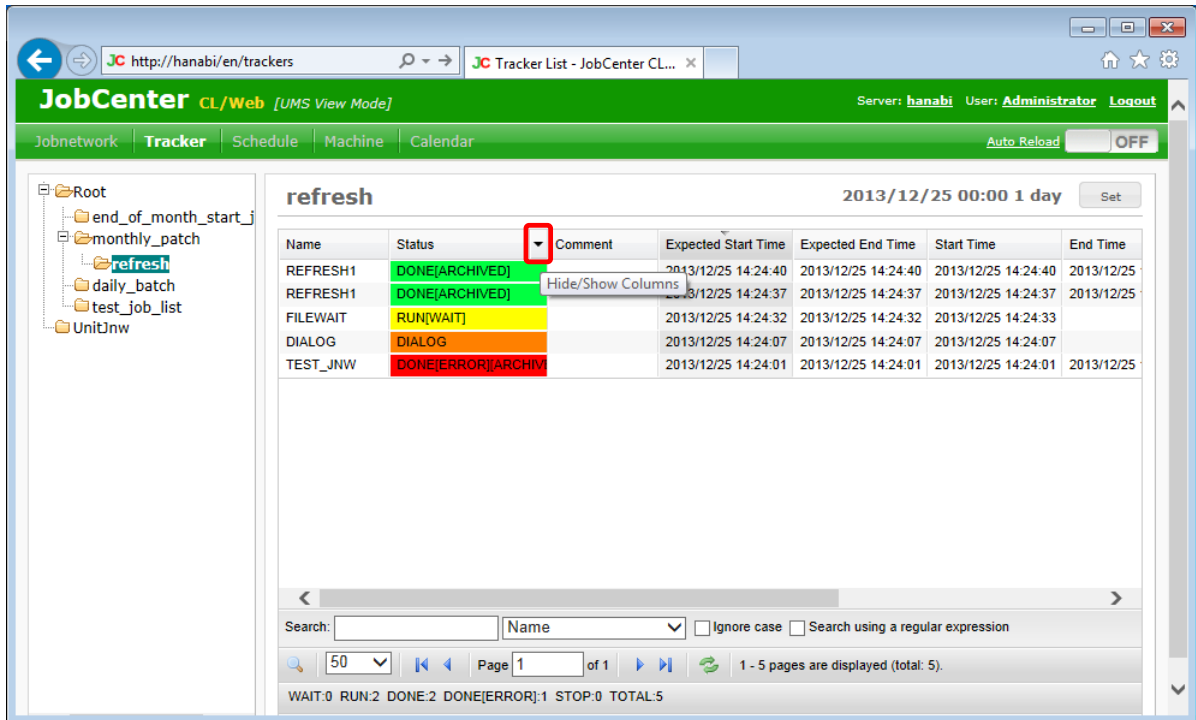


Figure 5.7. Window where the [Hide/Show Columns] button is selected



Regardless of which column name tab is selected, what is displayed is the same, as long as you are working on a column in the display table.

2. When the list of available columns is displayed, select the check box for each column you want to have displayed other than the default values. In this case, choose [Navigation bar], [Tracker], and then [Job network name] and select [Status Class].

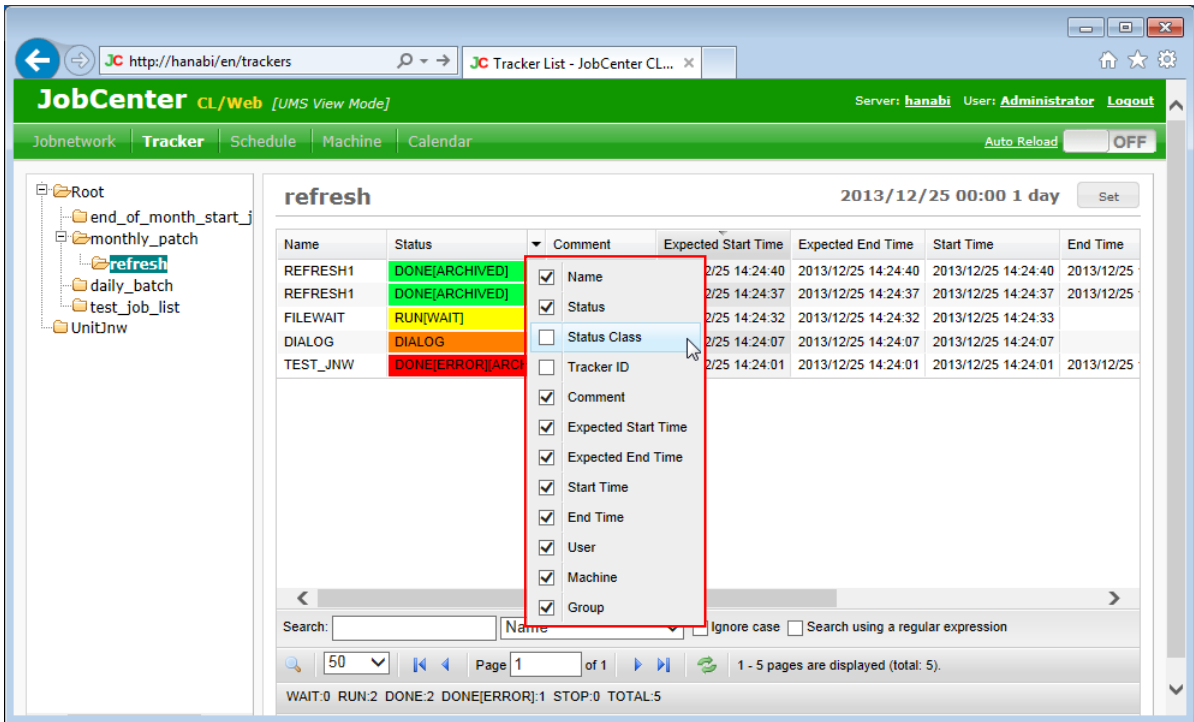


Figure 5.8. Display column list screenshot



A column is not displayed when the corresponding check box is not selected.

3. The column tab of a column whose check box is selected is displayed.

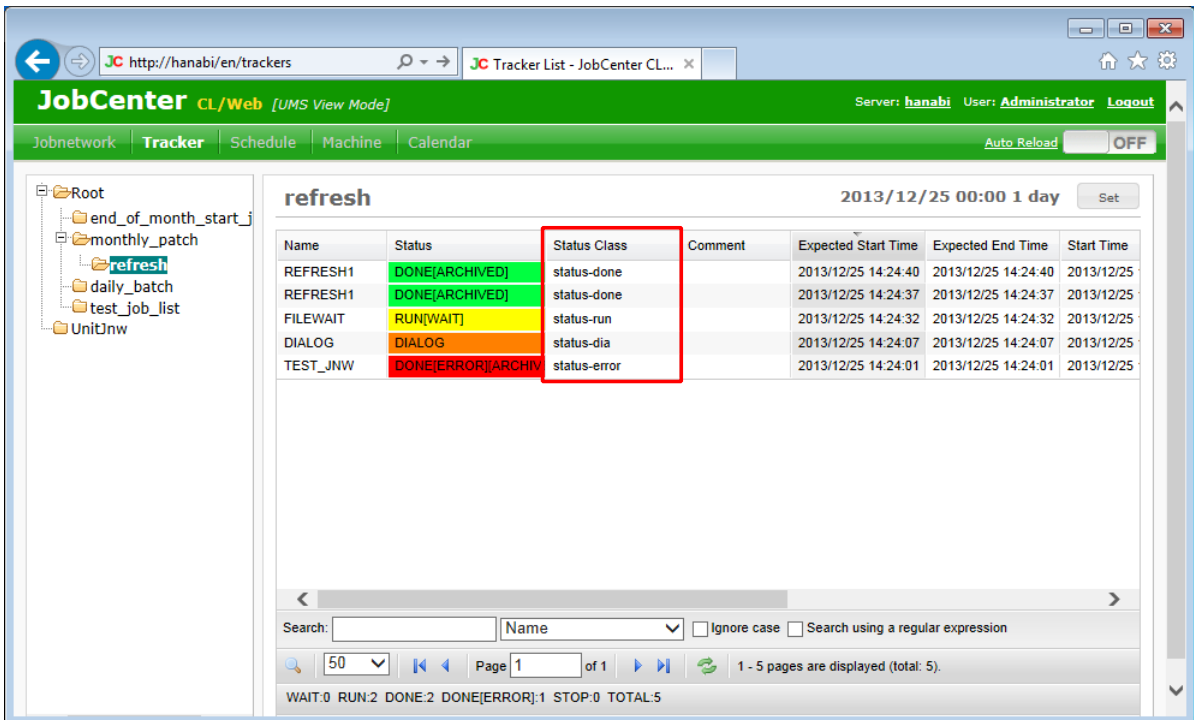


Figure 5.9. Display column list result screenshot



The available column tab types differ for each display table.

5.1.5. Setting the Tab Display Order in the Navigation Bar

The files used for setting the tab display order in the navigation bar is the CL/Web configuration file, `clweb.conf`, which is the same as setting of the used port. For details, refer to [Section 3.1.1, "CL/Web Configuration File \(clweb.conf\)"](#).

The format and setting items in `clweb.conf` related with the tab display order in the navigation bar are as follows:

```
# main menu tab order
# jnws: 1, trackers: 2, schedules: 3, machines: 4, calendars: 5
# $tab_order = "1 2 3 4 5"
```

The correspondence between tab names and tab numbers is fixed. The display order of tab names in the navigation bar is the order of tab numbers written in `$tab_order`. The default order from first to last is [Jobnetwork], [Tracker], [Schedule], [Machine], and [Calendar]. The screen displayed first after login is the name of the first tab number set in `$tab_order`.

Table 5.2. Parameter setting values in `clweb.conf` (tag numbers and tag names related with the tab display order in the navigation bar)

Tab number	Tab name
1	Jobnetwork
2	Tracker
3	Schedule
4	Machine
5	Calendar

Example: If the order of tab numbers set in `$tab_order` of the CL/Web configuration file, `clweb.conf`, is as below, the display of the tab names in the navigation bar is as shown in the figure below. The screen displayed first after login is [Tracker].

```
# main menu tab order
# jnws: 1, trackers: 2, schedules: 3, machines: 4, calendars: 5
$tab_order = "2 1 3 5 4"
```

The screenshot shows the JobCenter CL/Web interface. The navigation bar at the top contains the following items: Tracker (highlighted with a red box), Jobnetwork, Schedule, Machine, and Calendar. The main content area displays a table of job status for 'refresh' on 2013/12/25 00:00 1 day. The table has the following data:

Name	Status	Comment	Expected Start Time	Expected End Time	Start Time	End Time
REFRESH1	DONE[ARCHIVED]		2013/12/25 14:24:40	2013/12/25 14:24:40	2013/12/25 14:24:40	2013/12/25
REFRESH1	DONE[ARCHIVED]		2013/12/25 14:24:37	2013/12/25 14:24:37	2013/12/25 14:24:37	2013/12/25
FILEWAIT	RUN[WAIT]		2013/12/25 14:24:32	2013/12/25 14:24:32	2013/12/25 14:24:33	
DIALOG	DIALOG		2013/12/25 14:24:07	2013/12/25 14:24:07	2013/12/25 14:24:07	
TEST_JNW	DONE[ERROR][ARCHIV]		2013/12/25 14:24:01	2013/12/25 14:24:01	2013/12/25 14:24:01	2013/12/25

Below the table, there is a search bar with the text 'Name' and a dropdown menu. The search results show 'Page 1 of 1' and '1 - 5 pages are displayed (total: 5)'. At the bottom, there is a summary line: 'WAIT:0 RUN:2 DONE:2 DONE[ERROR]:1 STOP:0 TOTAL:5'.

Figure 5.10. Example of order change in the CL/Web screen navigation bar

5.2. Accessing the CL/Web Server Using a Browser

This section describes how to access CL/Web Server using a web browser.

1. From [Programs] in the [Start] menu, start Internet Explorer.
2. If you enter the following URL in the address bar of Internet Explorer, the CL/Web login window is displayed.

`https://<CL/Web Server host name or IP address>/`



If the SSL port number is set to any value other than the default value of 443 (or, when SSL is disabled, if the port number is set to other than 80), specify the set port number after the CL/Web Server host name or IP address followed with a colon (:).

Because CL/Web uses a self-signed certificate by default, an error screen for the certificate may be displayed when you access the above URL. In this case, if you continue browsing the website in the error screen, the CL/Web login screen is displayed.

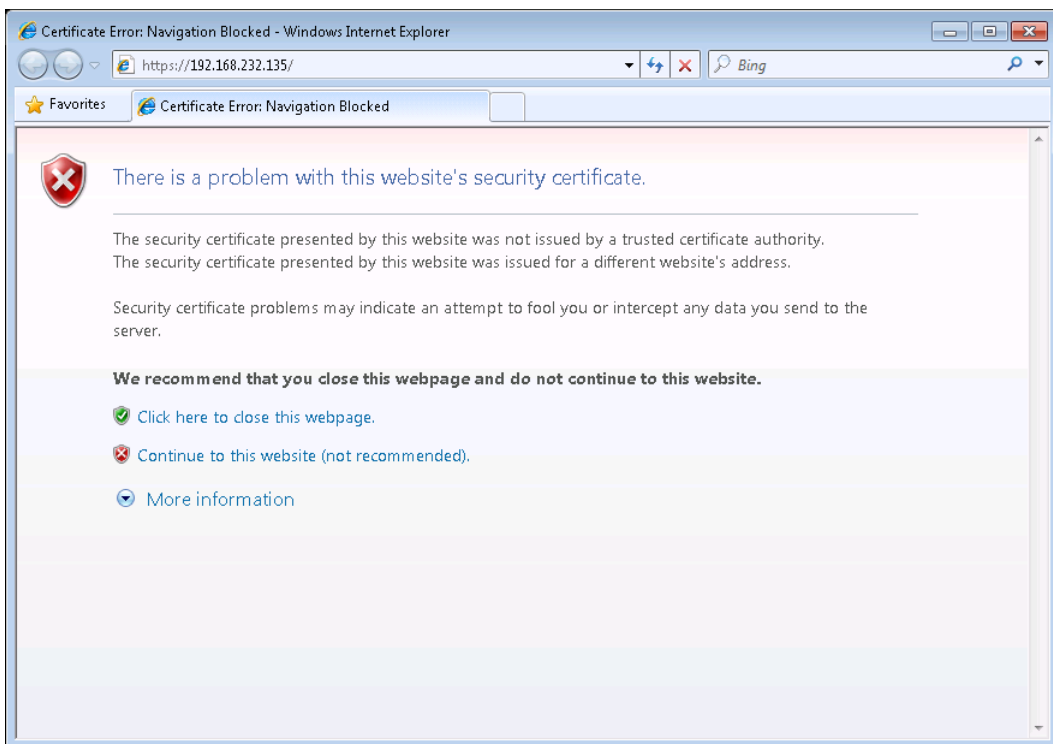


Figure 5.11. Error screen for the certificate

As for the way to use a prepared certificate, refer to [Section 3.1.3, "Setting SSL Signature Certificate"](#).

5.3. Logging In or Out

Connect to the server by using the OS account.



- Before connecting to the server, you need to start JobCenter MG/SV.

5.3.1. Logging In

1. If you enter the URL (`https://<CL/Web Server host name or IP address>/`) in the address bar of the web browser, the [Login] window of CL/Web is displayed.



- The CL/Web display language depends on the language setting of the web browser. The supported languages are Japanese (starting with "ja"), English (starting with "en"), and simplified Chinese (starting with "zh"). If you want to change the display language, change the language setting of the web browser to a language supported by CL/Web.
- If you want to change the display language temporarily, you can do it by clicking a language name in the upper right-hand part of the login screen. However, if the change is done temporarily and the web browser is once exited, the display language returns to the language set for the web browser.

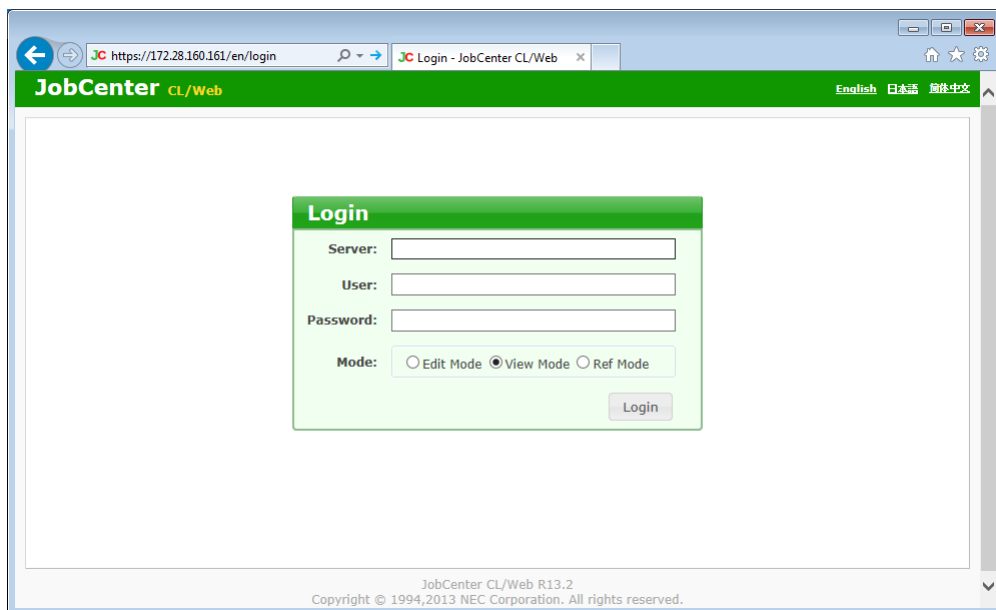


Figure 5.12. Image of the CL/Web login window

2. Enter [Server], [User], and [Password], and select [Mode].

- In [Server], enter the name of the machine on which JobCenter MG/SV is installed. When a domain is used, enter the machine name including the domain.
- In [User], enter the name of the user logging in to JobCenter MG/SV.
- In [Password], enter the password of the above-mentioned user account.
- In [Mode], select either [Edit Mode], [View Mode], or [Ref Mode].

If you are to enable/disable schedules, log in to JobCenter MG/SV by selecting [Edit Mode].

3. After entering and selecting all the items, click the [Login] button.

4. If the login succeeds, the job network list window is displayed.

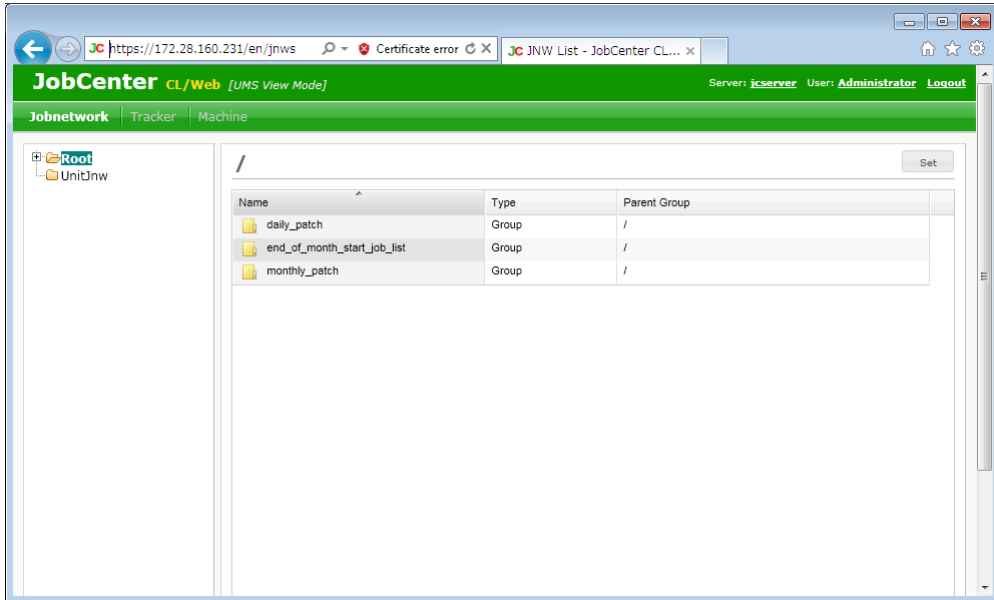


Figure 5.13. Window after logging in to CL/Web

5.3.2. Logging Out

1. Click [Logout] on the title bar.

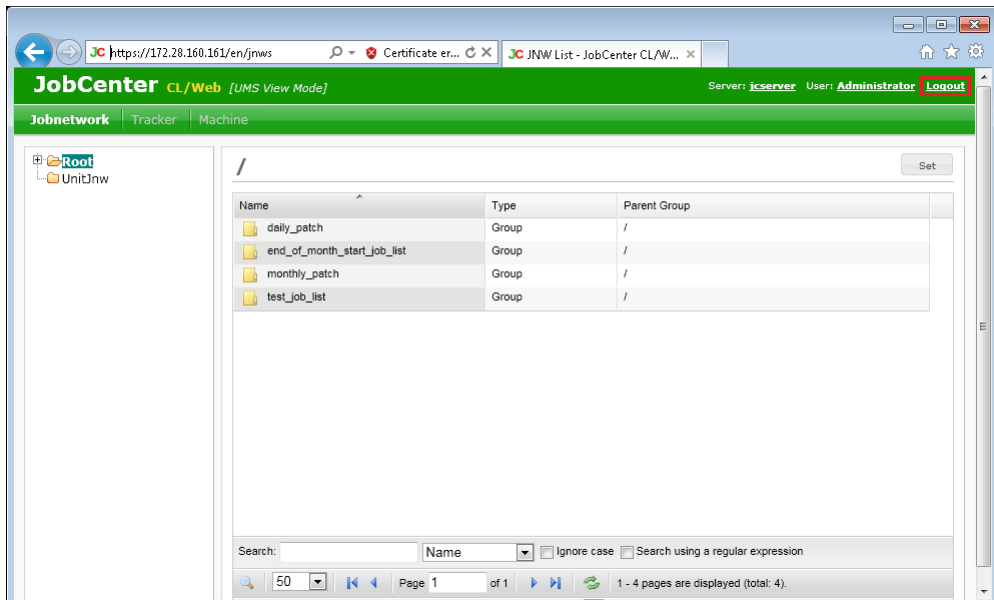


Figure 5.14. Image of the JobCenter CL/Web logout window

2. When the [Login] window of CL/Web is displayed, the logout process is complete.

3. To exit the [Login] window of CL/Web, close the web browser.



You can also log out by entering the URL of the [Login] window directly in the address bar of the web browser and displaying the [Login] window while you are logged in.

5.4. Job Network-related Operations

5.4.1. Viewing a Group

1. Expand the tree in the tree view, place the cursor on the desired group name, and click it.
2. If there is any job network, shortcut, or group under the target group, the object is displayed in the display table.

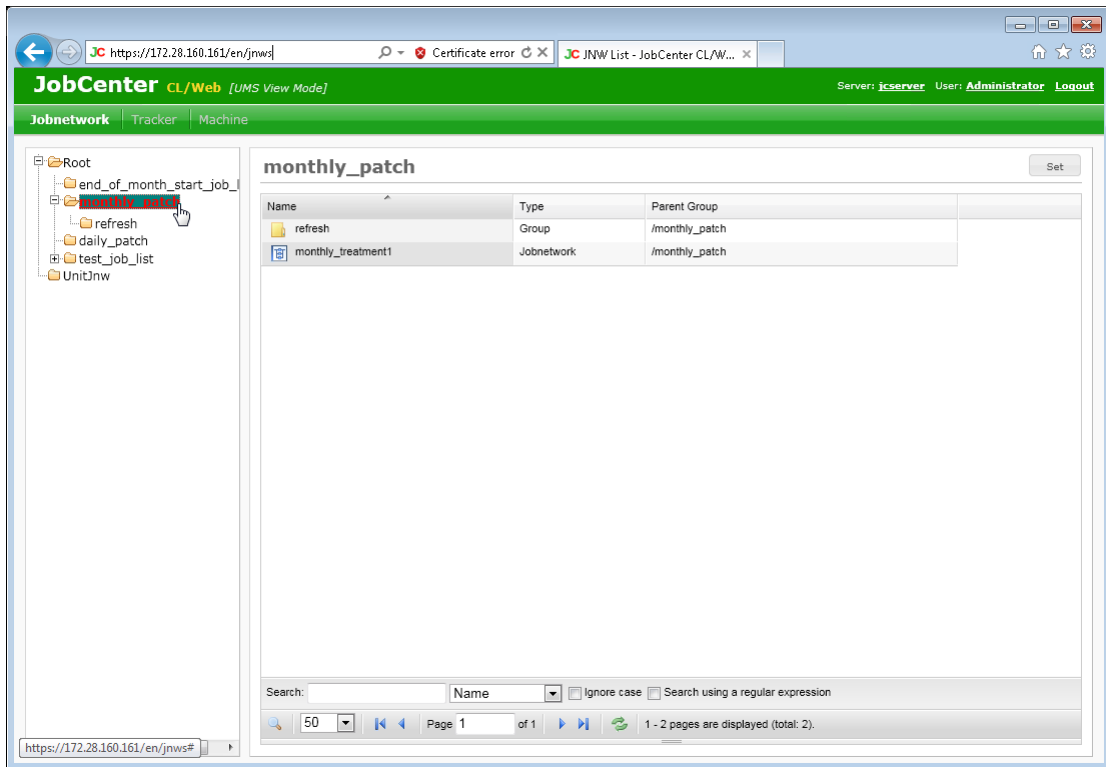


Figure 5.15. Image of the window where a group is selected

■ Display table list columns

Column name	Description	Remark
Name	Displays the name of the object.	
Type	Displays the type of the object (job network, group, or shortcut).	Non-default item ^{Note 1}
Parent Group	Displays the name of the group to which the object belongs.	
Comment	Displays the comment for the object.	



Note 1: Non-default items can be added by using the [Hide/Show Columns] button. For details, refer to [Section 5.1.4, "Display Table Column Display Function"](#).



If you click a group name and then click another group name before the reading of the display table for the first clicked group is complete, the display table

may show the information of the first clicked group, instead of that of the second clicked group. Before clicking a group name in the tree view, make sure that the reading of the display table is complete.

5.4.2. Viewing a Job Network

1. Place the cursor on the desired job network name in the display table, and click it or select [Open] in the shortcut menu that appears when you right-click it.
2. The page of the selected job network is displayed.

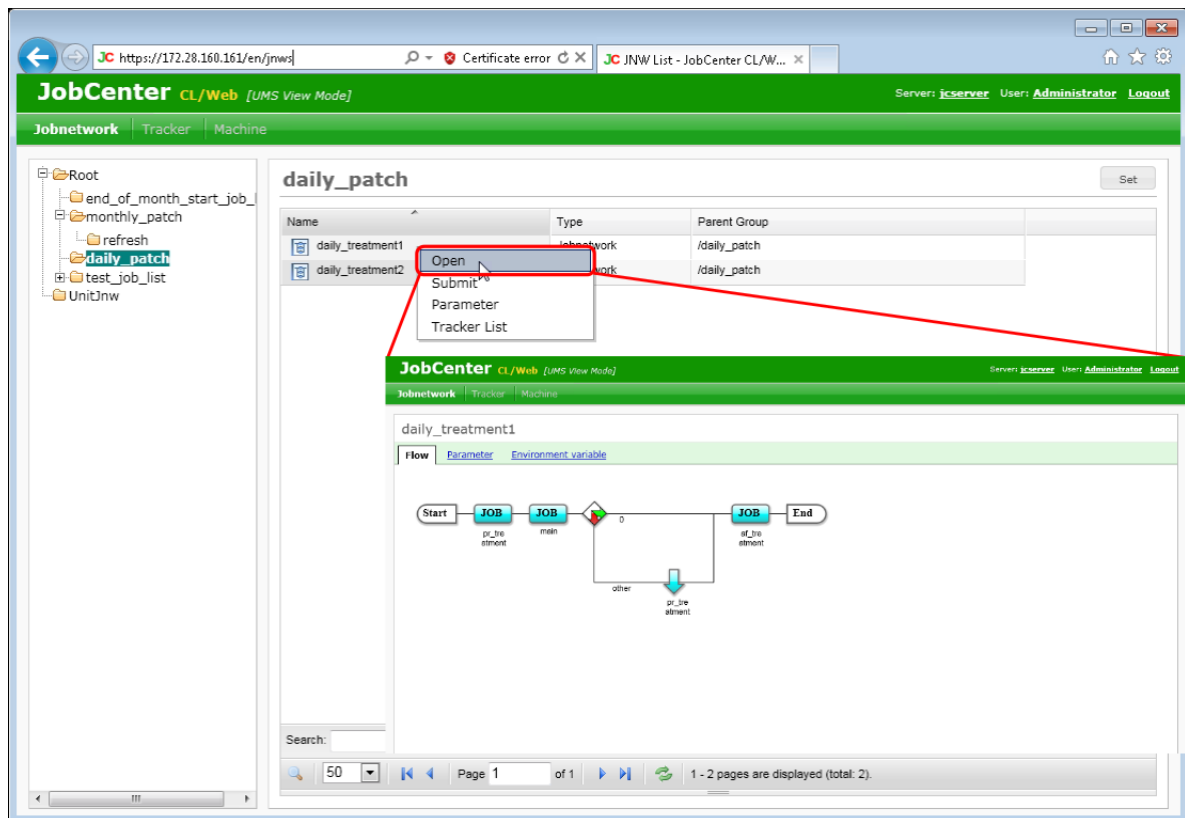


Figure 5.16. Job network display

5.4.3. Submitting a Job Network Immediately

There are two methods to submit a job network immediately: by submitting it from the display table and by submitting it from the job network flow window.

The following sections describe these two immediate submission methods.



You cannot submit a job network immediately if [Ref Mode] is selected as the login mode or you do not have the permission to execute a job network for CL/Win.

5.4.3.1. Submitting a Job Network Immediately from the Display Table

Submit a job network and execute it, regardless of the schedule.

1. In the display table, place the cursor on the name of the job network you want to execute and then right-click the mouse.

2. Select [Submit] from the shortcut menu that appears when you right-click.

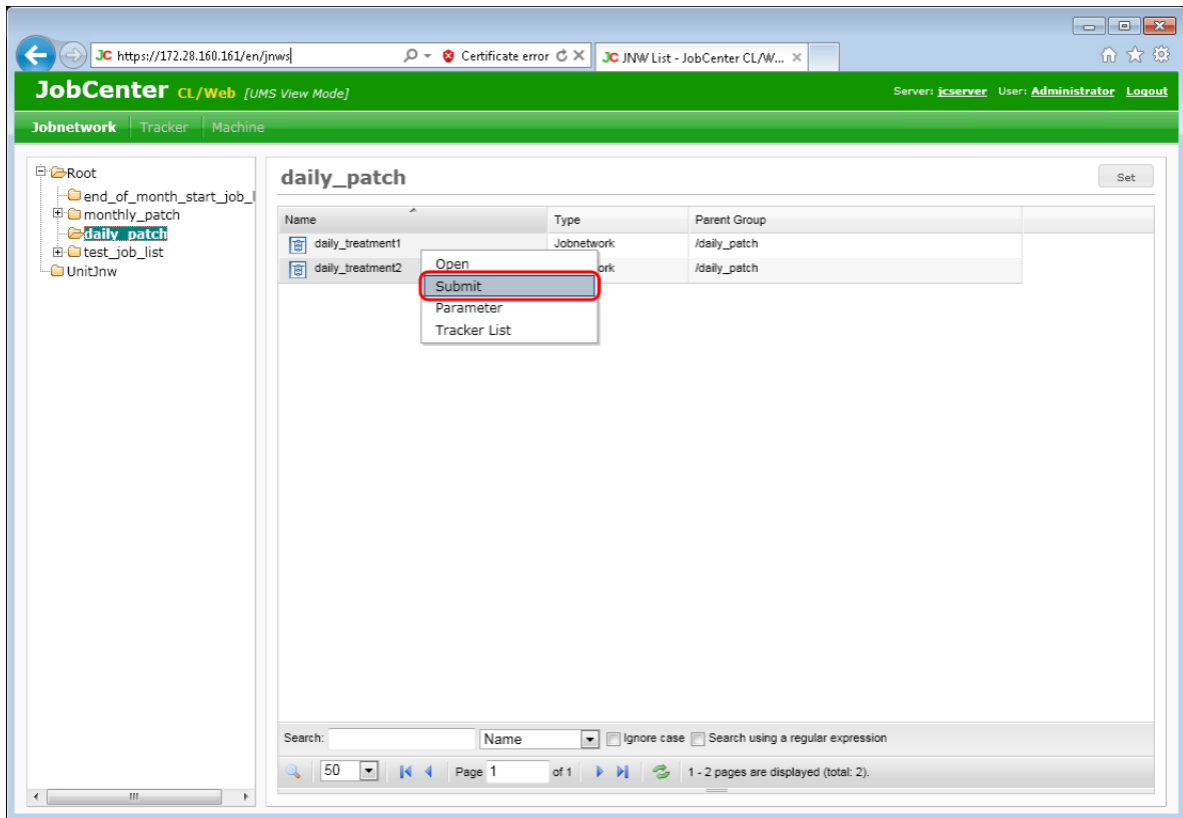


Figure 5.17. Window where [Submit] is selected in the job network display table

3. The [Submit JNW] dialog box opens.

4. Click the [OK] button.

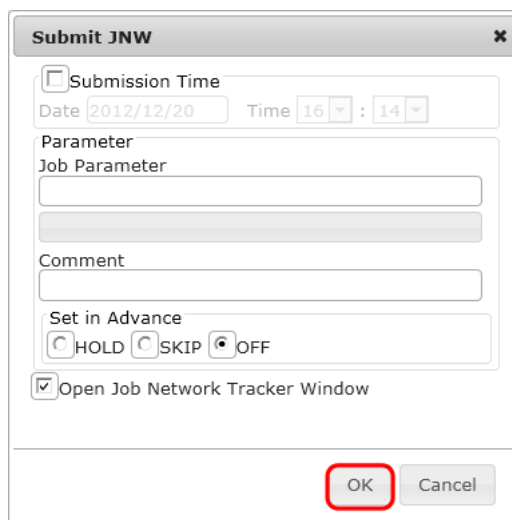


Figure 5.18. [Submit JNW] dialog box

5. The [JNW Control] dialog box opens.

6. Click the [OK] button.

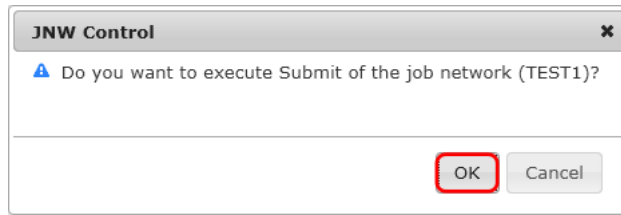


Figure 5.19. [JNW Control] dialog box

7. When the following message appears in the [JNW Control] dialog box, the process is complete.
8. Click the [OK] button.

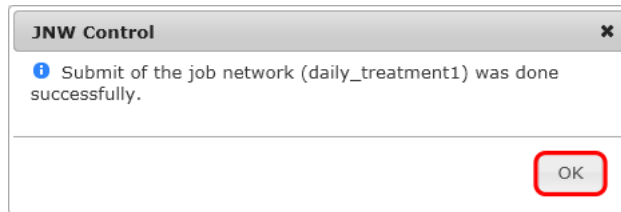


Figure 5.20. Success of job network submission

5.4.3.2. Submitting a Job Network Immediately from the Job Network Flow Window

Submit a job network and execute it, regardless of the schedule.

1. Place the cursor on the name of the job network you want to execute and then click it. The job network flow window is displayed.
2. Place the cursor in the flow display area of the job network flow window, and right-click the mouse.
3. Select [Submit] from the shortcut menu that appears when you right-click.

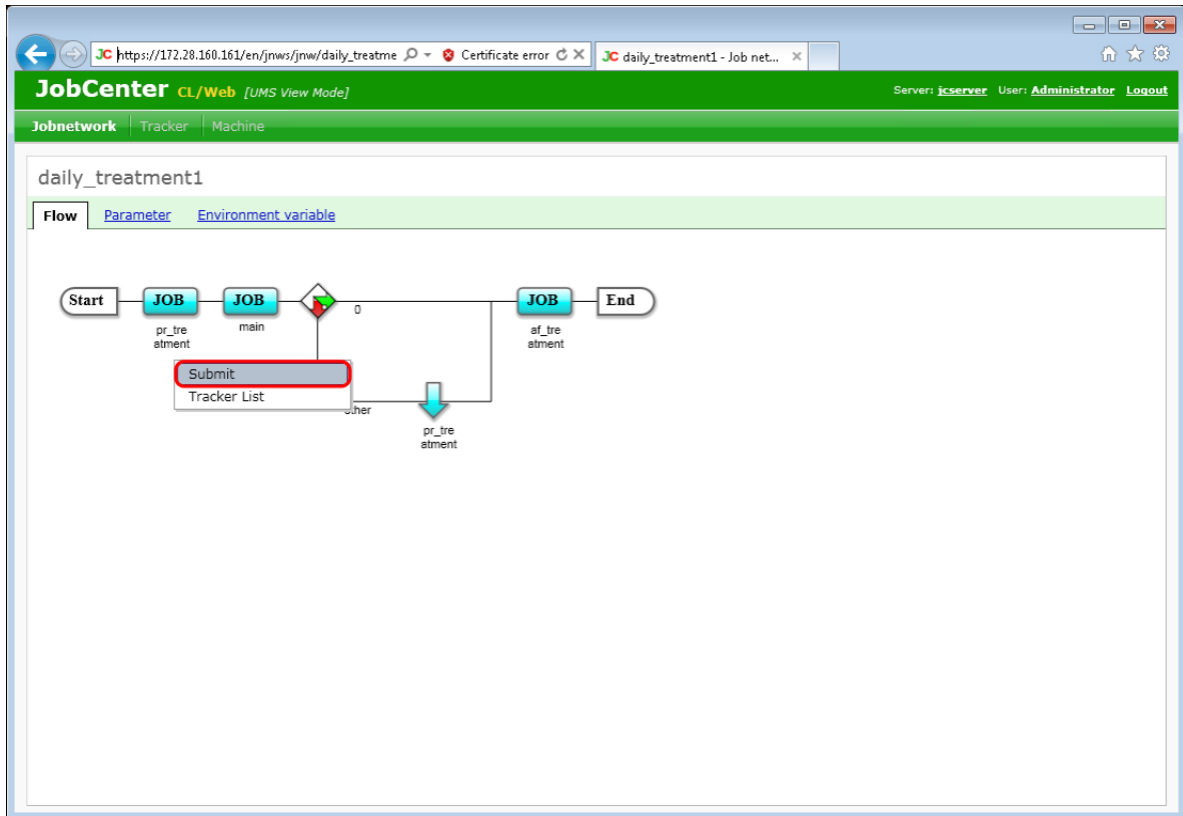


Figure 5.21. Window where [Submit] is selected in the job network display window

The rest of the procedure is the same as step 4 and subsequent steps described in Section 5.4.3.1, "Submitting a Job Network Immediately from the Display Table".

5.4.3.3. Setting Immediate Submission

The immediate submission settings to be specified in the [Submit JNW] dialog box are as follows:

■ Submission Time

Set the submission time of the job network. If you do not select this check box, the job network is submitted and executed immediately.

If you select the check box, you can have the job network executed at a specified time.

■ Job Parameter

Set the parameter to be passed to the script of each unit job of the job network. The character string specified here is set in each unit job's environment variable "NSJNW_PARAM" and passed to the script of each unit job.

If the default value and description of [Job Parameter] are already set in the job network parameter, the value and description are displayed as initial values. If the job network is submitted with the initial values cleared, the default value of [Job Parameter] also takes effect.

In the text input area, up to 128 characters can be entered.



For details about the job parameter for immediate submission, refer to "Job parameter" Section 3.2.1, "To Submit a Job Network Immediately" in <Basic Guide>.

■ Comment

A comment on immediate submission can be specified. If a comment is already set, the comment is changed only when a tracker is submitted immediately.

In the text input area, up to 128 Japanese, alphanumeric, and Kana (double-byte and single-byte) characters can be entered (different types of characters may be mixed).

■ Set in Advance

You can set the job network status to HOLD or SKIP in advance.

HOLD	The status of the job network is set to HOLD when it is submitted.
SKIP	The status of the job network is set to SKIP when it is submitted.
OFF	The status of the job network is not set to HOLD or SKIP when it is submitted.

■ Open Job Network Tracker Window

If you select this check box, the job network tracker window is set to open after immediate submission.



Note on immediate submission

- If the destination queue is not specified in the job network parameter or unit job parameter, the queue set in [Default Submission Queue name] by selecting [User Config] - [Base Config] - [Default Job Network parameter] of JobCenter CL/Win is automatically used. If the default queue is set, note that the default value is set to 1 as the number of job requests that can be executed concurrently in the guibs_1 batch queue where job requests are actually executed.

5.5. Tracker-related Operations

After a job network is submitted or automatic execution is registered, the execution state of that job network can be changed or monitored and the result can be referenced using a list or window called a tracker.

A tracker displays the processes of the executed job network and their results.

The job statuses are distinguished by colors and labels, enabling errors to be recognized readily. The job status colors are common to the Job Network Tracker icons as well as to the Tracker List text mode and graphic mode. This makes the job statuses easy to identify.



The colors used to represent the job statuses are those that are saved as the defaults in [Color Config] of [System Config] of CL/Win. For details about how to set colors, refer to Section 6.6, "Changing Color Settings" in <Environment Guide>.

5.5.1. Viewing Trackers

Perform operations such as listing trackers and setting the display period.

5.5.1.1. Listing Trackers

1. Select [Tracker] on the navigation bar.
 2. Expand the tree view, and click the name of the group you want to view.
- If you select a group name, trackers are displayed in the display table.

The screenshot shows the JobCenter CL/Web interface in UMS View Mode. The navigation bar includes 'Jobnetwork', 'Tracker', and 'Machine'. The tree view on the left shows a hierarchy starting with 'Root', followed by 'end_of_month_start_job_', 'monthly_patch', 'daily_patch', 'test_job_list', and 'UnitInw'. The 'daily_patch' group is selected, and its trackers are displayed in a table.

Name	Group	Status	Comment	Expected Start Time	Expected End Time	Start Time	End T
daily_treatment1	/daily_patch	DONE		2012/12/22 04:54:17	2012/12/22 04:54:20	2012/12/22 04:54:17	2012/
daily_treatment2	/daily_patch	DONE[ERROR]		2012/12/22 04:54:11	2012/12/22 04:54:11	2012/12/22 04:54:11	2012/
daily_treatment3	/daily_patch	RUN		2012/12/22 04:54:05	2012/12/22 04:54:05	2012/12/22 04:54:05	
daily_treatment4	/daily_patch	RUN		2012/12/22 04:53:48	2012/12/22 04:53:48	2012/12/22 04:53:48	

At the bottom of the interface, there is a search bar and a summary bar showing: WAIT:0 RUN:2 DONE:1 DONE[ERROR]:1 STOP:0 TOTAL:4.

Figure 5.22. Tracker display in the tracker display table

■ Tracker list columns

Column name	Description	Remark
Name	Displays the job network name.	
Group	Displays the name of the group to which the tracker belongs.	
Status	Displays the execution status of the job network.	
Status Class	Displays the status in English.	Non-default column Note 1
Tracker ID	Displays the tracker ID.	Non-default column Note 1
Comment	Displays the comment specified for the job network.	
Expected Start Time	Displays the expected start time registered in the schedule.	
Expected End Time	Displays the expected end time calculated from the settings in the parameter windows of the job network and unit job.	
Start Time	Displays the time when the job network actually started.	
End Time	Displays the time when the job network actually ended.	
User	Displays the user who executed the job network.	
Machine	Displays the name of the machine on which the job network was executed.	



Note 1: The non-default column can be added by using the [Hide/Show Columns] button. For details, refer to [Section 5.1.4, "Display Table Column Display Function"](#).



If you click a group name and then click another group name before the reading of the display table for the first clicked group is complete, the display table may show the information of the first clicked group, instead of that of the second clicked group. Before clicking a group name in the tree view, make sure that the reading of the display table is complete.

5.5.1.2. Displaying the Tracker List with a Period Specified

1. Click [Set] at the upper right of the display table, with trackers displayed.

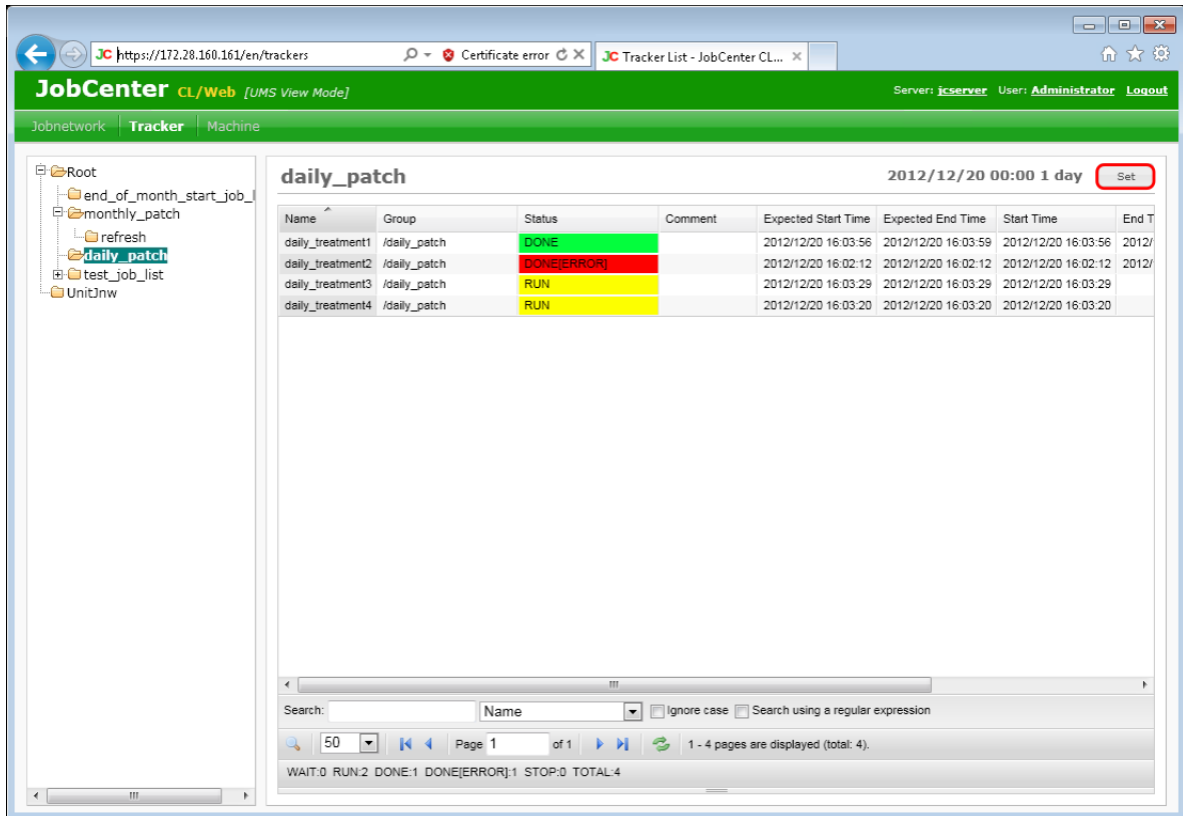


Figure 5.23. Settings

2. The [Set] dialog box opens.
3. Set [Period] and [Display Options].

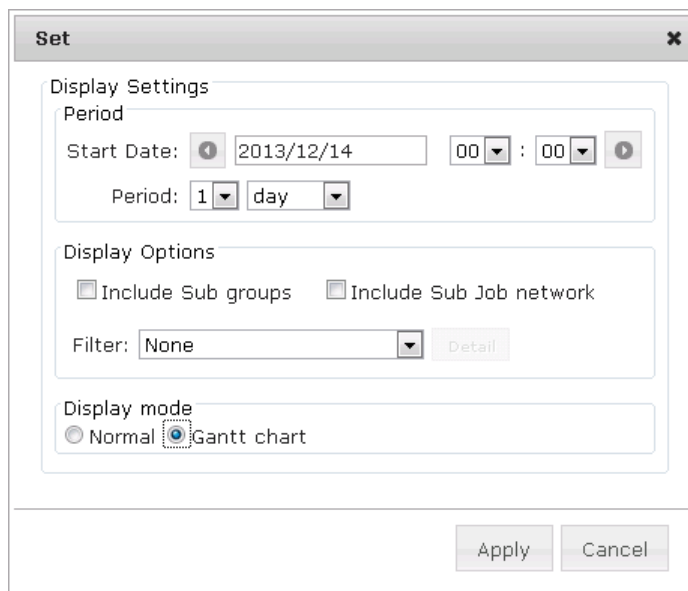


Figure 5.24. [Set] dialog box

The items to be set in [Display Settings] are as follows:

Display Settings

- Start Date

Specify the start date (year/month/day hour:minute) of the Tracker List display period.

■ Period

Specify the period for which the Tracker List is displayed.

Set the value and unit of the period. You can set 1 to 59 minutes, 1 to 23 hours, 1 to 7 days, 1 to 5 weeks, and 1 to 3 months.

You can move the start date backward and forward by the unit of the period, using the ← and → buttons in the Start day section.

■ Filter

From the pull-down menu, select the item to be used for filtering.

The available filtering items are as follows: None, WARNING/ERROR, STOP(ERROR), RUNNING, HOLD, SCHEDULED, and User Defined Filter 1 to 3.

■ Display mode

Set the display mode of trackers.

Select [Normal] or [Gantt chart].

For the Gantt chart display of trackers, refer to [Section 5.5.4, "Displaying Trackers in a Gantt Chart"](#).

■ Setting a user-defined filter

For the filtering, set the trackers to be displayed and the display conditions such as SCHEDULED, RUNNING, and STOP.

1. Selecting "User Defined Filter" from the pull-down menu list activates the [Detail] button to the right of the list. Click the [Detail] button.

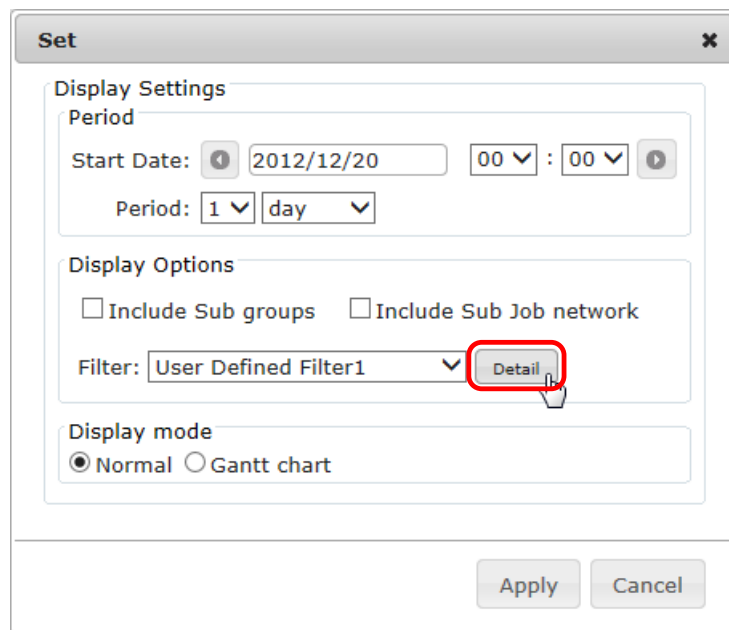


Figure 5.25. [Detail] button

2. The [Editing a Filter] dialog box opens.

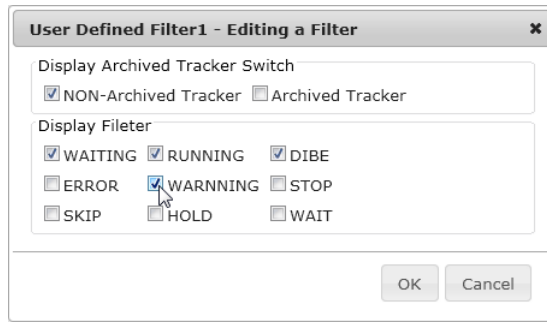


Figure 5.26. [Editing a Filter] dialog box

3. Set the display target and conditions.
4. When done with the settings, click the [OK] button.
5. Click [Apply] in the [Set] dialog box.
6. The settings are applied to the tracker display table.



The settings of a user-defined filter are saved as a cookie in the web browser.

5.5.1.3. Displaying a Part

1. If you click a job network name in the display table, the job network flow of the tracker is displayed.

By default, the [Flow] tab is selected.

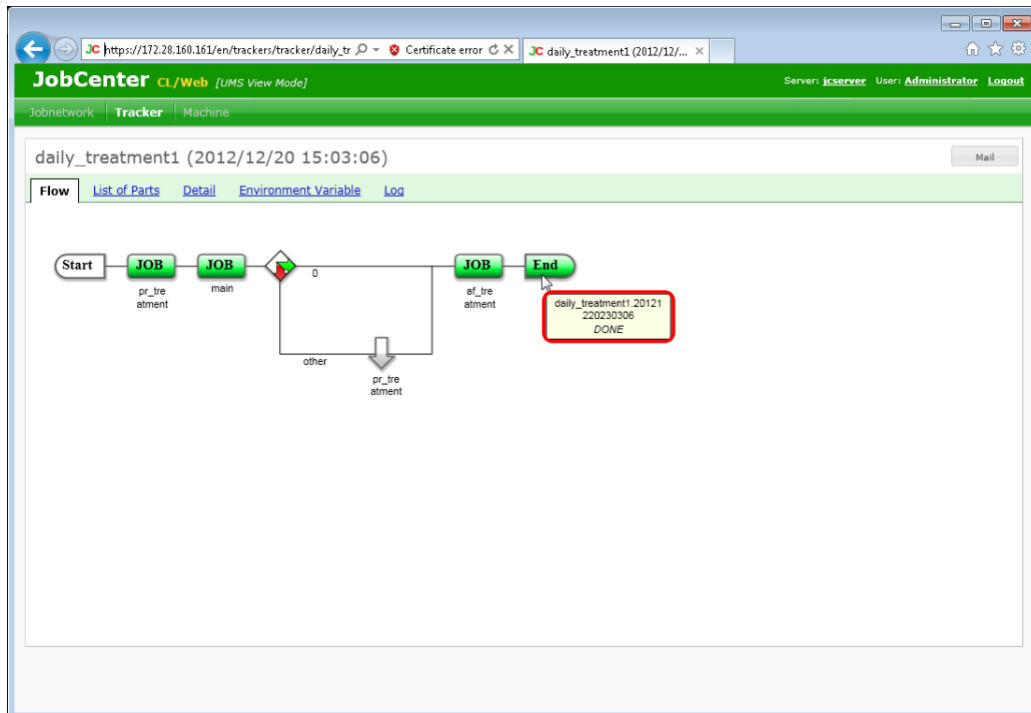


Figure 5.27. Job flow display window



If you place the cursor on the [Start] or [End] icon, the tracker ID and state are displayed as shown in [Figure 5.27, "Job flow display window"](#). If you place the cursor on a part icon, the part name and state are displayed.

2. If you click a part in the flow, the detailed information about that part is displayed.

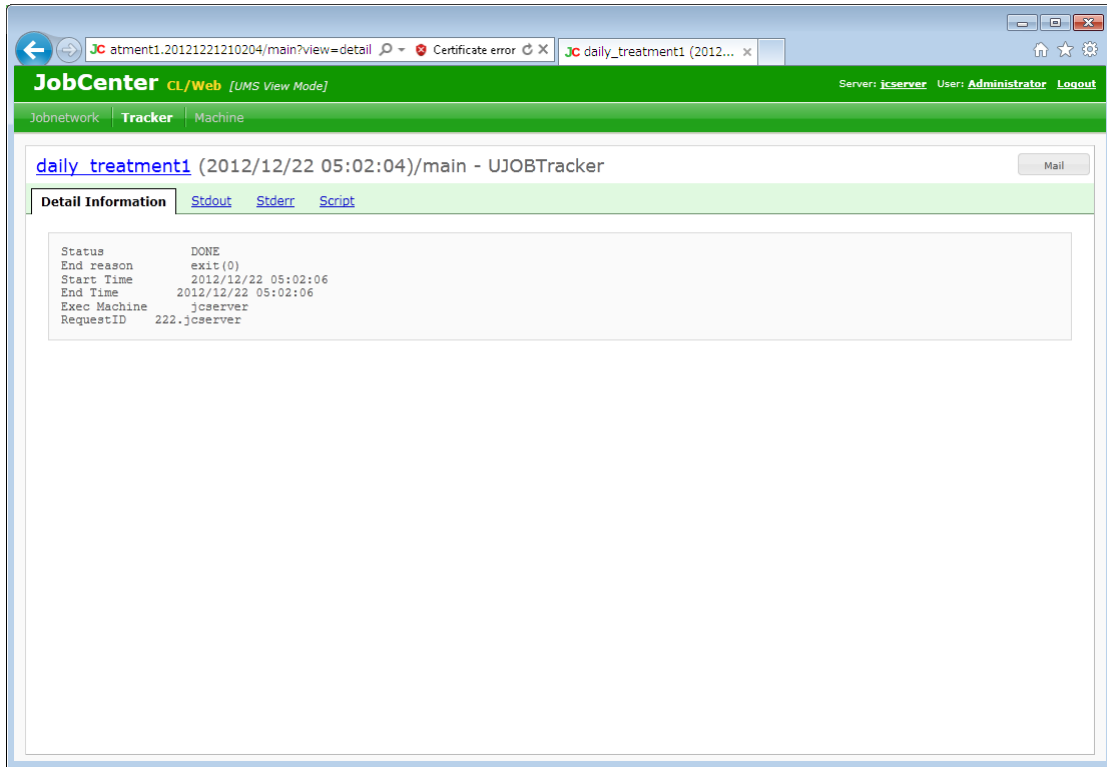


Figure 5.28. Detailed information window of a part



When the part is a unit job or custom job, the [Stdout], [Stderr], and [Script] tabs can be selected in addition to the [Detailed Information] tab. As for ERP, BI, PC, UCXS, and WOBS jobs, the tabs that respectively display unique information can be selected.

3. If you select the [List of Parts] tab, the part list is displayed.

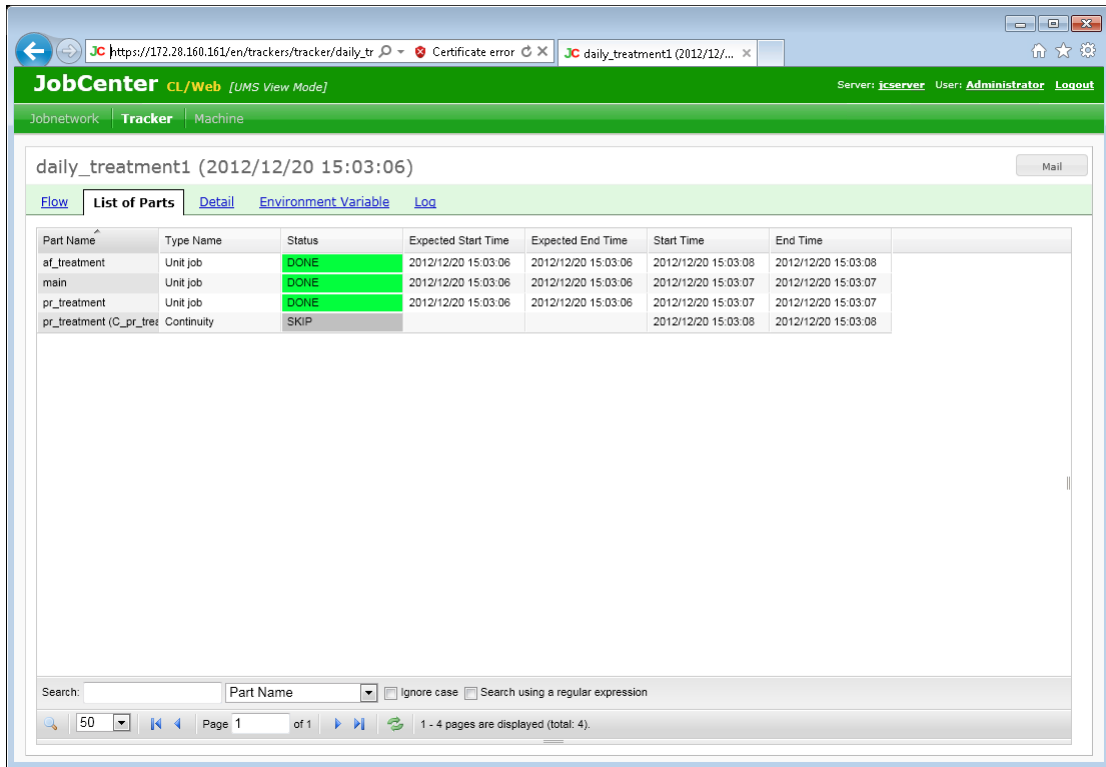


Figure 5.29. Part list window



Selecting a part name displays the same window that you see when you click a part name in the flow as described above.

■ Columns in the [List of Parts] tab

Column name	Description	Remark
Part Name	Displays the part name.	
Type	Displays the type of the part.	Non-default column ^{Note 1}
Type Name	Displays the type name of the part.	
Status	Refer to Section 5.5.1.1, "Listing Trackers" .	
Status Class		Non-default column ^{Note 1}
Expected Start Time		
Expected End Time		
Start Time		
End Time		



Note 1: The non-default column can be added by using the [Hide/Show Columns] button. For details, refer to [Section 5.1.4, "Display Table Column Display Function"](#).

5.5.2. Operating Trackers

By using a job network tracker, you can not only monitor and control the execution of a job but also perform other operations such as forcing a tracker to be executed and changing a scheduled submission time.



You cannot operate trackers if [Ref Mode] is selected as the login mode or you do not have the permission to operate trackers for CL/Win.

5.5.2.1. Operating a Job Network Tracker

1. Expand the tree in the tree view in the tracker display window, select the group name of the job network you want to operate and then click it.

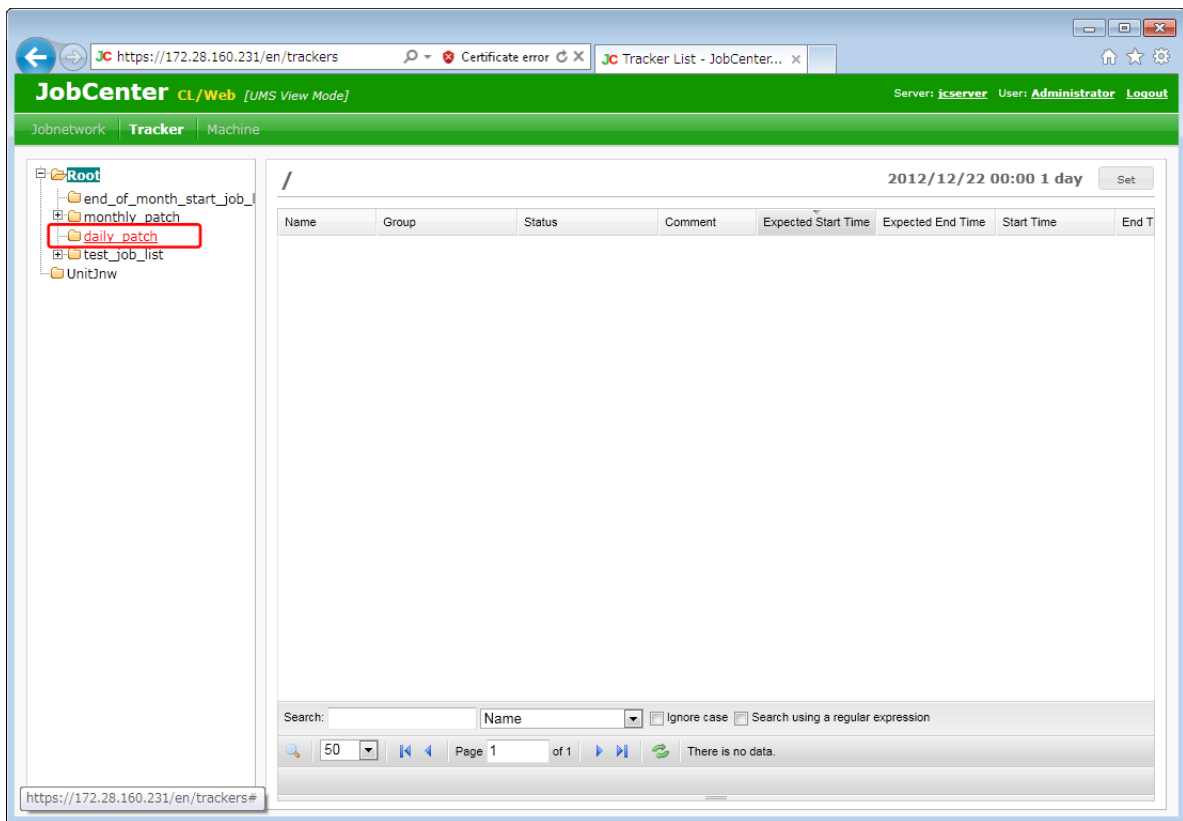


Figure 5.30. Window where a group name is selected

2. Select the name of the job network tracker you want to operate, and right-click it.
3. The shortcut menu lists the available operations.

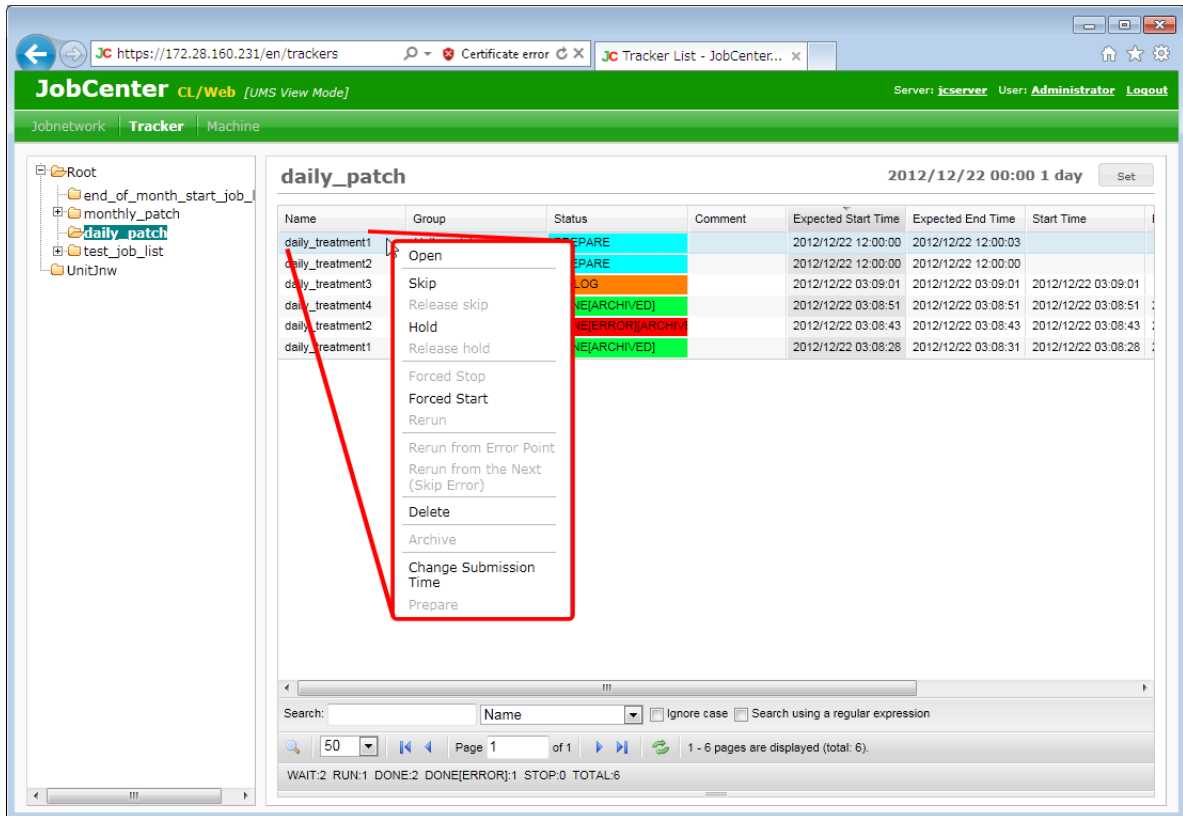


Figure 5.31. Shortcut menu screenshot

Operations on the shortcut menu which appears by right-clicking are as follows:

■ Open

Browses the job network tracker.

■ Skip

Skips the job network tracker.

■ Release skip

Cancels the scheduled skipping that is set with the "Skip" menu item.

■ Hold

Holds the job network tracker.

■ Release hold

Cancels the scheduled hold that is set with the [Hold] menu.

■ Forced Stop

Stops the execution of a running job network. The job request process in the job network is stopped forcibly.

■ Forced Start

Starts the execution of a waiting job network forcibly.

■ Rerun

Executes a job network tracker immediately whose status is other than WAIT and PREPARE.

■ Rerun from Error Point

Reruns a job network whose status is STOP(ERROR) from the error location.

■ Rerun from the Next (Skip Error)

Skips the error location for a job network whose status is STOP(ERROR).

■ Delete

Deletes the job network tracker.

■ Archive

Archives the job network tracker. Once the job network tracker is archived, only [Open] and [Delete] can be performed. For information about archiving, refer to Section 6.15.12, "Manually Archiving the Tracker" in <Basic Guide>.

■ Change Submission Time

The expected execution time of a job network tracker whose status is WAIT or PREPARE can be changed.

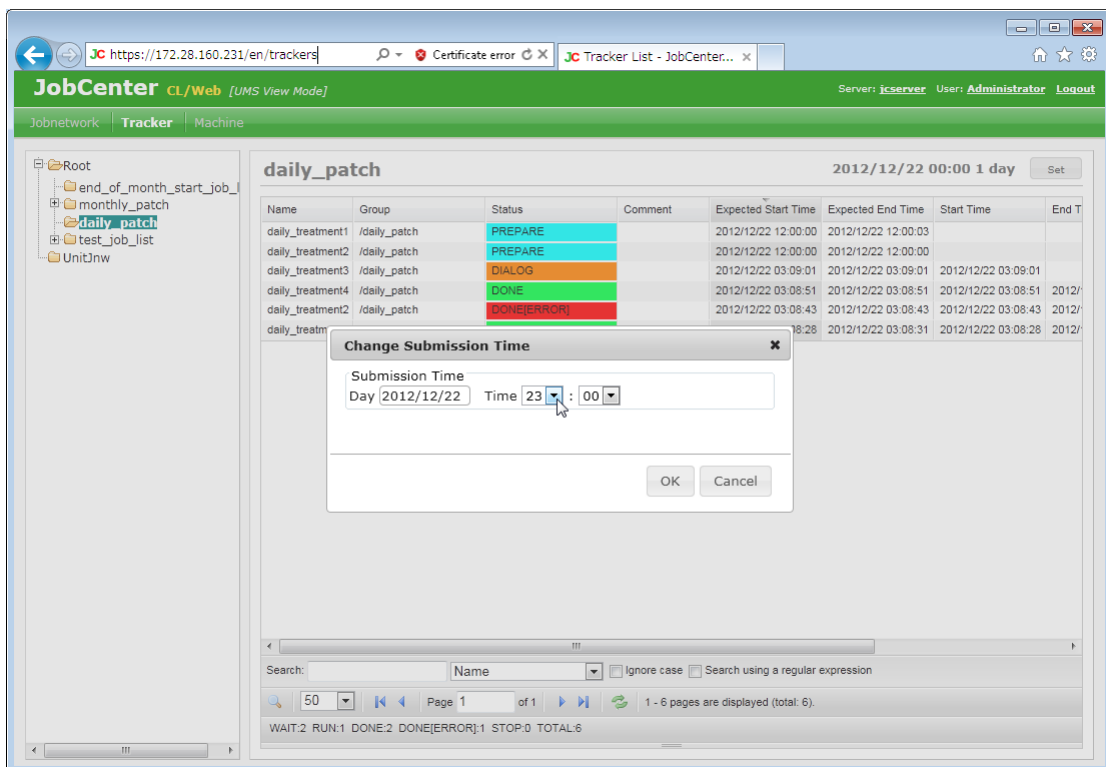


Figure 5.32. Window where the submission time is changed

In the [Change Submission Time] dialog box, set the following:

Day	If you click the field where the date is displayed, a calendar appears. By selecting < and >, a calendar for the past one year and next one year can be displayed.
-----	--

Time	Select the time from the pull-down menu. The available range is from 00:00 to 23:59.
------	--

■ Prepare

The WAIT state of a job network tracker can be changed to PREPARE.



The grayed-out items in the shortcut menu are operations that are not available.

5.5.2.2. Operating a Unit Job Tracker Icon

1. Select [Tracker] on the navigation bar, and click a job network name.
2. Place the cursor on the unit job icon you want to operate and then right-click it.
3. The shortcut menu lists the available operations.

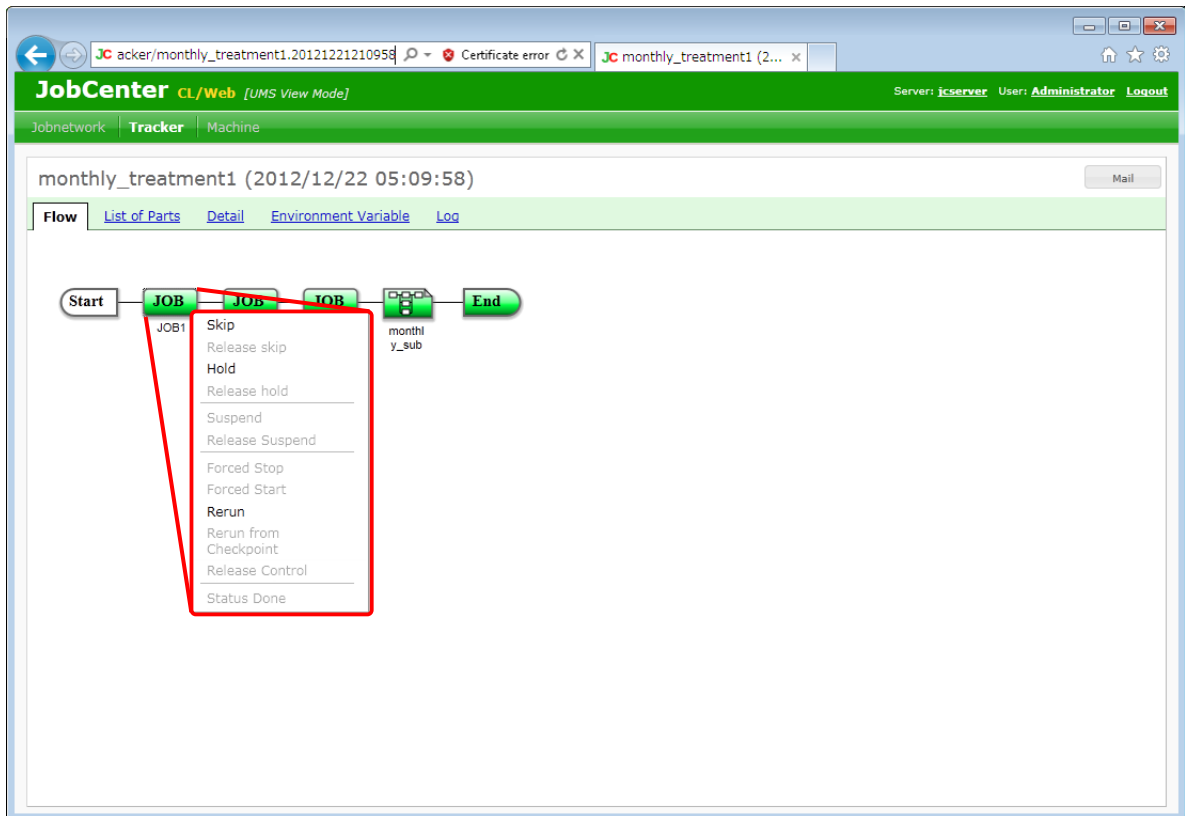


Figure 5.33. Detailed information window of a unit job tracker part

Operations on the shortcut menu which appears by right-clicking are as follows. For details, refer to Section 6.16.1, "Operating a Unit Job Tracker Icon" in <Basic Guide>.

- Open
- Status
- Skip
- Release skip
- Hold

- Release hold
- Suspend
- Release Suspend
- Forced Stop
- Forced Start
- Rerun
- Rerun from Checkpoint
- Release Control
- Status Done



[Open] displays detailed information of the part. [Status] displays the status of the part in a dialog box.

5.5.2.3. Operating a Sub Job Network Tracker Icon

1. Select a sub job network icon in a job network tracker, and right-click it.
2. The shortcut menu lists the available operations.

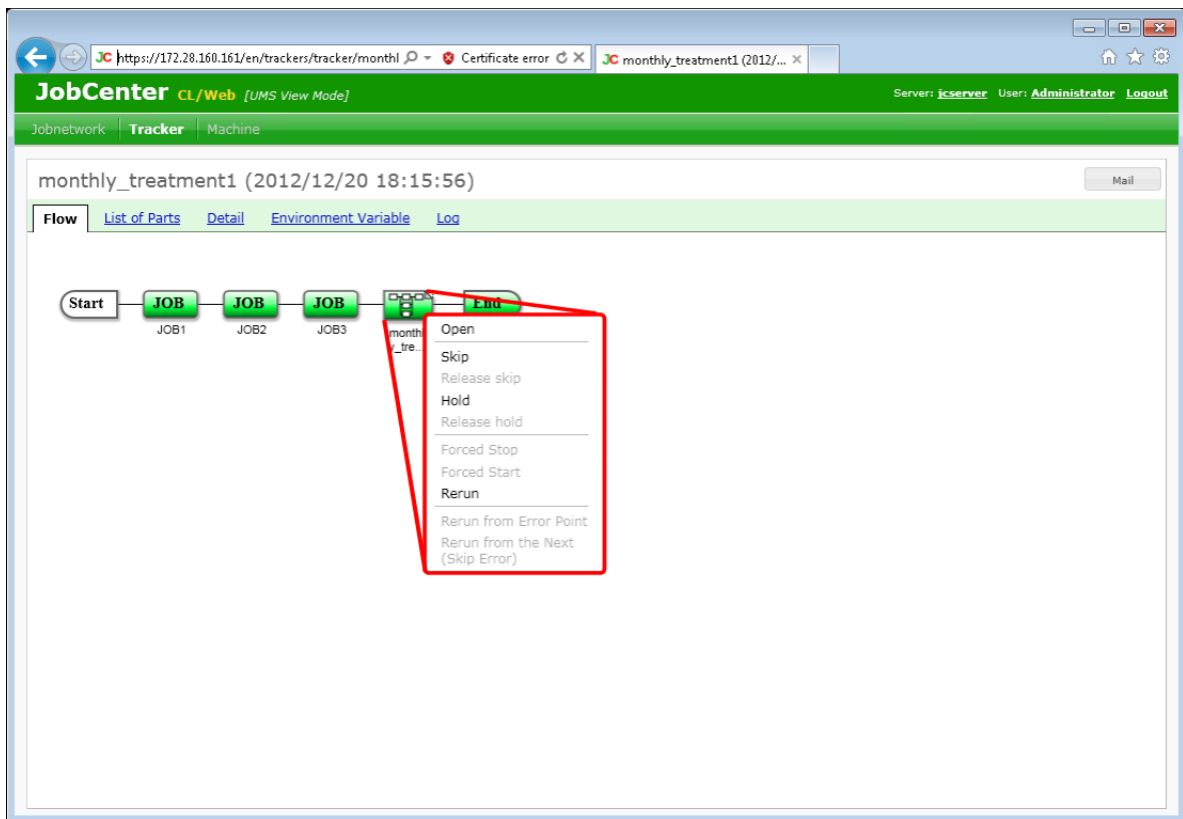


Figure 5.34. Detailed information window of a sub job tracker part

Operations on the shortcut menu which appears by right-clicking are as follows. For details, refer to Section 6.17, "Operating a Sub Job Network Tracker" in <Basic Guide>.

- Open
- Status
- Skip
- Release skip
- Hold
- Release hold
- Forced Stop
- Forced Start
- Rerun
- Rerun from Error Point
- Rerun from the Next (Skip Error)



[Open] displays the flow of the sub job network trackers. [Status] displays the status of the part in a dialog box.

5.5.2.4. Operating a Dialog Tracker Icon

1. Select a dialog icon in a job network tracker, and right-click it.
2. The shortcut menu lists the available operations.

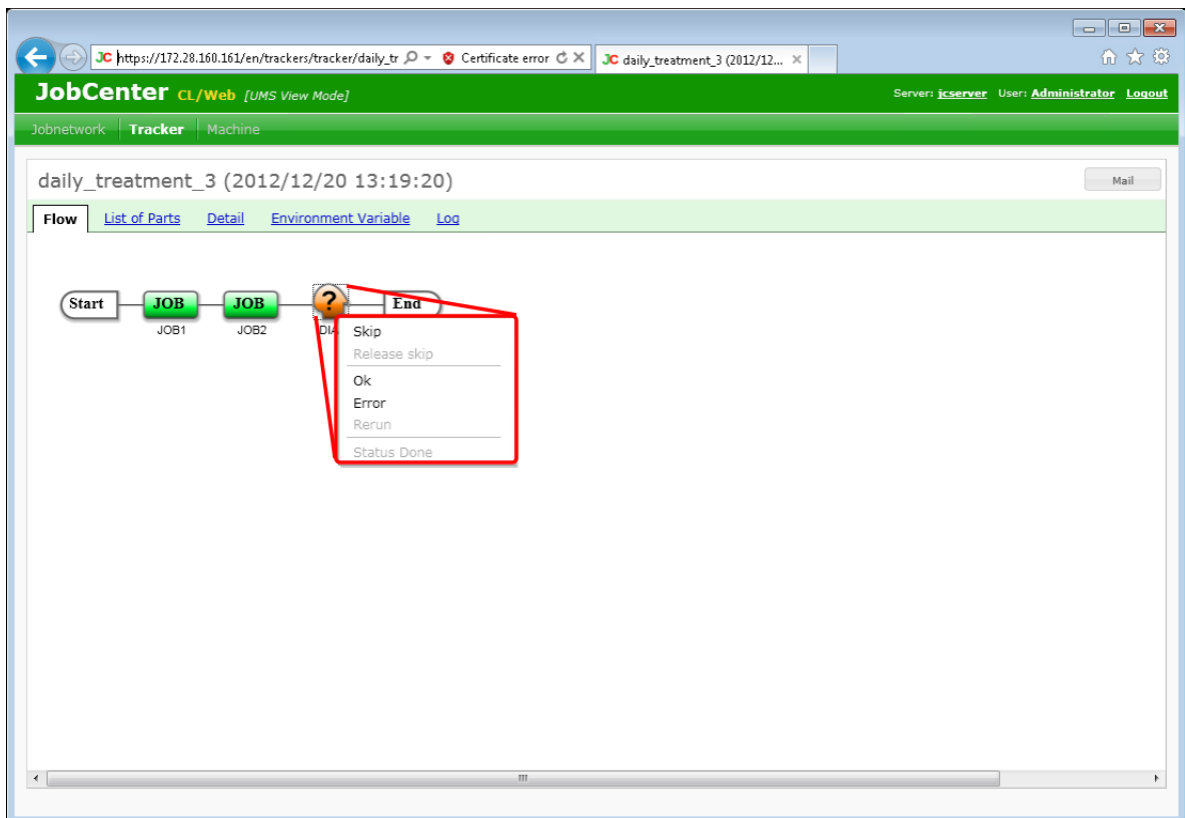


Figure 5.35. Detailed information window of a dialog tracker part

Operations on the shortcut menu which appears by right-clicking are as follows. For details, refer to Section 6.18, "Responding to a Dialog (Deciding a completion status)" in <Basic Guide>.

- Open
- Status
- Skip
- Release skip
- Ok
- Error
- Rerun
- Status Done



[Open] displays detailed information of the part. [Status] displays the status of the part in a dialog box.

5.5.2.5. Operating a Waiting Part or Event Transmission/Reception Icon

1. Select a job waiting part icon, and right-click it.
2. The shortcut menu lists the available operations.

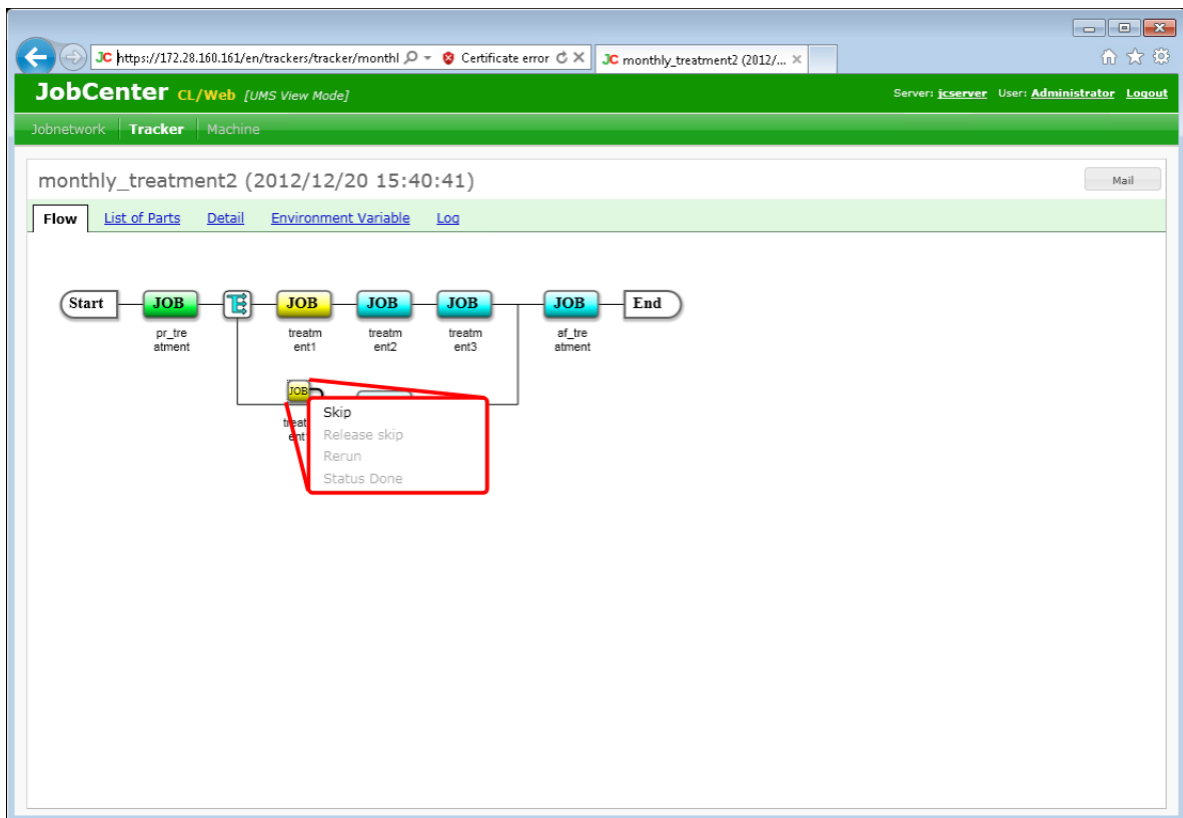


Figure 5.36. Detailed information window of a job waiting part

Operations on the shortcut menu which appears by right-clicking are as follows. For details, refer to Section 6.19, "Skipping Waiting Part and Event Transmission/Reception Jobs" in <Basic Guide>.

Table 5.3. List of the operations available for waiting part and event transmission/reception trackers

Waiting part tracker and event reception/transmission tracker	Operation available from the shortcut menu
Job Waiting	<ul style="list-style-type: none"> ■ Open ■ Status ■ Skip ■ Release skip ■ Rerun ■ Status Done
JNW Waiting	<ul style="list-style-type: none"> ■ Open ■ Status ■ Skip ■ Release skip ■ Rerun ■ Status Done
Timer Waiting	<ul style="list-style-type: none"> ■ Open ■ Status ■ Skip ■ Release skip ■ Rerun ■ Status Done
File Waiting	<ul style="list-style-type: none"> ■ Open ■ Status ■ Skip ■ Release skip ■ Rerun ■ Status Done
Event Transmission	<ul style="list-style-type: none"> ■ Open ■ Status ■ Skip ■ Release skip

	<ul style="list-style-type: none"> ■ Hold ■ Release hold ■ Forced Stop ■ Forced Start ■ Rerun ■ Status Done
Event Reception	<ul style="list-style-type: none"> ■ Open ■ Status ■ Skip ■ Release skip ■ Hold ■ Release hold ■ Forced Stop ■ Forced Start ■ Rerun ■ Status Done



[Open] displays detailed information of the part. [Status] displays the status of the part in a dialog box.

5.5.3. Reloading the Tracker Window Automatically

The content displayed in the tracker window is reloaded periodically. Automatic reloading is enabled in the tracker list window (including the case when a specific JNW is specified) and the tracker information window (flow, details, environment variable, log).

5.5.3.1. Enabling Automatic Reloading

In order to reload the contents automatically, change automatic reload slide bar from OFF to ON. (If you slide the bar to the right while clicking the mouse, it switches to ON.)

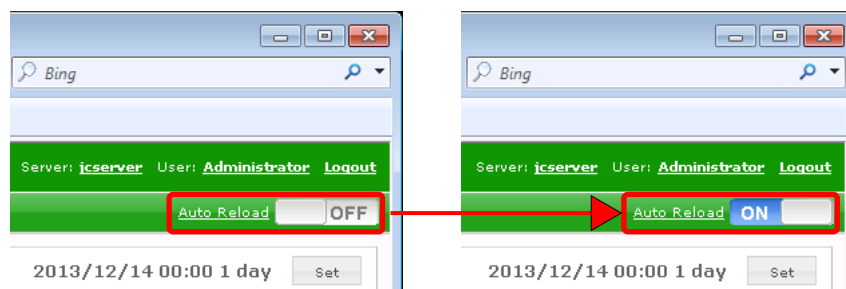


Figure 5.37. Change to automatic reload ON state

If the auto-reload slide bar is turned ON, the automatic reload is done.

5.5.3.2. Initial setting of the automatic reload

You can set the initial value of the automatic reload in the configuration file (clweb.conf) for a CL / Web server. The initial value of the automatic reload you have set, are common for all users.

Clweb.conf format of files for automatic reload default setting, and the items are as follows.

Table 5.4. setting of the parameters of clweb.conf (Initial setting of the automatic reload)

Parameter	Description	Type	Value
\$tracker_auto_refresh	set the initial state of the automatic reload slide bar.	Truth-value	false (default setting)

Status of the automatic reload slide bar will determine according to the value of the initial configuration of clweb.conf file is accessed for the first time.

It is stored in a browser cookie. If then, you switch the automatic reload slide bar. State of the slide bar is determined by the information stored in the cookie.

- First access (browser cookie has no data)
- Change to ON automatic reload slide bar
 --->"Auto reload slide bar: ON" to cookie record, automatic reload is performed.
- Change to OFF automatic reload slide bar
 --->"Auto reload slide bar: OFF" to cookie record, automatic reload is not performed.



According to the setting of clweb.conf, the status of automatic reload slide bar will determine if the expiration date of the cookie or browser, you clear the browser cookies have expired.

Expiration date of browser cookies, is one year after you change the automatic reload slide bar.

5.5.3.3. Setting Method of Automatic Reload Interval

Set the interval of automatic reloading from [Auto Reload Setting] dialog box after clicking the [Auto Reload] link to the left of automatic reload slide bar. You can select the interval from the 5 options, 1 minute, 2 minutes, 3 minutes, 4 minutes, and 5 minutes.

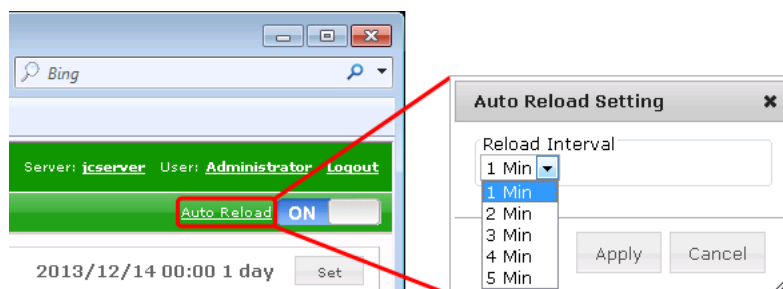


Figure 5.38. [Auto Reload Setting] dialog box

5.5.4. Displaying Trackers in a Gantt Chart

This section describes how to display the tracker list in a Gantt chart.

5.5.4.1. Displaying a Tracker List in a Gantt Chart

1. While the tracker list is displayed, click [Set] at the upper right corner of the display table.

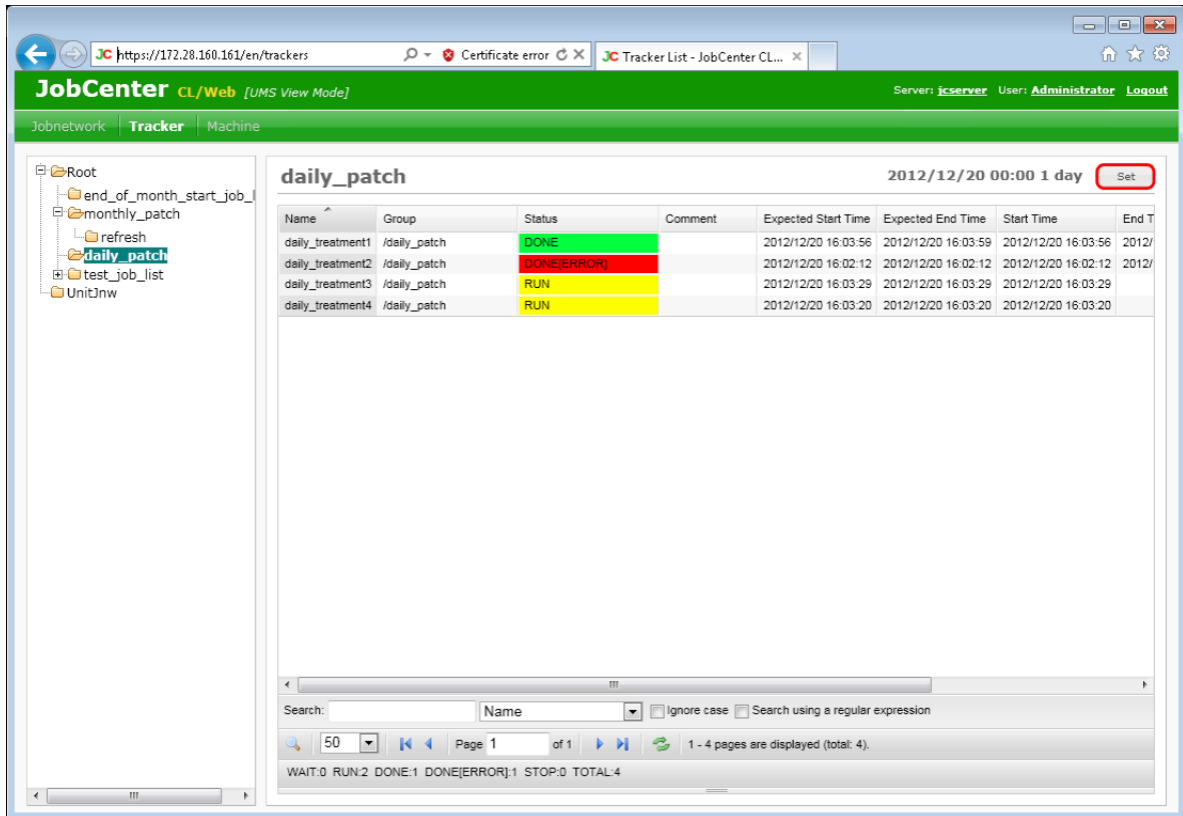


Figure 5.39. [Set] button

2. The [Set] dialog box opens.
3. Select [Gantt chart] as the display mode and click [Apply].

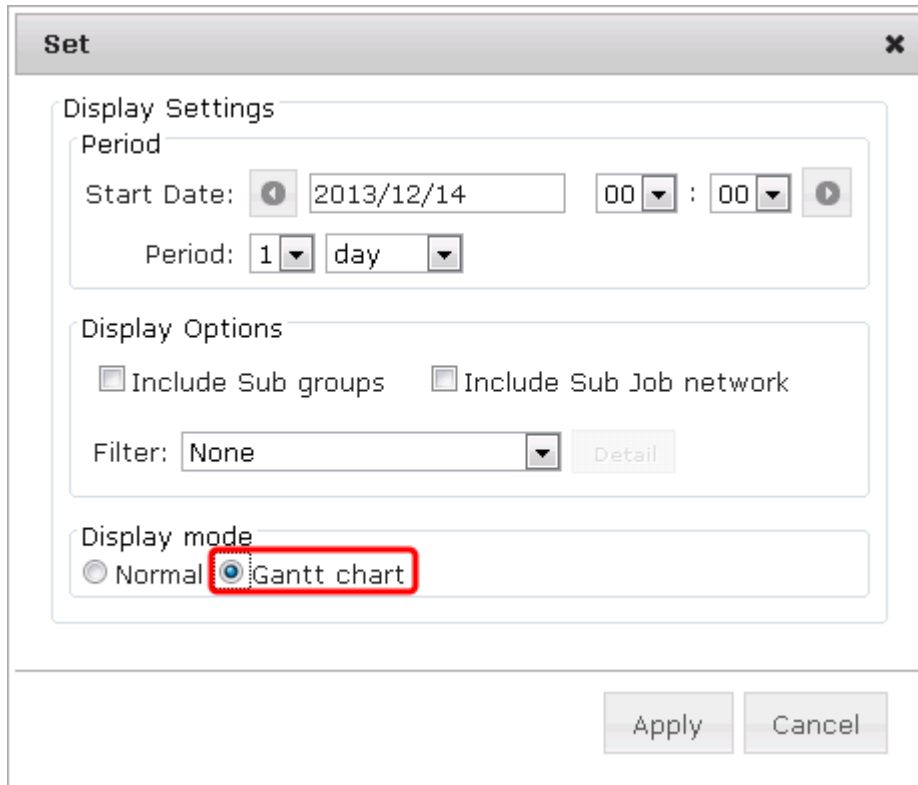


Figure 5.40. Switch to [Gantt chart] in the [Set] dialog box

4. The Gantt chart of the tracker list is displayed.

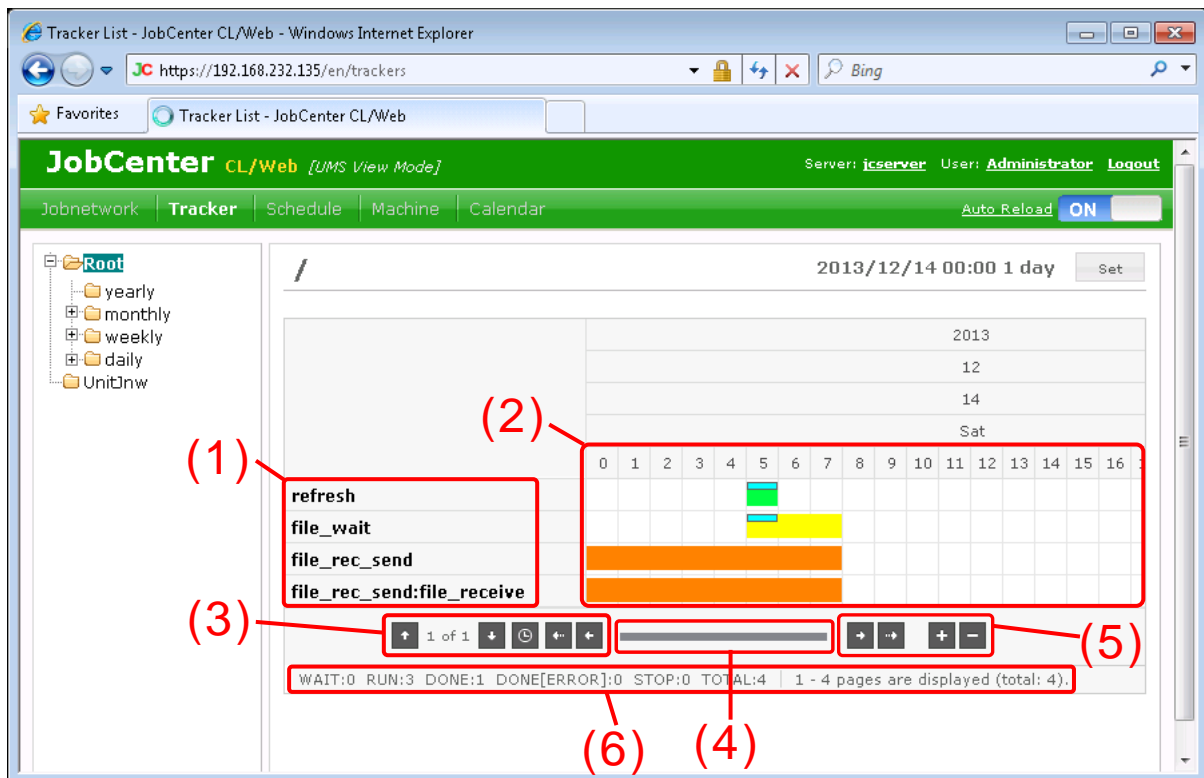


Figure 5.41. Displaying a Gantt chart of trackers

In a Gantt chart, the horizontal axis shows time and the vertical axis shows the tracker name, and the start time and the end time of each tracker are shown as a horizontal bar.

■ Gantt chart columns

Column name	Description	Remark
(1) Tracker name	<p>Displays the tracker names.</p> <p>Clicking a tracker name displays its tracker flow screen.</p> <p>Right-clicking a tracker name displays the shortcut menu for operating the tracker.</p>	
(2) Display table	<p>Displays the start time and the end time of each tracker as a horizontal bar.</p> <p>Narrow horizontal bars show planned start/end time. Wide horizontal bars show actual start/end time.</p> <p>The color of wide horizontal bar corresponds to the tracker's status.</p>	
(3) Page switching button	Switches the pages when all the trackers cannot be contained in one screen.	
(4) Slide bar	Use this bar to scroll the Gantt chart in the horizontal-axis direction.	
(5) Scale change button	<p>Use this button to change the unit of the horizontal axis of the Gantt chart. The unit of display can be one of the following:</p> <p>1 minute, 15 minutes, 30 minutes, 1 hour, 6 hours, 12 hours, 1 day, 1 month</p>	
(6) Statistic information bar	Displays the number of trackers for each tracker state (WAIT, RUN, etc.).	

5.6. Schedule-related Operations

You can view lists or definitions of schedules. In addition, you can perform operation of enabling and disabling schedules.

5.6.1. Viewing a List of Schedules

1. Select [Schedule] on the navigation bar.
2. Expand the tree in the tree view, place the cursor on the desired group name, and click it.
3. If there is any schedule or group under the target group, the object is displayed in the display table.

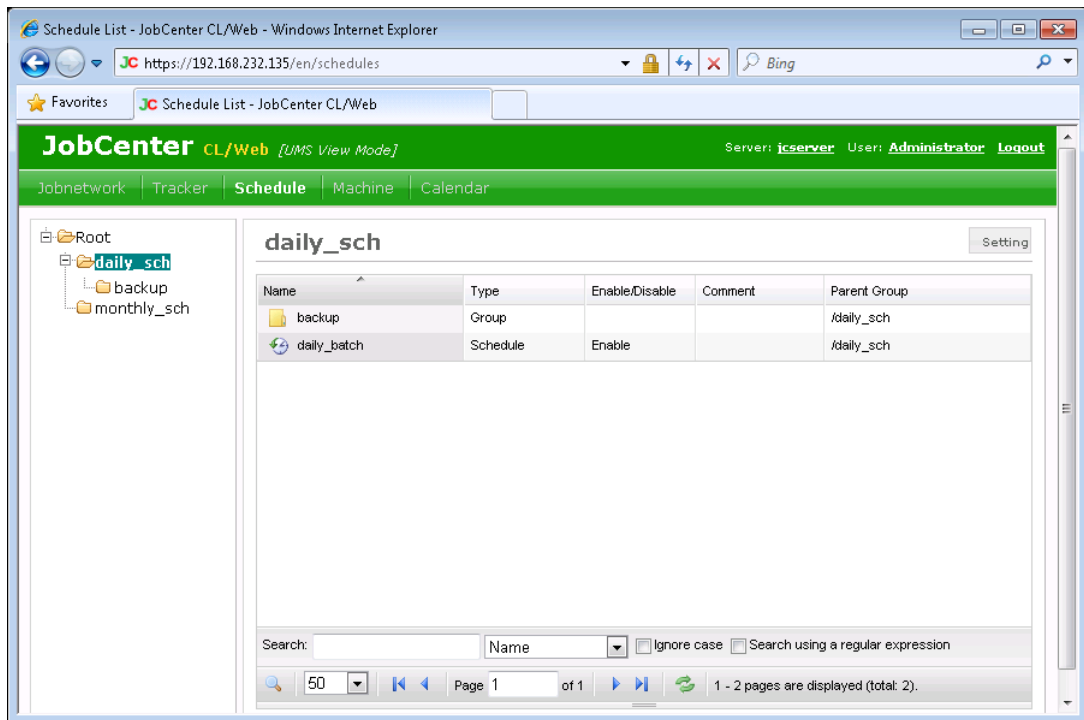


Figure 5.42. Image of the window where a group is selected

■ Display table list columns

Column name	Description	Remark
Name	Displays the name of the object.	
Type	Displays the type of the object (schedule or group).	
Enable/Disable	Displays whether the schedule is enabled or disabled.	
Comment	Displays the comment specified for the object.	
Parent Group	Displays the name of the group to which the object belongs.	

5.6.2. Viewing the Schedule Definition

1. In the schedule list display window, place the cursor on the name of the schedule whose definition you want to view, and then click it.

2. The definition of the selected schedule is displayed.

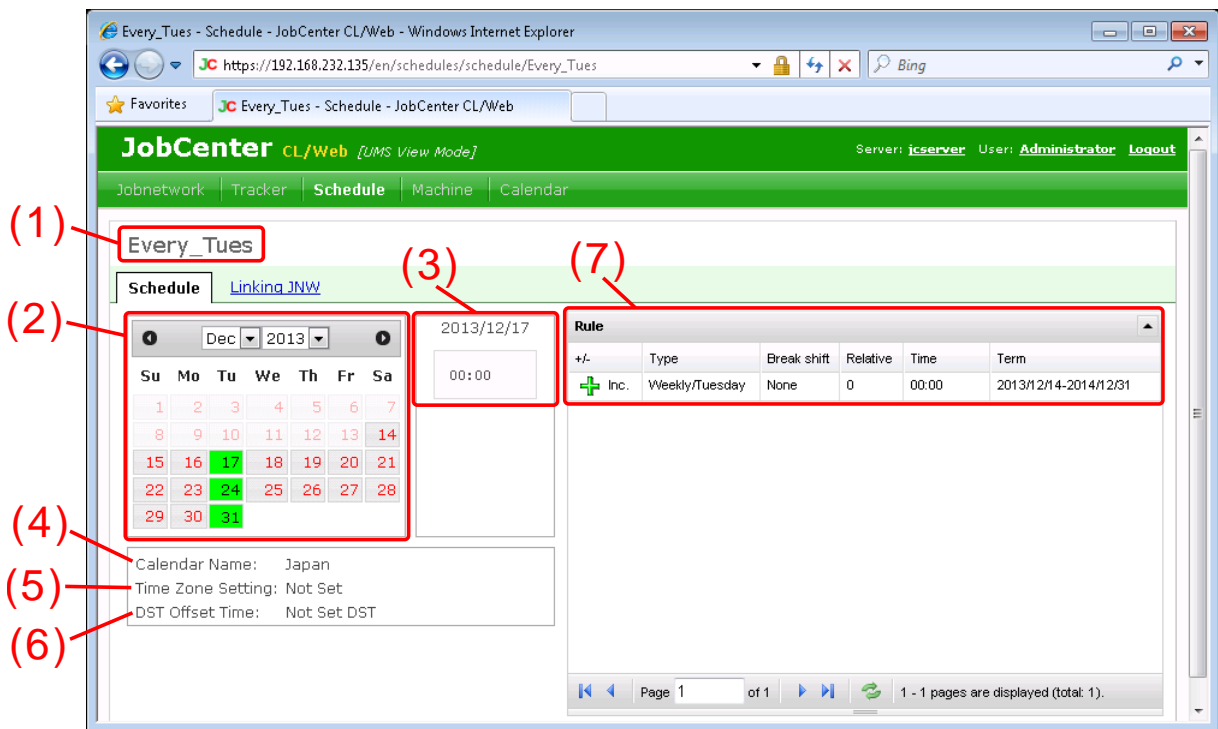


Figure 5.43. Schedule definition display window

■ Schedule definition columns

Column name	Description	Remark
(1) Schedule name	Displays the name of the viewed schedule definition.	
(2) Monthly operating day schedule	Displays the schedule execution dates for each month. The dates with green background are execution dates.	
(3) Execution start time	By clicking a schedule execution date, the list of schedule execution start time on that date is displayed.	
(4) Calendar name	Displays the name of the calendar that is applied to the schedule.	
(5) Time zone	Displays the specified time zone.	
(6) Daylight savings time offset	Displays whether the daylight savings time (summer time) is set.	
(7) Rule	Displays the rule of schedule definition. The displayed items are [+/-] (registration/exclusion), [Type], [Break shift], [Relative], [Time], and [Term].	

5.6.3. Viewing the Linking JNW

1. The linking JNW set in the schedule definition is displayed. Click the [Linking JNW] tab in the schedule definition information screen.

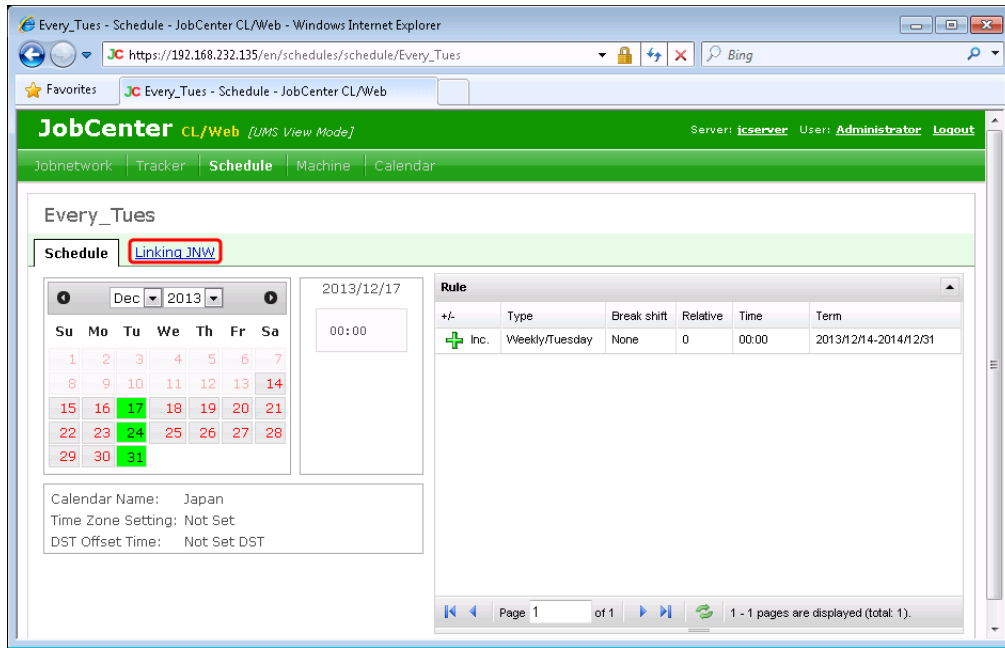


Figure 5.44. Clicking the [Linking JNW] Tab

2. The list of the JNWs linked with the schedule is displayed.

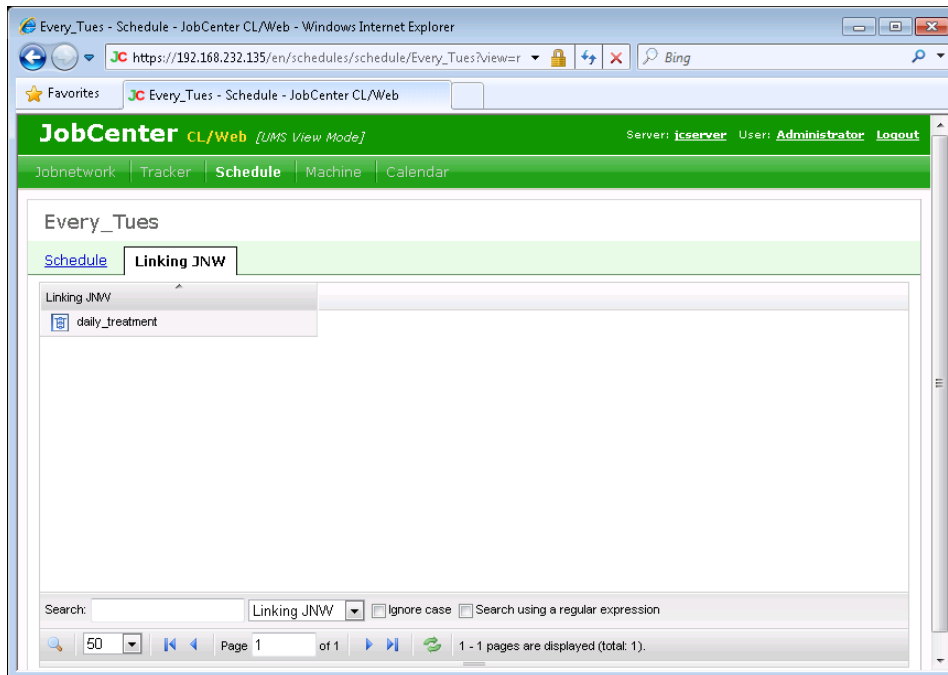


Figure 5.45. Linking JNW window

5.6.4. Enabling or Disabling the Schedule

This section describes how to enable or disable schedules.

Schedule enabling and disabling can be done either for each schedule or for each schedule group.



You need to select [Edit Mode] as the login mode.

If you do not have the permission to edit the user's own job network for CL/Win, you cannot enable or disable schedules.

5.6.4.1. Enabling/Disabling Schedules

This section describes how to enable or disable each schedule individually.

1. In the display table, place the cursor on the name of the schedule you want to enable (or disable) and right-click it.
2. Select [Enable] (or [Disable]) in the shortcut menu.

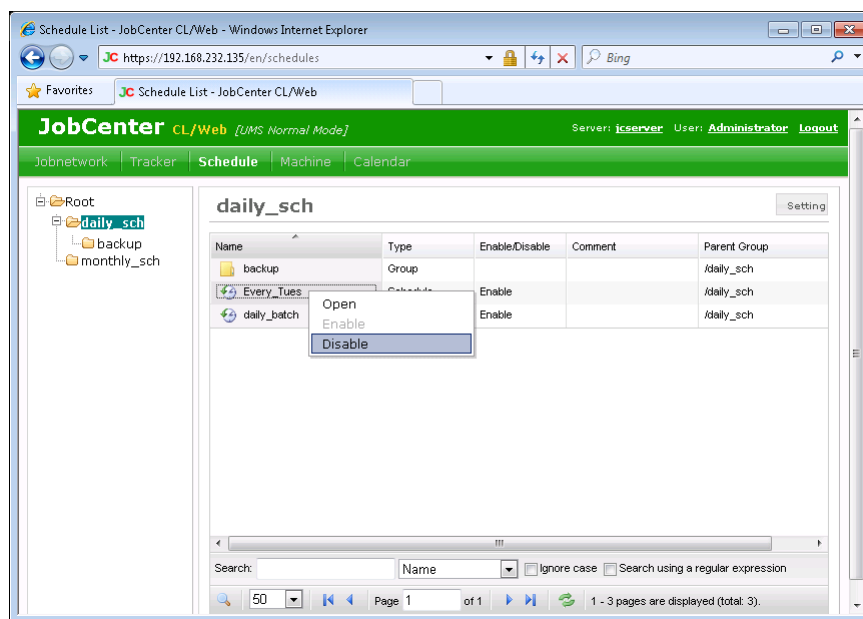


Figure 5.46. Shortcut menu screenshot

3. The [Schedule Operation] dialog box opens.
4. Click the [OK] button.

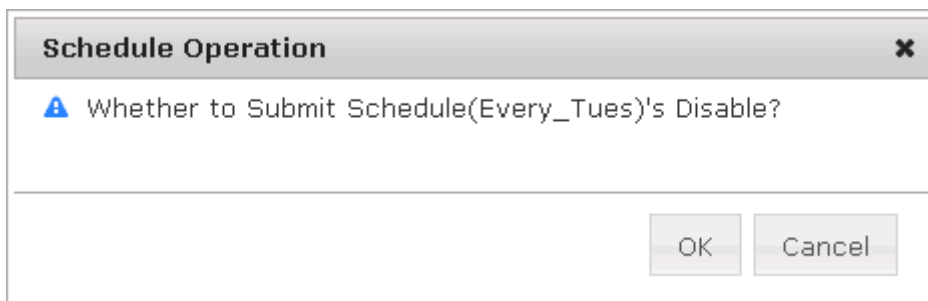


Figure 5.47. [Schedule Operation] dialog box

5. If the following message is output in the [Schedule Operation] dialog box, the operation is completed.
6. Click the [OK] button.

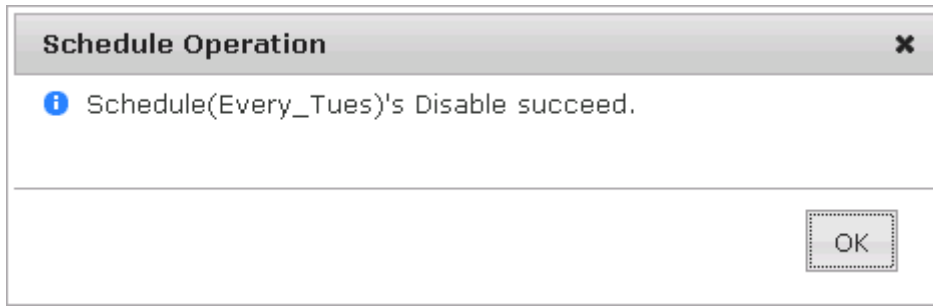


Figure 5.48. Success of operating schedule

5.6.4.2. Enabling/Disabling Schedule Groups

This section describes how to enable or disable all the schedules under the group.

1. In the display table, place the cursor on the name of the schedule group you want to enable (or disable) and right-click it.
2. Select [Enable] (or [Disable]) in the shortcut menu.

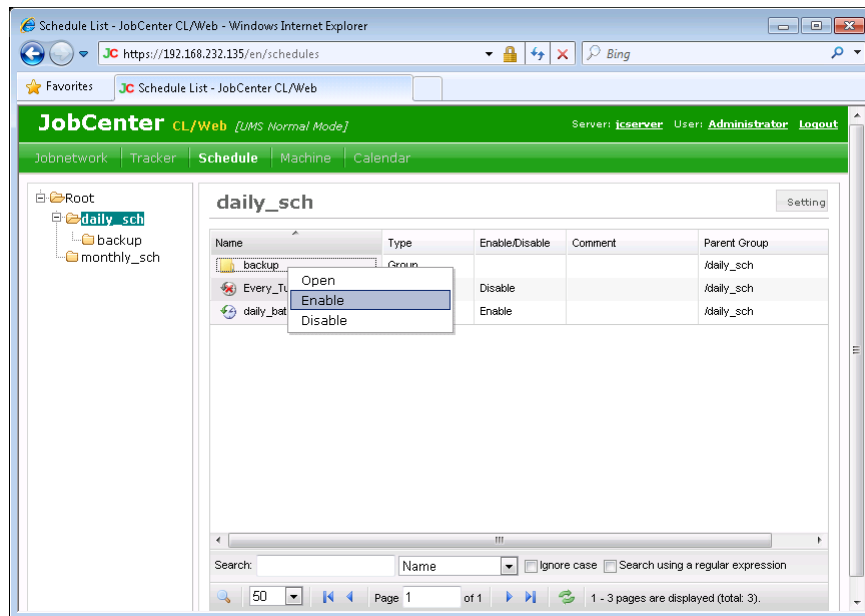


Figure 5.49. Shortcut menu screenshot

3. The [Group Operation] dialog box opens.
4. Click the [OK] button.

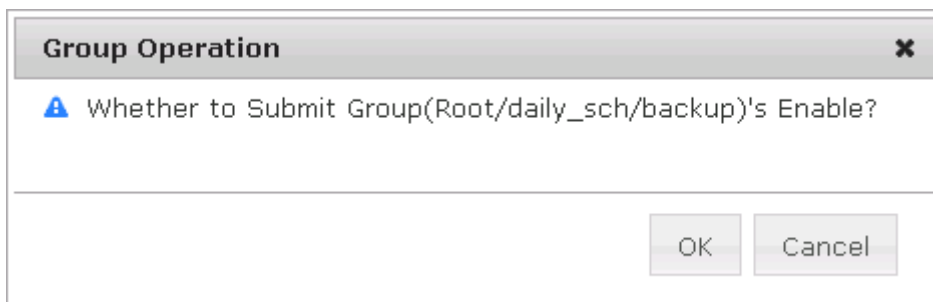


Figure 5.50. [Group Operation] dialog box

5. If the following message is output in the [Group Operation] dialog box, the operation is completed.
6. Click the [OK] button.

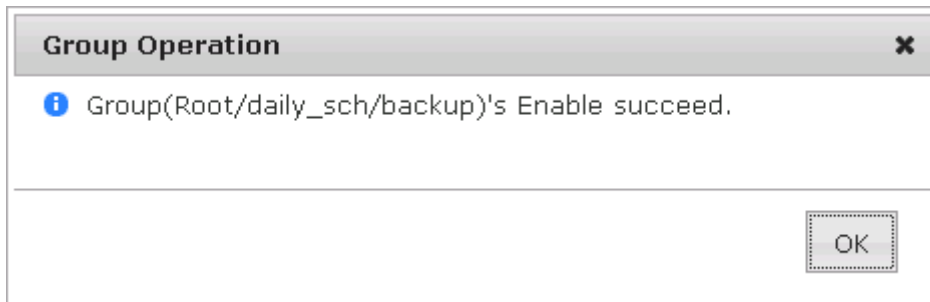


Figure 5.51. Success of enabling schedules under the group

5.7. Machine-related Operations

You can view a list of machines recognized by JobCenter MG/SV, a list of queues, and a list of users. You can also perform operations such as starting and stopping a queue.

5.7.1. Viewing a List of Machines

1. Select [Machine] on the navigation bar.
2. A list of machines recognized by JobCenter MG/SV is displayed.

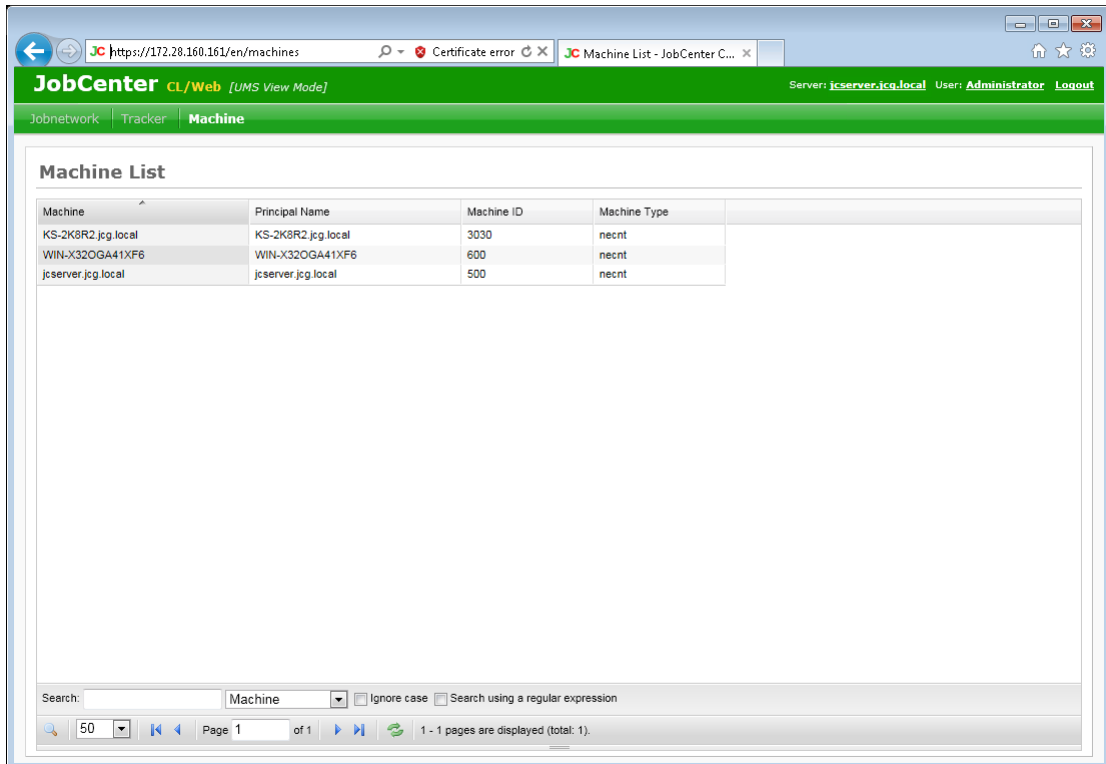


Figure 5.52. Machine list display window

■ Machine list columns

Column name	Description	Remark
Machine	Machine name recognized by JobCenter MG/SV	
Principal Name	Displays the formal name of the machine.	
Machine ID	Displays the machine ID.	
Machine Type	Displays the machine type (nec or necnt).	

5.7.2. Viewing a List of Queues

1. In the machine list display window, place the cursor on the name of the machine whose queue list you want to view and then click it.

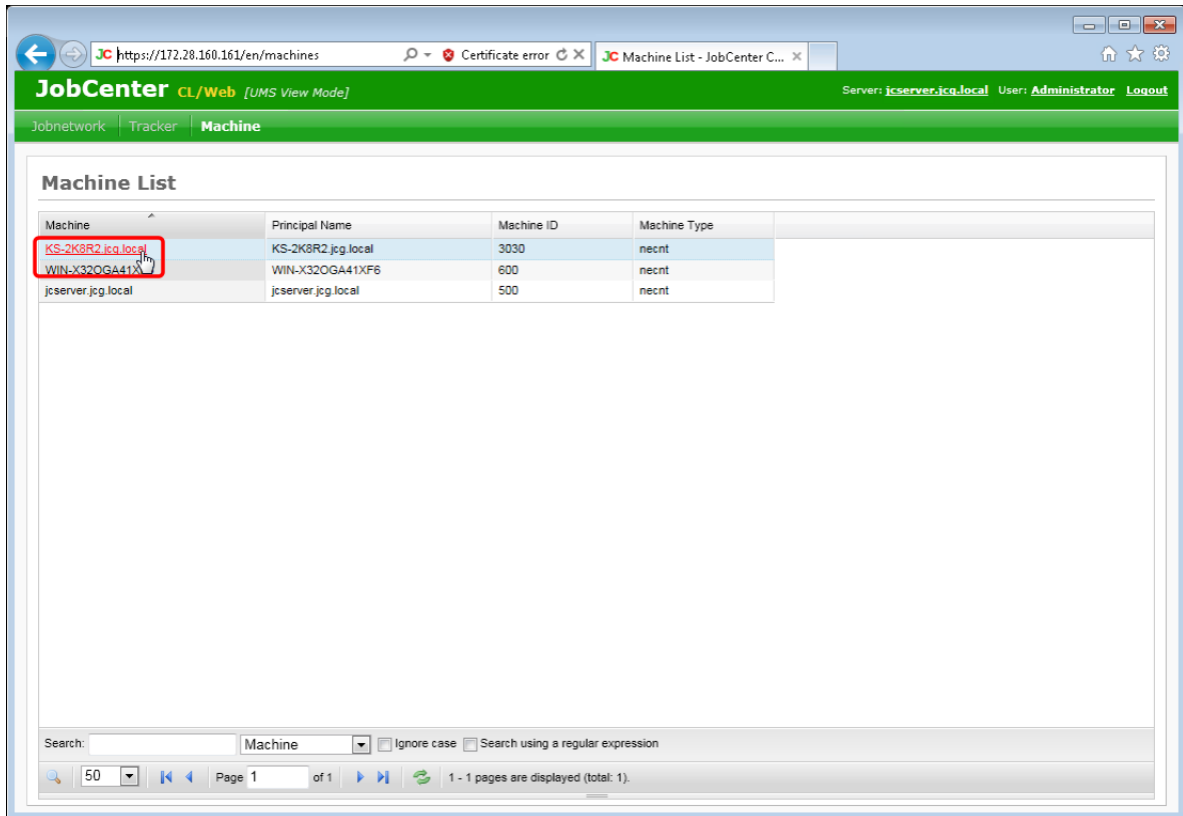


Figure 5.53. Window where a machine is selected

2. The queue list of the selected machine is displayed.

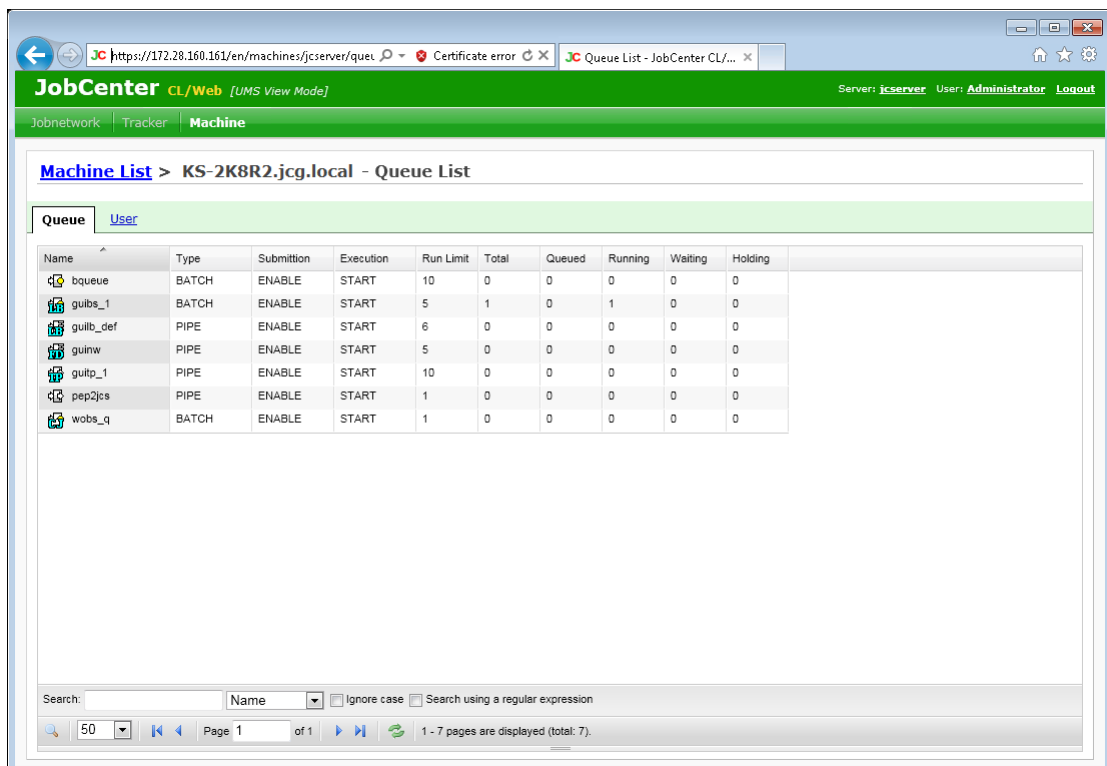


Figure 5.54. Queue list display window

3. The Queue Flag column can be added by using the [Hide/Show Columns] button. For information about the [Hide/Show Columns] button, refer to [Section 5.1.4, "Display Table Column Display Function"](#).

■ Queue list columns

Column name	Description	Remark
Name	Refer to Section 9.1.2, "Displaying a Queue List in the NQS Frame Window" in <Basic Guide>	
Type		
Queue Flag	<p>Displays one of the following words representing the queue type: NORMAL, LOADBALANCE, and TRANSPARENT.</p> <p>■ NORMAL</p> <p>This indicates a normal pipe queue or batch queue.</p> <p>■ LOADBALANCE</p> <p>This indicates a demand delivery load balancing queue.</p> <p>■ TRANSPARENT</p> <p>This indicates a transparent pipe queue.</p>	The Queue Flag column can be added by using the [Hide/Show Columns] button.
Submission	Refer to Section 9.1.2, "Displaying a Queue List in the NQS Frame Window" in <Basic Guide>.	
Execution		
Run Limit		
Total		
Queued		
Running		
Waiting		
Holding		

5.7.3. Operating a Queue

1. In the queue list window, place the cursor on the name of the queue you want to operate and then right-click it.

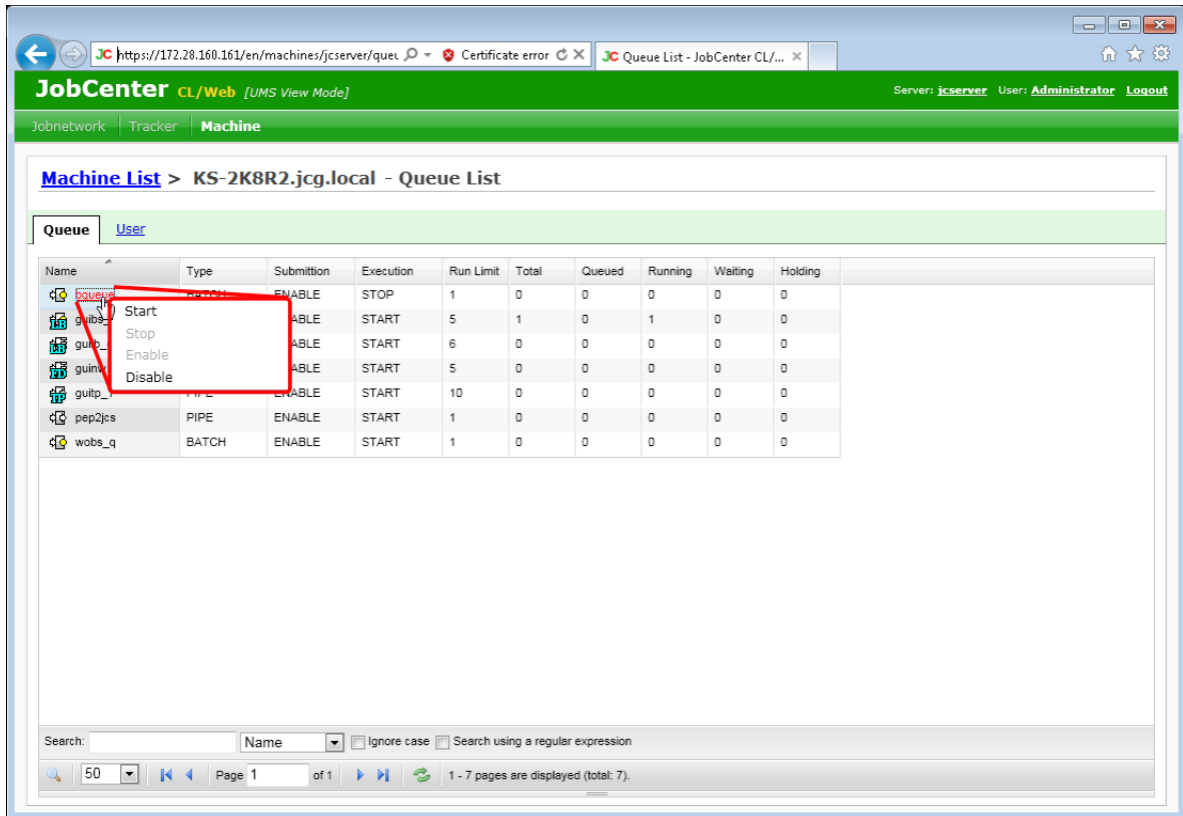


Figure 5.55. Window where a queue is selected



CL/Web queues cannot be operated by anyone other than the JobCenter administrator.

If you are not the administrator, the columns are grayed out.

Even if you are the administrator, you cannot operate queues when you are logged in Ref mode.

2. Place the cursor on the queue you want to operate, and click it.
3. When the [Queue Control] dialog box opens, click [OK].

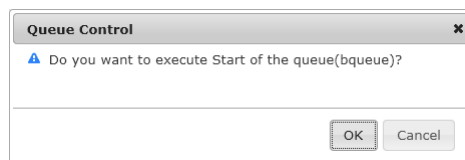


Figure 5.56. [Queue Control] start dialog box

4. When the queue operation is complete, a result message is displayed. Click [OK].



Figure 5.57. [Queue Control] end dialog box

■ Queue operations (shortcut menu)

Operation name	Description
Start/Stop	Sets the queue status to start or stop.
Enable/Disable	Enables or disables the queue status.

5.7.4. Viewing a List of Users

1. Select the [User] tab in the queue list display window.

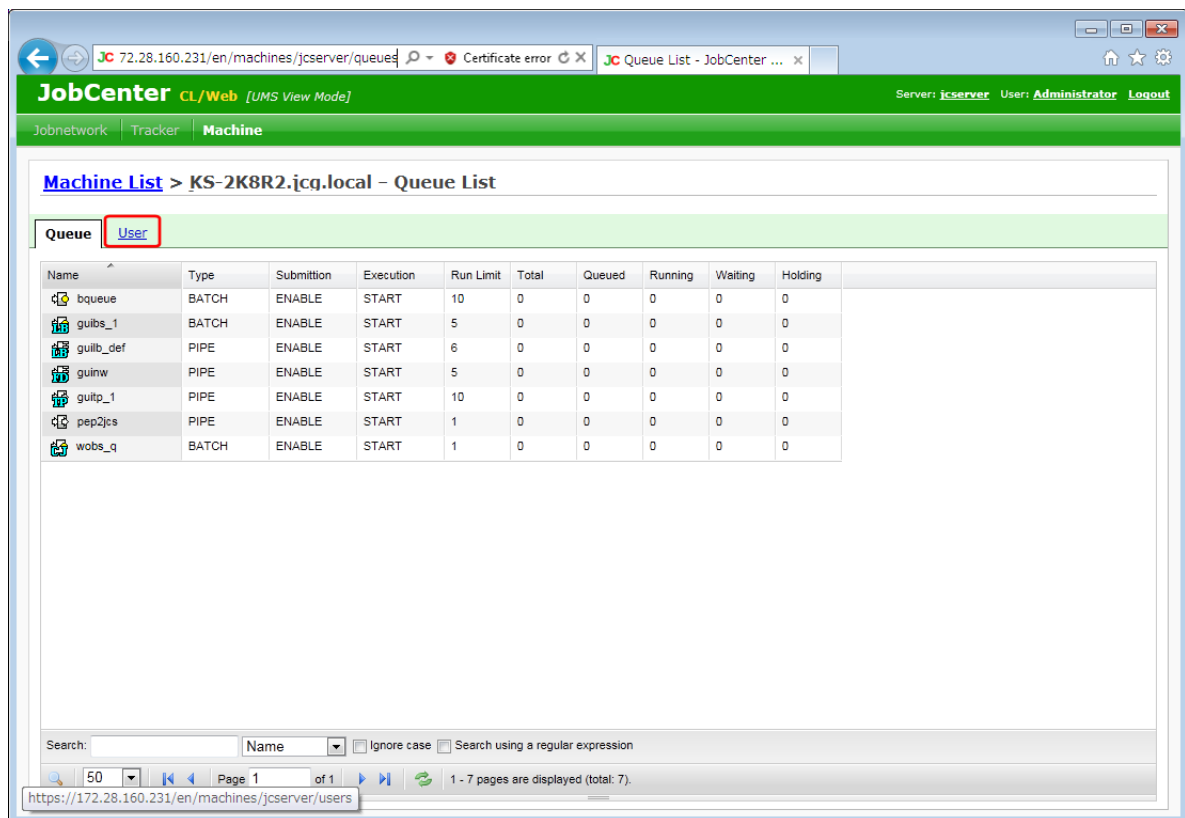


Figure 5.58. Window where the [User] tab is selected

2. A list of users recognized by JobCenter MG/SV is displayed.

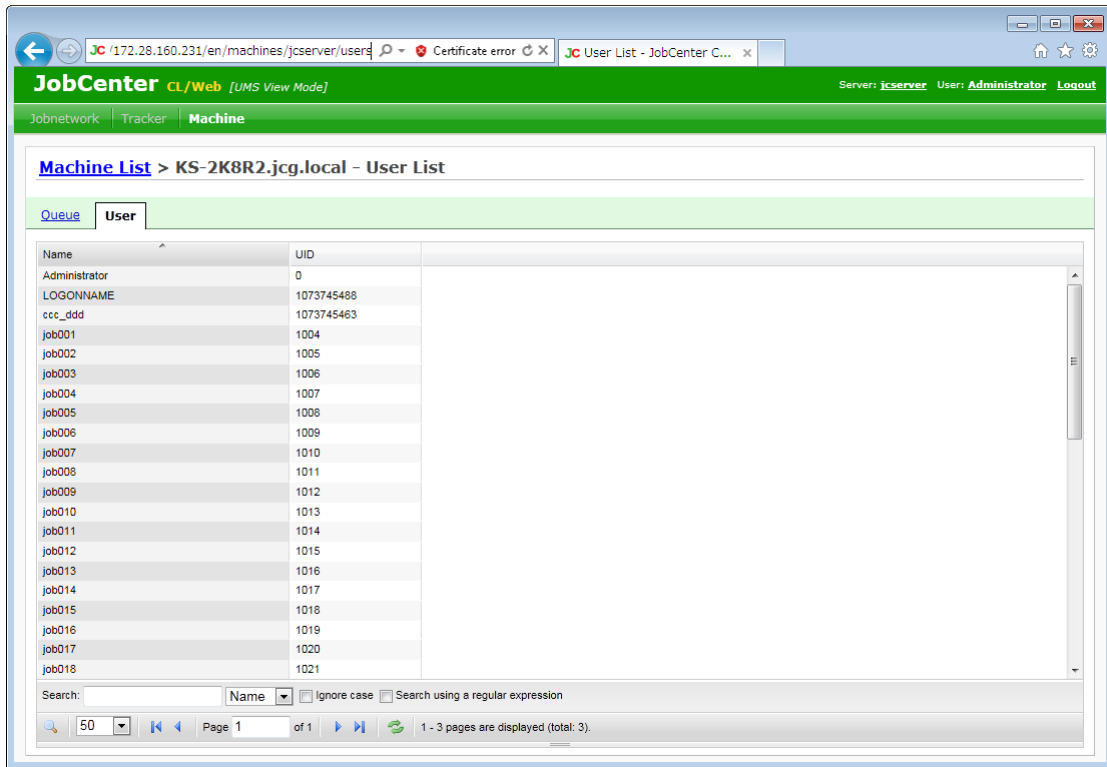


Figure 5.59. Window where the [User] tab is selected

■ User list columns

Column name	Description	Remark
Name	Displays the user name.	
UID	Displays the user ID.	

5.8. Calendar-related Operations

You can view a list of calendars, rules set for calendars, etc.

5.8.1. Viewing a List of Calendars

1. Select [Calendar] on the navigation bar.
2. A list of calendars is displayed.

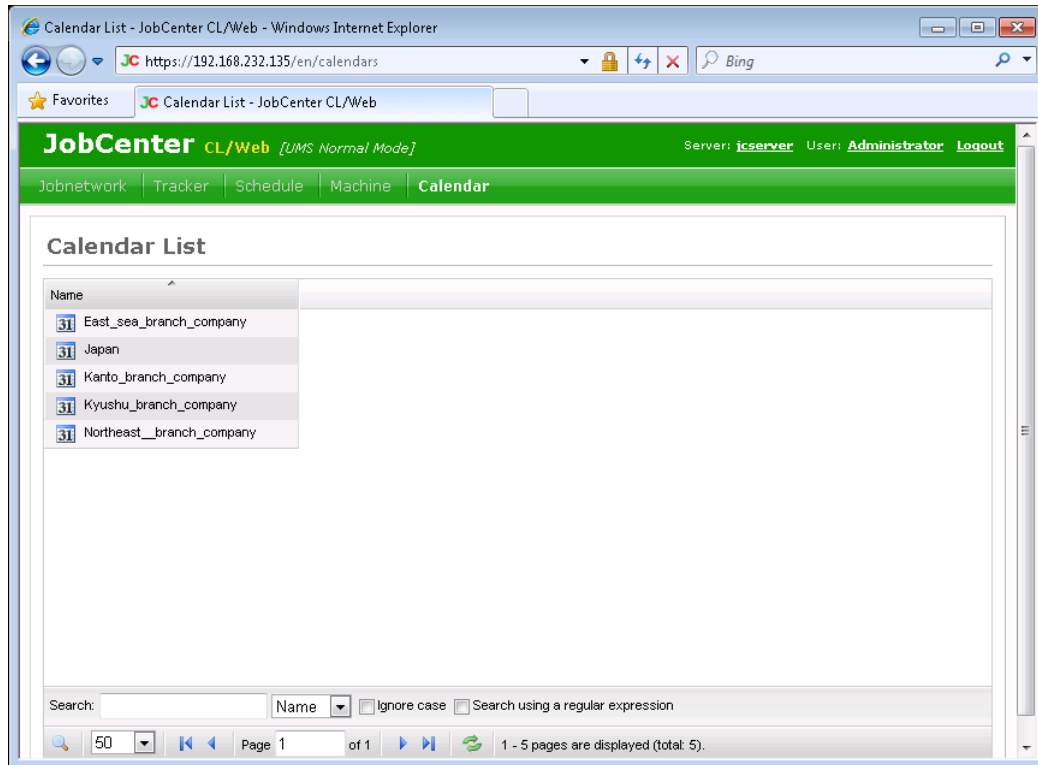


Figure 5.60. Calendar list display window

■Calendar list column

Column name	Description	Remark
Name	Displays the calendar name.	

5.8.2. Viewing the Calendar Definition

1. In the calendar list display window, place the cursor on the name of the calendar whose definition you want to view, and then click it.

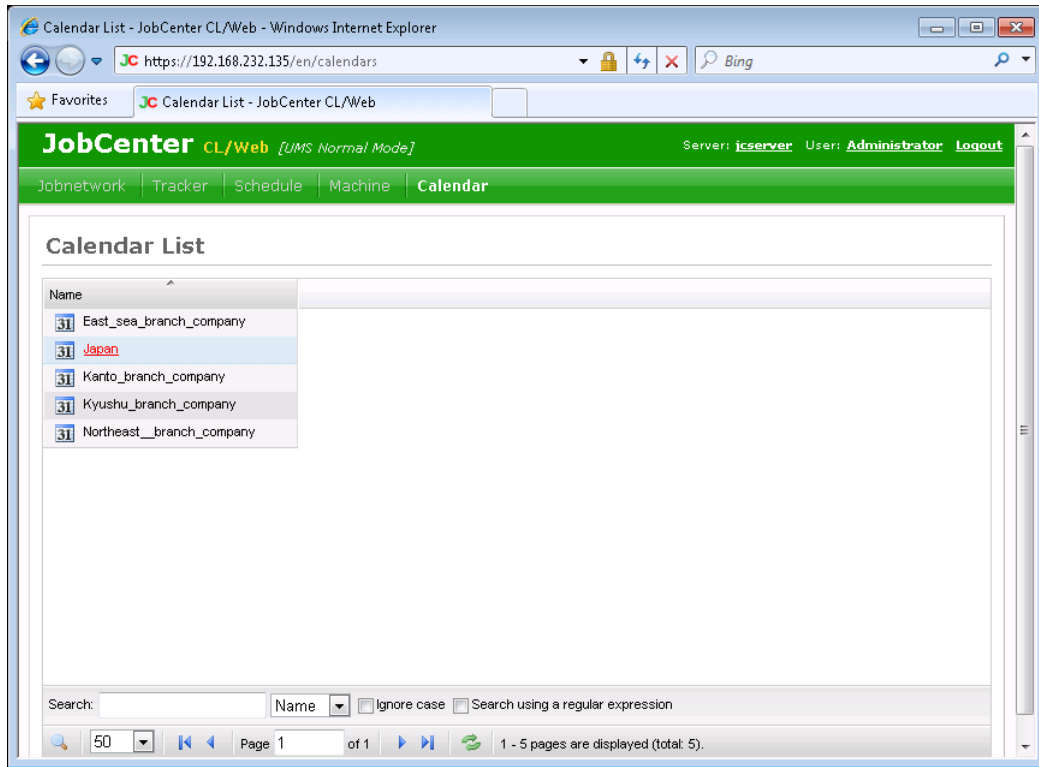


Figure 5.61. Calendar list display window

2. The definition of the selected calendar is displayed.

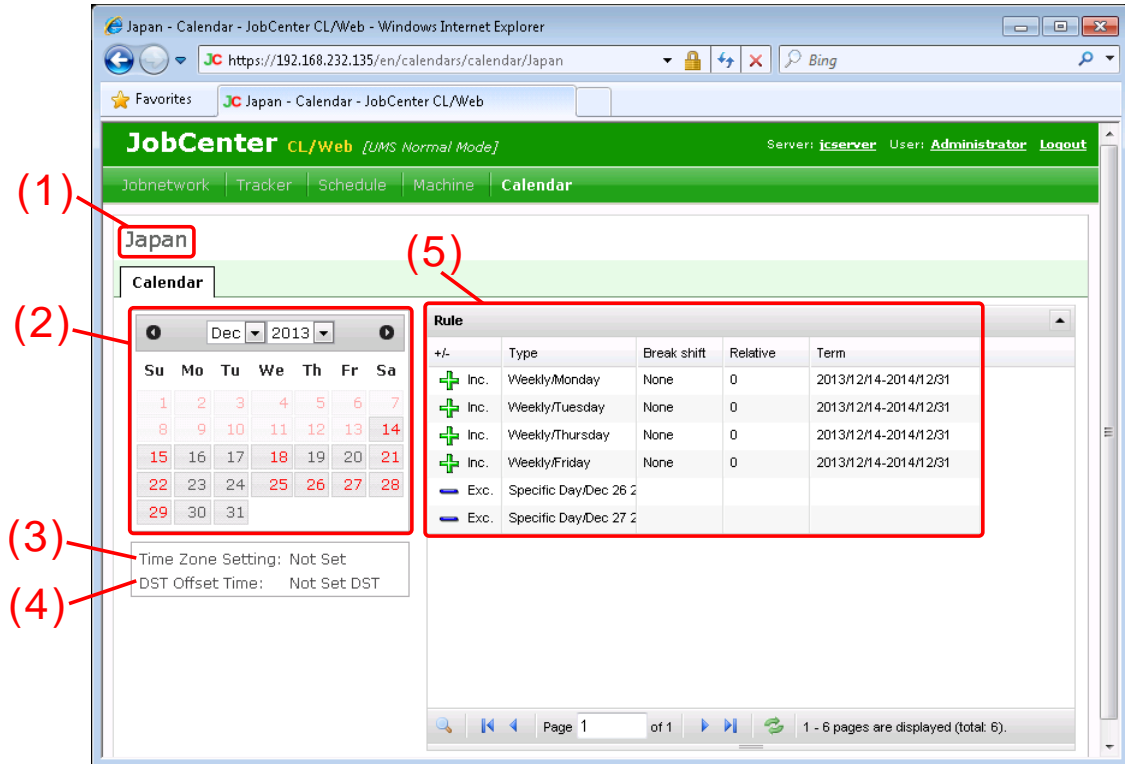


Figure 5.62. Calendar definition display window

■ Calendar definition columns

Basic Operations

Column name	Description	Remark
(1) Calendar definition name	Displays the name of the viewed calendar definition.	
(2) Monthly operating day calendar	Displays the operating-day dates for each month. The characters in black are the registered dates.	
(3) Time zone	Displays the specified time zone.	
(4) Daylight savings time offset	Displays whether the daylight savings time (summer time) is set.	
(5) Rule	Displays the rule of calendar definition. The displayed items are [+/-] (registration/exclusion), [Type], [Break shift], [Relative], and [Term].	

Chapter 6. Details of Other Functions

This chapter describes the other functions of CL/Web in detail.



The descriptions in this chapter assume that SSL is enabled. If SSL is disabled, "https" in the URL of the CL/Web Server shown in the descriptions should be replaced with "http."

6.1. Details of the Mail Transmission Function

The mail transmission function allows the URL shown in the tracker status window to be sent to a specified mail address.

6.1.1. Configuring the SMTP Server

The file to be used to configure the SMTP server is the same as the CL/Web configuration file, `clweb.conf`, that is used when configuring the port to be used. For details, refer to [Section 3.1.1, "CL/Web Configuration File \(clweb.conf\)"](#).

The items to be set differ depending on the settings of the SMTP server to communicate with. Check the settings of the SMTP server in use before configuring it.

The format of the `clweb.conf` file and the items to be set in relation to the SMTP server are as follows.

Table 6.1. Values to be set for the `clweb.conf` parameters (SMTP server specification)

Parameter	Description	Type	Value
<code>\$mail_server</code>	Specify the name of the SMTP server.	Character string	SMTP server name
<code>\$mail_port</code>	Specify the number of the port to be used for mail transmission.	Numerical value	25 (Note 1)
<code>\$mail_domain</code>	Specify the domain name of the SMTP server. The domain name be branded in the HELO.	Character string	SMTP server domain name
<code>\$mail_authentication</code>	Specify authentication for transmission. There is no authentication required, Setting "none".	Character string	One of the "login" or "plain" or "cram_md5" or "none".
<code>\$mail_username</code>	Specify the login user name only when login is specified in <code>\$mail_authentication</code> .	Character string	Login user name
<code>\$mail_password</code>	Specify the login password only when login is specified in <code>\$mail_authentication</code> .	Character string	Login password
<code>\$mail_from</code>	Specify the mail address of the sender.	Character string	Mail address of the sender



- Note 1: Default value
- When a character string is specified, it needs to be enclosed within double quotation marks.
- If a firewall exists in the machine where CL/Web Server is installed, you need to open a hole for the network port to be used by CL/Web Server.

The following is an example configuration.

```
$mail_server = "mail.something.com"
$mail_port = 25
$mail_domain = "something.com"
$mail_authentication = "plain"
$mail_username = "clweb@something.com"
$mail_password = "clwebpass"
$mail_from = "clweb@something.com"
```

6.1.2. Setting Character Code for Email

Although the default character code for sending email is UTF-8, it can be changed using the CL/Web configuration file, clweb.conf.

The format and setting items included in clweb.conf related to this setting are as follows:

Table 6.2. Values to be set for the clweb.conf parameters (for specifying character code for email)

Parameter	Description	Type	Setting value
\$mail_charset_utf8	This specifies whether the character code of email you send is the default UTF-8.	True/false	True (Default)

If \$mail_charset_utf8 is set to false, the following character code corresponding to each language locale is set.

Table 6.3. Correspondence between language locales and character codes in sent email

Language locale	Character code of sent email
ja	ISO-2022-JP
en	US-ASCII
zh	GB18030

6.1.3. Mail Transmission Function

This section describes the mail transmission procedure.

1. Open the tracker window from which you want to send mail, and click the [Mail] button at the upper right of the display table.

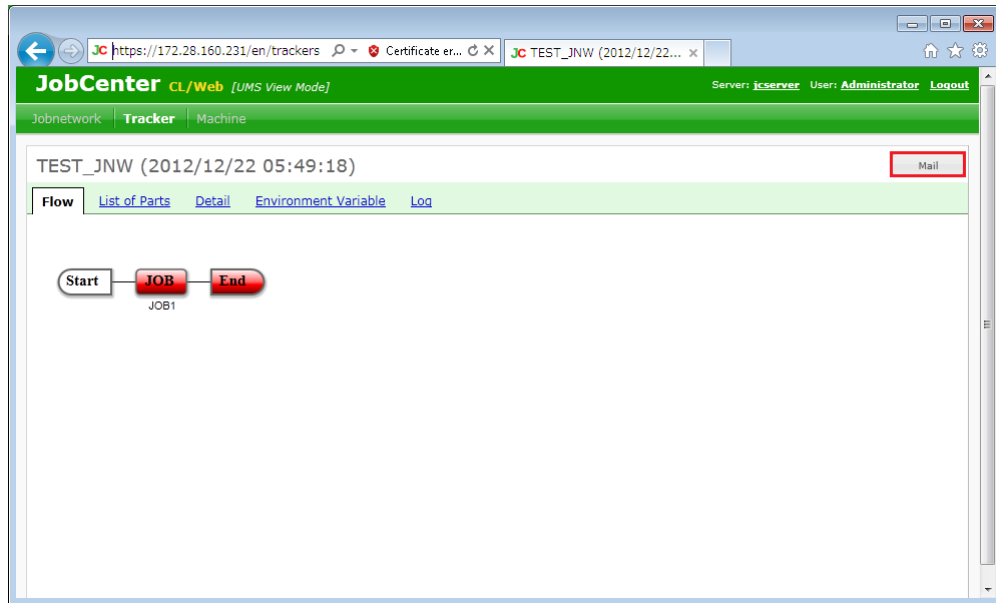


Figure 6.1. Window where the [Mail] button is displayed

2. When the [Send Mail] dialog box opens, choose a mail template, enter the destination address, title, and body text as necessary, and then click [OK].

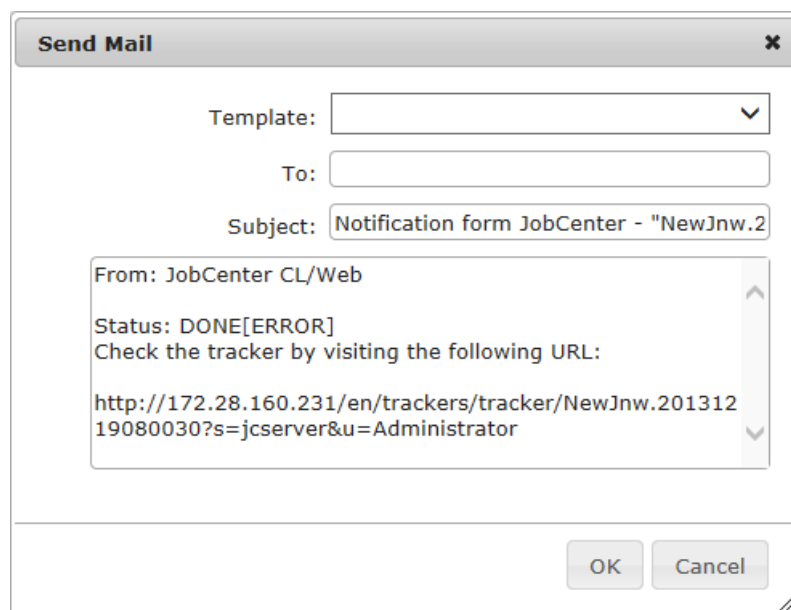


Figure 6.2. [Send Mail] dialog box

The items to be set in the [Send Mail] dialog box are as follows:

- Template

A list of defined email templates is displayed. If the tracker status or the tracker part status is STOP(ERROR), DONE(ERRO), or KILLED, an email template in which \$mail_template_status in the header file indicates NG or a null character is displayed. If the tracker status or the tracker part status is other than STOP(ERROR), DONE(ERRO), or KILLED, an email template in which \$mail_template_status in the header file indicates OK or a null character is displayed.

■ To

Specify the address to which you sent the email. If an email template is selected, the address of the selected email template is displayed. If an email template is undefined, for the second or later transmissions, the address to which you sent mail last is displayed.

Multiple addresses can be specified by delimiting each of them by a comma (,).



If an email template is undefined, the address to which you sent mail last is saved as a cookie in the browser.

■ Subject

Enter the title of the mail to be sent. If an email template is selected, the subject of the selected email template is displayed.

■ Text body

Enter the text body of the mail to be sent. If an email template is selected, the content of the body file of the selected email template is displayed.



If an email template is undefined, by default, the message containing the URL information of the tracker is entered.

3. When the mail transmission confirmation dialog box opens, click [OK].



Figure 6.3. Mail transmission confirmation dialog box

4. When mail transmission succeeds, the mail transmission result dialog box opens.

6.1.4. Setting Email Template

Create and edit an email template by creating or editing an email template file.

Email template files are stored in the following location:

```
%InstallDirectory%\config\mail
```

Edit email template files in the following way:

1. Define the name of the email template file.

■ When the language locale is Japanese:

Header files

```
template01_ja_head.def to template99_ja_head.def
```

Body files

template01_ja_body.def to template99_ja_body.def

■ When the language locale is English:

Header files

template01_en_head.def to template99_en_head.def

Body files

template01_en_body.def to template99_en_body.def

■ When the language locale is Chinese:

Header files

template01_zh_head.def to template99_zh_head.def

Body files

template01_zh_body.def to template99_zh_body.def



- Do not use capital letters in the file names.
- The numeric characters in the file names are from 01 to 99 and assigned in the order of display on the screen.
- There are up to 99 email templates for each language locale.

2. Define the character code of the email template file.

The character code of email template files should be UTF-8.



- Note that characters may be garbled when displayed on the screen if the email template file is created in the character code of Shift-JIS, JIS, or EUC.

3. Define the header file of the email template.

The format and setting items in the header file of email template are as follows:

Table 6.4. Values set to header file of email template

Parameter	Description	Type	Example
\$mail_template_name	Defines the name of the email template.	Character string	Notification of job network normal completion
\$mail_template_status	Defines the status of the email template by specifying one of the following: OK, NG, and null character. (Note 1)	Character string	OK
\$mail_template_sendto	Define the address to which to send email of the email template. Two or more addresses can be specified by	Character string	test@abc.com

	delimiting by using commas (";").		
\$mail_template_subject	Define the subject of the email template.	Character string	Notification form JobCenter - #{@track_id}/ #{@job_name}



■ Note 1: If you want to display the email template when the tracker status or the tracker part status is STOP(ERROR), DONE(ERRO), or KILLED, set the status of the email template to NG.

If you want to display the email template when the tracker status or the tracker part status is other than STOP(ERROR), DONE(ERRO), or KILLED, set the status of the email template to OK.

If you want to display the email template unconditionally, set the status of the email template to null character.

The following is an example of the header file of an email template:

```
$mail_template_name = "Notification of job network normal completion"
$mail_template_status = "OK"
$mail_template_sendto = "test@abc.com"
$mail_template_subject = "Notification form JobCenter - #{@track_id}/#{@job_name}"
```

4. Define the body file of the email template.

There is no predefined format for the body file of the email template. The following is an example:

```
From: JobCenter CL/Web (Notice of normal end)
Status: #{@job_status}
Access the following URL to check the tracker.
#{@url}
```

5. Define the replaceable character strings in the email template file.

Replaceable character strings in the header files and the body files are as follows:

Table 6.5. Replaceable character strings in the email template file

Setting	Description	Type	Example replacement
#{@url}	The URL of reference screen is output.	Character string	https://clwebhost/en/ trackers/parts/UJOB/ Jnw.20130829055101/ JOB1?s=machine&u=user
#{@track_id}	The tracker ID is output.	Character string	Jnw.20130829055101
#{@job_name}	The job network name or the part name is output.	Character string	JOB1
#{@job_status}	The tracker status name or the part status name is output.	Character string	DONE [ARCHIVED]

6.2. Macro Functions

This section describes the CL/Web macros that can be used with the MG/SV mail transmission function.

6.2.1. Macro Functions (MG/SV)

By using the %trkpath% and %partspath% macros that can be used in the title and text body of the mail transmission function of JobCenter MG, the URL for referencing a tracker from the CL/Web Server can be included in the text body of the mail.

■ Setting the macro

When using a macro, you need to specify "https://<address or URL>/en".

Specify the macro as follows:

https://<CL/Web Server host name or IP address>/en%trkpath%



For details about the macros, refer to Section 13.5, "List of Macros That Can Be Used in Subjects and Messages" in <Basic Guide>.

■ Case study

To send the URL of the tracker window where an error occurred to the person in charge

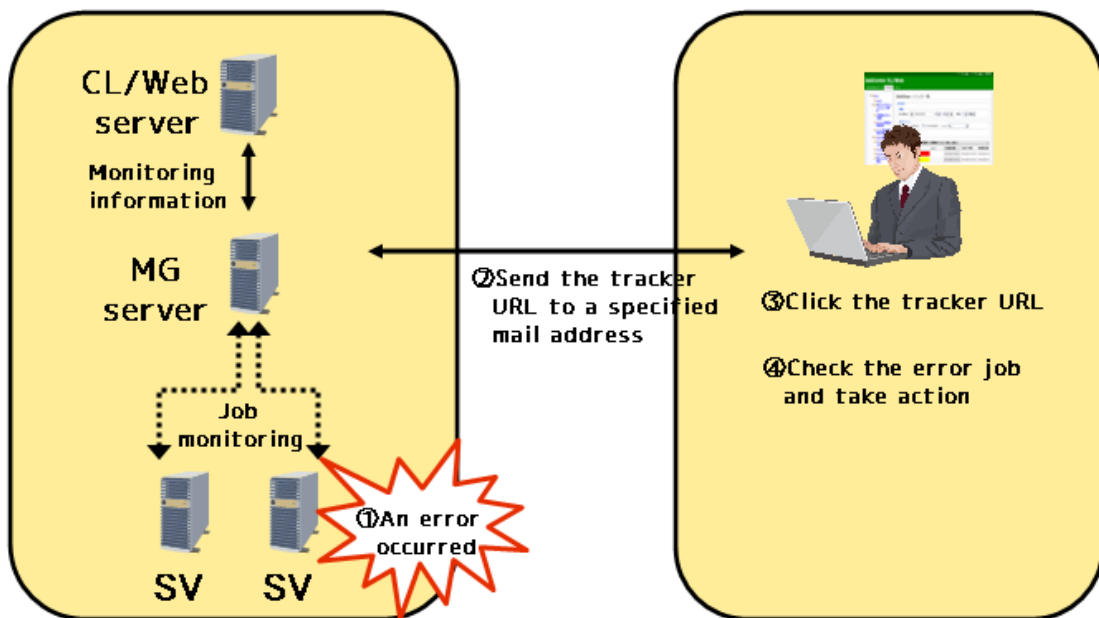


Figure 6.4. Case study 1

- Case study 1 is described below.

1. A job error occurs in JobCenter SV.

2. The MG mail function sends the person in charge a mail notification in which the tracker URL information of CL/Web is written by the macro.
3. Upon receiving the mail, the person in charge clicks the tracker URL.
4. The web browser starts, and the person in charge checks the error job and takes action.

■ Setting examples

Item to be set	Value
CL/Web machine name	jobmachine
CL/Web machine IP address	192.168.20.1
JobCenter SV user name	testuser
Error job name	testjob
Tracker name	testjob.20120615140000

■ Mail setting example in JobCenter CL/Win

1. Set the macro for the machine name in the title and the macros for the URL of the tracker window and the URL information of the tracker part window in the text body in advance. For information about the mail settings for JobCenter CL/Win, refer to Section 13.2, "Reporting an Error to a Specified Destination by Mail" in <Basic Guide>.



Figure 6.5. Mail setting window example for CL/Win

Item	Example
Subject	JobCenter %occur%error occurred.
Message	For information about the error, check the following: <ul style="list-style-type: none"> ■ error occurred tracker URL

Item	Example
	<p>https://192.168.20.1/en%trkpath%</p> <ul style="list-style-type: none"> error occurred tracker job URL <p>https://192.168.20.1/en%partspath%</p>

2. If an error occurs, the function of MG sends mail to the address set in step 1.

- (Example) Received mail

```

Title:
An error occurred in JobCenter jobmachine.

Text body:
For information about the error, check the following:

- Error tracker URL
https://192.168.20.1/en/trackers/tracker/testjob.20120615140000?
s=jobmachine&u=testuser
- Error tracker part URL
https://192.168.20.1/en/trackers/parts/UJOB/testjob.20120615140000/JOB1?
s=jobmachine&u=testuser
    
```

3. Upon receiving the mail, the person in charge clicks the URL. When the CL/Web login window opens, the person in charge logs in by entering the password for the displayed server name.



By default, the window has the server name and user name already entered.

6.2.2. Event Linkage

By using the %trkpath% and %partspath% macros that can be used for event linkage, the URL for referencing a tracker from the CL/Web Server can be output to an event message.

For information about event linkage settings, refer to Chapter 11, "Event Linkage" in <Environment Guide>.

In the following case study, an example of linkage with the HPOM product is described.

■ Case study

To view error information on the web browser window in the case of an event

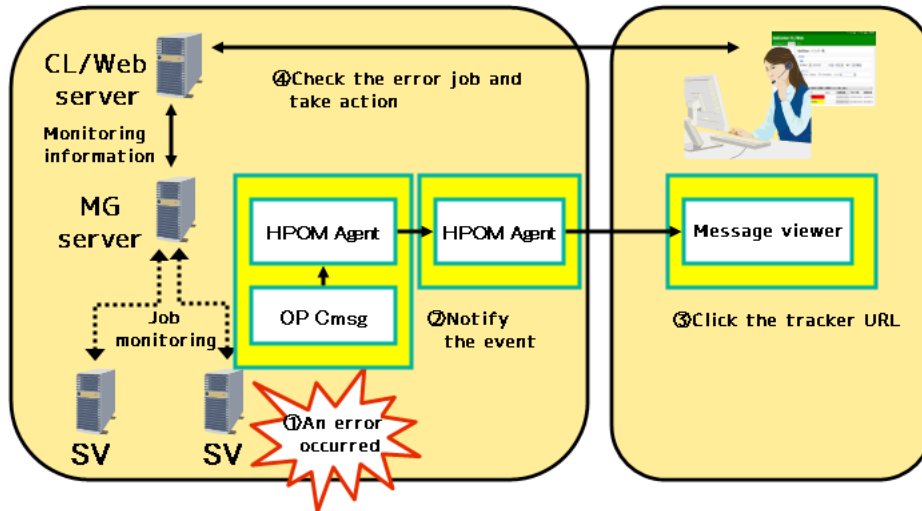


Figure 6.6. Case study 2

■ Case study 2 is described below.

1. A job error occurs in JobCenter SV.
2. The HPOM product notifies the event.
3. The tracker URL information of CL/Web is displayed in the message of the message viewer.
4. The person in charge clicks the URL or copies and pastes the URL to the address bar of the web browser to check the error and take action.

■ Setting examples

Item to be set	Value
CL/Web machine name	jobmachine
CL/Web machine IP address	192.168.20.1
JobCenter SV user name	testuser
Error job name	testjob
Tracker name	testjob.20120615140000

1. In the event definition file, specify the format of the event to be output to the event transmission destination.

When a unit job ends with an error

```
EVENT jnwsv.uj.err 0x2003 JNW_UNITJOB_ERROR "https://192.168.20.1/en%trkpath%"
```

2. If an event occurs, the URL of the tracker window is displayed on the integrated monitoring terminal. The person in charge clicks the URL or copies and pastes the URL to the address bar of the web browser to execute the browsing.
3. When the CL/Web login window opens, the person in charge logs in by entering the password for the displayed server name.

6.3. Other User Monitoring Function

This section describes other user monitoring function.

6.3.1. Function Overview

Other user monitoring function enables referencing and operating the definition information of other users if permitted by the permission.

6.3.2. Procedure for Switching to Other Users

Switch to other users as follows:

1. After logging in to the CL/Web Server, click the user name at the upper right corner on the screen to display the user information screen.

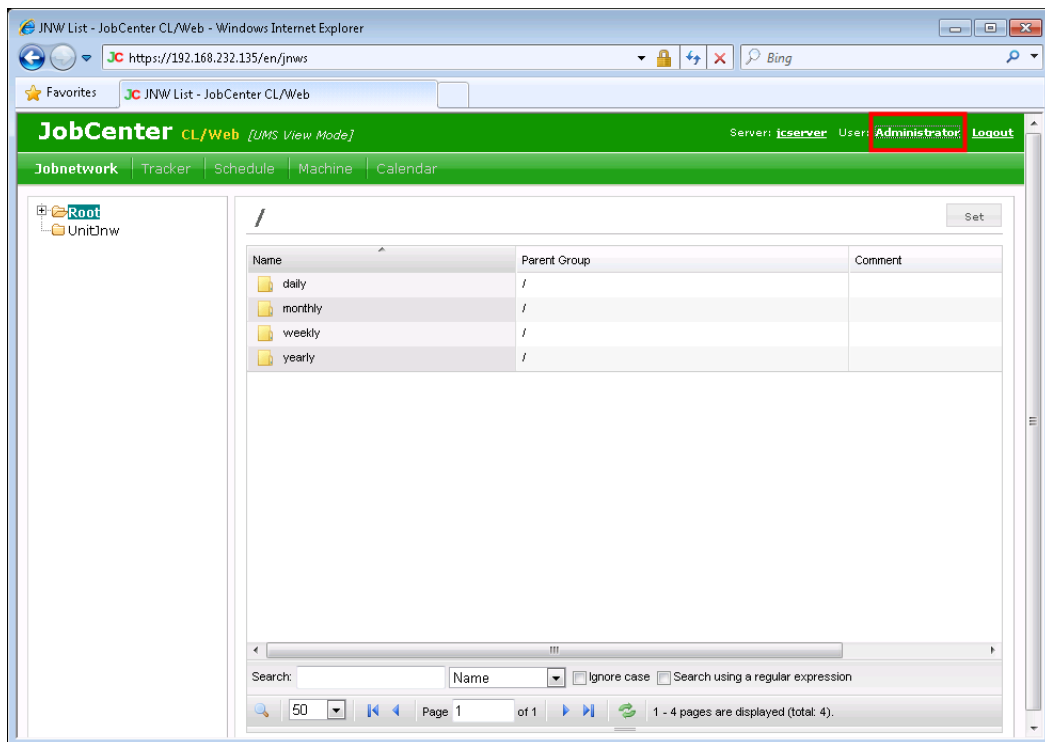


Figure 6.7. Clicking user name

2. In the [User Information] dialog box, select the user name to which you want to switch from the pull-down menu of [Select User], and then click [OK].

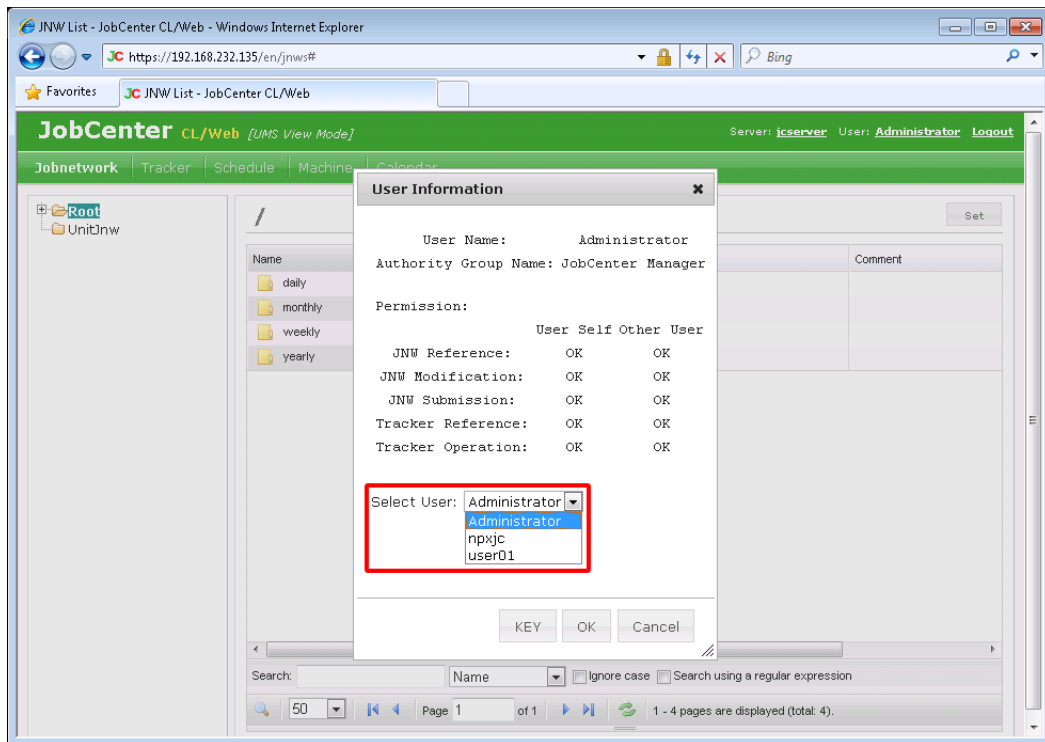


Figure 6.8. Select user name

3. You can refer to the definition and other information of the user you have switched to.

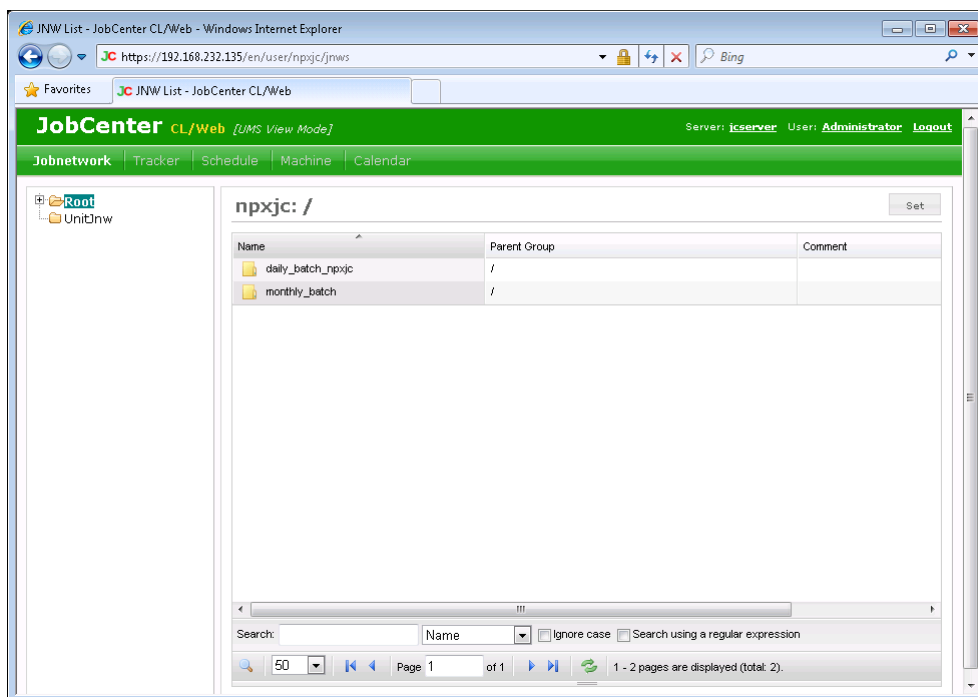


Figure 6.9. After switching to another user

6.4. WebAPI Function

This section describes the Web-based API function that uses the HTTP/HTTPS protocol.

6.4.1. Function Overview

The main WebAPI functions are shown below:

Table 6.6. WebAPI functions

Category	Function	Description
Job network reference	Obtains job network list.	For details, refer to Section 6.4.4.1, "Obtaining Job Network List" .
Job network operation	Submits a job network immediately.	For details, refer to Section 6.4.4.2, "Immediate Job Network Submission" .
Tracker reference	Obtains a tracker list.	For details, refer to Section 6.4.4.3, "Obtaining Tracker List" .
	Obtains a tracker part list.	For details, refer to Section 6.4.4.4, "Obtaining Tracker Part List" .
	Obtains a tracker status.	For details, refer to Section 6.4.4.5, "Obtaining Tracker Status" .
	Draws tracker flows.	For details, refer to Section 6.4.4.6, "Obtaining Tracker Flow" .
Tracker operation	Operates tracker parts.	For details, refer to Section 6.4.4.7, "Execution of Tracker Part Control Instruction" .
	Operates trackers.	For details, refer to Section 6.4.4.8, "Execution of Tracker Control Instruction" .

6.4.2. Overview of WebAPI Introduction

By introducing WebAPI, you can construct job network reference and immediate submission, tracker status reference, and other functions with your own screens.

You can construct your own screens using application servers with CGI and provide them to your clients.

The API functions can be used only while the CL/Web Server and JobCenter are running. If there is any inconsistency in the operation of API functions, check the startup status of the CL/Web Server, MG/SV, etc.

■ Effects of WebAPI introduction

Previously, it was necessary to log in to the CL/Web and perform operation based on its screen specifications. If you introduce WebAPI, you can provide your own screens to your clients. This will enable the clients to display screens specialized for specific trackers and perform various necessary operations together.

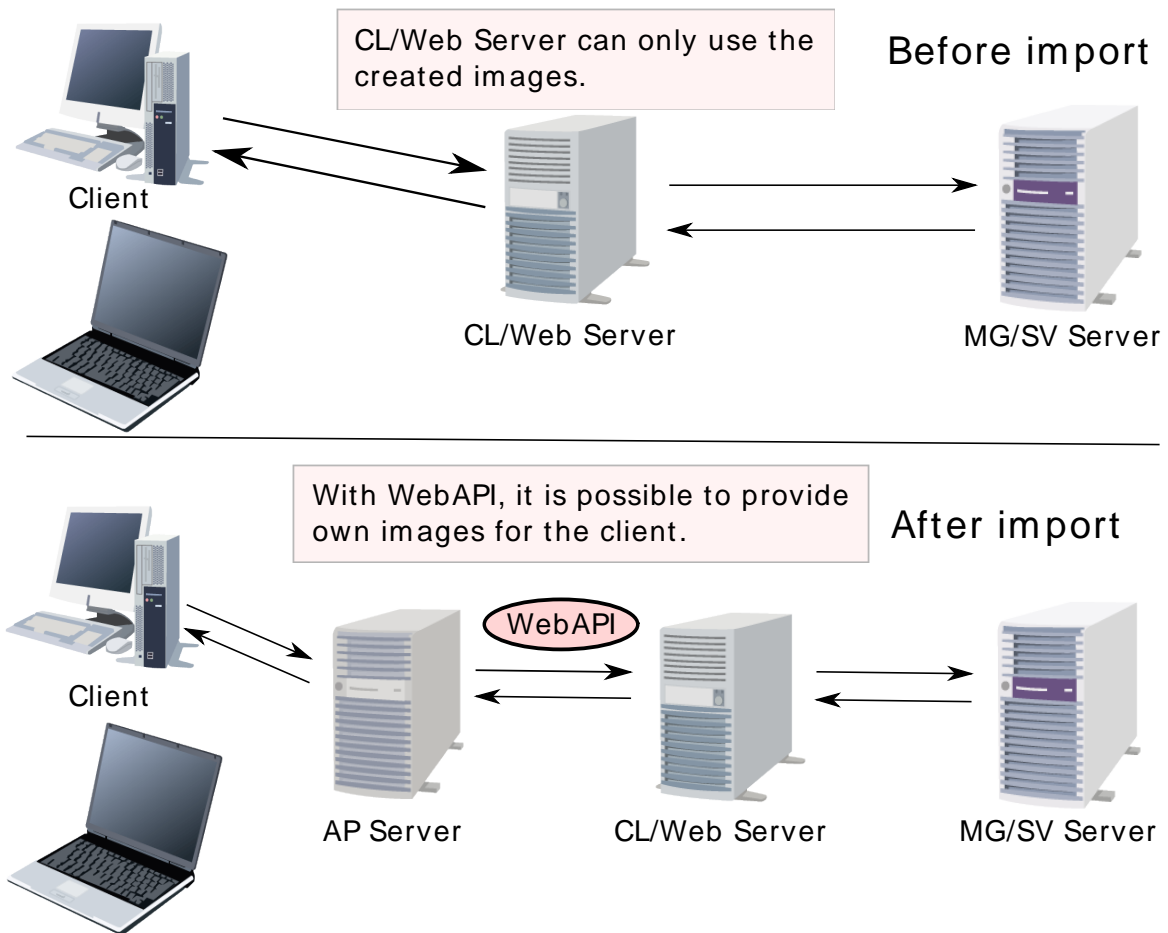


Figure 6.10. Effects of WebAPI introduction

General users access AP servers from clients, and developers create screens that handle those accesses. In the development of those screens, JobCenter information can be included via the CL/Web Server by using WebAPI, if necessary.

6.4.3. Flow of WebAPI Utilization

The CL/Web Server provides Web API functions that use HTTP.

If you send HTTP requests to the CL/Web Server in a specific format, you can obtain and control the information described in [Section 6.4.1, "Function Overview"](#).

This WebAPI supports two types of authentication methods: API access key authentication and HTTP authentication.

6.4.3.1. API Access Key Authentication

For authentication of MG/SV users who use WebAPI, an API access key is set to the relevant HTTP request parameter. The API access key is created at the first login to the CL/Web Server and is retained in the CL/Web Server.

The API access key consists of 40-byte character string. When requested by the user, it is initialized and a new 40-byte character string is created.

The API access key is not a key created by encoding user information, password information, etc. Therefore, the password and user name cannot be restored even if the API access key is divulged.



If the user password is changed in MG/SV, log in to CL/Web as the user whose password is changed. After the login, the API key and the new password are associated and enabled. If you use the API key before logging in to CL/Web, the HTTP request causes an error.

6.4.3.2. Referencing the API Access Key

Reference an access key as follows:

1. After logging in to the CL/Web Server, click the user name at the upper right corner on the screen to display the User Information dialog box.

Details of Other Functions

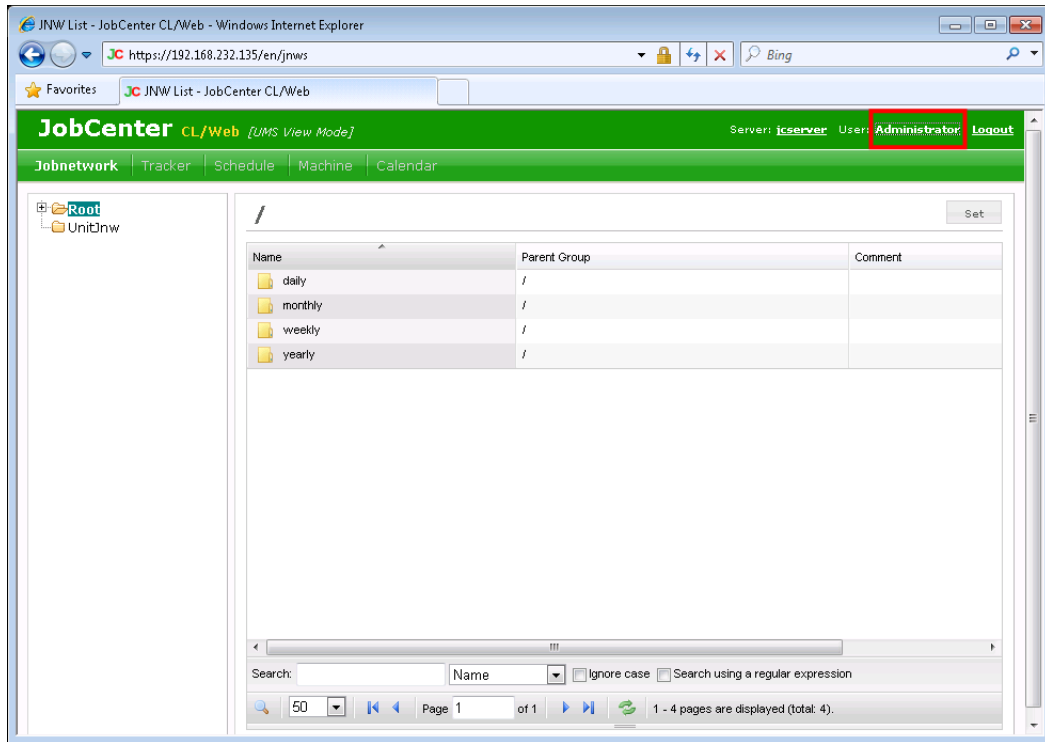


Figure 6.11. Click the user name

2. Click the [KEY] button on the user information screen to display the access key information screen.

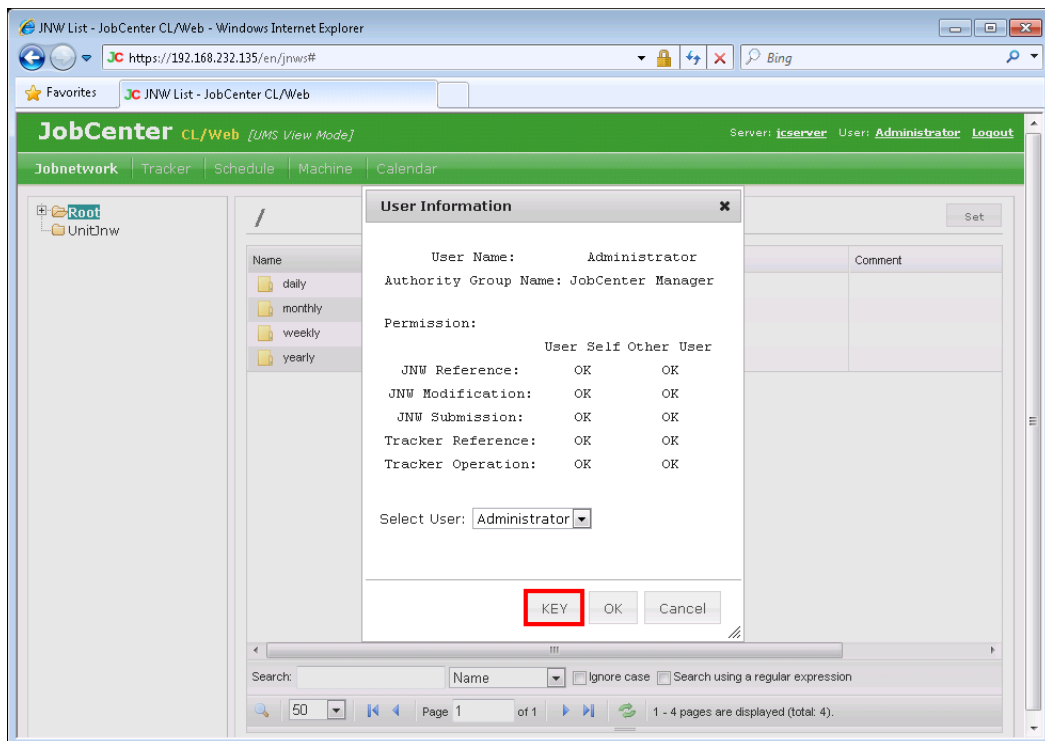


Figure 6.12. Clicking the [KEY] button

3. The access key is the character string of 40 characters displayed to the right of API access key on the API Access Key Information window.

If you want to initialize the key, click the [Reset] button. A new key is created and the old key is no longer available. (After clicking the [Reset] button, check the API access key again.)

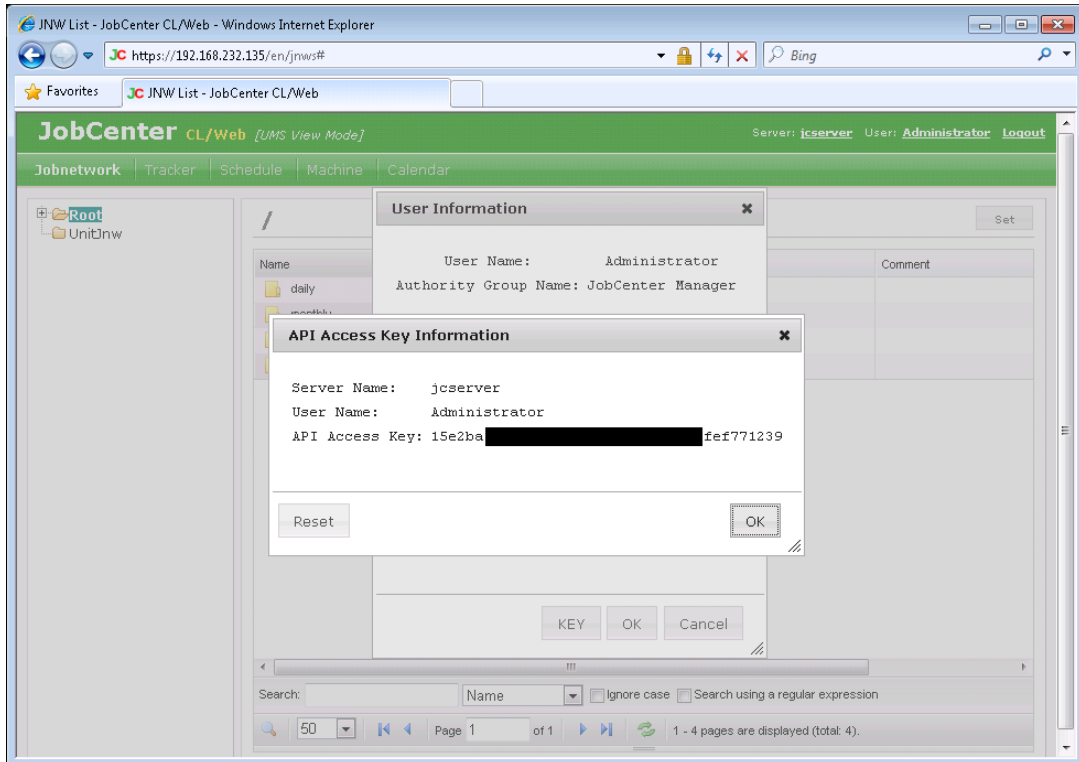


Figure 6.13. API Access Key Information window

6.4.3.3. HTTP Authentication (Basic Authentication)

For authentication of MG/SV users who use WebAPI, you can use HTTP authentication where authentication is done based on the MG/SV user name and the password after the HTTP request.

If an access is done with the target MG/SV host name being specified in the HTTP request, the status code 401 is returned in the response header and, if it is received by the browser, a screen for inputting the user name and password is displayed. If the user name and the password are authenticated correctly, the specified API function is performed.

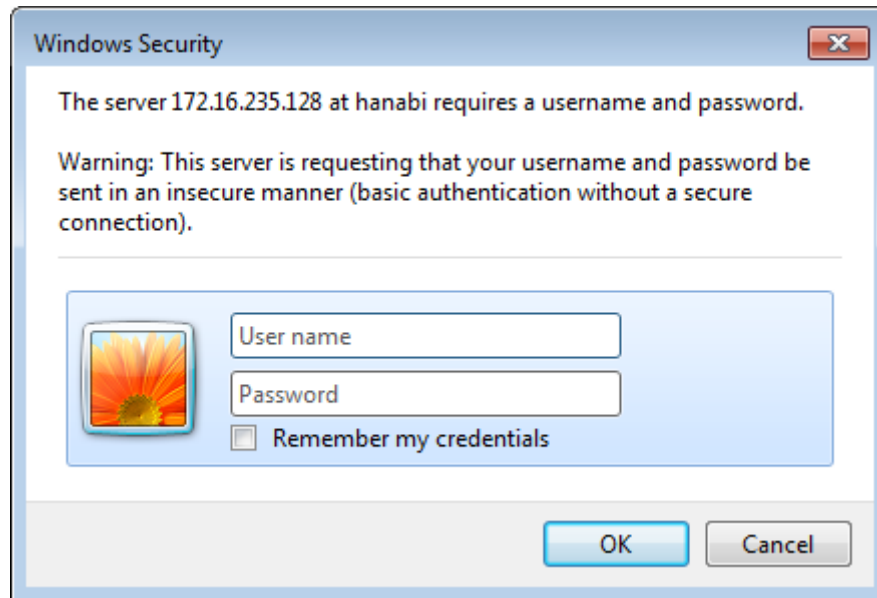


Figure 6.14. HTTP authentication screen

Access can be done with the user name and the password specified in the request header. In this case, the requested response can be obtained without the status code 401 being returned.

Because Basic authentication is used, specify the Base64-encoded information (Authorization: Basic xxxxxxxxxxxx) in the request header. For Ruby, the following code can specify it:

```
response = Net::HTTP.start($hostname, $port) {|http|
  req = Net::HTTP::Get.new(URI.escape(uri_str))
  req.basic_auth username, password if username && password
  http.request(req)
}
```



For authentication, specify one of "API access key" or "MG/SV host name".

6.4.4. WebAPI Function Details

This section describes the HTTP request specifications for the functions described in [Section 6.4.1, "Function Overview"](#) respectively.

In the WebAPI functions provided by CL/Web, information is acquired and instructions are executed by executing the GET method of HTTP/1.1. The request header (the request line and Host) of GET method is described below as the specifications. The request body does not need to be specified.



If subdirectories are specified, the host name specified for the Host also needs to include subdirectories. For details about the subdirectories, refer to [Section 3.1.4, "Setting Subdirectory of URL"](#).

Specify the parameter and the query in the request line of the Get method. Be sure to specify the parameter. The query can be omitted for some items. A sample is shown below:

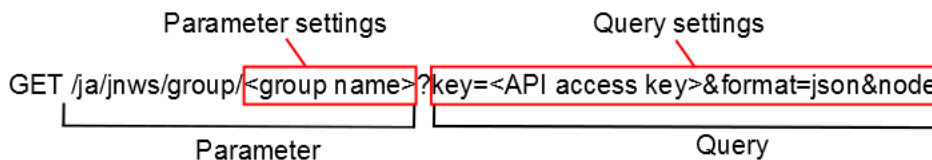


Figure 6.15. GET method setting items



(1) The parameter <language locale> described in the request specifications is common in all the functions. Specify one of the following:

- "ja" is specified for <language local>
-> Information can be obtained in Japanese.
- "en" is specified for <language local>
-> Information can be obtained in English.
- "zh" is specified for <language local>
-> Information can be obtained in Chinese.

(2) The parameter <host name> described in the request specifications is common in all the functions. Specify the host name as follows:

- <host name>
-> Host name of the CL/Web Server[:<port number>]

6.4.4.1. Obtaining Job Network List

■ Function description

This is the API that enables to obtain a job network list. Data can be obtained in the json format.

For example, the following screen can be created.

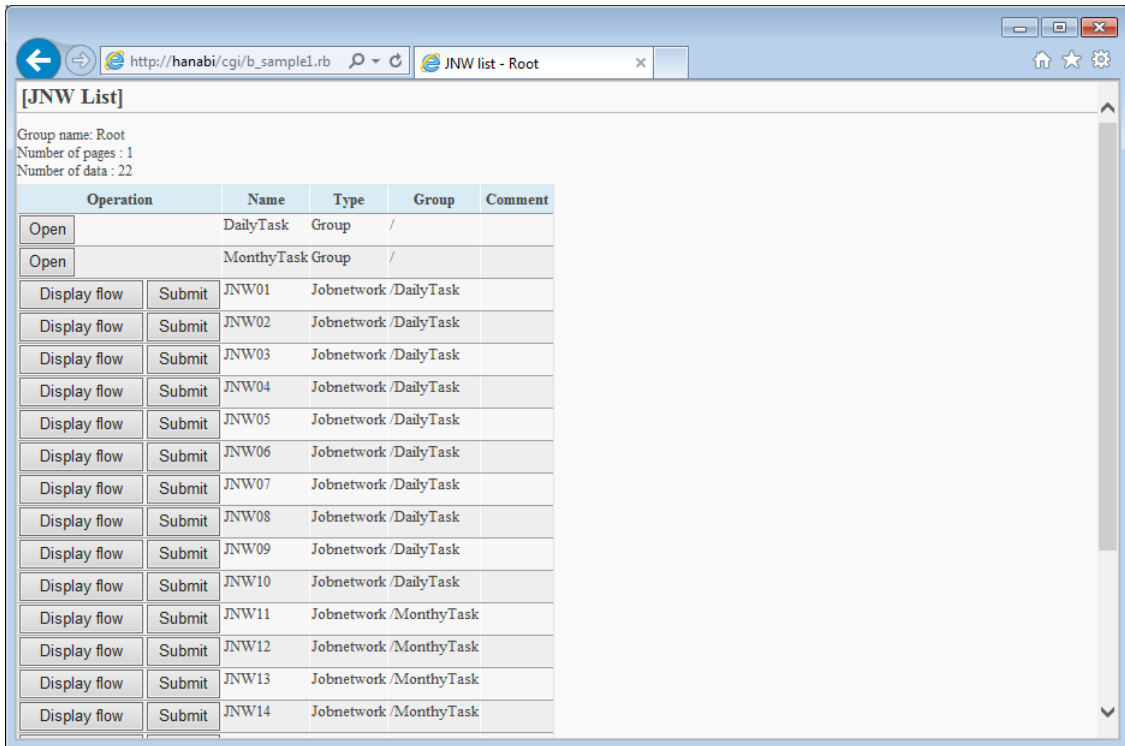


Figure 6.16. Example of job network list display

■ HTTP request specifications

- For API access key authentication

```
GET /<language locale>/jnws/group/<group name>?key=<API access key>&format=json&page=<page number>&pr=<number of elements per page>&node=all
HTTP/1.1
Host: <host name>
```

URL sample

```
https://hostname.com/en/jnws/group/Root/Newgroup1?
key=dsfvoeishfhseiofhoseihfiosheiofhsioehfi&format=json&page=3&pr=50&node=all
```

- For HTTP authentication

```
GET /<language locale>/jnws/group/<group name>?mghost=<MGSV server address>&format=json&page=<page number>&pr=<number of elements per page>&node=all
HTTP/1.1
Host: <host name>
Authorization: Basic xxxxxxxxxxxx
```

URL sample

```
https://hostname.com/en/jnws/group/Root/Newgroup1?  
mghost=mghostname.com&format=json&page=3&pr=50&node=all
```

■ Parameter

Parameter details to be set are described below.

■ <group name>

Specify the group name to be obtained, from the root.

Example: /Root/Newgroup1 (Display the list of job networks under Newgroup1, which is associated with Root)

■ Query

Query details to be set are described below.

■ key query

Specify the API access key when authentication by API access key is performed.

■ mghost query

Specify the host name (IP address) of the MGSV server when HTTP authentication is performed.

■ format query

Specify "json".

■ page query

Specify the page number as an integer number that is one or more.

If the specified page does not exist, no element is displayed.

■ pr query

Specify the number of elements displayed per page as an integer number that is one or more.

■ node=all query (can be omitted)

If you want to obtain job networks that are associated with groups still more under the specified group, specify the query "node=all". If this query is not specified, only information immediately under the group name can be obtained.

■ HTTP response specifications

■ Normal end

• Header part

Status code: 200

• Body section

When the process ends normally, the json data as shown below is returned to the body section.

→"page": Page number

→"total": Number of obtained data items

→"rows": Obtained data row. Data is stored in the form of "rows":[{"cell":[...]}, {"cell":[...]},.....].

→"cell": One data item of the job network list. Data is stored in the form of "cell": ["name","type","associated group","comment"].

An example of data returned to the body section is shown below.

```
{
  "page": 1,
  "total": 13,
  "rows": [
    {
      "cell": [
        "group 1",
        "group",
        "/",
        "comment 1"
      ]
    },
    {
      "cell": [
        "NewJnw10",
        "job network",
        "/group 1",
        "comment 2"
      ]
    },
    ...
    {
      "cell": [
        "network 3",
        "job network",
        "/group 1",
        "comment 2"
      ]
    }
  ]
}
```

■ Abnormal end

When the process ends abnormally, the following response is returned.

Table 6.7. Error list

Status code	Error message	Error cause
400	{"msg":"Failed in obtaining data: ... }	The specified group does not exist.
401	HTTP Basic: Access denied.	HTTP authentication failed.

Details of Other Functions

403	{"msg":"Not authorized to reference the job network."}	The user is not authorized to reference the JNW.
403	{"msg":"API access key is wrong."}	The access key is not valid.
403	{"msg":"Communication with server failed. Confirm that JobCenter MG/SV is running."}	MG/SV has not been started.
403	{"msg":"The user name or the password is wrong."}	The user name or the password input for API authentication or HTTP authentication is wrong.

■ Notes

The obtained json data contains not only job networks but also groups and shortcuts.

6.4.4.2. Immediate Job Network Submission

■ Function description

Specified job networks can be immediately submitted.

For example, the following screens can be included as a button operation.

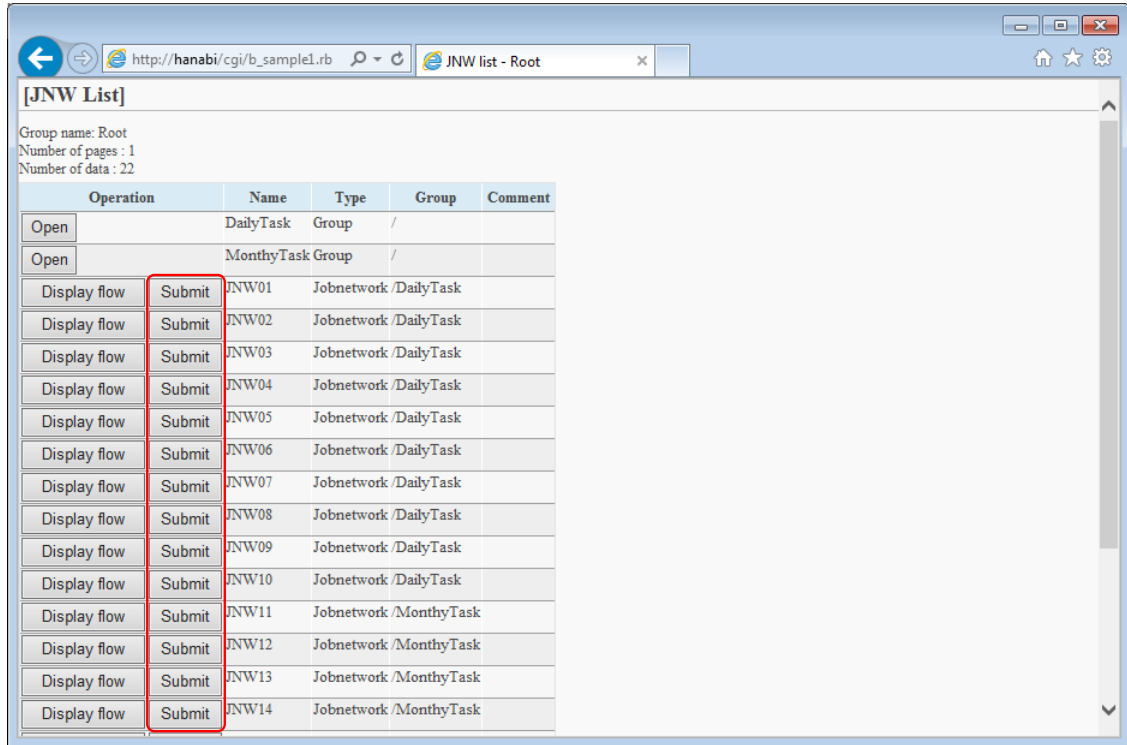


Figure 6.17. Example of immediate job network submission

■ HTTP request specifications

- For API access key authentication

```
GET /<language locale>/jnws/jnw/<job network name>/submit?key=<API access key>&format=json&jobparam=<Job parameter>&comment=<comment>&stime=<submit time>&initflag=<prior set> HTTP/1.1
Host: <host name>
```

URL sample

```
https://hostname.com/en/jnws/jnw/NewJnw1/submit?
key=dsfvoeishfhseiofhoseihfiosheiofhsoehfi&format=json&jobparam=params_test&comment=test_comment&
16:21&initflag=hold
```

- For HTTP authentication

```
GET /<language locale>/jnws/jnw/<job network name>/submit?mgghost=<MGSV server address>&format=json&jobparam=<Job parameter>&comment=<comment>&stime=<submit time>&initflag=<prior set> HTTP/1.1
Host: <host name>
Authorization: Basic xxxxxxxxxxxx
```

URL sample

```
https://hostname.com/en/jnws/jnw/NewJnw1/submit?  
mghost=mghostname.com&format=json&jobparam=params_test&comment=test_comment&stime=2013/06/26  
16:21&initflag=hold
```

■ Parameter

Parameter details to be set are described below.

- <job network name>

Specify the name of the job network to be submitted immediately.

■ Query

Query details to be set are described below.

- key query

Specify the API access key when authentication by API access key is performed.

- mghost query

Specify the host name (IP address) of the MGSV server when HTTP authentication is performed.

- format query

Specify "json".

- jobparam query (can be omitted)

Specify the value to be set to the job parameter.

- comment query (can be omitted)

Specify comments.

- stime query (can be omitted)

Specify the job network submission time. The format is "YYYY/MM/DD hh:mm".

YYYY: Calendar year (four-digit number)

MM: month (two-digit number)

DD: day (two-digit number)

hh: hour (two-digit number)

mm: minute (two-digit number)

* For consistency of the number of digits, specify "02", not "2".

This query can be omitted. If this is not set, the job network is submitted immediately.

- initflag query (can be omitted)

Specify the initial job status. You can specify "hold", "skip", or "off". This parameter can be omitted.

"hold": The job starts in the hold state.

"skip": The job starts in the skip state.

"off": This specifies normal execution.

This query can be omitted. If this is not set, the operation is that of "off".

■ HTTP response specifications

■ Normal end

- Header section

Status code: 200

- Body section

When the process ends normally, the json data as shown below is returned to the body section.

->"msg": Success message of "jnw control ok"

->"trkid": Tracker ID

An example of data returned to the body section is shown below.

```
{"msg": "jnw control ok", "trkid": "NewJnw1.20130704024501"}
```

■ Abnormal end

When the process ends abnormally, the following response is returned.

Table 6.8. Error list

Status code	Error message	Error cause
400	{"msg": "Failed in control: ... }	The specified JNW does not exist.
401	HTTP Basic: Access denied.	HTTP authentication failed.
403	{"msg": "Not authorized to submit the job network."}	The user is not authorized to submit JNWs.
403	{"msg": "API access key is wrong."}	The access key is not valid.
403	{"msg": "Communication with server failed. Confirm that JobCenter MG/SV is running."}	MG/SV has not been started.
403	{"msg": "The user name or the password is wrong."}	The user name or the password input for API authentication or HTTP authentication is wrong.

■ Notes

None

6.4.4.3. Obtaining Tracker List

■ Function description

A list of specified trackers can be obtained.

For example, the following screen can be created.

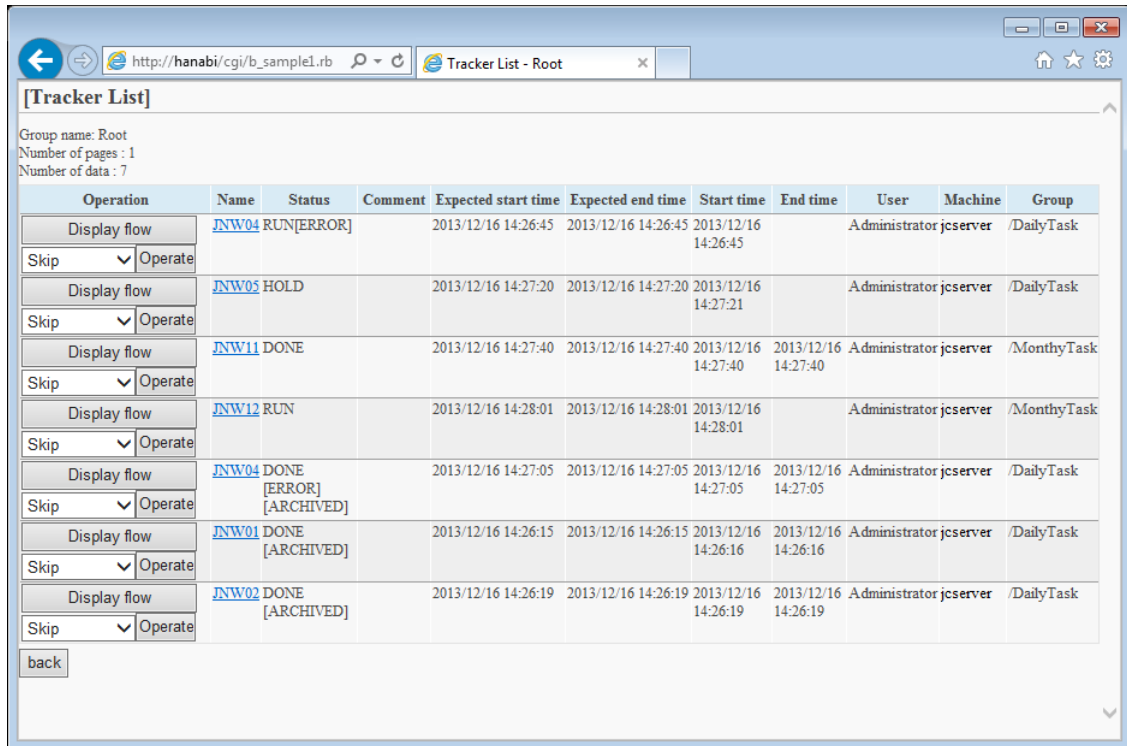


Figure 6.18. Example of tracker list display

■ HTTP request specifications

- For API access key authentication

```
GET /<language locale>/trackers/group/<group path>?key=<API access key>&format=json&page=<page number>&pr=<number of elements per page>&node=all&subjnw=1&start_date=<display start date>&start_time=<display start time>&period_unit=<display start format>&period_num=<numerical specification> HTTP/1.1
Host: <host name>
```

URL sample

```
https://hostname.com/en/trackers/group/Root/NewGroup1?key=dsfvoeishfhseiofhoseihfiosheiofhsoehfi&format=json&page=3&pr=50&node=all&subjnw=1&start_date=
```

- For HTTP authentication

```
GET /<language locale>/trackers/group/<group path>?mghost=<MGSV server address>&format=json&page=<page number>&pr=<number of elements per page>&node=all&subjnw=1&start_date=<display start date>&start_time=<display start time>&period_unit=<display start format>&period=<numerical specification> HTTP/1.1
Host: <host name>
Authorization: Basic xxxxxxxxxxxx
```

URL sample

```
https://hostname.com/en/trackers/group/Root/NewGroup1?
mghost=mghostname.com&format=json&page=3&pr=50&node=all&subjnw=1&start_date=2013/07/13&start_time=
```

■ Parameter

Parameter details to be set are described below.

- <group path>

Specify the path for the group to which the referenced tracker belongs.

■ Query

Query details to be set are described below.

- key query

Specify the API access key when authentication by API access key is performed.

- mghost query

Specify the host name (IP address) of the MGSV server when HTTP authentication is performed.

- format query

Set "json".

- page query

Specify the page number as an integer number that is one or more.

If the specified page does not exist, no element is displayed.

- pr query

Specify the number of elements displayed per page as an integer number that is one or more.

- node=all query (can be omitted)

If you want to obtain all the tracker information under the specified tracker, specify node=all.

- subjnw=1 query (can be omitted)

Specify subjnw=1 if you want to obtain sub job network.

- start_date query

Specify the tracker display start date. The format is "YYYY/MM/DD". (Be sure to include slashes ("/").)

Example: If trackers on July 13th in 2013 and later are referenced, input "2013/07/13" to this query.

- start_time query (can be omitted)

Specify the tracker display start time. The format is "hh:mm". (Be sure to include a colon (":").)

Example: If trackers from 9:45 are referenced, input "09:45" to this query.

This query can be omitted. If omitted, information is referenced by the default value "00:00".

■ period_num query

Specify a numerical value in the unit specified in the unit query.

Example: If "month" is specified in the period_unit query and "2" is specified in the period_num query, trackers during two months from the date specified in the date query are displayed.

■ period_unit query

Specify the format for the period from the start date. You can select from 5 formats, "month", "week", "day", "hour", and "min".

month: Trackers during the "period_num" months from the start date and time are displayed. Specify a number between 1 and 3.

week: Trackers during the "period_num" weeks from the start date and time are displayed. Specify a number between 1 and 5.

day: Trackers during the "period_num" days from the start date and time are displayed. Specify a number between 1 and 7.

hour: Trackers during the "period_num" hours from the start date and time are displayed. Specify a number between 1 and 23.

min: Trackers during the "period_num" minutes from the start date and time are displayed. Specify a number between 1 and 59.

■ HTTP response specifications

■ Normal end

- Header section

Status code: 200

- Body section

When the process ends normally, the json data as shown below is returned to the body section.

->"page": Page number

->"total": Number of obtained data items

->"summary": The summary of trackers is stored here, and "planned number of executions", "number of processes in execution", "number of executions normally ended", and "number of executions abnormally ended" are stored in the [] in this order.

->"rows": Data row of the obtained tracker list. The data is stored in the form of "rows":[{"status":..., "id":xx, "cell":[...]}, {"status":..., "id":xx, "cell":[...]},].

->"status": Status of tracker

->"id": Number in tracker list (in the rows)

->"cell": Detailed tracker information. The data is stored in the form of "cell": ["job network name","execution status","status","tracker ID","comment","planned start time","planned end time","actual start time","actual end time","executing user","executing server name","associated group"].

An example of data returned to the body section is shown below.

```
{
  "page": 1,
  "total": 49,
  "summary": [
    1,
    1,
    42,
    3,
    2
  ],
  "rows": [
    {
      "status": "run,D",
      "id": 0,
      "cell": [
        "jc-11623_jnw_waitexfile",
        "dialog",
        "status-dia",
        "jc-11623_jnw_waitexfile.20130611052202",
        "",
        "2013/06/11 14:22:02",
        "2013/06/11 14:22:02",
        "2013/06/11 14:22:03",
        "",
        "username",
        "hostname.com",
        "/jc-11623_grp"
      ]
    },
    {
      "status": "run,fr",
      "id": 1,
      "cell": [
        "jc-11655_jnw",
        "STOP(ERROR)",
        "status-stop",
        "jc-11655_jnw.20130411064108",
        "",
        "2013/04/11 15:41:08",
        "2013/04/11 15:41:08",
        "2013/04/11 15:41:08",
        "",
        "username",
        "hostname.com",
        "/jc-11655_grp"
      ]
    }
  ]
}
```



```

},
...
{
  "status": "done,ad",
  "id": 48,
  "cell": [
    "jc-11651_jnw",
    "DONE [ARCHIVED]",
    "status-done",
    "jc-11651_jnw.20130409023122",
    "",
    "2013/04/09 11:31:22",
    "2013/04/09 11:31:22",
    "2013/04/09 11:31:23",
    "2013/04/09 11:31:29",
    "username",
    "hostname.com",
    "/jc-11651_grp"
  ]
}
]
}
}

```

■ Abnormal end

When the process ends abnormally, the following response is returned.

Table 6.9. Error list

Status code	Error message	Error cause
400	{"msg":"Failed in obtaining data: ..."}	The specified group does not exist.
401	HTTP Basic: Access denied.	HTTP authentication failed.
403	{"msg":"Not authorized to reference the tracker."}	The user is not authorized to reference the tracker.
403	{"msg":"API access key is wrong."}	The access key is not valid.
403	{"msg":"Communication with server failed. Confirm that JobCenter MG/SV is running."}	MG/SV has not been started.
403	{"msg":"The user name or the password is wrong."}	The user name or the password input for API authentication or HTTP authentication is wrong.
403	{"msg":"Failed in setting the period."}	The specified date and time are wrong.
403	{"msg":"Set period_num to an integer 1 or more."}	A non-integer is set to period_num.
403	{"msg":"Set period_num to a period from xxx to zzz."}	A numerical value outside the specified range is input to period_num.

403	<code>{"msg": "Set period_unit to month, week, day, hour, or min."}</code>	The unit specified for period_unit is wrong.
-----	--	--

■ Notes

Trackers before the start date and time are not displayed. If trackers you want to display are not displayed, check the start date and time.

6.4.4.4. Obtaining Tracker Part List

■ Function description

A list of specified tracker part can be obtained.

For example, the part list screen in the following screen can be created (the section surrounded by the red frame).

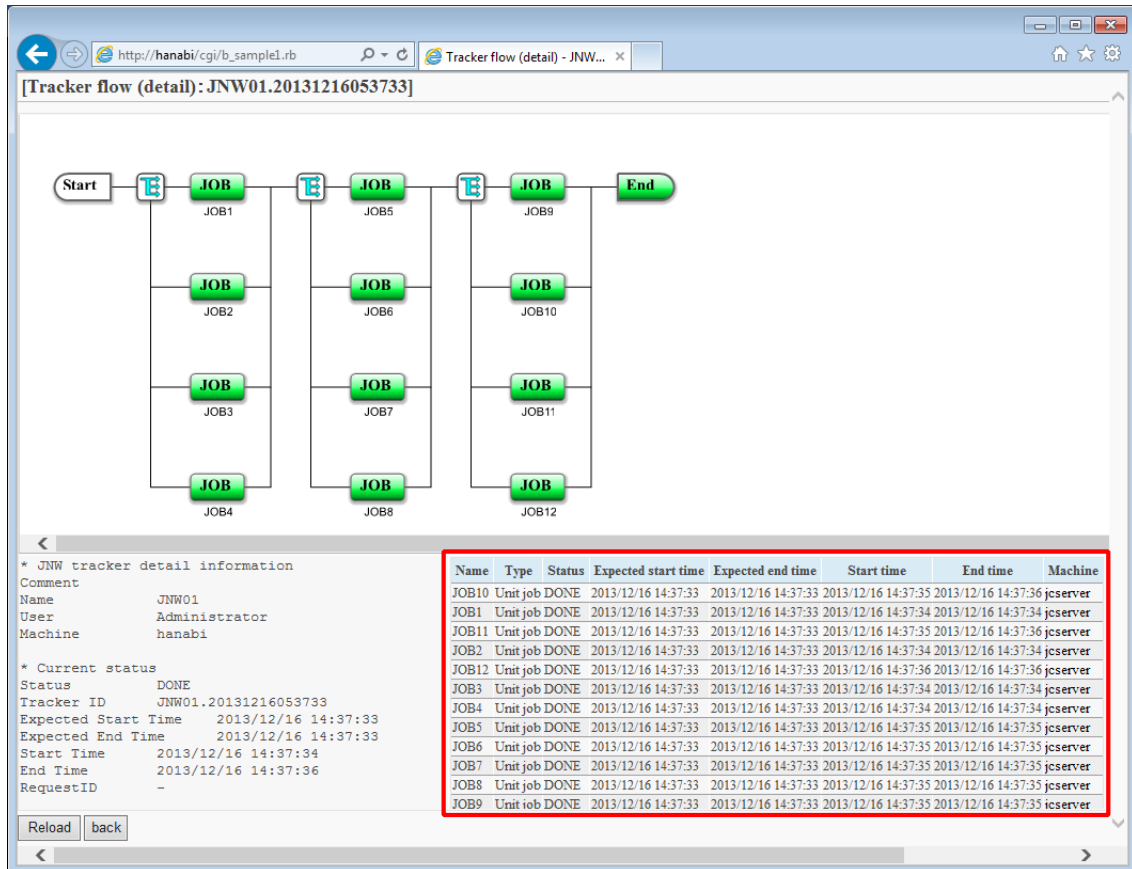


Figure 6.19. Example of tracker details display

■ HTTP request specifications

- For API access key authentication

```
GET /<language locale>/trackers/tracker/<tracker ID>?key=<API access key>&format=json&page=<page number>&pr=<number of elements per page>&view=parts_table HTTP/1.1
Host: <host name>
```

URL sample

```
https://hostname.com/en/trackers/tracker/jc-11651_jnw.20130409023122?key=dsfvoeishfhseiofhoseihfiosheiofhsoehfi&format=json&page=3&pr=50&view=parts_table
```

- For HTTP authentication

```
GET /<language locale>/trackers/tracker/<tracker ID>?mghost=<MGSV server address>&format=json&page=<page number>&pr=<number of elements per page>&view=parts_table HTTP/1.1
```

```
Host: <host name>  
Authorization: Basic xxxxxxxxxxxx
```

URL sample

```
https://hostname.com/en/trackers/tracker/jc-11651_jnw.20130409023122?  
mghost=mghostname.com&format=json&page=3&pr=50&view=parts_table
```

■ Parameter

Parameter details to be set are described below.

■ <Tracker ID>

Specify the tracker ID.

■ Query

Query details to be set are described below.

■ key query

Specify the API access key when authentication by API access key is performed.

■ mghost query

Specify the host name (IP address) of the MGSV server when HTTP authentication is performed.

■ format query

Specify json.

■ page query

Specify the page number as an integer number that is one or more.

If the specified page does not exist, no element is displayed.

■ pr query

Specify the number of elements displayed per page as an integer number that is one or more.

■ view query

Specify parts_table.

■ HTTP response specifications

■ Normal end

• Header section

Status code: 200

• Body section

When the process ends normally, the json data as shown below is returned to the body section.

->"page": Page number

->"total": Number of obtained data

->"jnwstatus": The status of job networks is stored here. The data is stored in the form of "jnwstatus": {"status":status,"extstat":execution status}.

->"rows": Data row of the obtained tracker part list. The data is store in the form of "rows":[{"status":····,"id":xx,"cell": [····]},{ "status":····,"id":xx,"cell":[····]},].

->"status": Status of part

->"id": Number in part list (in the rows)

->"cell": Detailed tracker part information. The data is stored in the form of "cell":["part name","English type","Japanese type","Japanese status","English status","planned start time","planned end time","actual start time","actual end time","executing server name"].

An example of data returned to the body section is shown below.

```
{
  "page": 1
  "total": 100,
  "jnwstatus": {
    "status": "done",
    "extstat": "ad"
  },
  "rows": [
    {
      "status": "done,-",
      "id": 0,
      "cell": [
        "JOB98",
        "UJOB",
        "unit job",
        "DONE",
        "status-done",
        "2013/04/11 15:52:18",
        "2013/04/11 15:52:18",
        "2013/04/11 16:40:22",
        "2013/04/11 16:40:34",
        "hostname.com"
      ]
    },
    {
      "status": "done,-",
      "id": 1,
      "cell": [
        "JOB99",
        "UJOB",
        "unit job",
        "DONE",
        "status-done",
        "2013/04/11 15:52:18",
        "2013/04/11 15:52:18",
        "2013/04/11 16:40:34",
        "2013/04/11 16:40:46",
        "hostname.com"
      ]
    }
  ]
}
```

```

    ]
  },
  ...
  {
    "status": "done,-",
    "id": 99,
    "cell": [
      "JOB97",
      "UJOB",
      "unit job",
      "DONE",
      "status-done",
      "2013/04/11 15:52:18",
      "2013/04/11 15:52:18",
      "2013/04/11 16:40:09",
      "2013/04/11 16:40:21",
      "hostname.com"
    ]
  }
],
}

```

■ Abnormal end

When the process ends abnormally, the following response is returned.

Table 6.10. Error list

Status code	Error message	Error cause
400	{"msg":"The specified tracker does not exist."}	The specified group does not exist.
401	HTTP Basic: Access denied.	HTTP authentication failed.
403	{"msg":"Not authorized to reference the tracker."}	The user is not authorized to reference the tracker.
403	{"msg":"API access key is wrong."}	The access key is not valid.
403	{"msg":"Communication with server failed. Confirm that JobCenter MG/SV is running."}	MG/SV has not been started.
403	{"msg":"The user name or the password is wrong."}	The user name or the password input for API authentication or HTTP authentication is wrong.

■ Notes

None

6.4.4.5. Obtaining Tracker Status

■ Function description

The status (detailed parameters) of the specified tracker can be obtained.

For example, the status display section in the following screen can be created. (The section surrounded by the red frame)

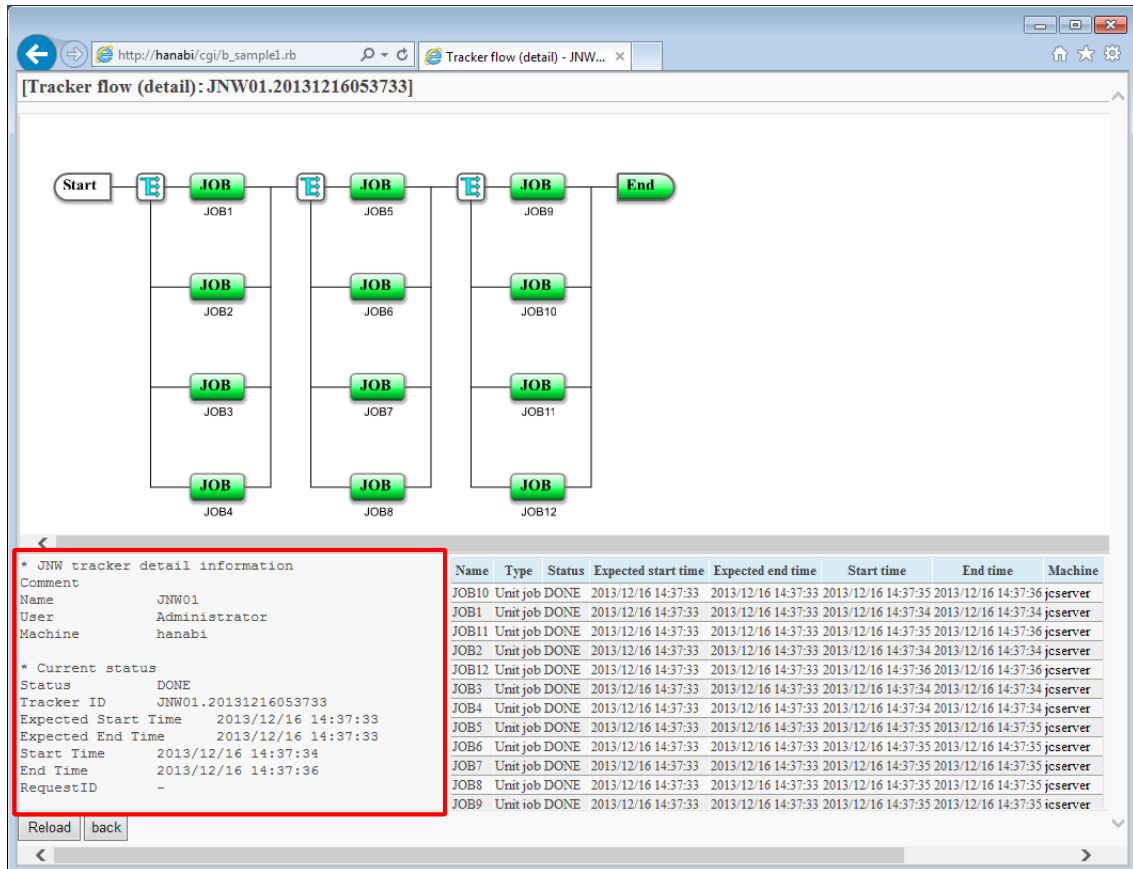


Figure 6.20. Example of tracker details display

■ HTTP request specifications

- For API access key authentication

```
GET /<language locale>/trackers/tracker/<tracker ID>?key=<API access key>&format=json&view=detail HTTP/1.1
Host: <host name>
```

URL sample

```
https://hostname.com/en/trackers/tracker/jc-11651_jnw.20130409023122?key=dsfvoeishfhseiofhoseihfiosheiofhsoehfi&format=json&view=detail
```

- For HTTP authentication

```
GET /<language locale>/trackers/tracker/<tracker ID>?mghost=<MGSV server address>&format=json&view=detail HTTP/1.1
Host: <host name>
Authorization: Basic xxxxxxxxxxxx
```

URL sample

```
https://hostname.com/en/trackers/tracker/jc-11651_jnw.20130409023122?  
mghost=mghostname.com&format=json&view=detail
```

■ Parameter

Parameter details to be set are described below.

■ <Tracker ID>

Specify the tracker ID.

■ Query

Query details to be set are described below.

■ key query

Specify the API access key when authentication by API access key is performed.

■ mghost query

Specify the host name (IP address) of the MGSV server when HTTP authentication is performed.

■ format query

Specify json.

■ view query

Specify detail.

■ HTTP response specifications

■ Normal end

• Header section

Status code: 200

• Body section

When the process ends normally, the json data as shown below is returned to the body part.

->"detail": Tracker information is stored here.

An example of data returned to the body section is shown below.

```
{ "detail":  
  "*JNW tracker detailed information  
  comment  
  Name          jc-11661_archive_jnw  
  User          username1  
  Machine       hostname.com  
  
  * Current status  
  Status        DONE [ARCHIVED]
```



```
Tracker ID      jc-11661_archive_jnw.20130411065218
planned start time  2013/04/11 15:52:18
planned end time    2013/04/11 15:52:18
actual start time   2013/04/11 15:52:20
actual end time     2013/04/11 16:40:59
request ID         "-"
}
```

■ Abnormal end

When the process ends abnormally, the following response is returned.

Table 6.11. Error list

Status code	Error message	Error cause
400	{"msg":"The specified tracker does not exist."}	The specified group does not exist.
401	HTTP Basic: Access denied.	HTTP authentication failed.
403	{"msg":"Not authorized to reference the tracker."}	The user is not authorized to reference the tracker.
403	{"msg":"API access key is wrong."}	The access key is not valid.
403	{"msg":"Communication with server failed. Confirm that JobCenter MG/SV is running."}	MG/SV has not been started.
403	{"msg":"The user name or the password is wrong."}	The user name or the password input for API authentication or HTTP authentication is wrong.

■ Notes

None

6.4.4.6. Obtaining Tracker Flow

■ Function description

This can obtain a script that draws the flow of the specified tracker.

For example, the flow in the following screen can be displayed. (The section surrounded by the red frame)

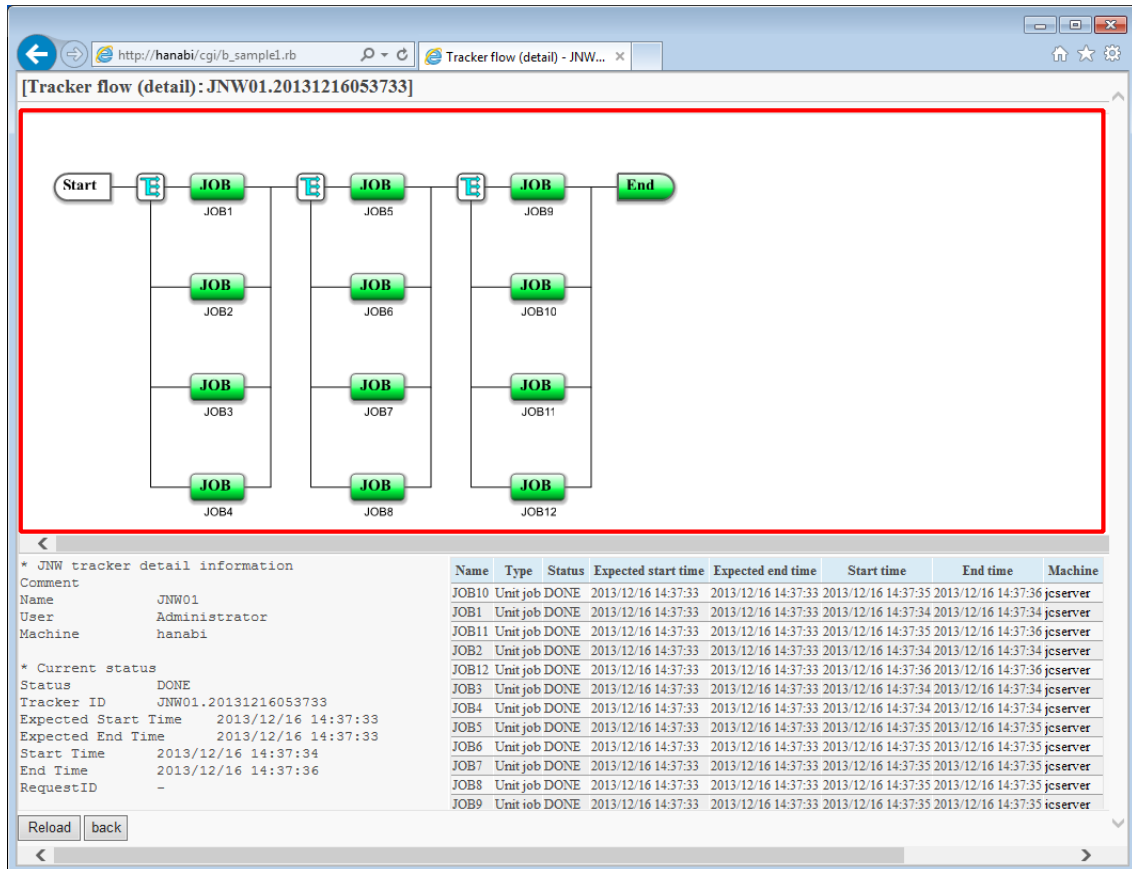


Figure 6.21. Example of tracker details display

■ HTTP request specifications

- For API access key authentication

```
GET /<language locale>/trackers/flow/<tracker ID>?key=<API access key>&format=html
HTTP/1.1
Host: <host name>
```

URL sample

```
https://hostname.com/en/trackers/flow/jc-11651_jnw.20130409023122?
key=dsfvoeishfhseiofhoseihfiosheiofhsoehfi&format=html
```

- For HTTP authentication

```
GET /<language locale>/trackers/flow/<tracker ID>?mghost=<MGSV server
address>&format=html HTTP/1.1
Host: <host name>
Authorization: Basic xxxxxxxxxxxx
```

URL sample

```
https://hostname.com/en/trackers/flow/jc-11651_jnw.20130409023122?  
mghost=mghostname.com&format=html
```

■ Parameter

Parameter details to be set are described below.

- <tracker ID>

Specify the tracker ID.

■ Query

Query details to be set are described below.

- key query

Specify the API access key when authentication by API access key is performed.

- mghost query

Specify the host name (IP address) of the MGSV server when HTTP authentication is performed.

- format query

Specify "html".

■ HTTP response specifications

- Normal end

- Header section

Status code: 200

- Body section

When the process ends normally, the html data as shown below is returned to the body section.

```
<script src="https://192.168.34.32/assets/  
application-29dae6e564c77ae1fc999e3a09d1f3c0.js" type="text/javascript"></script>
```

For example, HTML files can be created on the CGI side and the screens are passed to the clients as the HTML below.

Include the script returned to the head section dynamically and embed div tags at the point you want drawing.

```
<!DOCTYPE html>  
<html>  
<head>  
<meta http-equiv="Content-Type" content="text/html; charset=utf-8">  
<title>JNW flow drawing - jc-11623_jnw_waitjnw</title>  
<!--From here, include returned HTML dynamically-->  
<script src="https://192.168.34.32/assets/  
application-29dae6e564c77ae1fc999e3a09d1f3c0.js" type="text/javascript"></script>
```

```
<!--To here-->
</head>
<body>
<h3>[JNW flow drawing: jc-11623_jnw_waitjnw]</h3>
<!--From here, div tag embedded for drawing. id must be jc_area.-->
<div id="jc_area" style="height: 600px; width: 98%;">
  <div id="msg" class="flash error"></div>
  <div id="jnw-canvas"></div>
</div>
<!--To here-->
</body>
</html>
```



As for the setting values of style in the div tag such as height and width, adjust them in each Web application.

■ Abnormal end

When the process ends abnormally, the following response is returned.

Table 6.12. Error list

Status code	Error message	Error cause
400	{"msg":"The specified tracker does not exist."}	The specified group does not exist.
401	HTTP Basic: Access denied.	For HTTP authentication failed.
403	{"msg":"Not authorized to reference the tracker."}	The user is not authorized to reference the tracker.
403	{"msg":"API access key is wrong."}	The access key is not valid.
403	{"msg":"Communication with server failed. Confirm that JobCenter MG/SV is running."}	MG/SV has not been started.
403	{"msg":"The user name or the password is wrong."}	The user name or the password input for API authentication or HTTP authentication is wrong.

■ Notes

Set the height and the width of div tag according to the environment. If not set, the flow drawing might be corrupted.

The div tag can be made common in all tracker flows (section that can be statically implemented).

6.4.4.7. Execution of Tracker Part Control Instruction

■ Function description

By specifying a tracker ID, this can make parts of the tracker execute a control instruction.

For example, the following screens can be included as a button operation.

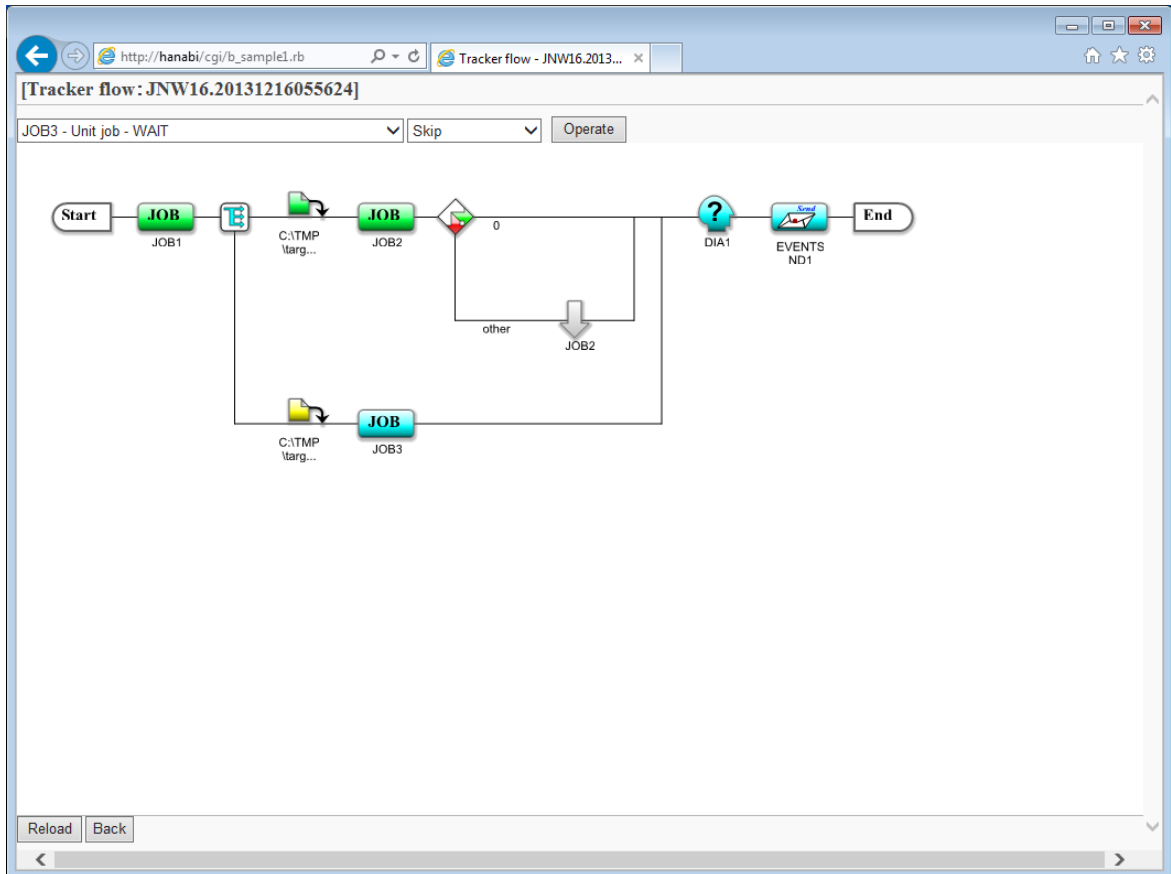


Figure 6.22. Example of tracker part control instruction

■ HTTP request specifications

- For API access key authentication

```
GET /<language locale>/trackers/parts/<part type>/<tracker ID>/<part name>/
<instruction content>?key=<API access key>&format=json HTTP/1.1
Host: <host name>
```

URL sample

```
https://hostname.com/en/trackers/parts/ujob/jc-11651_jnw.20130409023122/job1/skip?
key=dsfvoeishfhseiofhoseihfiosheiofhsioehfi&format=json
```

- For HTTP authentication

```
GET /<language locale>/trackers/parts/<part type>/<tracker ID>/<part name>/
<instruction content>?mghost=<MGSV server address>&format=json HTTP/1.1
Host: <host name>
Authorization: Basic xxxxxxxxxxxx
```

URL sample

```
https://hostname.com/en/trackers/parts/ujob/jc-11651_jnw.20130409023122/job1/skip?
mghost=mghostname.com&format=json
```

■ Parameter

Parameter details to be set are described below.

■ <part type>

Specify a part type for which an instruction is executed from the following:

Table 6.13. Part list

Part name	Part content
ujob	"unit job"
bijob	"BI job"
erpjob	"ERP job"
ucxjob	"UCX single job"
wobsjob	"WOBS job"
pcjob	"PC job"
customjob	"custom job"
dia	"dialog"
cont	"continue"
sjnw	"sub job network"
wjob	"job waiting"
wtime	"time waiting"
wsjnw	"job network waiting"
wfile	"file waiting"
evtsnd	"event transmission"
evtrcv	"event reception"

■ <tracker ID>

Specify the target tracker ID.

■ <part name>

Specify the name of the part for which the instruction is executed.



Data obtained by the part list obtaining function may be in the form of "xxx (part name)". In this case, specify the part name in "()".

■ <instruction content>

Specify an instruction content from the following. Executable instructions are limited depending on parts.

Table 6.14. Instruction list

instruction name	instruction content
------------------	---------------------

skip	"skip"
noskip	"release skip"
hold	"hold"
release	"release hold"
estop	"forced stop"
forcestart	"forced start"
rerun	"rerun"
suspend	"suspend"
resume	"release suspend"
start_immediat	"run (immediately)"
start_asap	"run (ASAP)"
ok	"OK"
error	"ERROR"
restart	"restart"
freecontrol	"release control"
statusdone	"change to be considered as normal"

■ Query

Query details to be set are described below.

■ key query

Specify the API access key when authentication by API access key is performed.

■ mghost query

Specify the host name (IP address) of the MGSV server when HTTP authentication is performed.

■ format query

Specify "json".

■ HTTP response specifications

■ Normal end

• Header section

Status code: 200

• Body section

When the process ends normally, the json data as shown below is returned to the body section.

->"msg": Tracker part control result is stored here.

```
{"msg": "tracker parts control ok"}
```

■ Abnormal end

When the process ends abnormally, the following response is returned.

Table 6.15. Error list

Status code	Error message	Error cause
400	{"msg":"Failed in controlling parts: invalid args ... "}	The specified tracker control command does not exist.
400	{"msg":"Failed in controlling parts: ... "}	The specified tracker does not exist or control of tracker failed.
401	HTTP Basic: Access denied.	HTTP authentication failed.
403	{"msg":"Not authorized to reference the tracker."}	The user is not authorized to reference the tracker.
403	{"msg":"API access key is wrong."}	The access key is not valid.
403	{"msg":"Communication with server failed. Confirm that JobCenter MG/SV is running."}	MG/SV has not been started.
403	{"msg":"The user name or the password is wrong."}	The user name or the password input for API authentication or HTTP authentication is wrong.

■ Notes

The combination of parts and executable instructions is as follows:

■ Table 6.16. ujob:"unit job"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
hold	"hold"
release	"release hold"
suspend	"suspend"
resume	"release suspend"
estop	"forced stop"
forstart	"forced start"
rerun	"rerun"
restart	"restart"
freecontrol	"release control"
statusdone	"change to be considered as normal"

■ Table 6.17. erpjob:"ERP job"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
hold	"hold"

Details of Other Functions

release	"release hold"
cancel	"cancel"
forcestart	"forced start"
start_immediat	"run (immediately)"
start_asap	"run (ASAP)"
rerun	"rerun"
statusdone	"change to be considered as normal"

■ Table 6.18. bijob:"BI job"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
hold	"hold"
release	"release hold"
forcestart	"forced start"
rerun	"rerun"
statusdone	"change to be considered as normal"

■ Table 6.19. pcjob:"PC job"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
hold	"hold"
release	"release hold"
forcestart	"forced start"
rerun	"rerun"
statusdone	"change to be considered as normal"

■ Table 6.20. ucxjob:"UCX single job"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
hold	"hold"
release	"release hold"
estop	"forced stop"
forcestart	"forced start"
rerun	"rerun"
freecontrol	"release control"
statusdone	"change to be considered as normal"

■ Table 6.21. wobsjob:"WOBS job"

Instruction name	Processing content
skip	"skip"

noskip	"release skip"
hold	"hold"
release	"release hold"
estop	"forced stop"
forcestart	"forced start"
rerun	"rerun"
freecontrol	"release control"
statusdone	"change to be considered as normal"

■ Table 6.22. dia:"dialog"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
ok	"Ok"
error	"Error"
rerun	"rerun"
statusdone	"change to be considered as normal"

■ Table 6.23. wait:"job waiting"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
rerun	"rerun"
statusdone	"change to be considered as normal"

■ Table 6.24. event:"event"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
hold	"hold"
release	"release hold"
estop	"forced stop"
forcestart	"forced start"
rerun	"rerun"
statusdone	"change to be considered as normal"

■ Table 6.25. cont:"continue"

Instruction name	Processing content
hold	"hold"
release	"release hold"
statusdone	"change to be considered as normal"

6.4.4.8. Execution of Tracker Control Instruction

■ Function description

This executes an instruction to the specified tracker.

For example, the following screens can be included as a button operation.

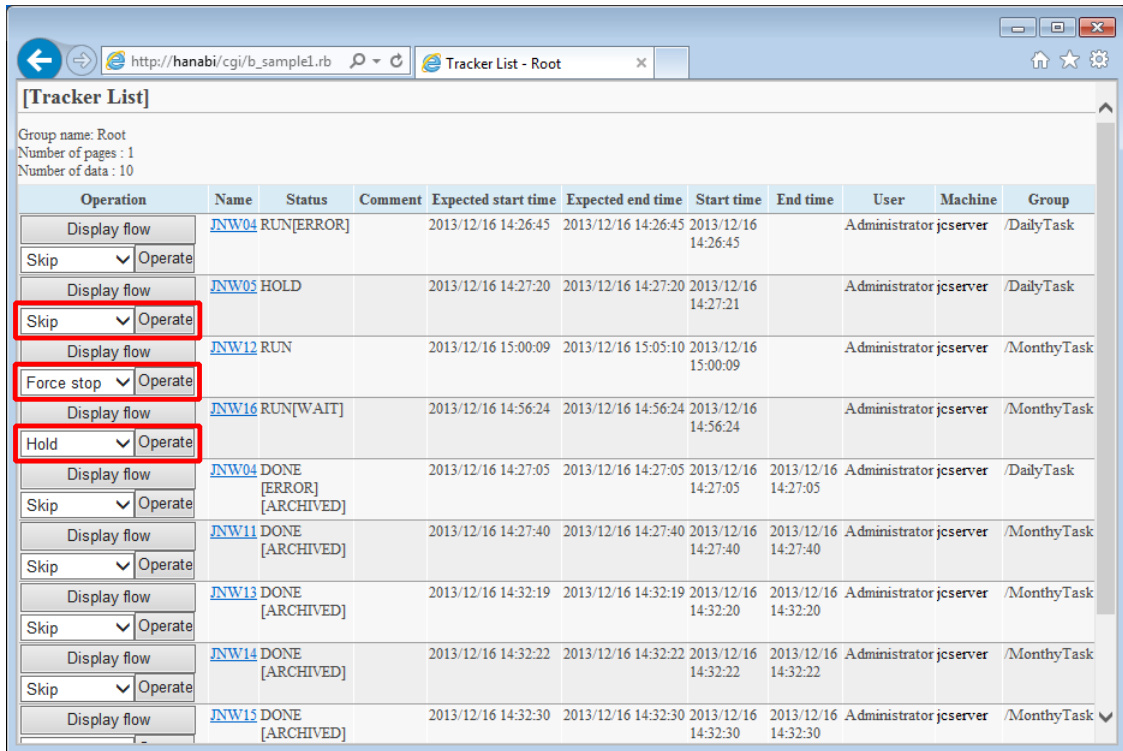


Figure 6.23. Example of tracker stop instruction screen

■ HTTP request specifications

- For API access key authentication

```
GET /<language locale>/trackers/tracker/<tracker ID>/<instruction content>?key=<API access key>&format=json HTTP/1.1
Host: <host name>
```

URL sample

```
https://hostname.com/en/trackers/tracker/jc-11651_jnw.20130409023122/estop?key=dsfvoeishfhseiofhoseihfiosheiofhfsioehfi&format=json
```

- For HTTP authentication

```
GET /<language locale>/trackers/tracker/<tracker ID>/<instruction content>?mghost=<MGSV server address>&format=json HTTP/1.1
Host: <host name>
Authorization: Basic xxxxxxxxxxxx
```

URL sample

```
https://hostname.com/en/trackers/tracker/jc-11651_jnw.20130409023122/estop?mghost=mghostname.com&format=json
```

■Parameter

Parameter details to be set are described below.

■ <tracker ID>

Specify the target tracker ID.

■ <instruction content ID>

Specify the content of instruction to the tracker.

Table 6.26. Tracker instruction list

Instruction name	Processing content
estop	"forced stop"
hold	"hold"
release	"release hold"
skip	"skip"
noskip	"release skip"

■Query

Query details to be set are described below.

■ key query

Specify the API access key when authentication by API access key is performed.

■ mghost query

Specify the host name (IP address) of the MGSV server when HTTP authentication is performed.

■ format query

Specify "json".

■HTTP response specifications

■ Normal end

• Header section

Status code: 200

• Body section

When the process ends normally, the json data as shown below is returned to the body section.

->"detail": Tracker information is stored here.

```
{"msg": "tracker control ok"}
```

■ Abnormal end

When the process ends abnormally, the following response is returned.

Table 6.27. Error list

Status code	Error message	Error cause
400	{"msg":"Failed in controlling trackers: ... "}	The specified tracker does not exist or control of tracker failed.
401	HTTP Basic: Access denied.	HTTP authentication failed.
403	{"msg":"Not authorized to reference the tracker."}	The user is not authorized to reference the tracker.
403	{"msg":"API access key is wrong."}	The access key is not valid.
403	{"msg":"Communication with server failed. Confirm that JobCenter MG/SV is running."}	MG/SV has not been started.
403	{"msg":"The user name or the password is wrong."}	The user name or the password input for API authentication or HTTP authentication is wrong.

■ Notes

Do not perform the stop instruction continually.

Chapter 7. Information Collection at Failure Occurrence

When a failure occurs in the CL/Web Server, use the command "clweb_getinfo" to completely collect primary information necessary for cause investigation.

For details about the clweb_getinfo command, refer to "7.2 clweb_getinfo - Collecting all necessary information for investigation when the CL/Web Server failed" in the <Command Reference> (Japanese only).

Chapter 8. Notes and Restrictions

This chapter describes the notes and restrictions concerning CL/Web.

8.1. Notes

- When installing CL/Web Server, you need to assign a number to the port that will use the SSL protocol and open a hole in the firewall.
- To specify the firewall setting to the CL/Web Server program, instead of to a port, in the Windows environment, open a hole in the firewall by using one of the following files after installing CL/Web Server.
 - When the JRE is x86 based
`<CL/Web installation path>\vendor\cmd\win\clweb_serv.exe`
 - When the JRE is x64 based
`<CL/Web installation path>\vendor\cmd\win\amd64\clweb_serv.exe`

8.2. Restrictions

- The path used to start the CL/Web installer and the installation path specified when installing CL/Web must not include any multibyte character. If CL/Web is installed in an UNIX environment, the installation path must not include space characters as well as multibyte characters.

Chapter 9. Error Message List

This chapter describes the error messages that may be displayed in a dialog box or other window when you are operating CL/Web.

There are a large number of error messages. Described below are the selected error messages, possible causes, and actions.

Note that the error messages shown herein may be slightly different from the actual messages.

9.1. CL/Web Server Error Messages

This section describes the error messages that may be displayed for the CL/Web Server.

Table 9.1. CL/Web Server error messages

Error message	Possible error cause and action	Related operation
Cannot find Java 1.5 or higher.	The Java JRE is not found. If the JRE is not installed, install it. If this message is displayed even when the JRE is installed, set the JRE installation path in the environment variable JAVA_HOME before installing CL/Web Server.	Installation
Cannot locate Java installation, specified by JAVA_HOME	The specification of the environment variable JAVA_HOME is invalid. Check that the JRE installation path is correctly set in the environment variable JAVA_HOME.	Installation
LicenseManager is not found. Please install LicenseManager.	LicenseManager is not installed. Install LicenseManager before installing CL/Web Server.	Installation
no such a directory(<directory path>)	The parent directory of the specified installation directory does not exist. Create the directory before installing CL/Web Server.	Installation
"<directory path>" already exists and is not an empty directory.	The specified installation directory is not empty. Change the installation directory, or make the directory empty.	Installation
Permission denied - <directory path>	Data cannot be written to the specified installation directory. Check the access permission for the installation directory.	Installation
Only Administrator can execute this command.	An installation attempt was made by a user other than the local administrator. To install CL/Web, log in as the local administrator.	Installation

9.2. Web Browser Error Messages

This section describes the error messages that may be displayed for the web browser.

Table 9.2. Web browser error messages

Web browser error message	Possible error cause and action
The server name is empty.	The server name is not entered. Enter the correct server name.
The user name is empty.	The user name is not entered. Enter the correct user name.
The password is empty.	The password name is not entered. Enter the correct password name.
Communication with the server failed. Check the server name.	The specified server name is invalid. Enter the correct server name.
The user name or password is invalid.	The specified user name or password is invalid. Enter the correct user name and password.
Failed to send the mail.	The SMTP server settings may be invalid. Correct the SMTP server settings.
Communication with the server failed. Check whether JobCenter MG/SV is active.	JobCenter MG/SV is inactive. Start JobCenter MG/SV.
The specified page is not found.	The specified page does not exist. If the URL is directly entered, check the entered URL.
Job network reference permission was denied.	There is no job network reference permission. Check your CL/Win permission settings to see whether you have permissions to list and view job networks.
Tracker reference permission was denied.	There is no tracker reference permission. Check your CL/Win permission settings to see whether you have permissions to list and view trackers.
Internet Explorer cannot display the webpage.	There is a problem with the communication with the CL/Web Server. Check the connected destination, whether the CL/Web Server service is active, and the web browser settings. For details about the web browser settings, refer to Section 3.2, "Web Browser" .

