

Guide for using the Web
function

JobCenter

R15.2

-
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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.
	Supplementary tip 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.

<https://www.nec.com/en/global/prod/masterscope/jobcenter/en/support.html>

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	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 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 R15.2 Release Notes	Provides the information specific to JobCenter R15.2.

3. Revision history

Edition	Date of revision	Item	Format	Contents of revision
1	July 20, 2018	New	-	First Edition

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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.

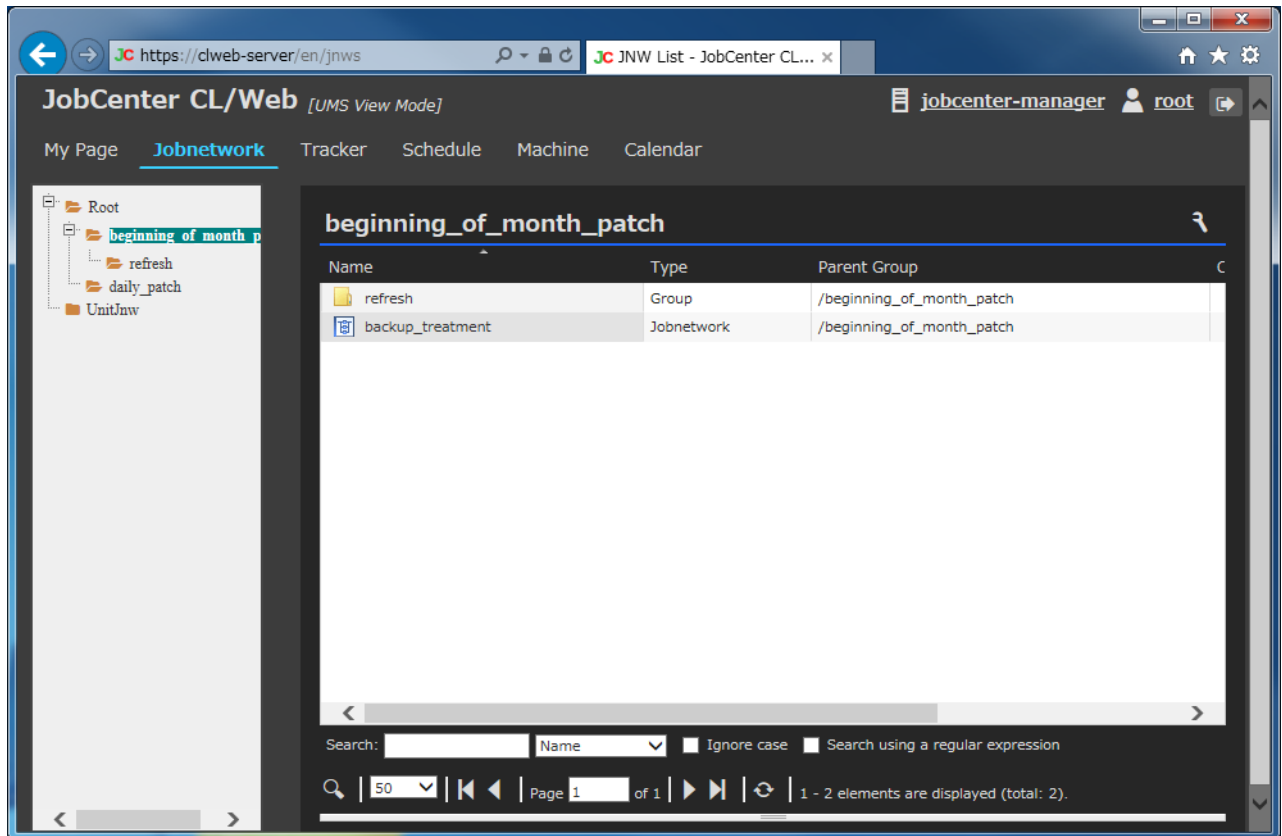


Figure 1.1. Image of the JobCenter CL/Web window

■ 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	Reference
Job Network	Lists job networks.	Section 5.4.1, "Viewing a Group"
	Submits a job network immediately.	Section 5.4.3, "Submitting a Job Network Immediately"
	Lets you browse job network definition information.	Section 5.4.2, "Viewing a Job Network"
	Searches the job network list.	Section 5.1.2, "Search Function"
Tracker	Lists trackers.	Section 5.5.1.1, "Listing Trackers"
	Lets you operate trackers and tracker parts.	Section 5.5.2.1, "Operating a Job Network Tracker"
	Searches the tracker list.	Section 5.1.2, "Search Function"
	Lets you set a monitoring filter.	Section 5.5.1.2, "Displaying the Tracker List with a Period Specified"
	Sends the URL shown in the tracker window via mail.	Section 7.1.3, "Mail Transmission Function"
Schedule	Lists schedules.	Section 5.6.1, "Viewing a List of Schedules"
	Lets you browse schedule definition information.	Section 5.6.2, "Viewing the Schedule Definition"
	Lists linking jobnetworks.	Section 5.6.3, "Viewing the Linking JNW"
	Enables/Disables schedules.	Section 5.6.4, "Enabling or Disabling the Schedule"
Trigger	Lists triggers.	Section 5.7.1, "Viewing a List of Triggers"
	Lets you browse trigger definition information.	Section 5.7.2, "Viewing the Trigger Definition"
	Lists linking job networks of triggers.	Section 5.7.3, "Viewing the Linking JNW"
	Enables/Disables triggers.	Section 5.7.4, "Enabling or Disabling the Trigger"
Machine	Lists machines.	Section 5.8.1, "Viewing a List of Machines"
	Lists queues.	Section 5.8.2, "Viewing a List of Queues"
	Lets you operate a queue.	Section 5.8.3, "Operating a Queue"
	Lists users.	Section 5.8.4, "Viewing a List of Users"
	Searches a list window.	Section 5.1.2, "Search Function"
Calendar	Lists calendars.	Section 5.9.1, "Viewing a List of Calendars"
	Lets you browse calendar definition information.	Section 5.9.2, "Viewing the Calendar Definition"
My Page	Displays the My Page window.	Section 5.10.2.1, "Displaying My Page"

	Lets you add a panel to the My Page window.	Section 5.10.2.2, "Adding a Panel"
	Lets you change panel settings.	Section 5.10.3, "Common Panel Operations"
	Lets you limit the use of My Page.	Section 5.10.5.1, "Limit Mode"

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.

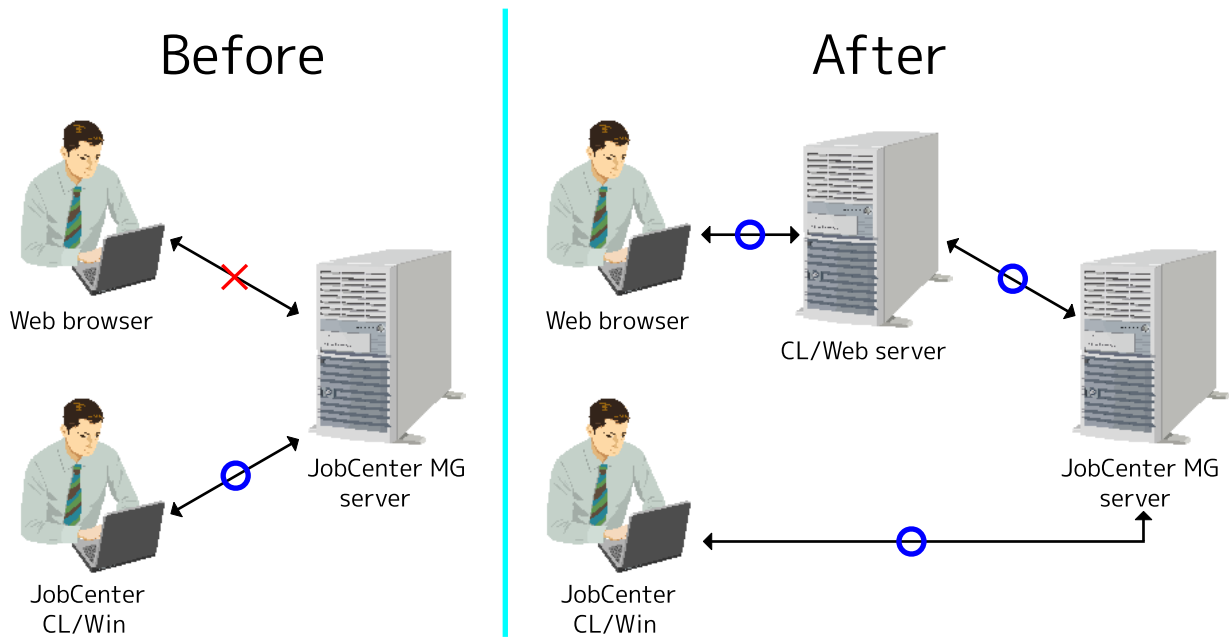


Figure 1.2. Introduction effect 1

■ 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 7.1, "Details of the Mail Transmission Function"](#).

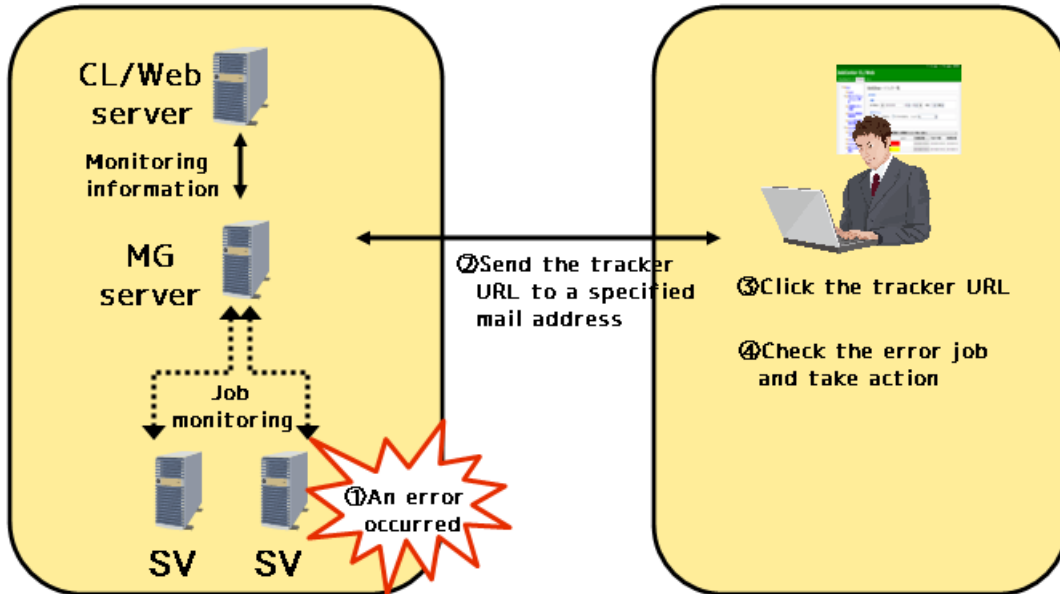


Figure 1.3. Introduction effect 2

■ 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 7.2, "Macro Functions"](#).

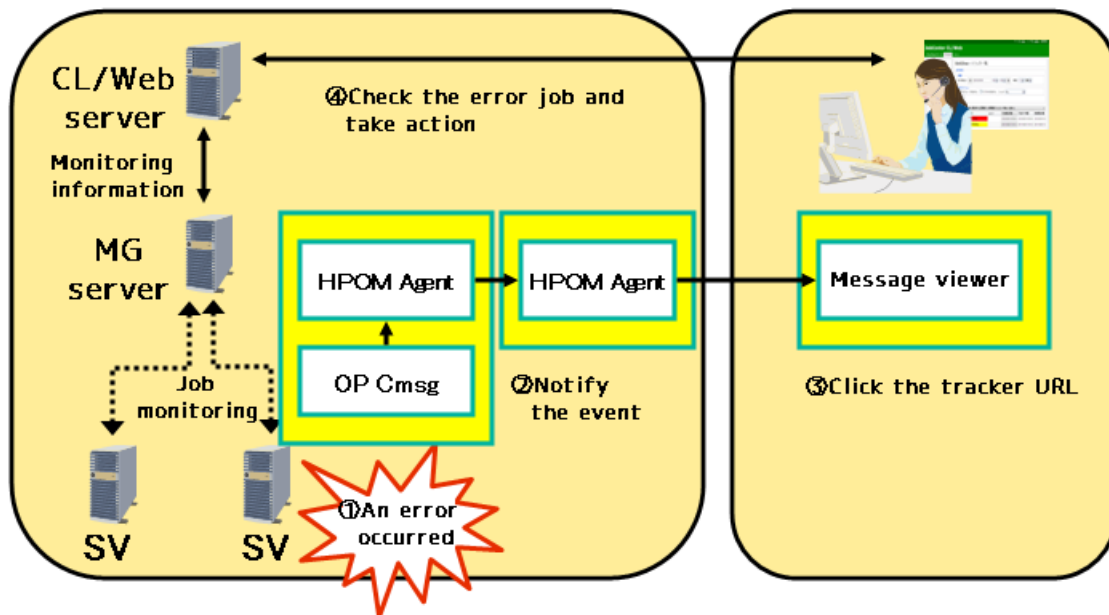


Figure 1.4. Introduction effect 3 (an example of the Micro Focus Operations Manager software product)

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 in <Release Notes>Section 3.1.5, “Details of the OSs supported by JobCenter CL/Web, required software, and browsers”.

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

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 JRE7 or later supplied from Oracle.

Download the latest version from Oracle's website.



When installing CL/Web Server to Red Hat Enterprise Linux 5, you need to install Java SE JRE7 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 in <Installation Guide>Section 2.2, "Installing LicenseManager".

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

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 required to install CL/Web Server.

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

Fixed disk capacity	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 in <Installation Guide>Section 4.1, "Uninstalling LicenseManager".

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 mail template file in the same way. Copy the following directory to a directory unrelated with the CL/Web Server.

```
%InstallDirectory%/config/mail
```

Back up the CL/Web Server My Page configuration file in the same way. Copy the following directory to a directory unrelated with the CL/Web Server.

```
%InstallDirectory%/config/mypage
```

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 mail template file in the same way. Copy the following folder to a folder unrelated with the CL/Web Server.

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

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

```
%InstallDirectory%\config\mypage
```

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.

2.5. Checking the Version

This section describes how to check the version of CL/Web.

■ When you can connect to CL/Web via a browser

Connect to CL/Web via a browser, and check "JobCenter CL/Web R XX.YY" at the bottom of the login window.

■ When you cannot connect to CL/Web via a browser or CL/Web is stopped

Check '\$clweb_version = "XX.YY"' in %InstallDirectory%/config/version.rb.



XX.YY indicates the version number.

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
# $allow_ssl = false
# $access_log_retention_period = 365
# $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, mypage: 6, triggers: 7
# $tab_order = "6 1 2 3 7 4 5"
```



You need to restart CL/Web to put the settings of the CL/Web configuration file (clweb.conf) into effect.

3.1.2. Setting the Port to Use

The default communication protocol used by the CL/Web Server is TLS (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 in <Environment Guide>Section 2.1.6, "https".

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 TLS (SSL) port number required for communication between the CL/Web Server and web browsers. (If TLS (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 TLS (SSL) for communication between the CL/Web Server and web browsers. true: Disable TLS (SSL). HTTP is used for communication between the CL/Web Server and web browsers. false: Enable TLS (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
\$allow_ssl	Specify true or false to determine whether to use only TLS for communication between the CL/Web Server and web browsers without using SSLv3. true: Enable SSLv3. A connection can also be set up using SSLv3. (Be careful about vulnerabilities.) false: Disable SSLv3. Communication can be performed only using TLS.	True/false value	false



- Note 1: Optional parameter. Do not change this parameter if it does not need to be set.
- To specify the character string as the set value, pay attention to the following items.
 - Enclose the character string to be specified with " " (double quotation marks) or ' ' (single quotation marks).
 - To contain double quotation marks in the character string already enclosed with " " (double quotation marks), escape the marks inside with backslashes (\).

- To contain single quotation marks in the character string already enclosed with ' ' (single quotation marks), escape the marks inside with backslashes (\).
- To contain a sharp (#) in the character string, it must be enclosed with ' ' (single quotation marks).
- If a firewall exists in the machine where CL/Web Server is installed, you need to open the network port to be used by CL/Web.

3.1.3. Setting SSL Signature Certificate

The CL/Web Server is configured to perform TLS (SSL) communication using self-signed certificates provided by default. Please prepare an SSL signature certificate (certificate file and secret key file) appropriate for the CL/Web Server from the self-signed certificates.

Prepare an SSL signature certificate according to settings such as the host name of the server to be installed, and store "Certificate file" and "Secret key file" in the specified location shown below.

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, an error occurs when CL/Web starts up to prevent it from starting up.

Be careful not to use self-signed certificates for testing officially. Use the SSL signature certificate issued by the certificate authority, etc. to the host of the CL/Web Server. (Take extreme care when using the certificate via the Internet.)

Construction of an https environment is not always required when using the certificate in a closed network environment. In this case, set the value of "\$ssl_disable" of clweb.conf in Table 3.1 to true and use http communication. An SSL signature certificate is not required in this case.

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
-----------	-------------	------	---------------

Environment Setup

<code>\$relative_url_root</code>	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.

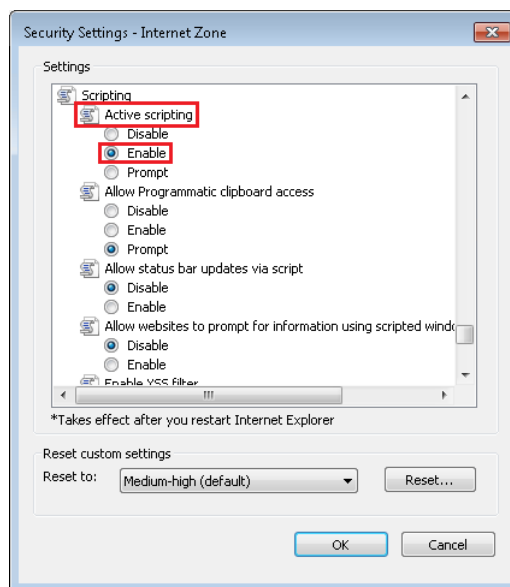


Figure 3.1. Active scripting setting window

3.2.2. Setting Font Download

To use Internet Explorer, you need to have Font download enabled.

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

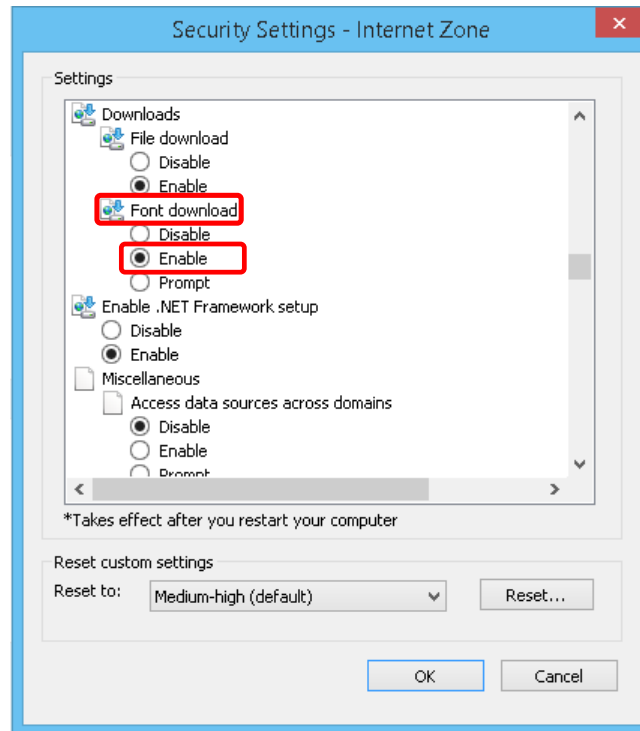


Figure 3.2. Font download setting window

3.2.3. Setting TLS (SSL)

When you use TLS (SSL) for communication between the CL/Web Server and web browser (Internet Explorer), you need to have the browser set to use TLS (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 TLS 1.0]
 - [Use TLS 1.1]
 - [Use TLS 1.2]
3. If neither option button is selected, select one of them.

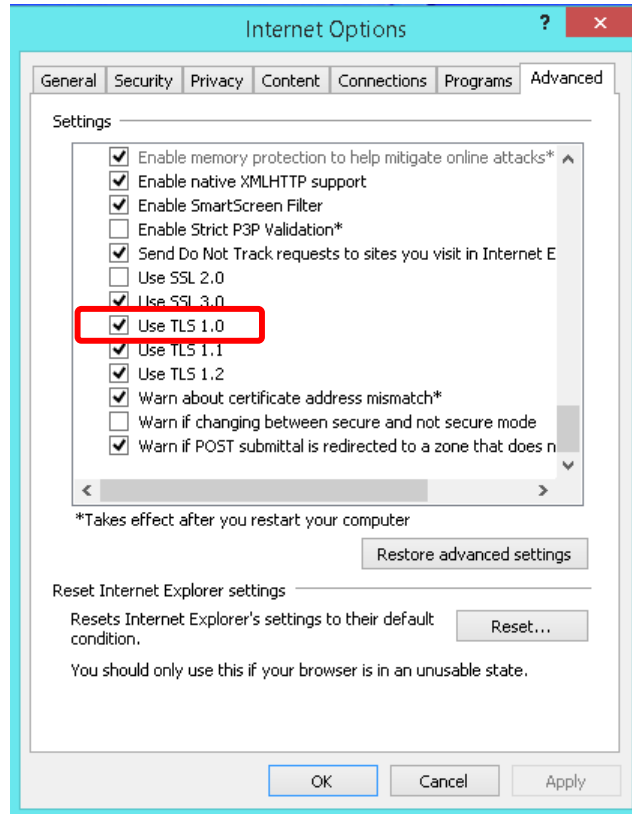


Figure 3.3. TLS (SSL) setting window



SSL 2.0 is not supported. SSL 3.0 is disabled by default because of its security vulnerabilities. To use SSL 3.0, you need to change the setting of `$allow_ssl` in `clweb.conf` and enable SSL 3.0 in the browser setting.

3.2.4. 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.

3.2.5. 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].

3.3. Server Environment Migration

This section describes the procedure for transferring the environment when changing the IP address or host name of the CL/Web Server.

3.3.1. Changing the IP Address

To change the IP address of the CL/Web Server, the fixed IP address in `clweb.conf` must be modified.

3.3.1.1. Correcting `clweb.conf`

If `$bind` is specified in the CL/Web environment setting file (`clweb.conf`), add the changed IP address, and restart the server.

3.3.2. Changing the Host Name

To change the host name of the CL/Web Server, the SSL signature certificate must be updated.

3.3.2.1. Reissuing the SSL Signature Certificate

Reissue the SSL signature certificate with a new host name.



If the host name of the SSL signature certificate is different, a warning screen may appear to indicate that security of connection is not confirmed and connection is not established depending on the browser.

3.3.2.2. Registering the SSL Signature Certificate Again

Replace the `ssl_cert` file and `ssl_key` file registered in [Section 3.1.3, "Setting SSL Signature Certificate"](#) with those reissued.

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.

Before RHEL6.x system (Start-up by the /sbin/init)

1. Execute the following script.

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

After RHEL7.x system (Start-up the systemd)

1. Execute the following script.

```
systemctl start jcclweb
```

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].

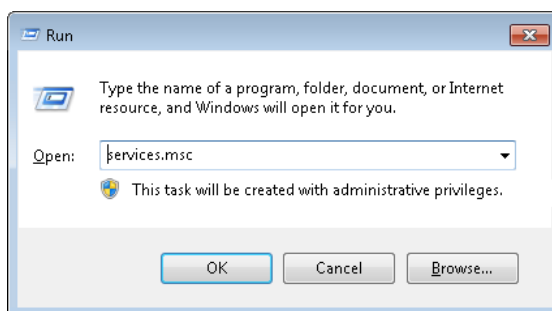


Figure 4.1. [Run] dialog box



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

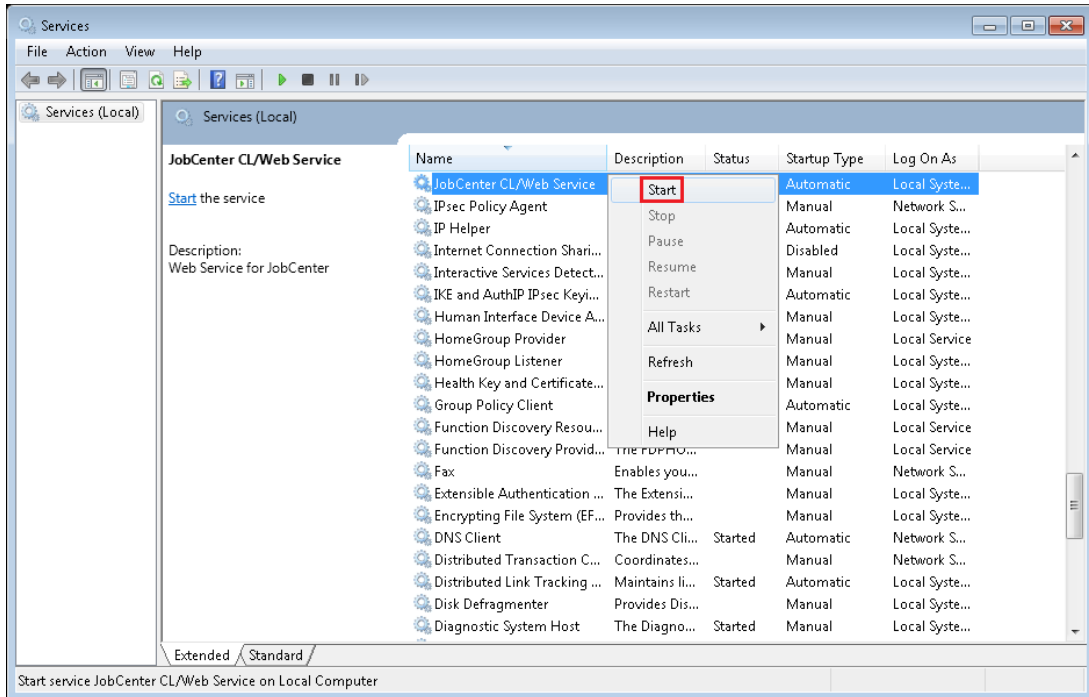


Figure 4.2. Service start window

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

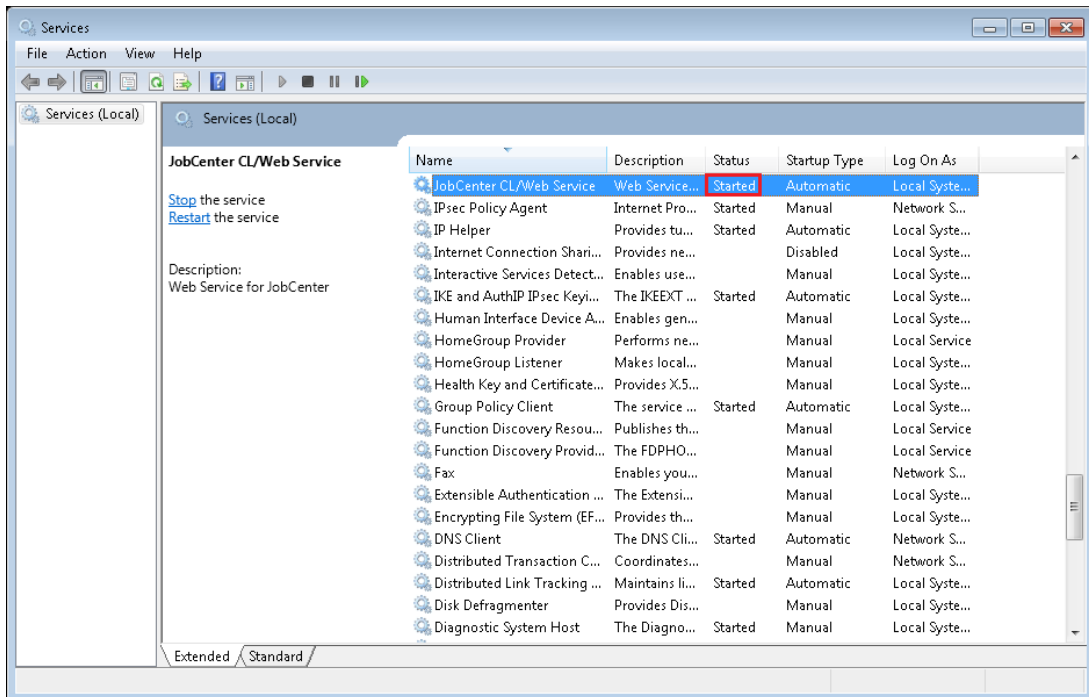


Figure 4.3. Window where the service is started



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.

Before RHEL6.x system (Shutdown by the /sbin/init)

1. Execute the following script.

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

After RHEL7.x system (Shutdown by the systemd)

1. Execute the following script.

```
systemctl stop jcclweb
```

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].

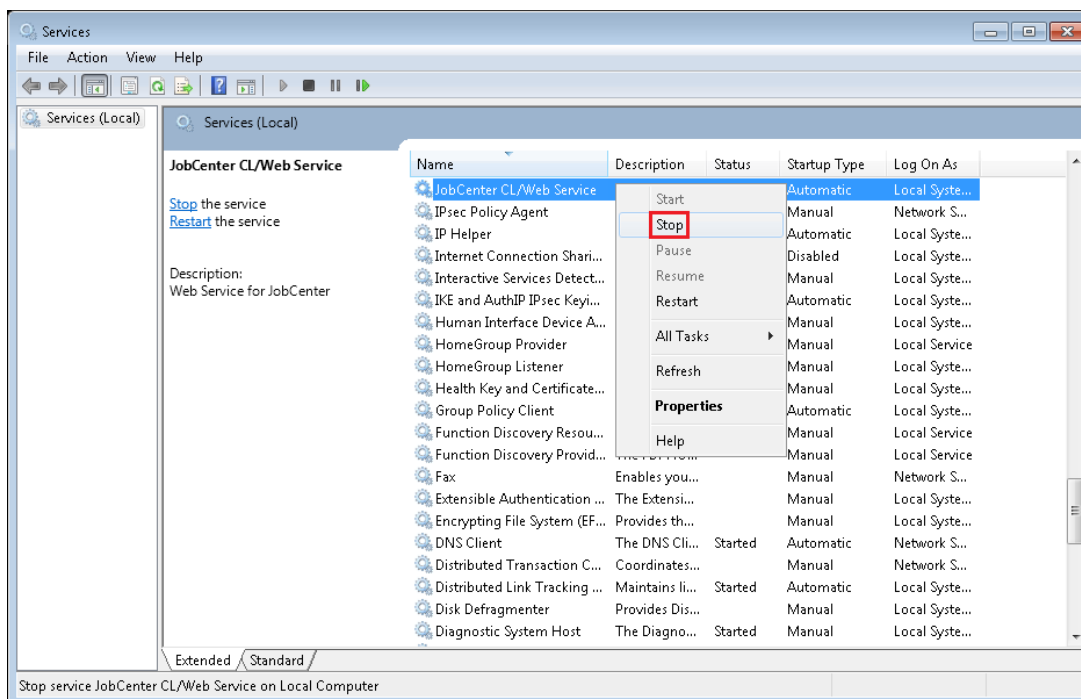


Figure 4.4. Service stop window

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

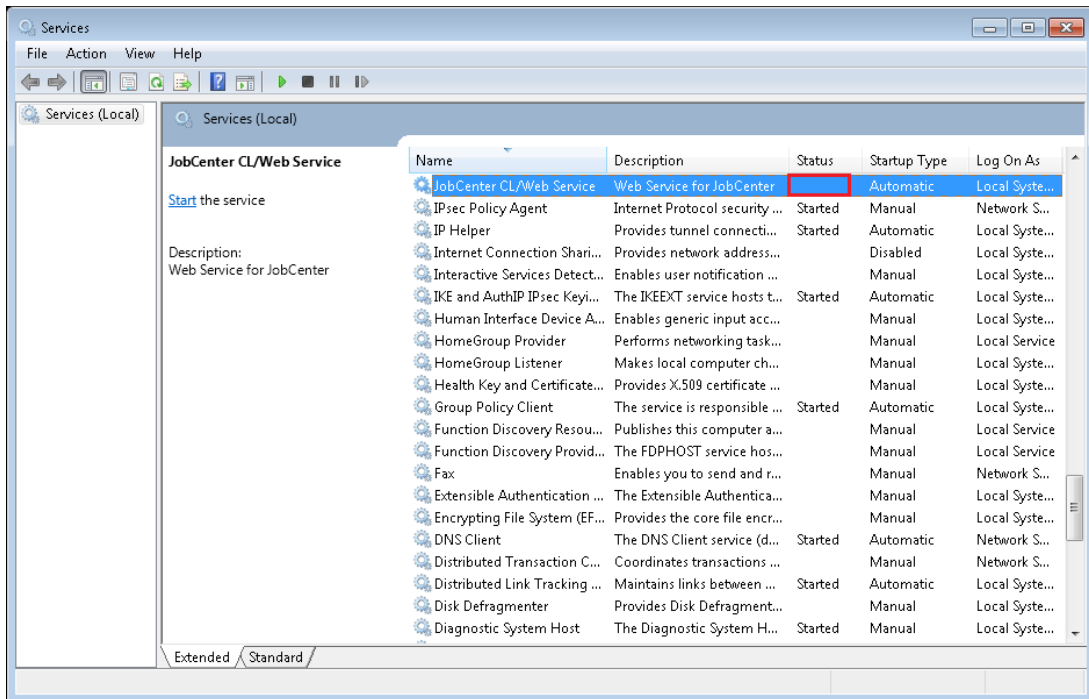


Figure 4.5. Window where the service is stopped

5 Basic Operations

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



The descriptions in this chapter assume that TLS (SSL) is enabled. If TLS (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

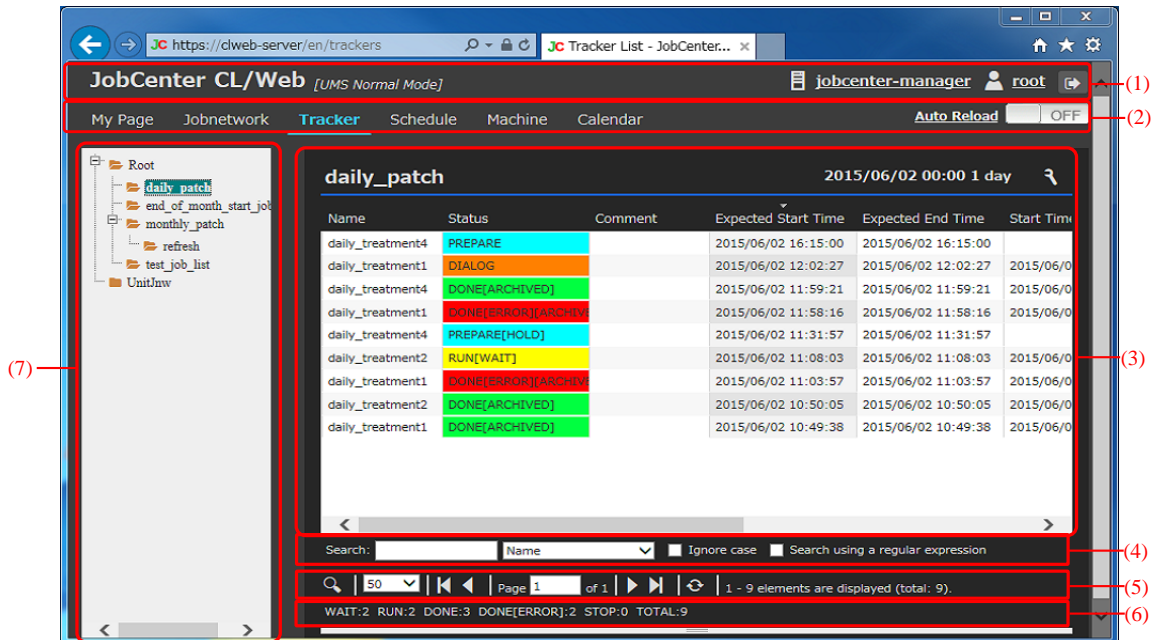


Figure 5.1. CL/Web window

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 in <Basic Guide>Section 2.3.3, "GUI Display Mode per Login User, Login Mode when Connecting Server". ■ Server: The server name is displayed. Clicking the server name displays a dialog box containing the server information. ■ User:

Area name	Description
	<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 seven menus:[MyPage] [Jobnetwork], [Tracker], [Schedule], [Trigger], [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.

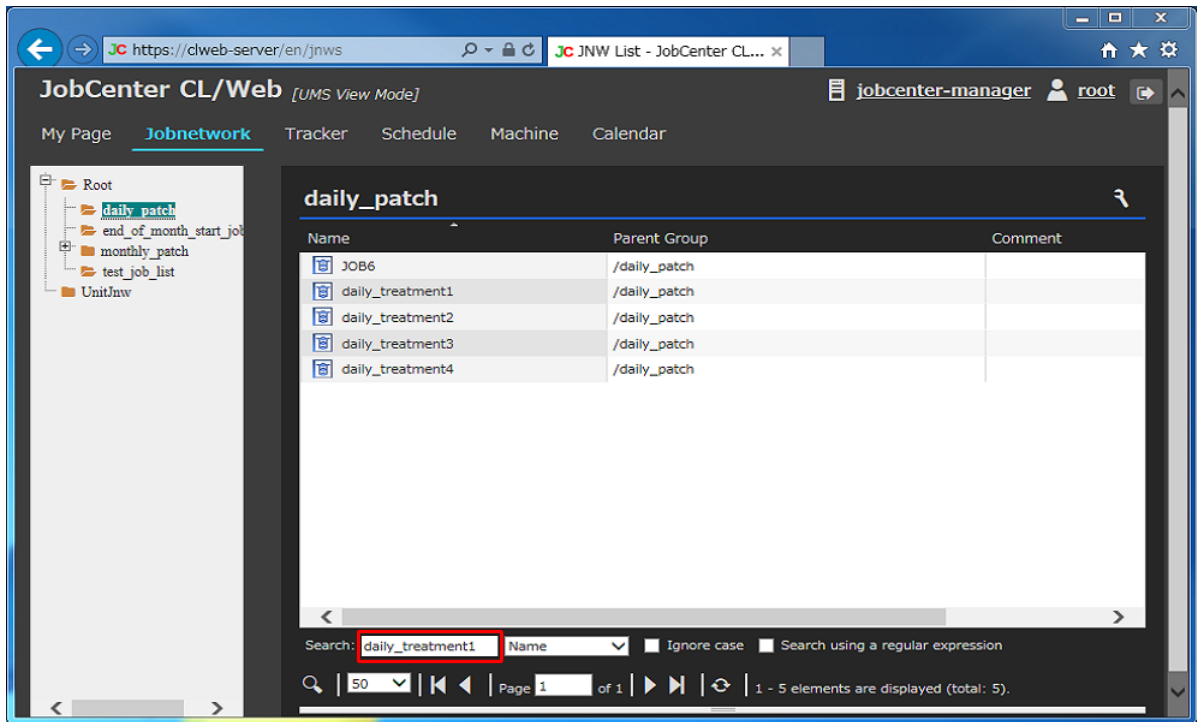


Figure 5.2. Search bar window

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.

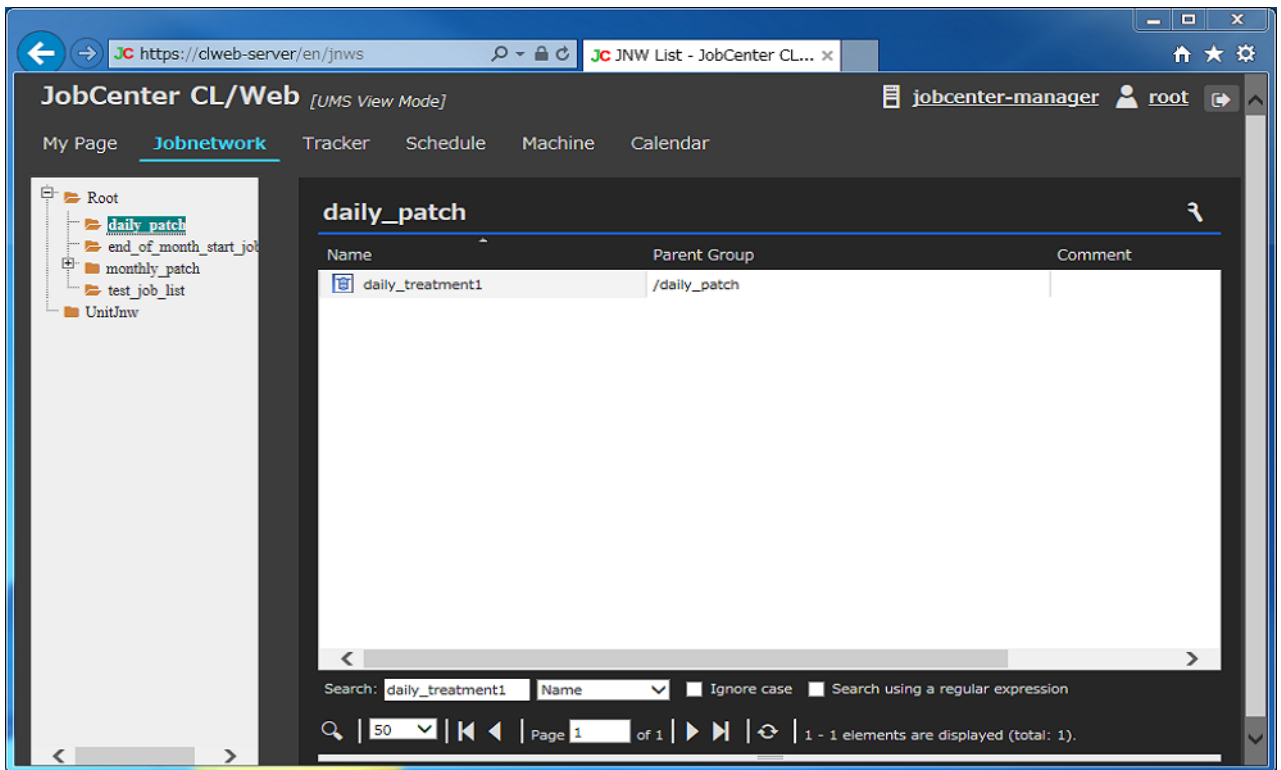


Figure 5.3. Search result window

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.

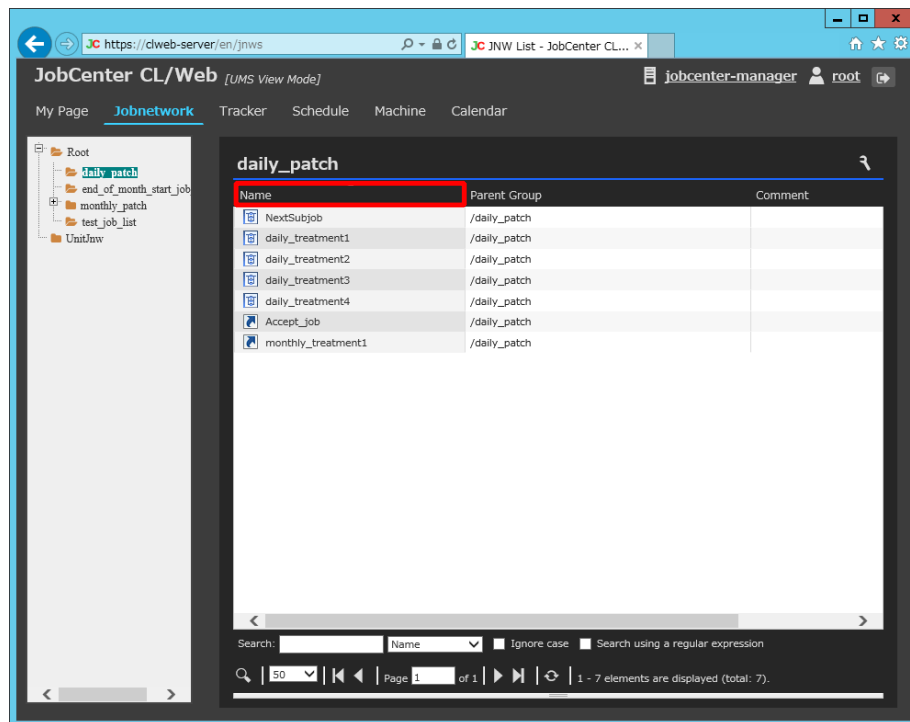


Figure 5.5. Window before sorting

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.

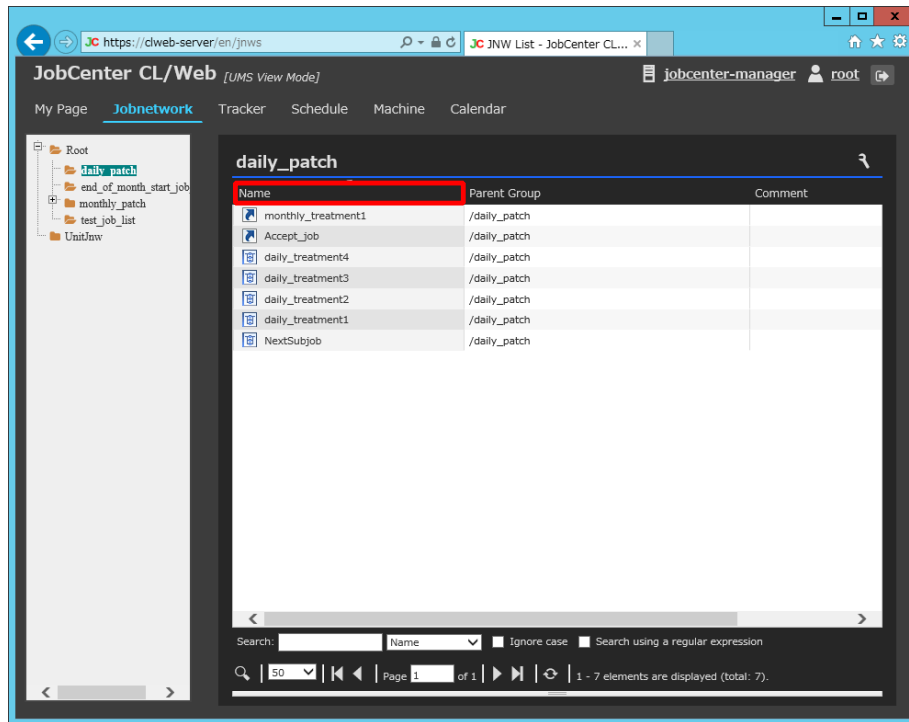



Figure 5.6. Window after sorting

 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.

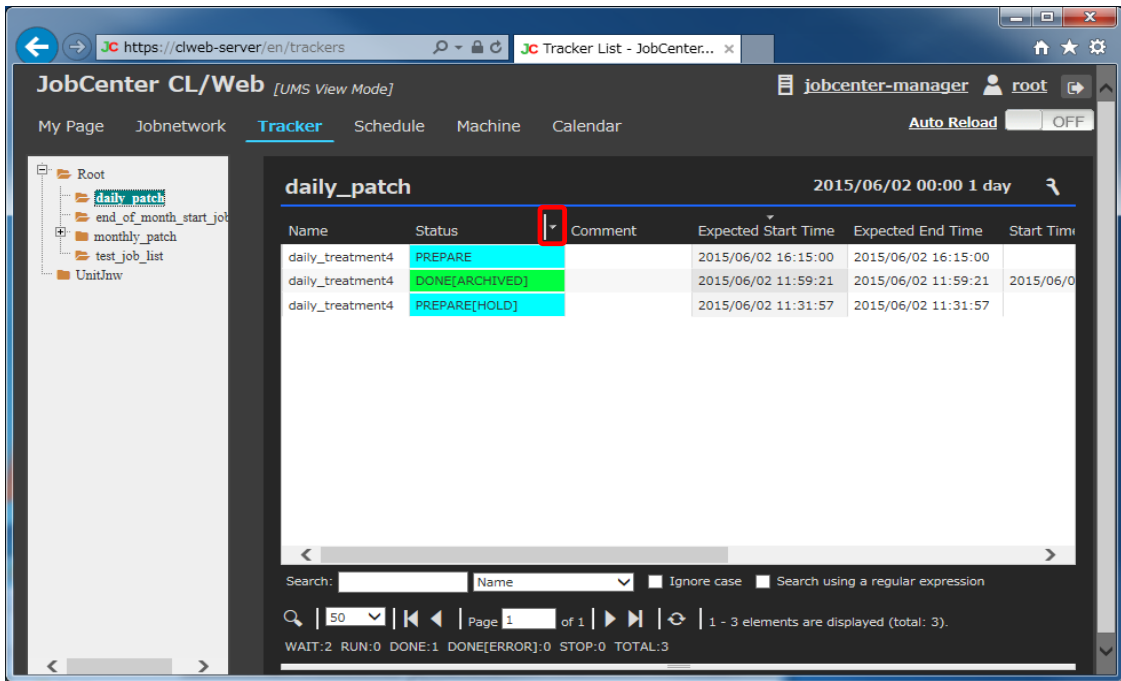


Figure 5.7. Window where the [Hide/Show Columns] button is selected



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.

- 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].

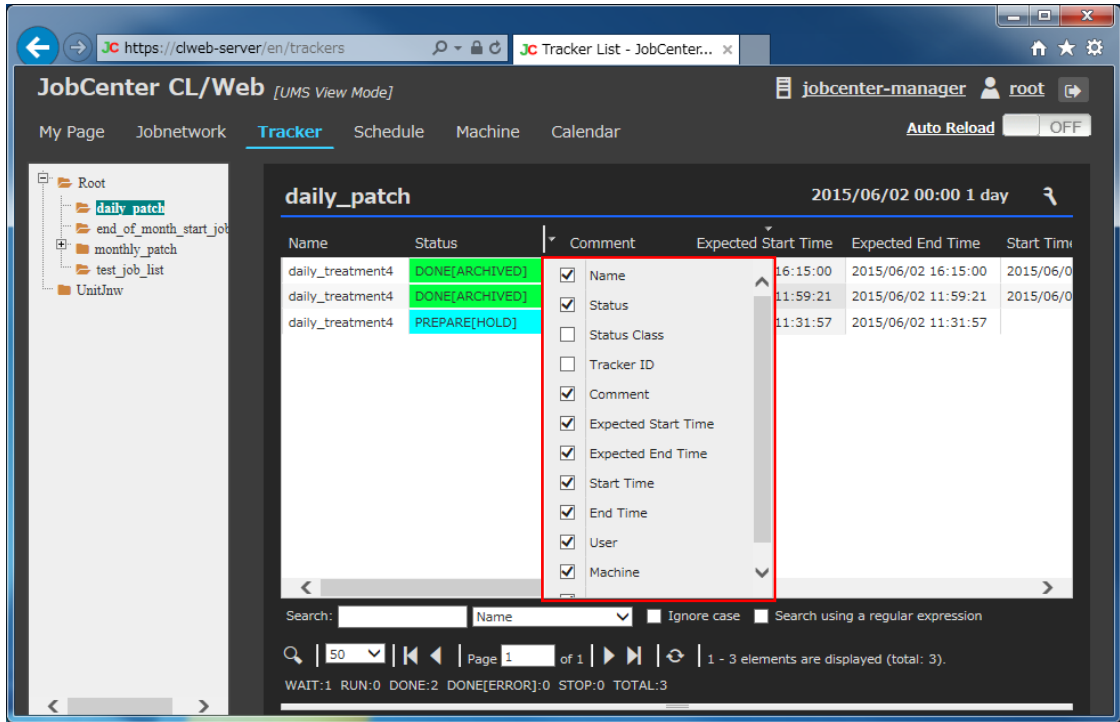



Figure 5.8. Display column list screenshot

 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.

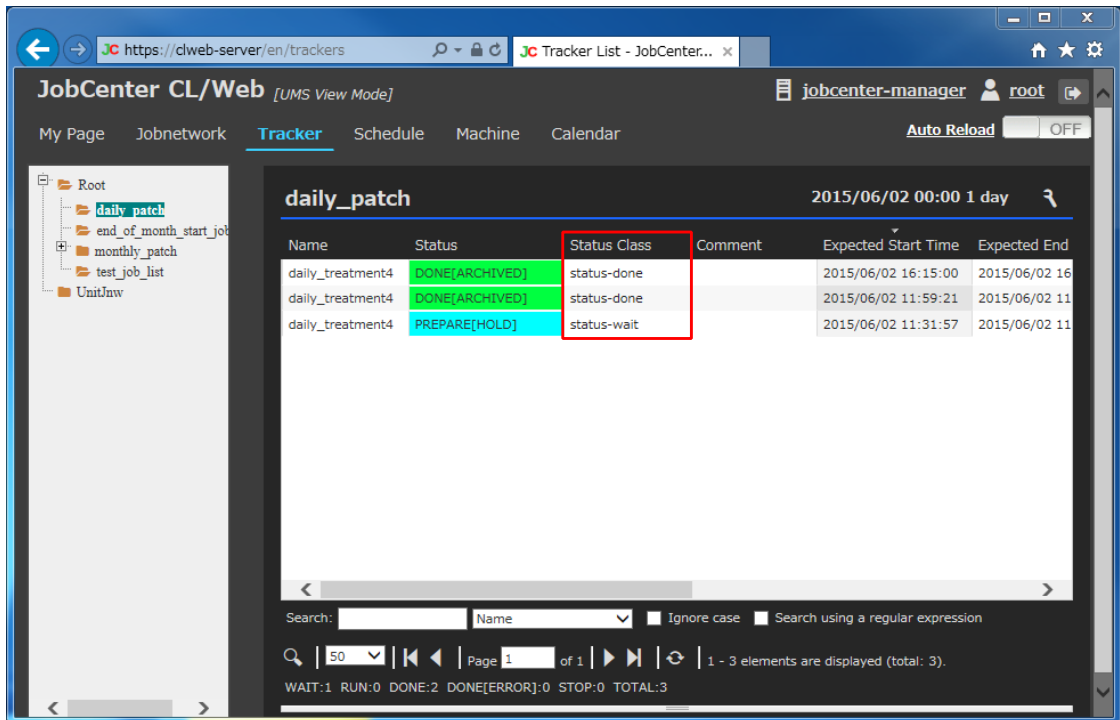


Figure 5.9. Display column list result screenshot



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, mypage: 6, triggers: 7
# $tab_order = "6 1 2 3 7 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 `$tab_order`. The default order from first to last is [MyPage], [Jobnetwork], [Tracker], [Schedule], [Trigger], [Machine], and [Calendar]. The screen displayed first after login is the name of the first tab number set in `$tab_order`.

If from `$tab_order` erased the number of the target, the tab will not be displayed. (It will be common to all users of the set)

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
6	My Page
7	Trigger

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, mypage: 6, triggers: 7
$tab_order = "2 6 1 3 7 5 4"
```

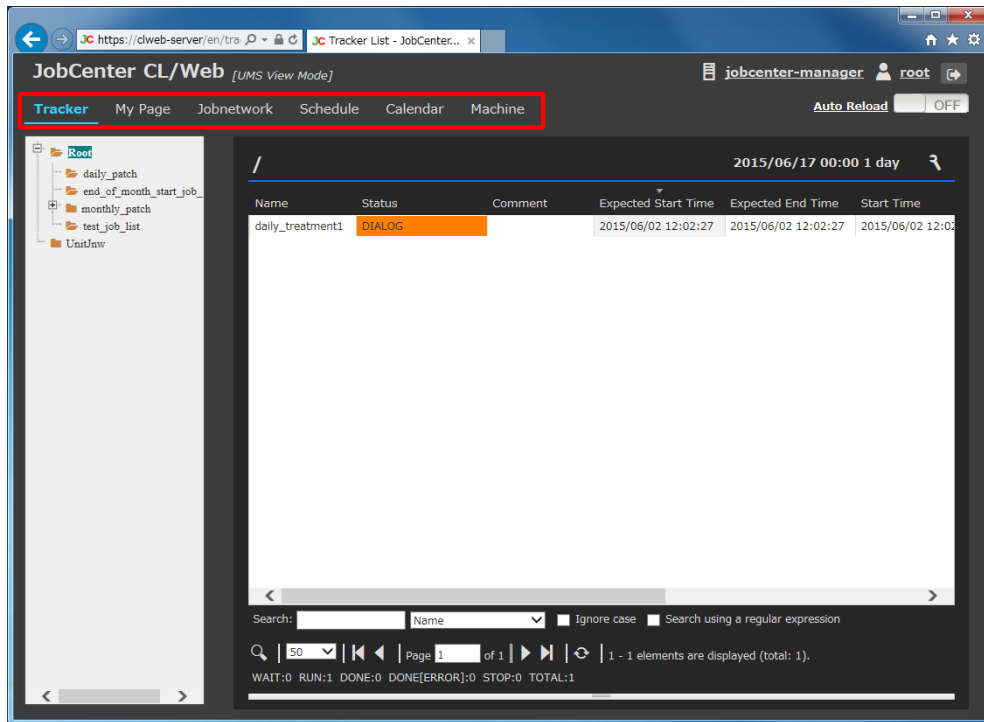


Figure 5.10. Example of order change in the CL/Web screen navigation bar

5.1.6. My Page Function

The My Page function displays a customized window that contains information that is of interest to the user.

For details of the My Page function, refer to [Section 5.10, "My Page Function"](#).

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 TLS (SSL) port number is set to any value other than the default value of 443 (or, when TLS (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.

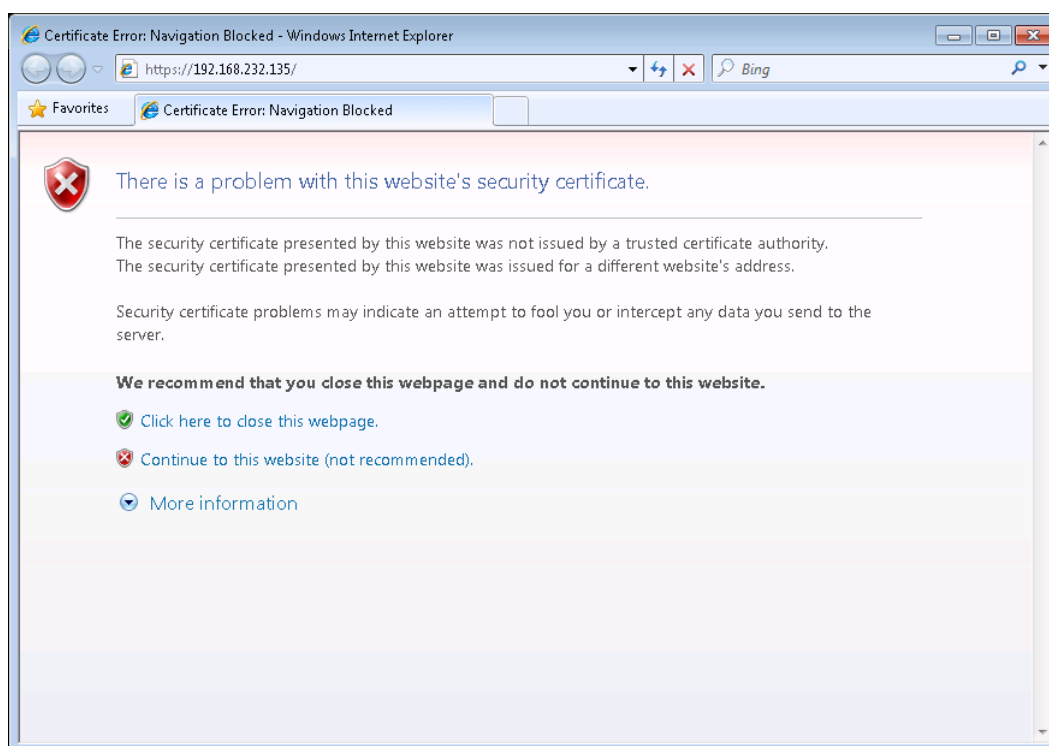


Figure 5.11. Error screen for the certificate

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 the OS does not have a Chinese font, characters are garbled. Install an appropriate font.

■ 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.

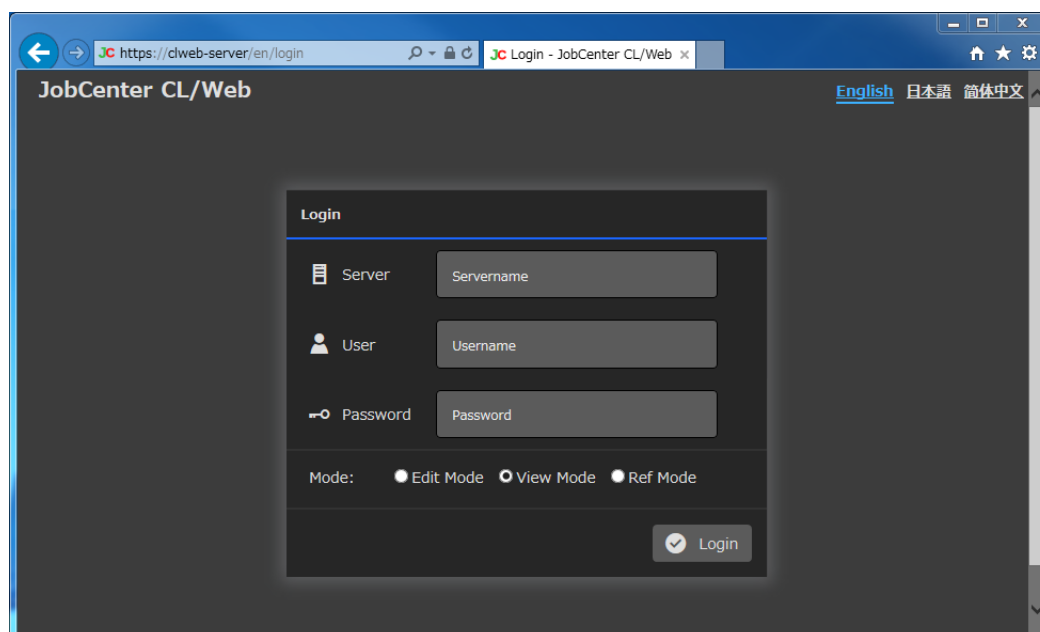


Figure 5.12. Image of the CL/Web login window

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 leftmost tab (initially My Page) is displayed.

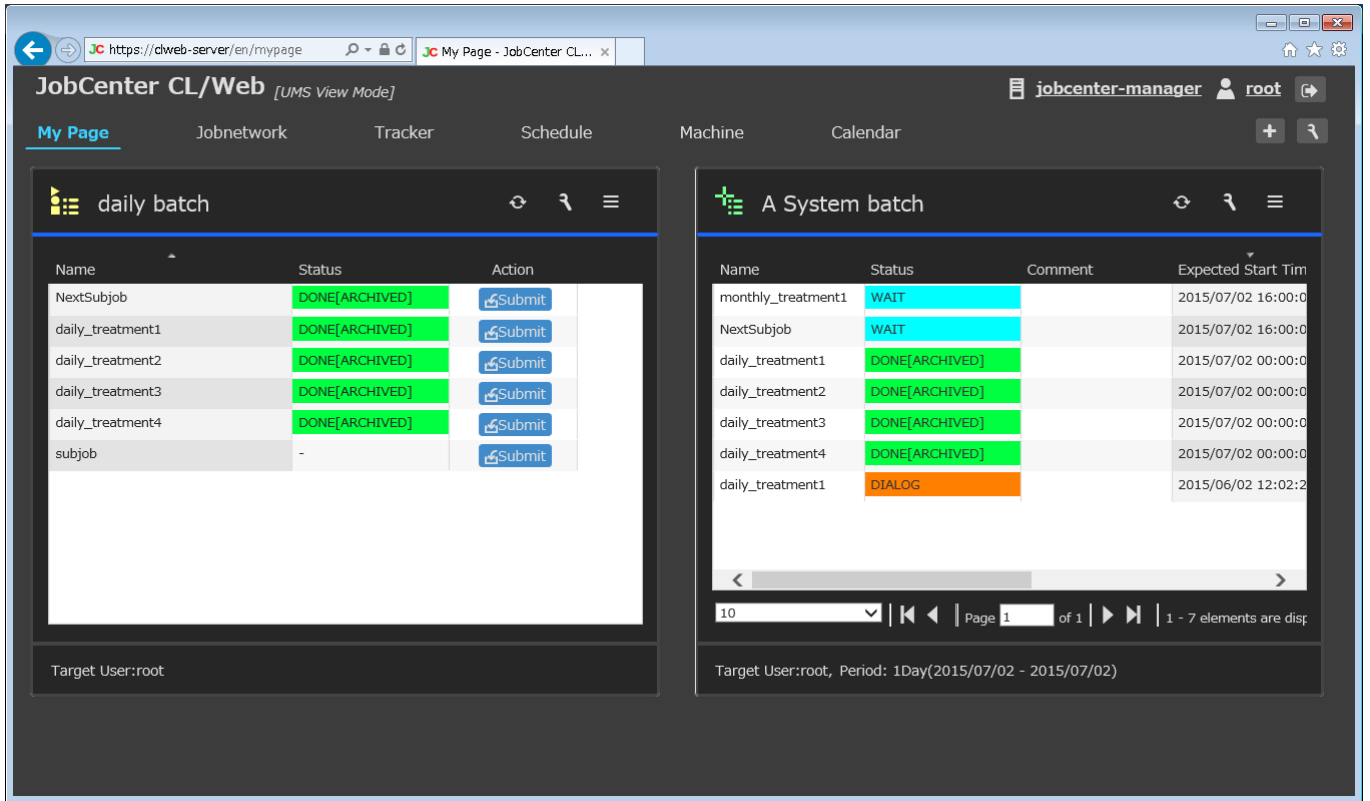


Figure 5.13. Window after logging in to CL/Web

5.3.2. Logging Out

1. Click [Logout] button on the title bar.

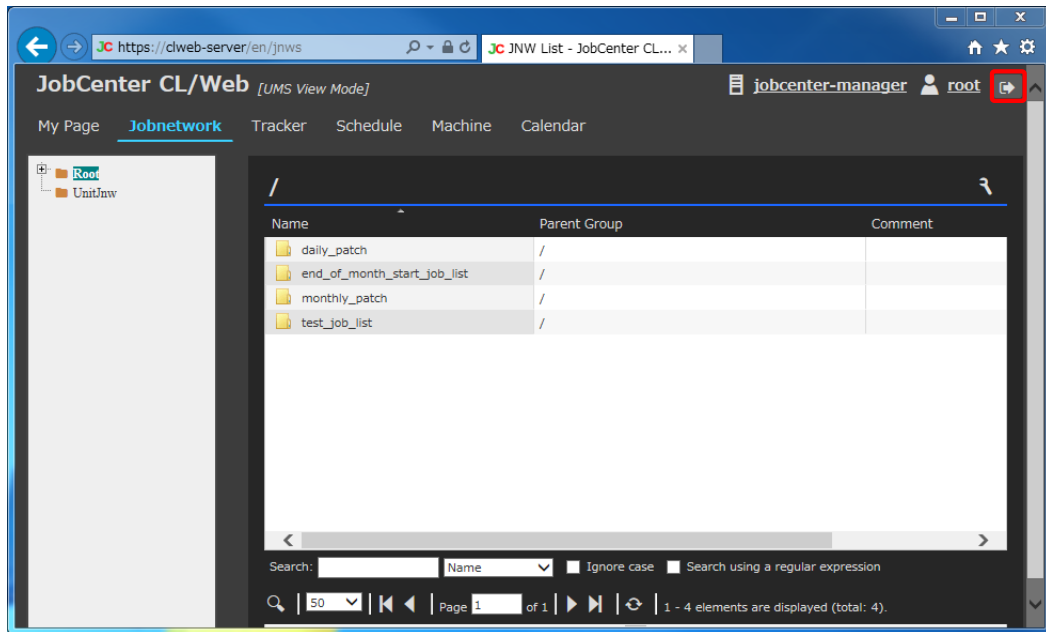


Figure 5.14. Image of the JobCenter CL/Web logout window

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.

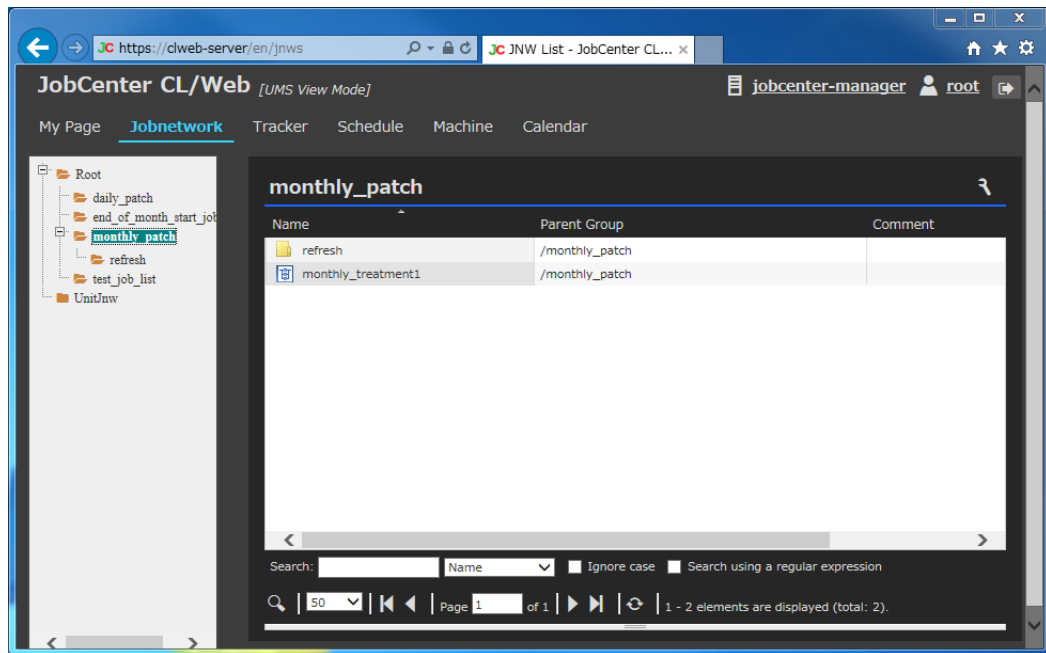


Figure 5.15. Image of the window where a group is selected

■ 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.

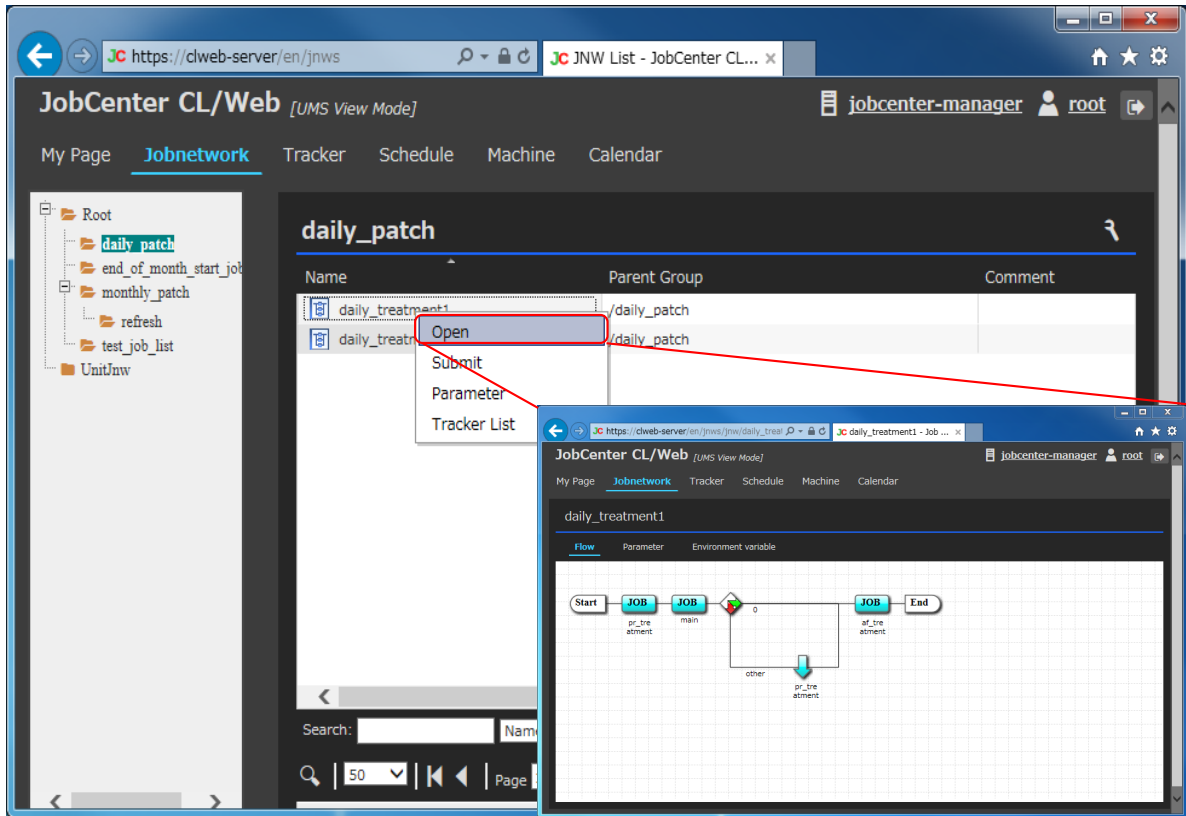


Figure 5.16. Job network display

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.

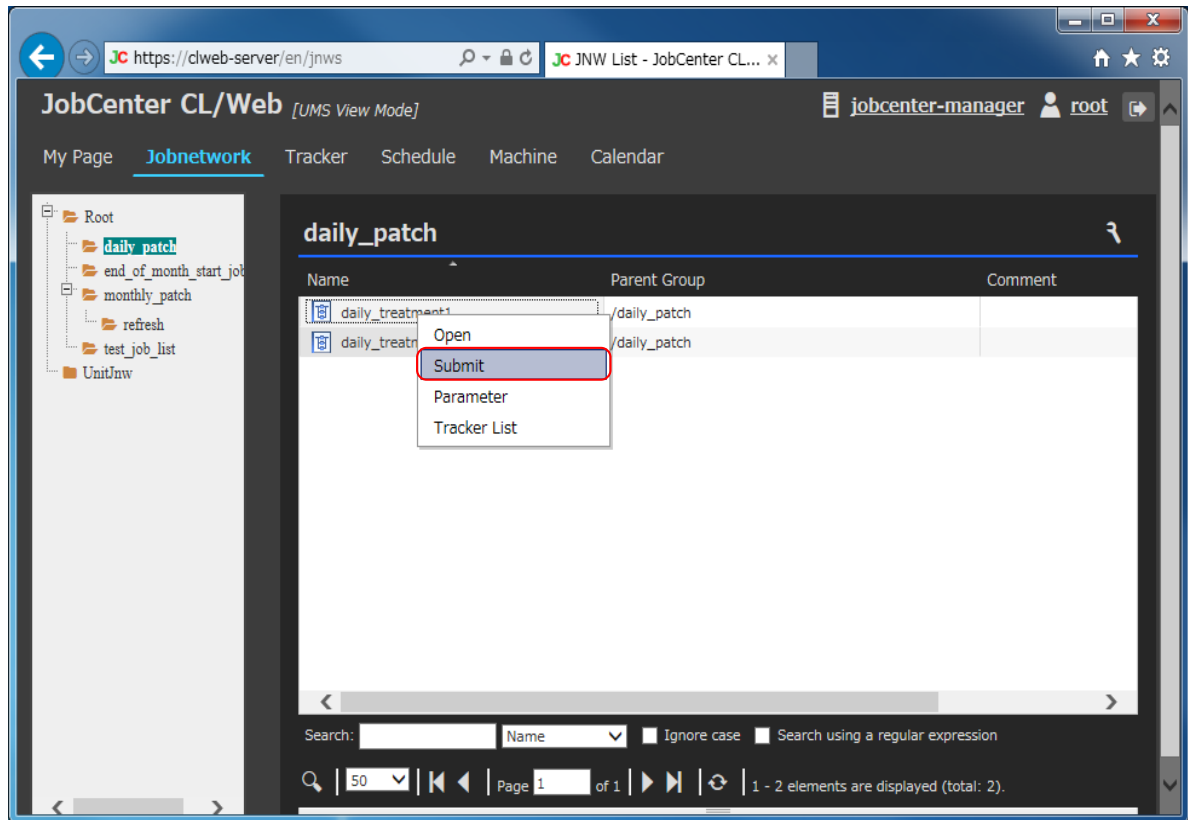


Figure 5.17. Window where [Submit] is selected in the job network display table

3. The [Submit JNW] dialog box opens.
4. Click the [OK] button.

即時投入

投入時間

投入日 2018/7/9 時刻 18 : 00

環境変数

ジョブパラメータ(NSJNW_PARAM)を設定する

複数の環境変数を設定する

詳細設定

コメント

事前設定

保留 スキップ OFF

投入後にトラッカを開く

OK

Figure 5.18. [Submit JNW] dialog box

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

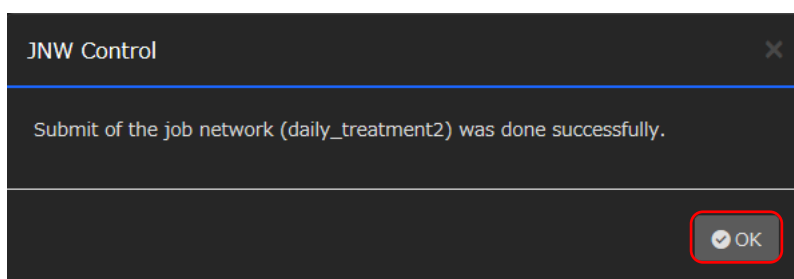


Figure 5.19. Success of job network submission

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.

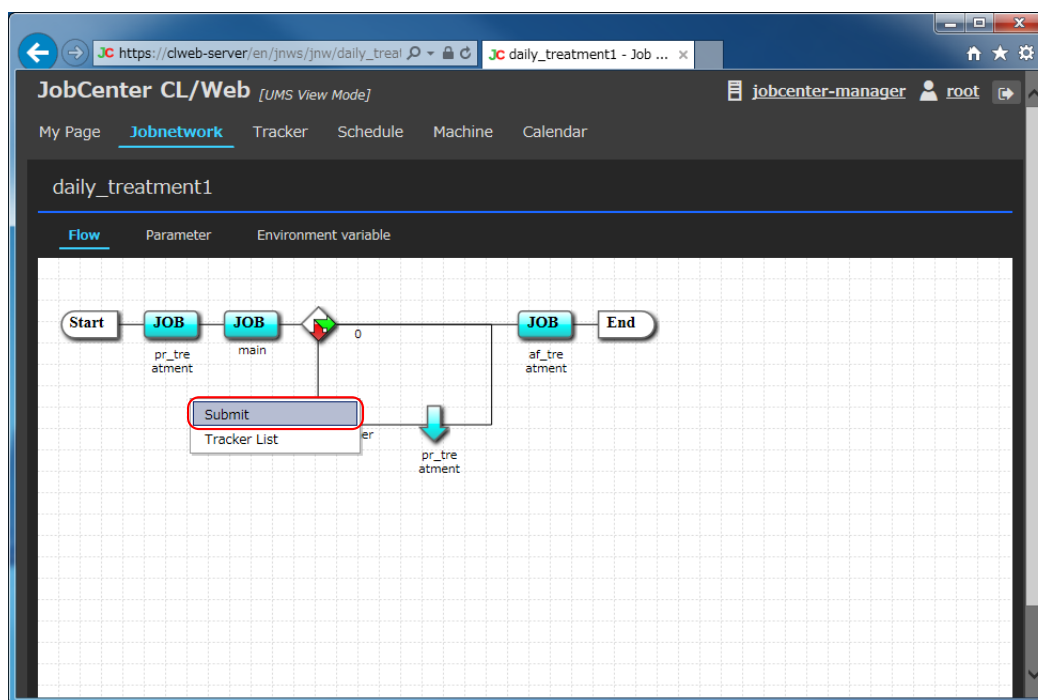


Figure 5.20. Window where [Submit] is selected in the job network display window

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.

■ Environment variable

Set the environment variable to be given to the script of each unit job of the job network. The character string specified here is set to the environment variable for each unit job, and given to the script for each unit job. There are two setting methods as described below.

■ Setting the job parameter (NSJNW_PARAM)

To set or change the environment variable NSJNW_PARAM only, select this method. If the environment variable NSJNW_PARAM is set as the job network parameter, the value is displayed in the upper text box, and you can change this value to the desired one. In the lower text box, the description of the environment variable is displayed.



In the version R12.7 or earlier, only one environment variable can be set as the job network parameter, and this value is regarded as the job parameter (environment variable NSJNW_PARAM). In the later versions, the desired environment variables can be set as the

job network parameter. If the environment variable NSJNW_PARAM is set, this variable is displayed as the job parameter value.



After clearing the value displayed as the initial value and submitting while the value is null, the existing [Job parameter] value is valid.

- Setting more than one environment variable

To set more than one environment variable, select this method. Press the [Details] button to display the [Environment variable list] dialog box, and set the desired environment variable at this time.

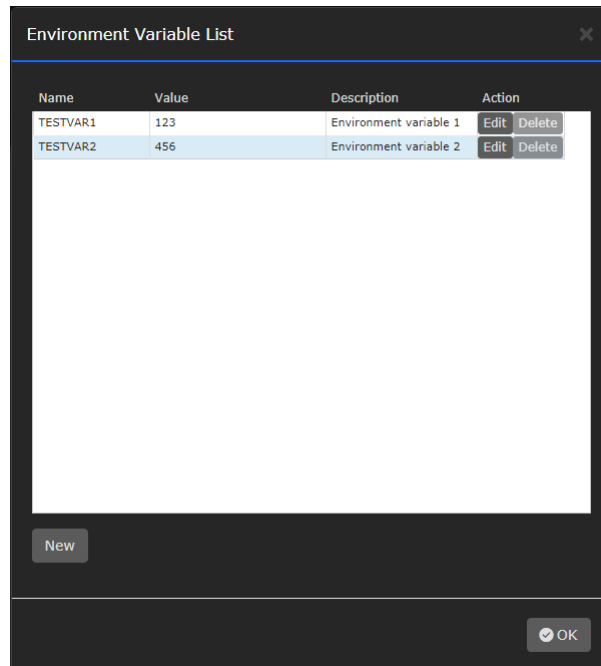


Figure 5.21. [Environment variable list] dialog box

- New

Press the [New] button to open the [Environment variable setting] dialog box, and enter the variable name and variable value.

- Edit

Press the [Edit] button of the action to display the [Environment variable setting] dialog box. For the environment variable preset as the environment variable of the job network parameter, only the variable value can be changed. For the environment variable newly set in this [Environment variable list] dialog box, the variable name and variable value can be changed.

- Delete

Press the [Delete] button of the action to delete the environment variable you want to delete. The environment variable newly set in this [Environment variable list] dialog box can be changed, while the environment variable preset as the environment variable of the job network parameter cannot be changed.

The variable name and variable value that can be entered in the dialog have restrictions. For details, refer to [Table 5.3, "Restrictions on the entry of the variable name and variable value"](#) described below.

Table 5.3. Restrictions on the entry of the variable name and variable value

Variable name	51 bytes	1. Leaving the variable name blank is prohibited. 2. Use of a space, tab, and special characters, and following characters is prohibited. =#'''
Variable value	512 bytes	Use of a tab, and special characters, and following characters is prohibited. #'''

■ 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 in <Environment Guide>Section 6.6, "Changing Color Settings".

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.

Figure 5.22. Tracker display in the tracker display table

■ Tracker list columns

Column name	Description	Remark
Name	Displays the job network name.	

Column name	Description	Remark
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.	



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 the [Settings] icon at the upper right of the display table, with trackers displayed.

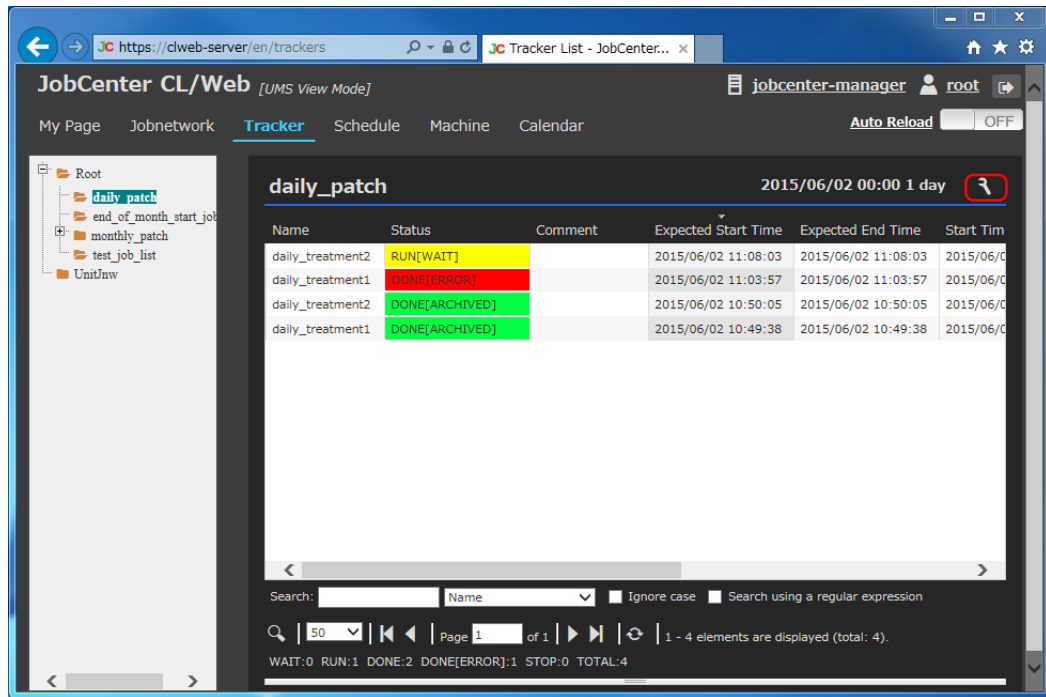


Figure 5.23. Settings

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

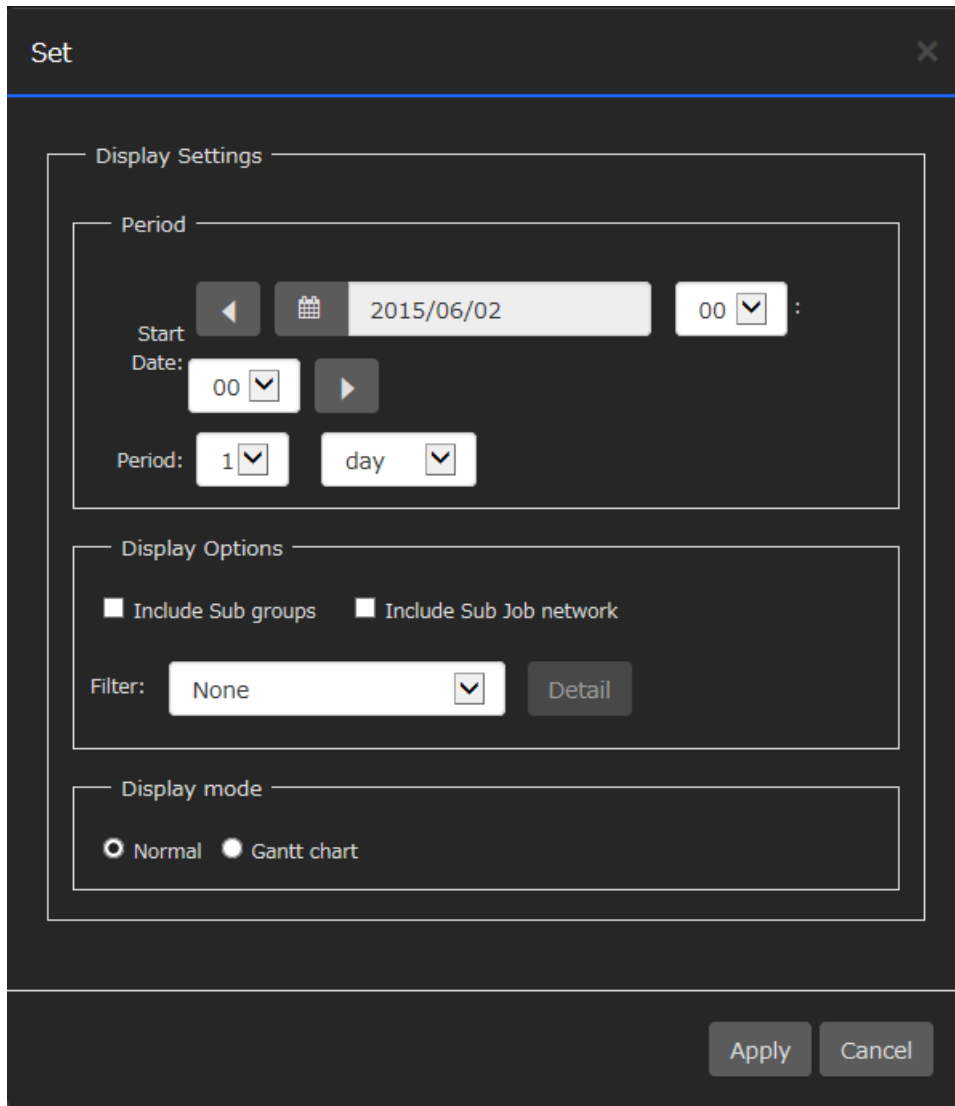


Figure 5.24. [Set] dialog box

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.

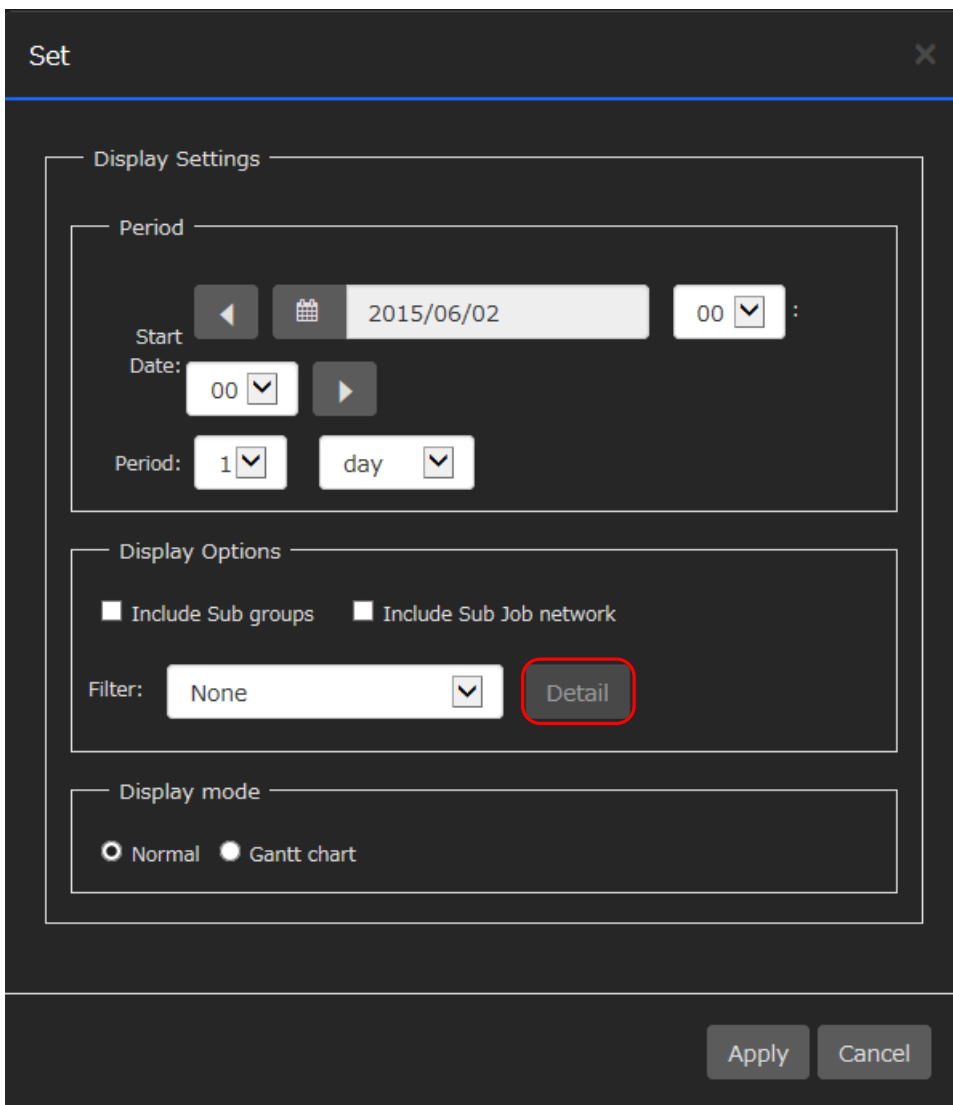


Figure 5.25. [Detail] button

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

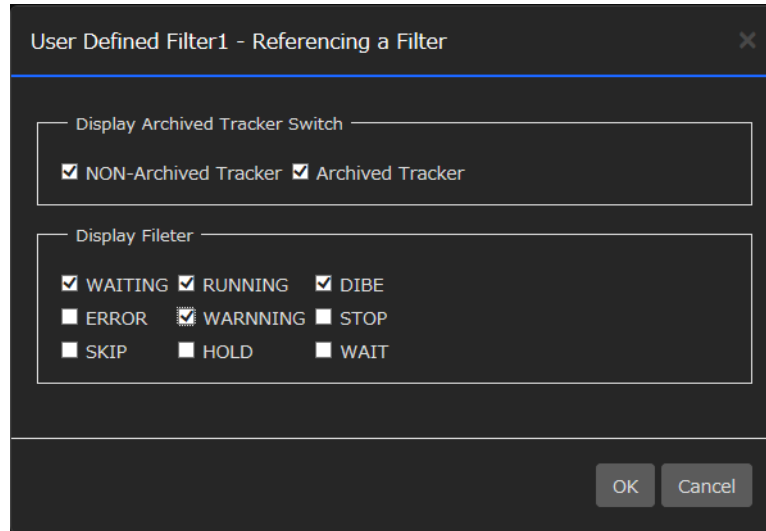



Figure 5.26. [Editing a Filter] dialog box

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.

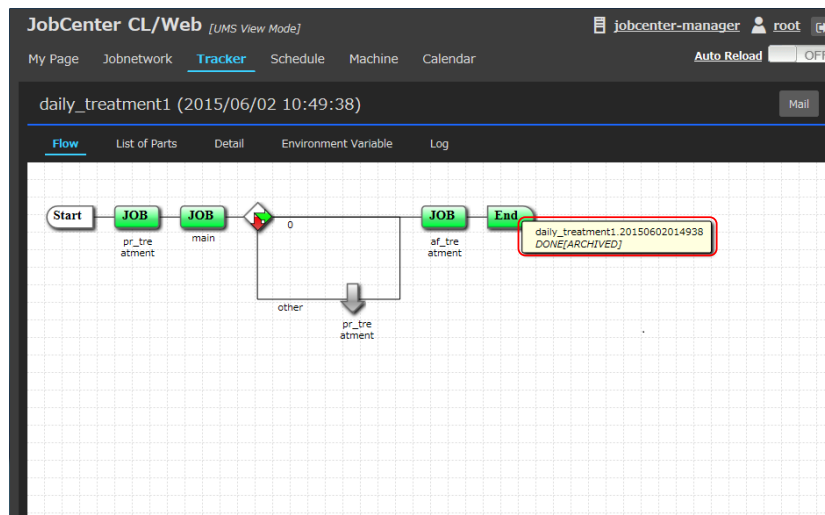


Figure 5.27. Job flow display window



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.

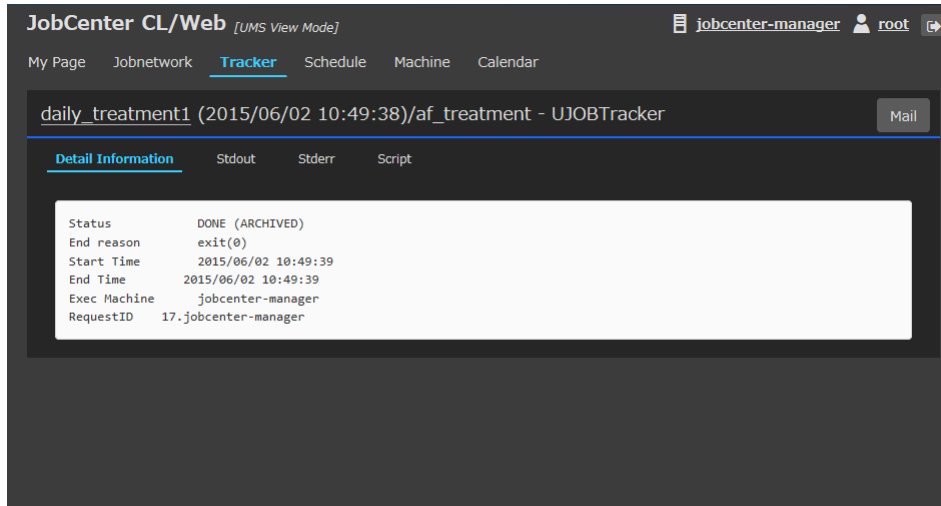


Figure 5.28. Detailed information window of a part



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, 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.

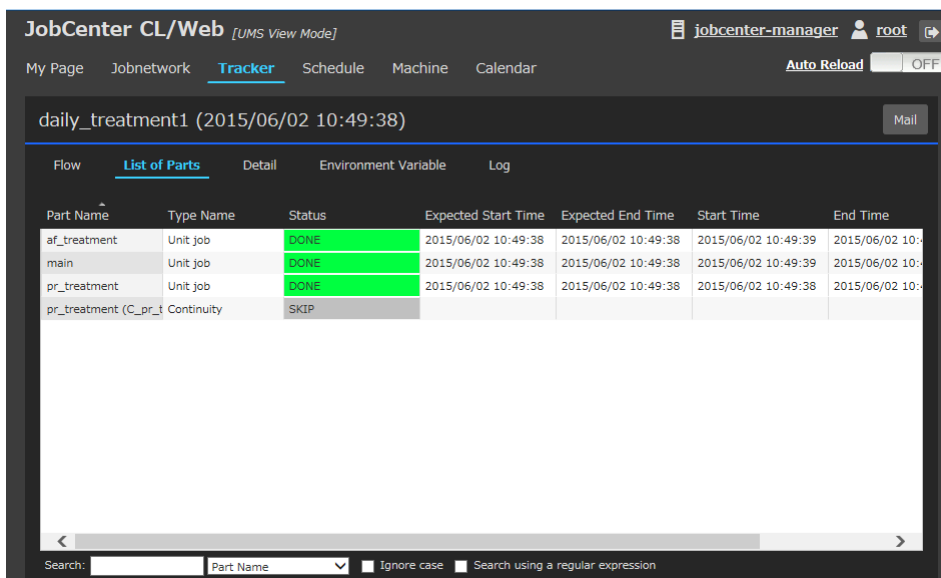


Figure 5.29. Part list window



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"](#).



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.

5.5.2. 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.

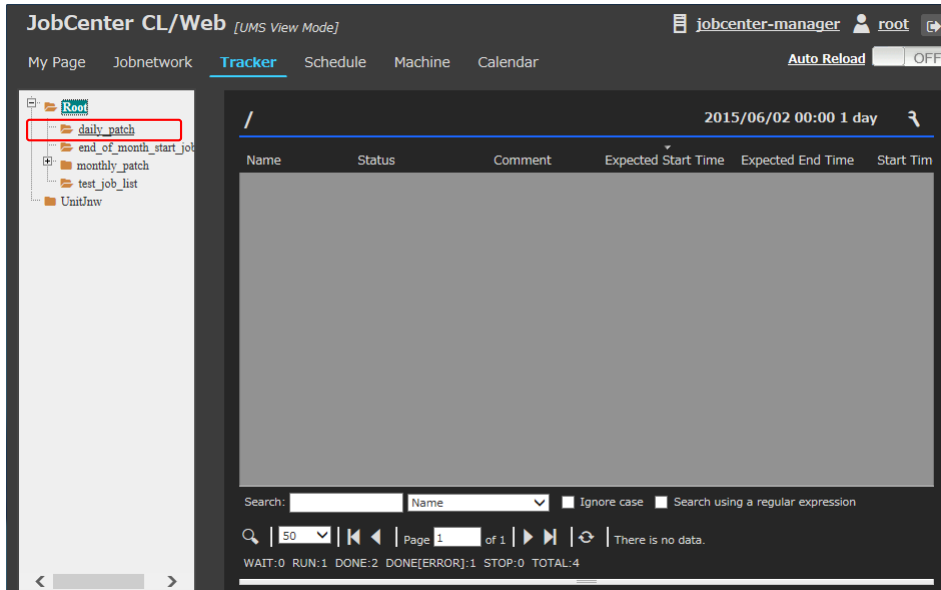


Figure 5.30. Window where a group name is selected

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.

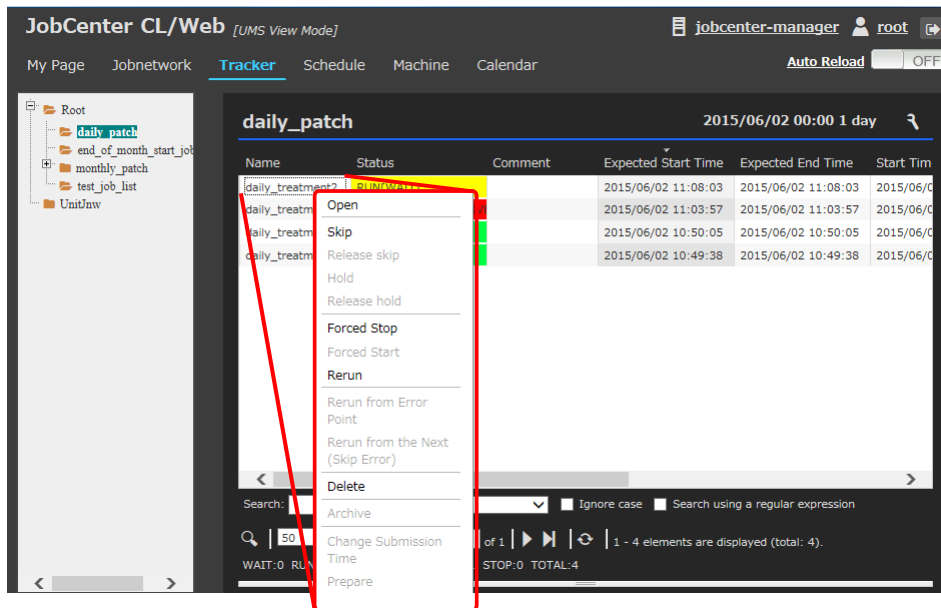


Figure 5.31. Shortcut menu screenshot

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 in <Basic Guide>Section 8.16.12, "Manually Archiving the Tracker".

■ Change Submission Time

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

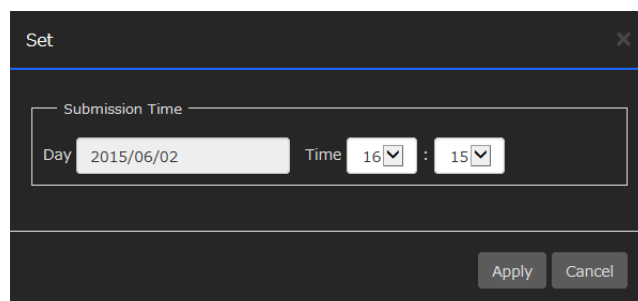


Figure 5.32. Window where the submission time is changed

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.

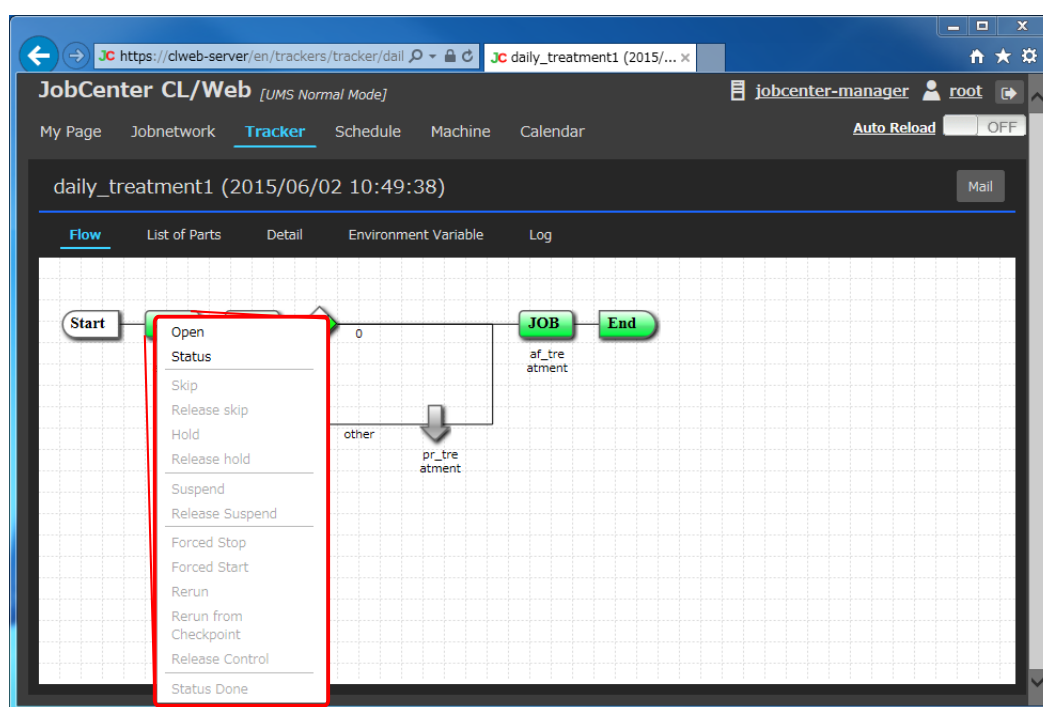



Figure 5.33. Detailed information window of a unit job tracker part

Operations on the shortcut menu which appears by right-clicking are as follows. For details, refer to in <Basic Guide>Section 8.17.1, "Operating a Unit Job Tracker Icon".

- 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.

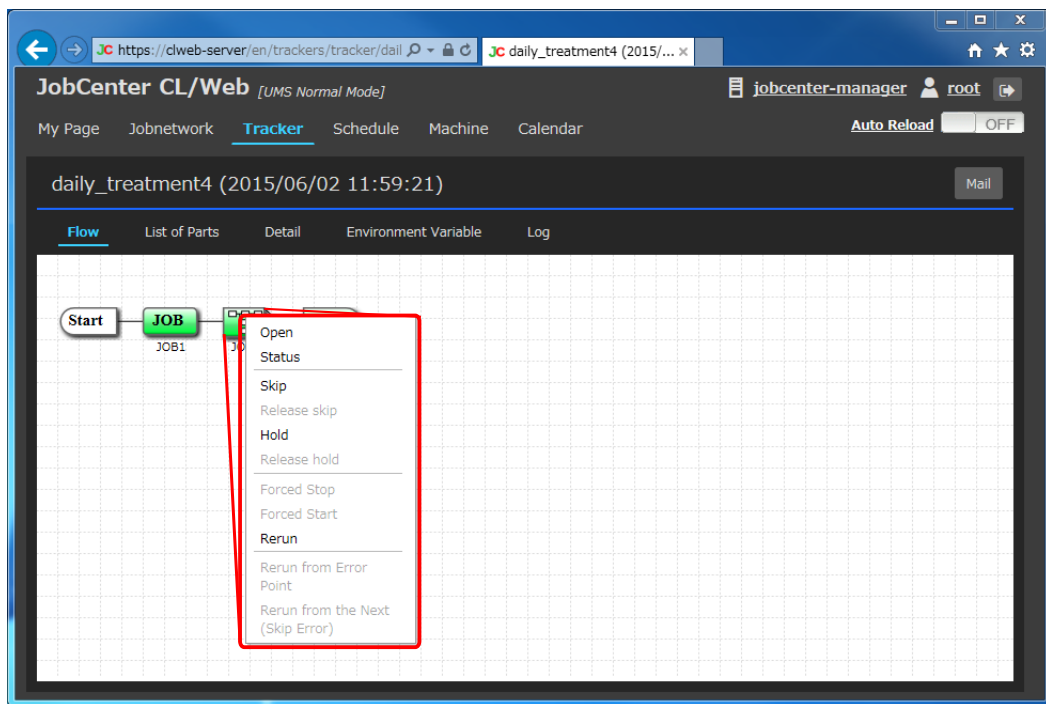



Figure 5.34. Detailed information window of a sub job tracker part

Operations on the shortcut menu which appears by right-clicking are as follows. For details, refer to in <Basic Guide>Section 8.18, “Operating a Sub Job Network Tracker”.

- 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.

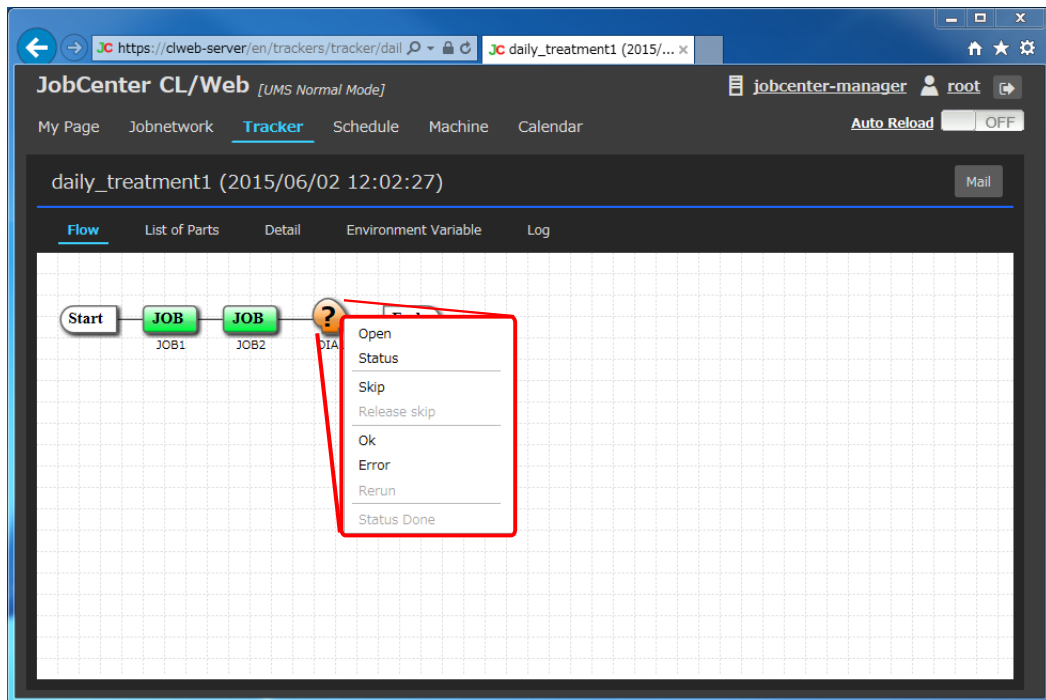



Figure 5.35. Detailed information window of a dialog tracker part

Operations on the shortcut menu which appears by right-clicking are as follows. For details, refer to in <Basic Guide>Section 8.19, “Responding to a Dialog (Deciding a completion status)”.

- 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.

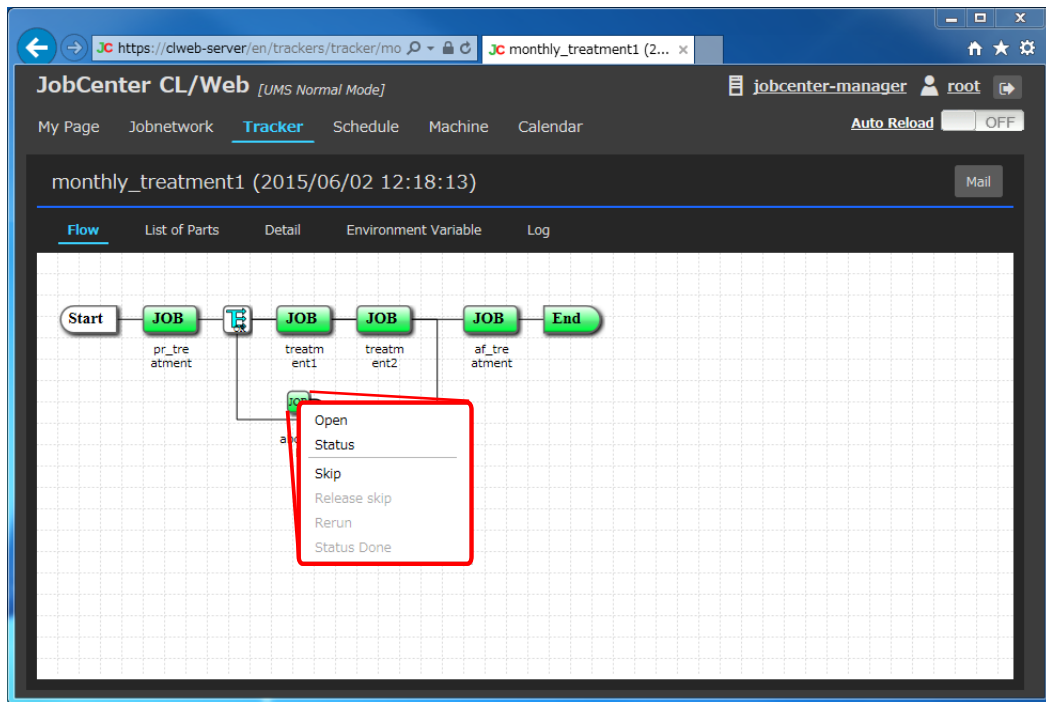


Figure 5.36. Detailed information window of a job waiting part

Operations on the shortcut menu which appears by right-clicking are as follows. For details, refer to in <Basic Guide>Section 8.20, “Skipping Waiting Part and Event Transmission/Reception Jobs”.

Table 5.4. 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

Basic Operations

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■ 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, list of parts, 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.)

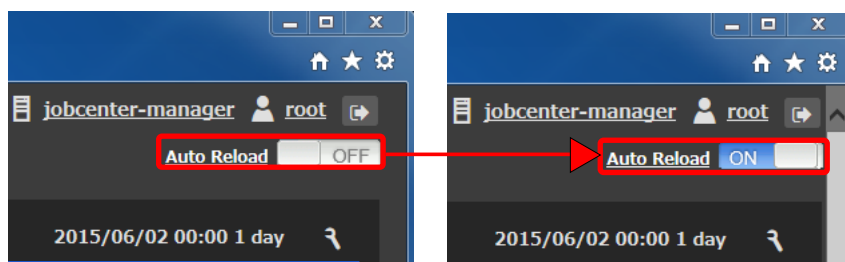


Figure 5.37. Change to automatic reload ON state

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 to all users.

The format and item of the clweb.conf file that are related to the initial setting of the automatic reload are as follows.

Table 5.5. 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.	True/false value	false (default value)

The status of the automatic reload slide bar is determined by the initial value set in the clweb.conf file when access is made for the first time.

If you change the status of the automatic reload slide bar after that, the new status is stored in a browser cookie. If a status is stored in a browser cookie, the status of the slide bar is determined by the information stored in the cookie without referencing the value set in the clweb.conf file.

■ First access (browser cookie has no data)

-> The status of the automatic reload slide bar is determined by the initial value set in the clweb.conf file.

■ If the status of the automatic reload slide bar is changed to ON

-> "Automatic reload slide bar: ON" is recorded in the cookie, and the automatic reload is performed.

■ If the status of the automatic reload slide bar is changed to OFF

-> "Automatic reload slide bar: OFF" is recorded in the cookie, and the automatic reload is not performed.



If the browser cookie is cleared or expires, the status of the automatic reload slide bar is determined by the setting in clweb.conf.

The browser cookie expires one year after the status of the automatic reload slide bar is changed.

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.

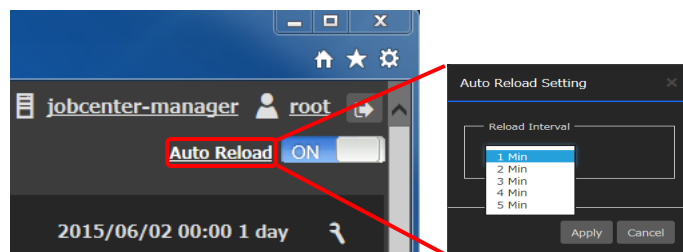


Figure 5.38. [Auto Reload Setting] dialog box

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.

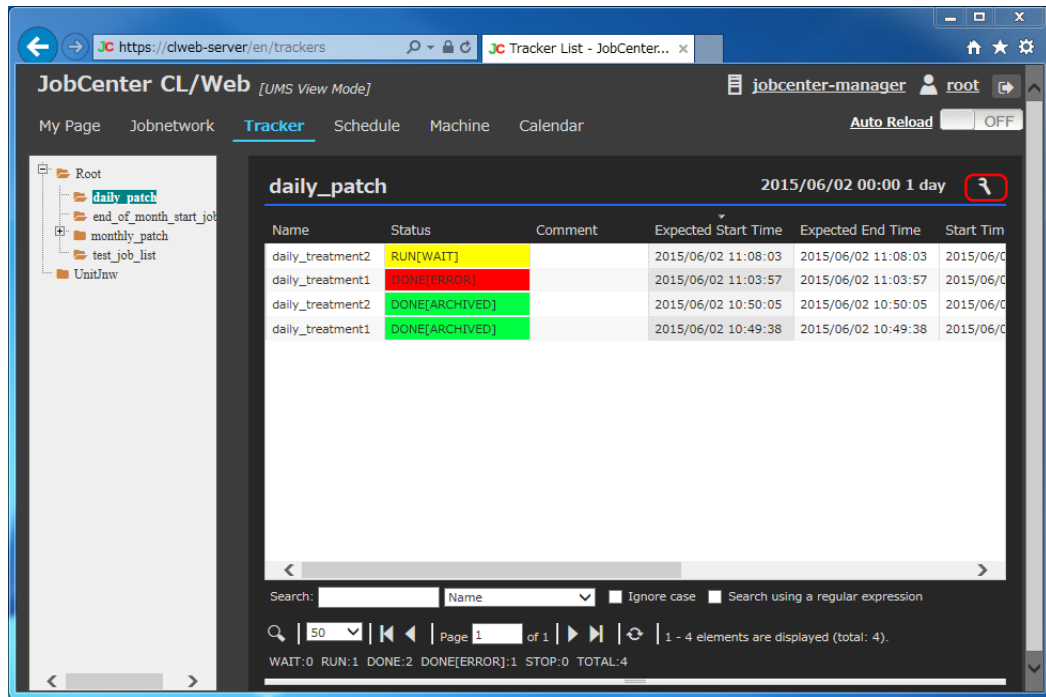


Figure 5.39. [Set] button

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

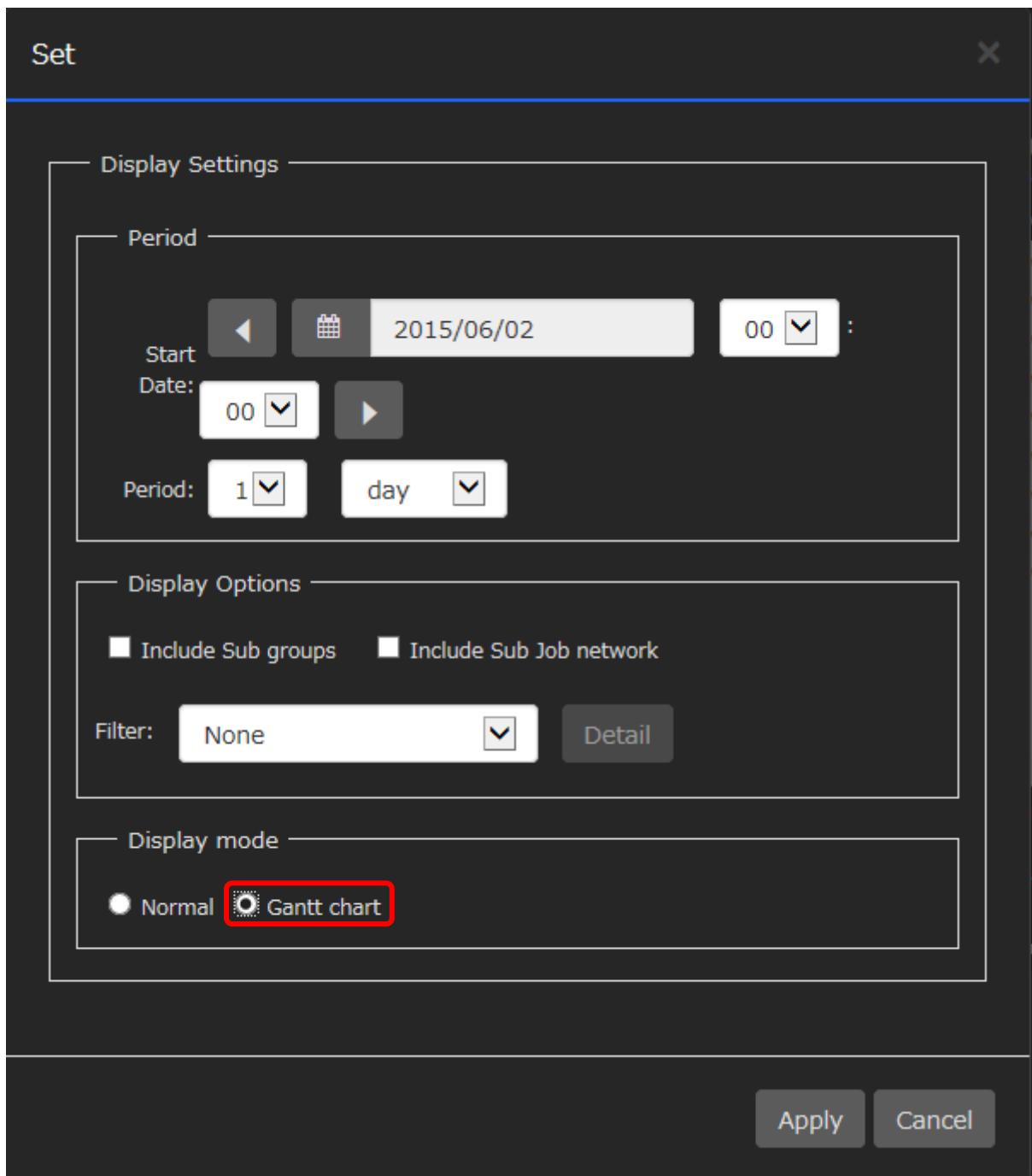


Figure 5.40. Switch to [Gantt chart] in the [Set] dialog box

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

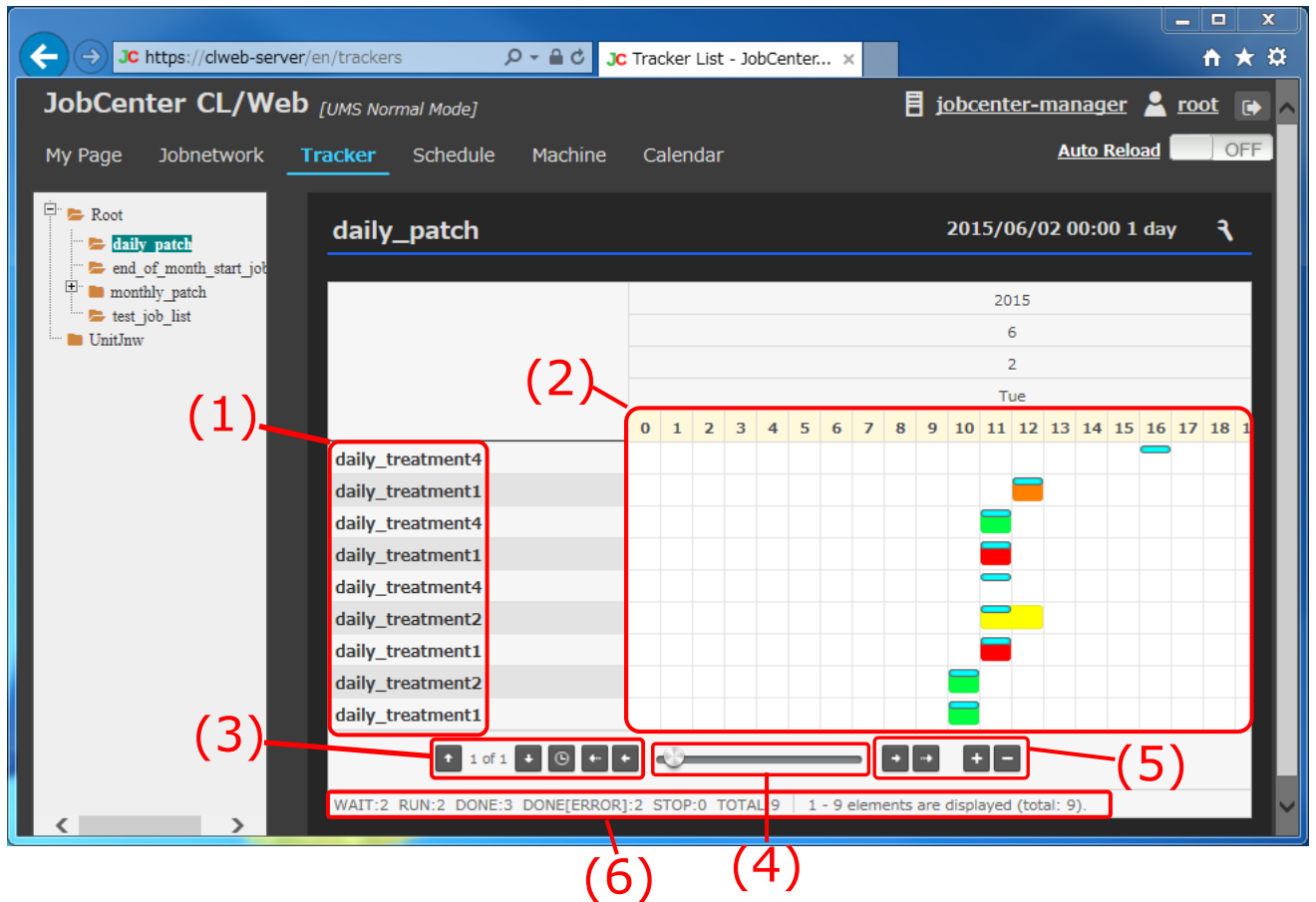


Figure 5.41. Displaying a Gantt chart of trackers

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	Displays the tracker names. Clicking a tracker name displays its tracker flow screen. Right-clicking a tracker name displays the shortcut menu for operating the tracker.	
(2) Display table	Displays the start time and the end time of each tracker as a horizontal bar. Narrow horizontal bars show planned start/end time. Wide horizontal bars show actual start/end time. The color of wide horizontal bar corresponds to the tracker's status.	
(3) Page switching button	Switches the pages when all the trackers cannot be contained in one screen.	

Column name	Description	Remark
(4) Slide bar	Use this bar to scroll the Gantt chart in the horizontal-axis direction.	
(5) Scale change button	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: 1 minute, 15 minutes, 30 minutes, 1 hour, 6 hours, 12 hours, 1 day, 1 month	
(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.

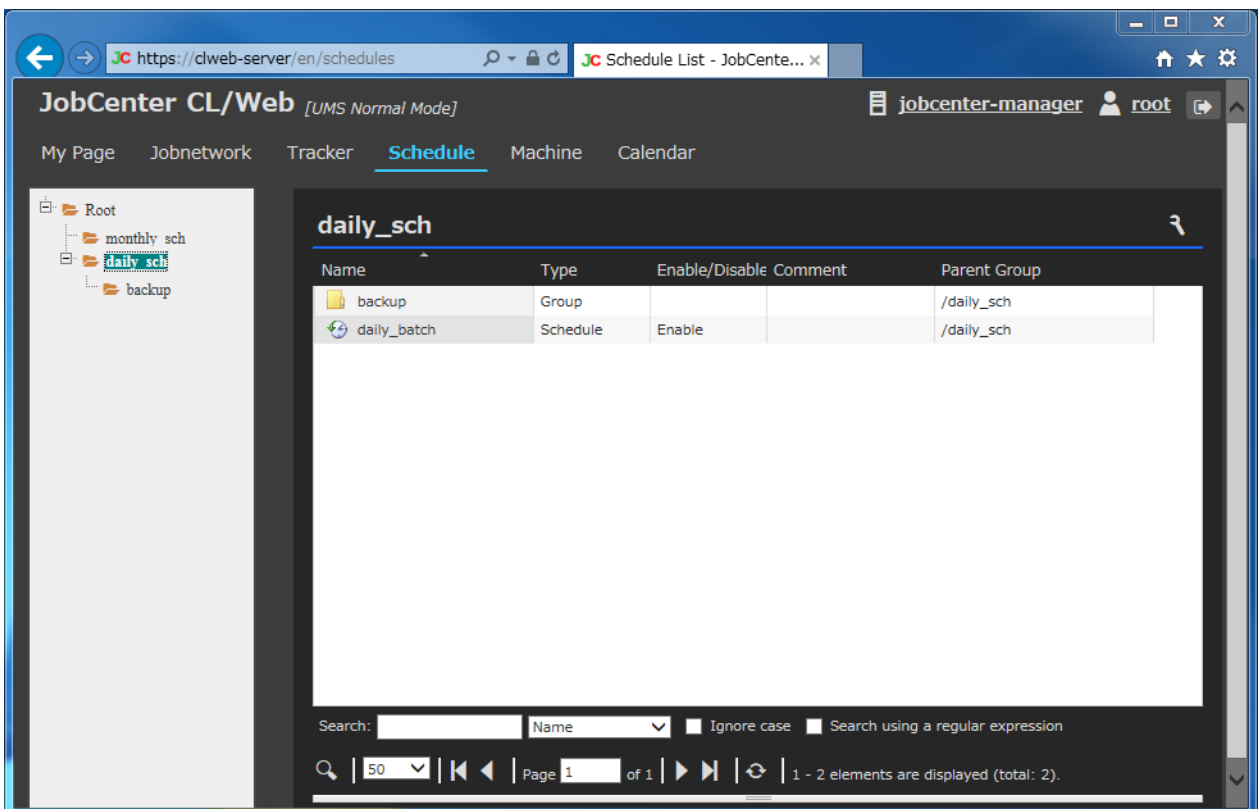


Figure 5.42. Image of the window where a group is selected

■ 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.

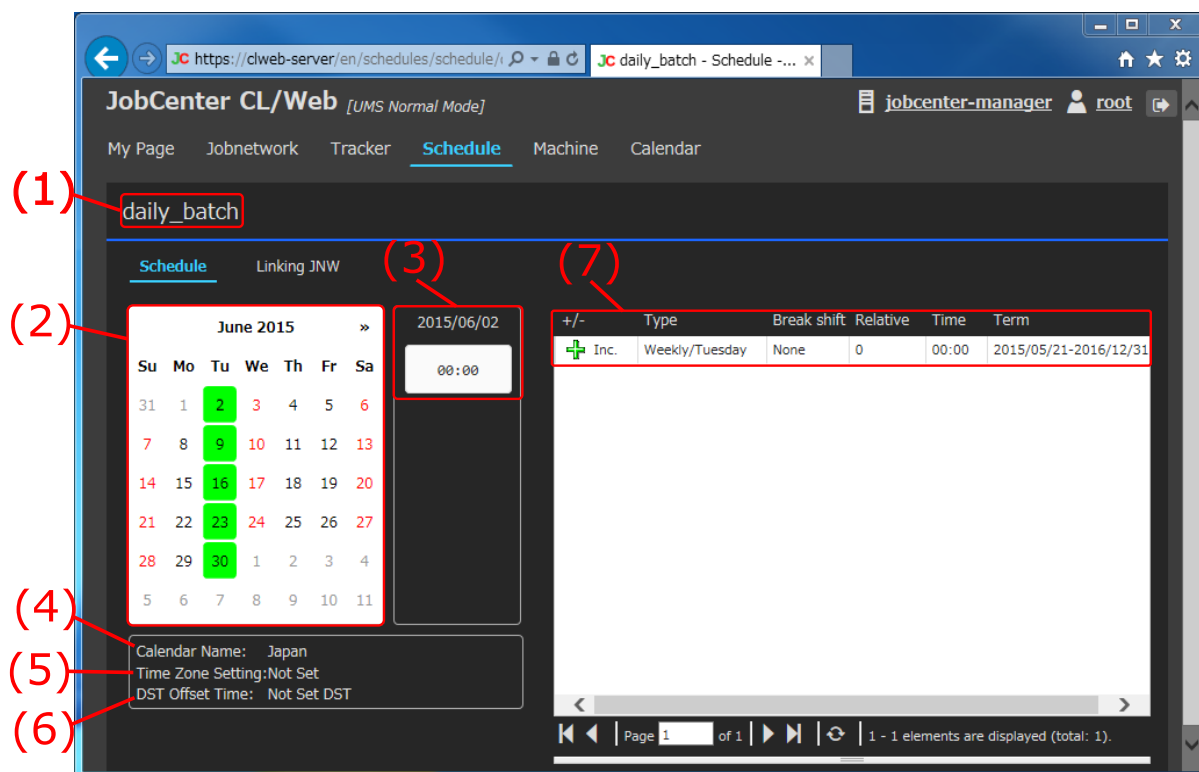


Figure 5.43. Schedule definition display window

■ 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.

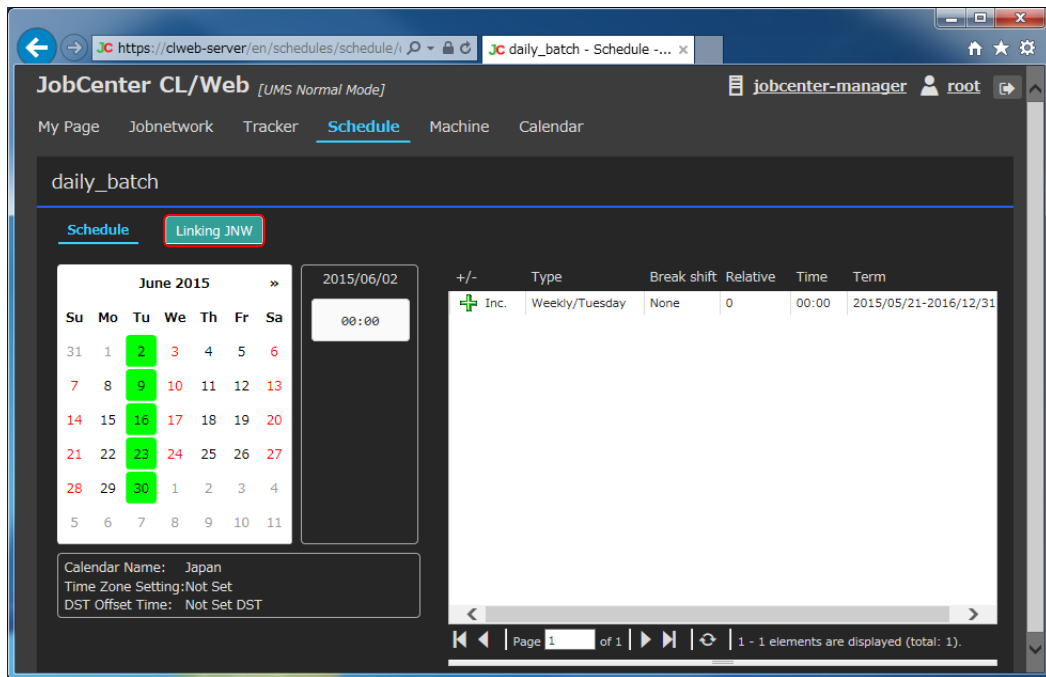


Figure 5.44. Clicking the [Linking JNW] Tab

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

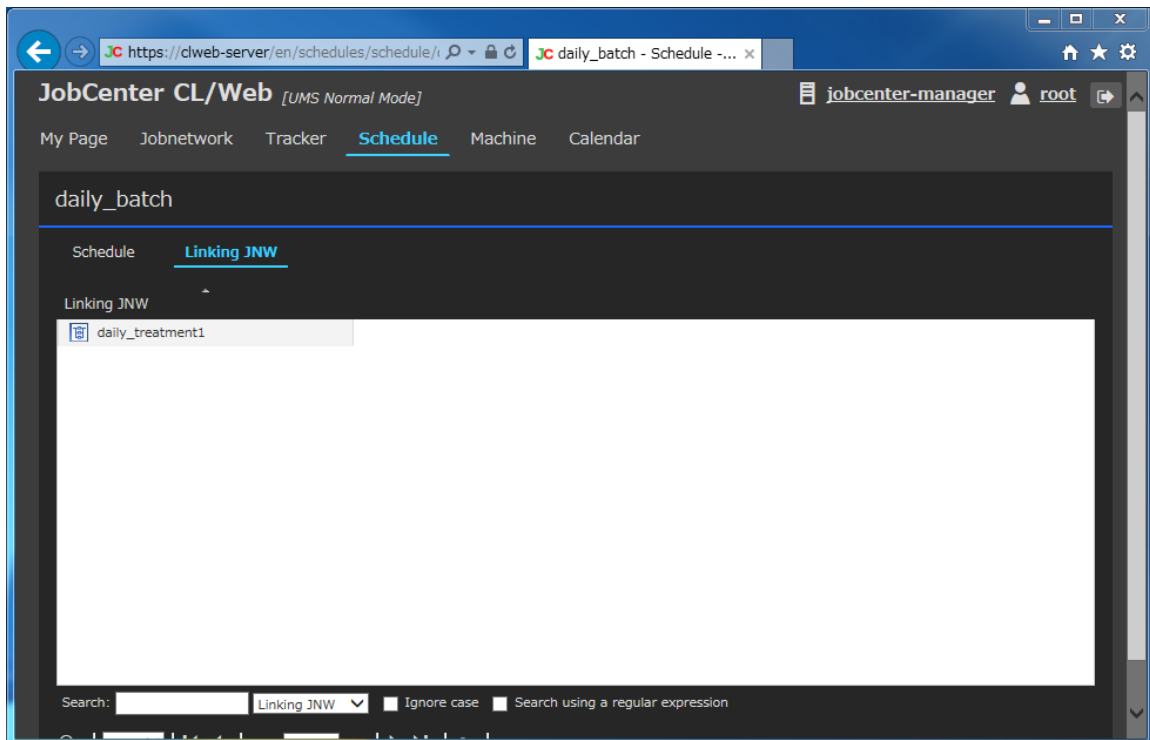


Figure 5.45. Linking JNW window

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.

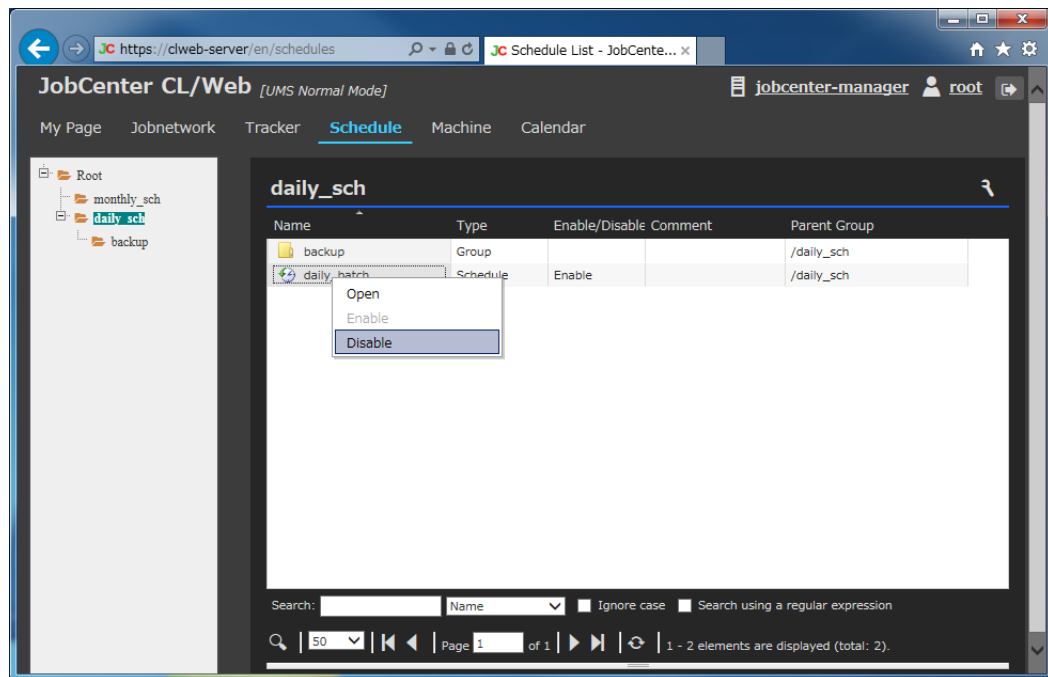


Figure 5.46. Shortcut menu screenshot

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

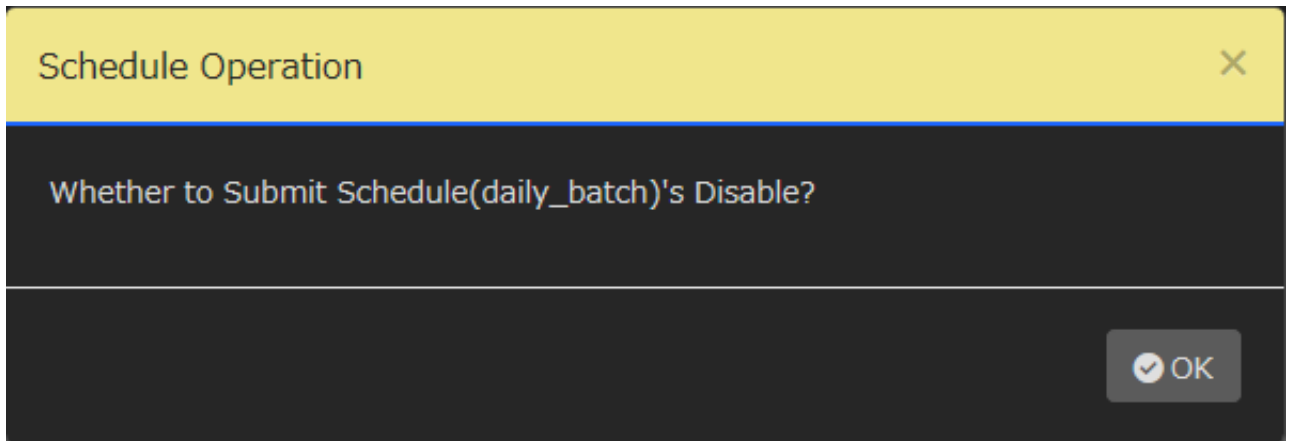


Figure 5.47. [Schedule Operation] dialog box

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

6. Click the [OK] button.

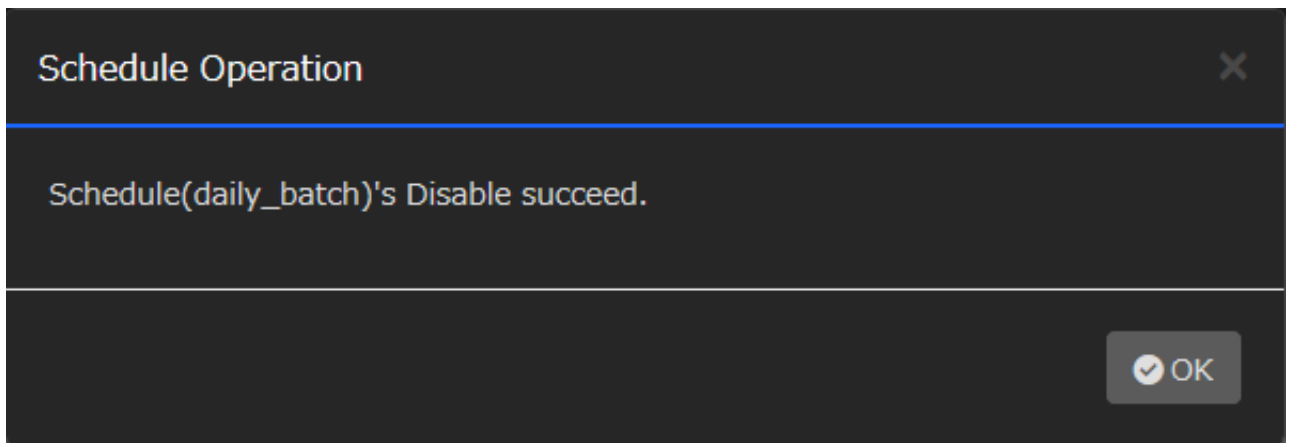


Figure 5.48. Success of operating schedule

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.

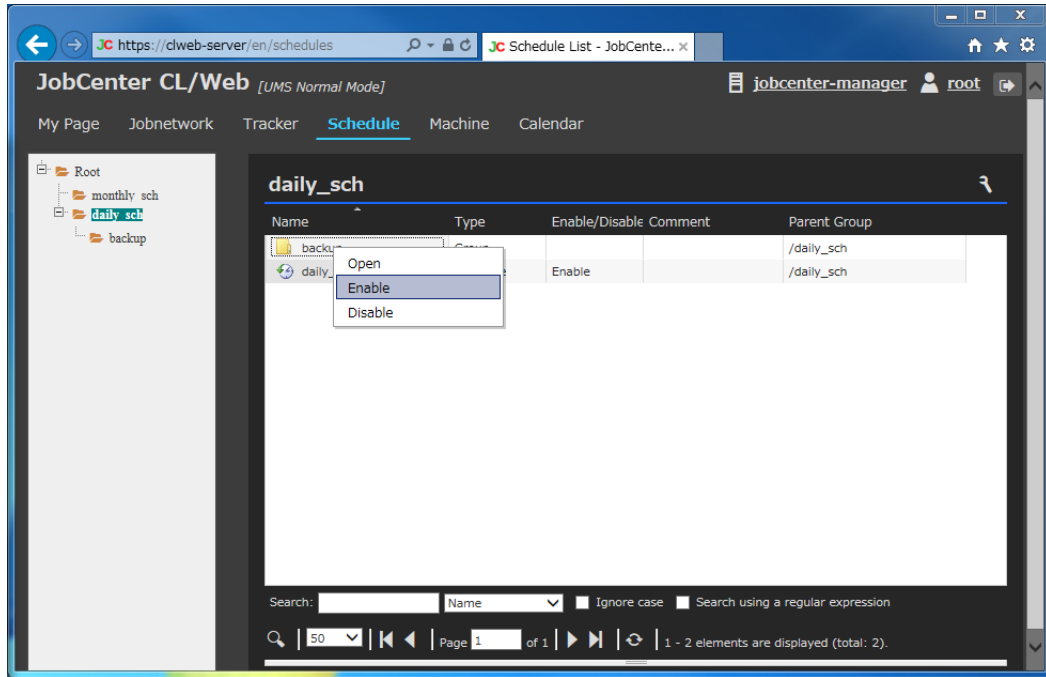


Figure 5.49. Shortcut menu screenshot

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

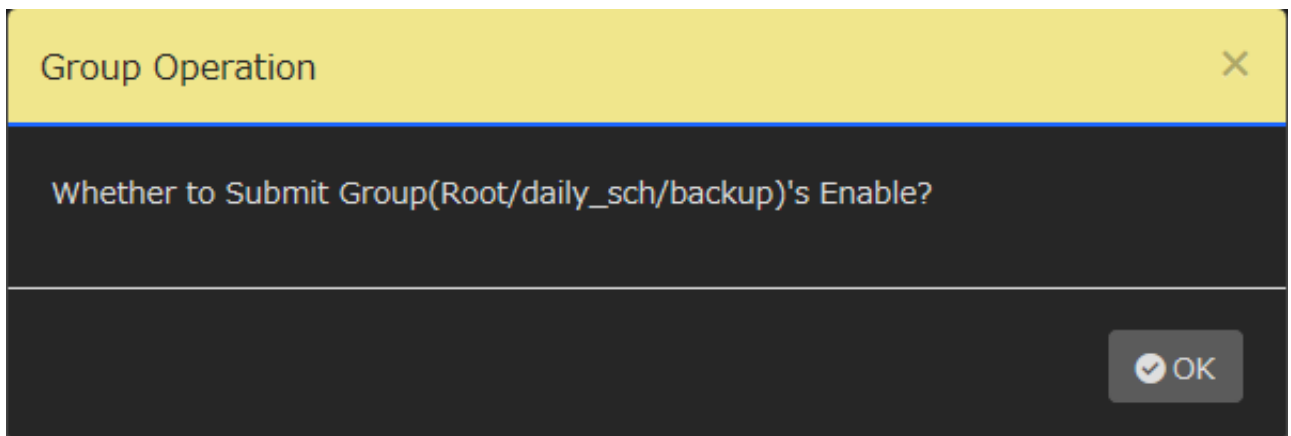


Figure 5.50. [Group Operation] dialog box

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

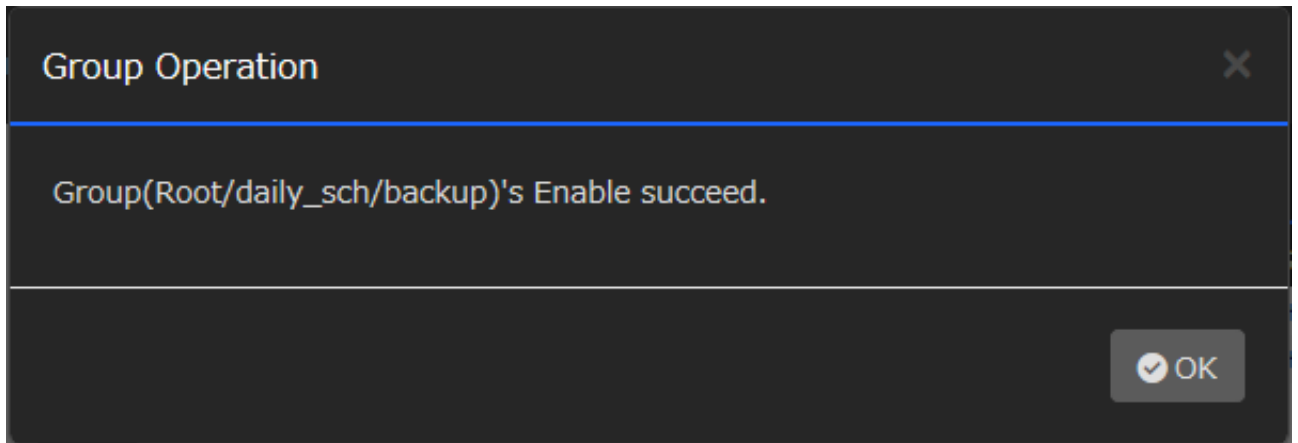


Figure 5.51. Success of enabling schedules under the group

5.7. Trigger-related Operations

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

5.7.1. Viewing a List of Triggers

1. Select [Trigger] on the navigation bar.
2. The trigger list appears in the display table.

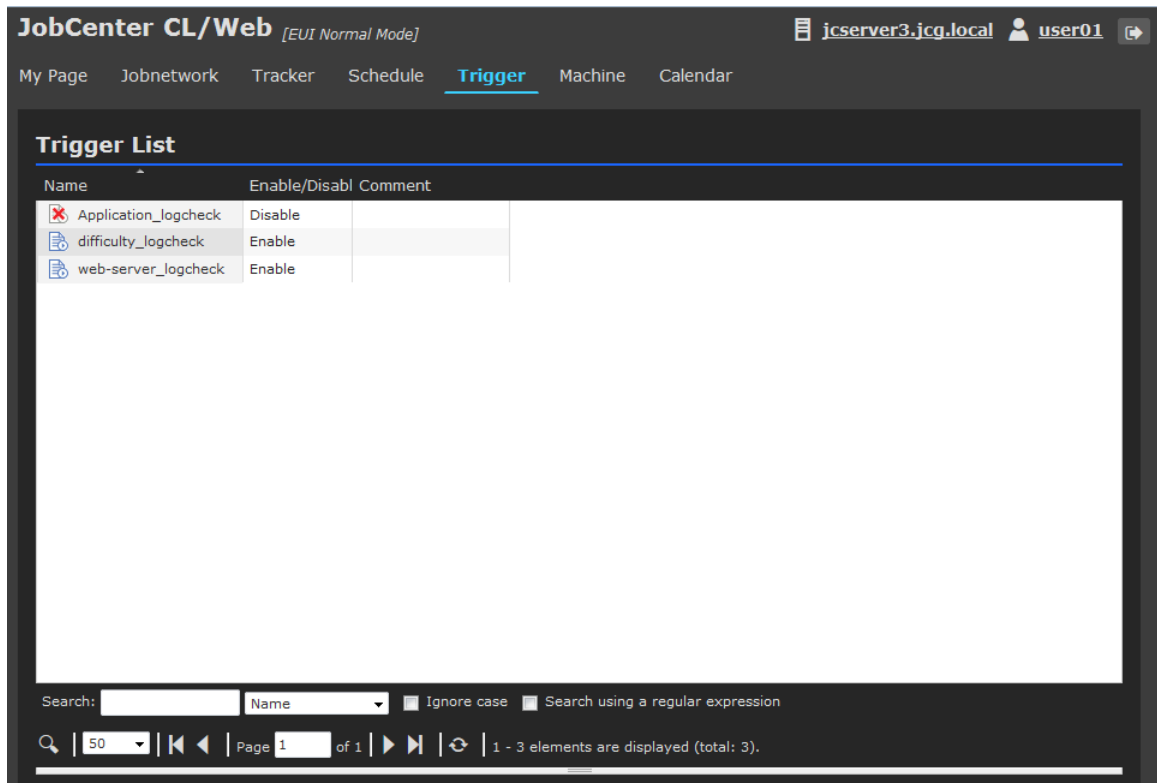


Figure 5.52. Trigger list screen

■ Display table list columns

Column name	Description	Remark
Name	Displays the name of the trigger.	
Enabled/Disabled	Displays whether the trigger is enabled or disabled.	
Comment	Displays the comment for the object.	

5.7.2. Viewing the Trigger Definition

1. In the trigger list display window, place the cursor on the name of the trigger whose definition you want to view, and then click it.
2. The definition of the selected trigger is displayed.

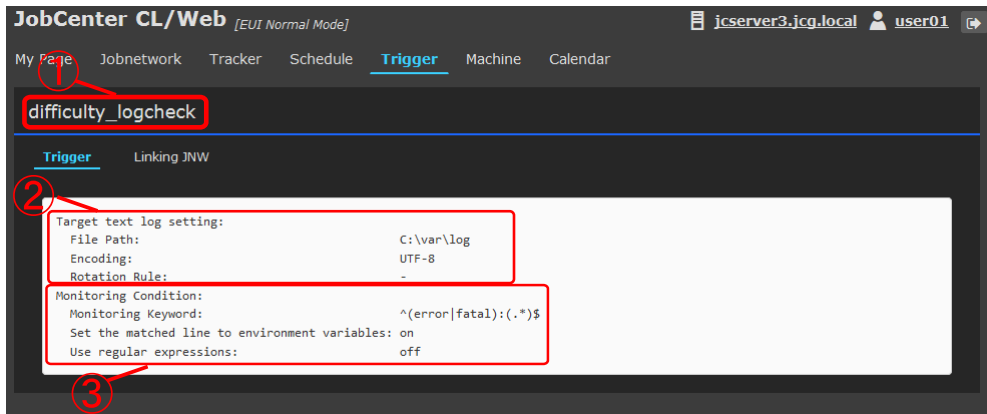


Figure 5.53. Trigger definition display window

■ Trigger definition columns

Column name	Description	Remark
(1) Trigger definition name	Displays the name of the trigger definition.	
(2) Target text log setting	Displays the information on the file to be monitored.	
(3) Conditions for monitoring	Displays the conditions for monitoring.	

5.7.3. Viewing the Linking JNW

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

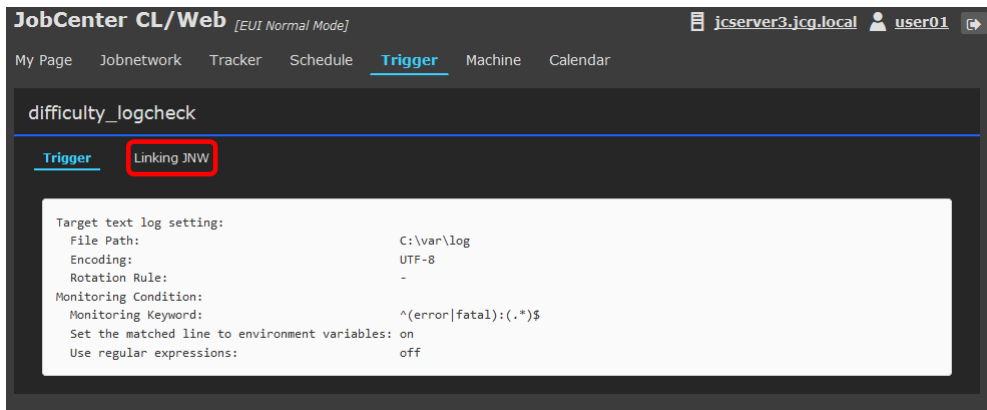


Figure 5.54. Clicking the [Linking JNW] Tab

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

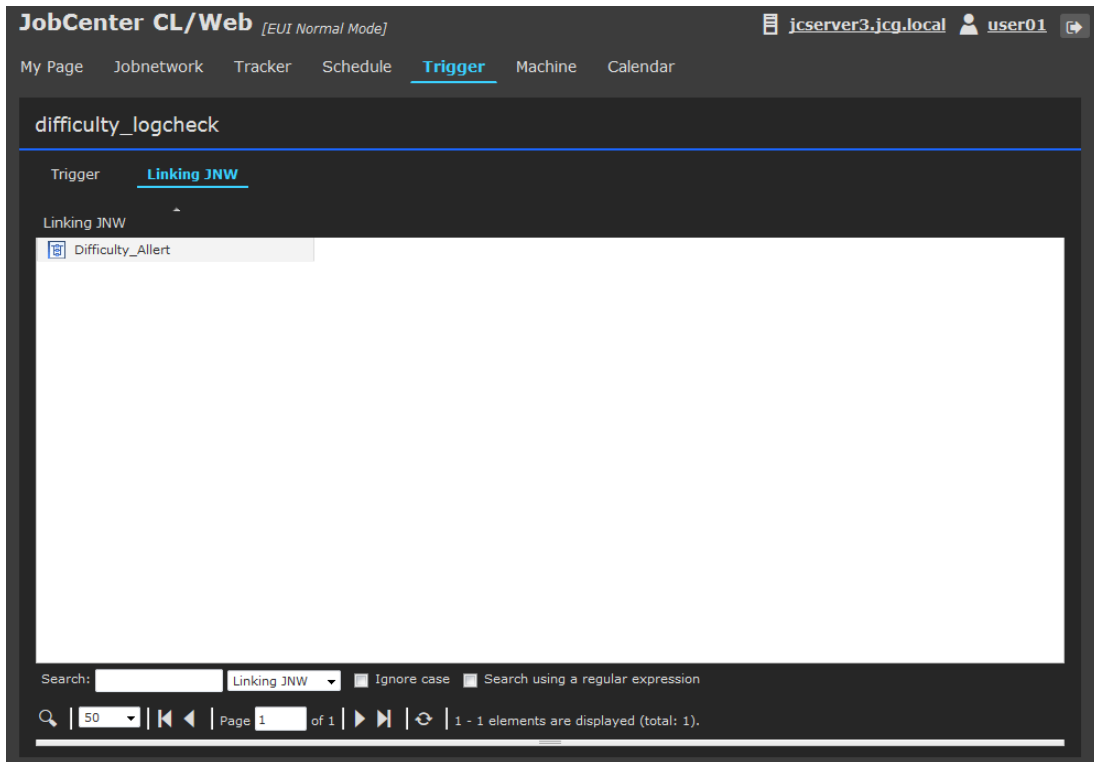


Figure 5.55. Linking JNW window

5.7.4. Enabling or Disabling the Trigger

This section describes how to enable or disable triggers.



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

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

5.7.4.1. Enabling/Disabling Triggers

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

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

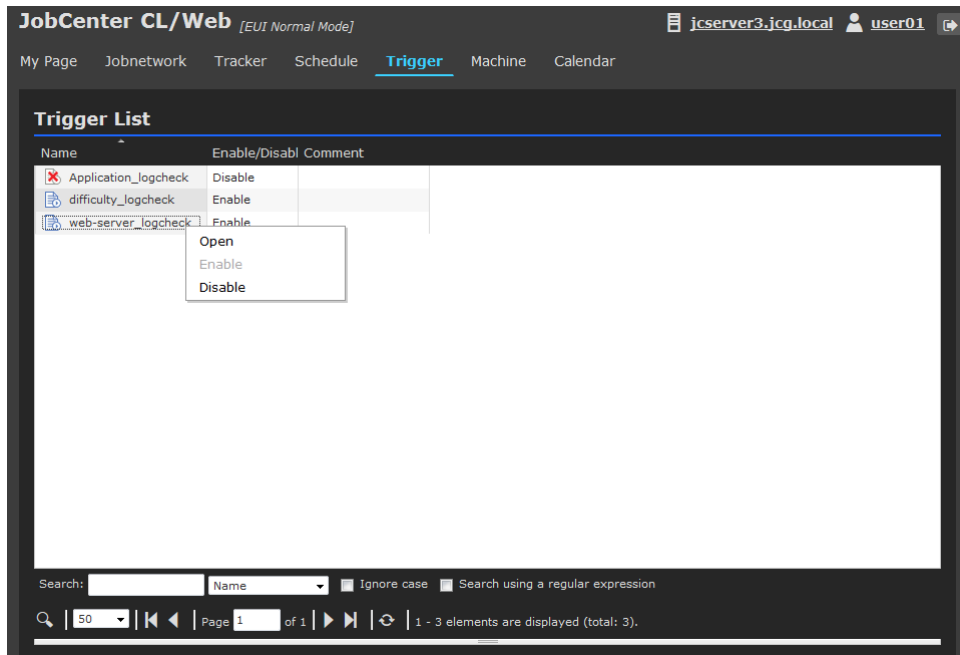


Figure 5.56. Selecting [Disable] in the shortcut menu

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

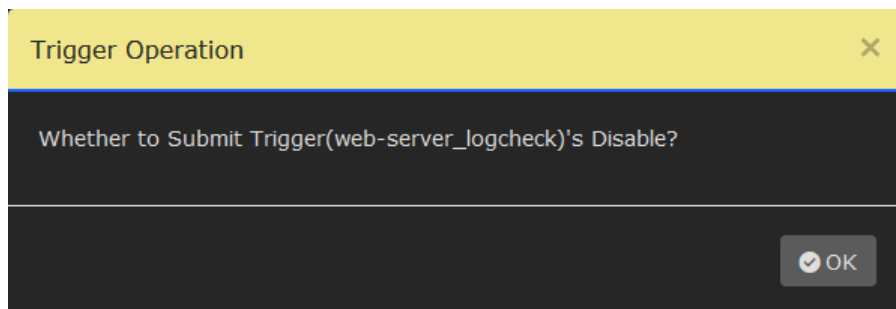


Figure 5.57. [Trigger Operation] dialog box

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

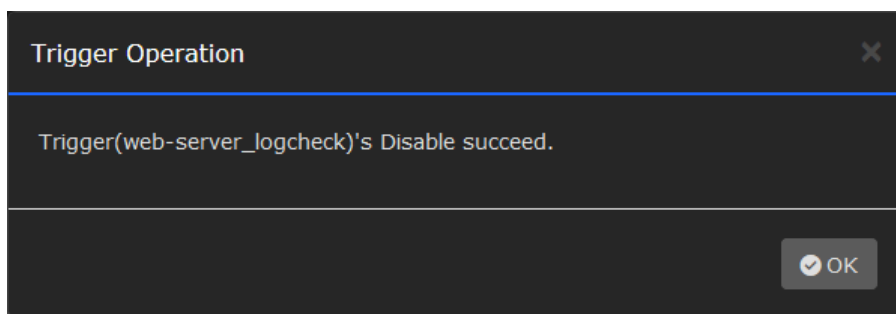


Figure 5.58. Success of operating schedule

5.8. 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.

5.8.1. Viewing a List of Machines

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

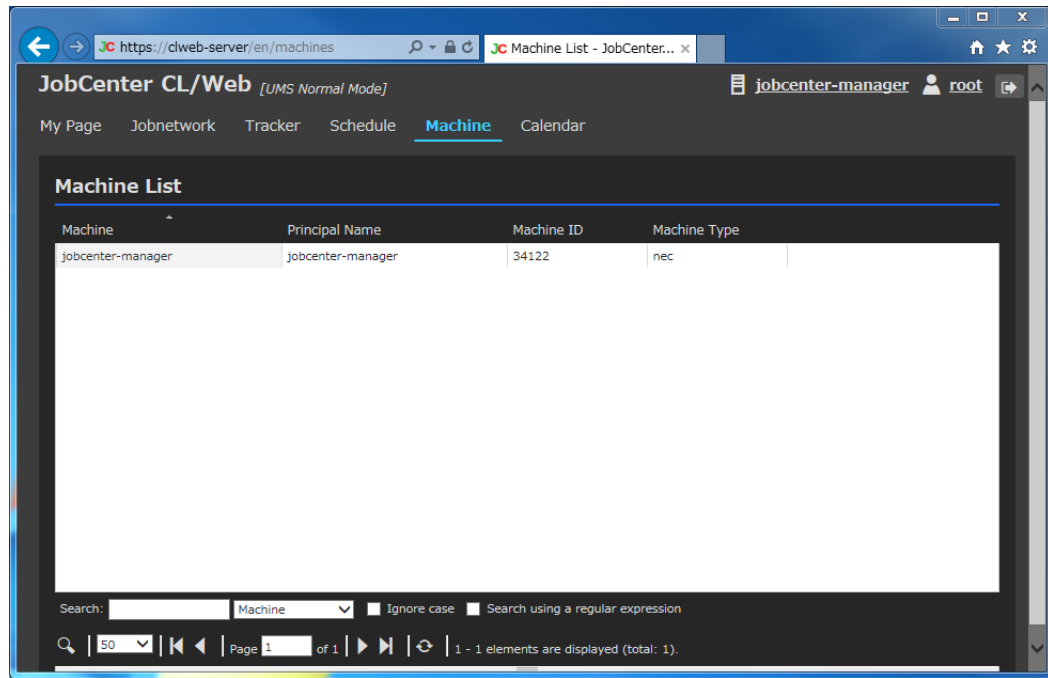


Figure 5.59. Machine list display window

■ 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).	

5.8.2. 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.

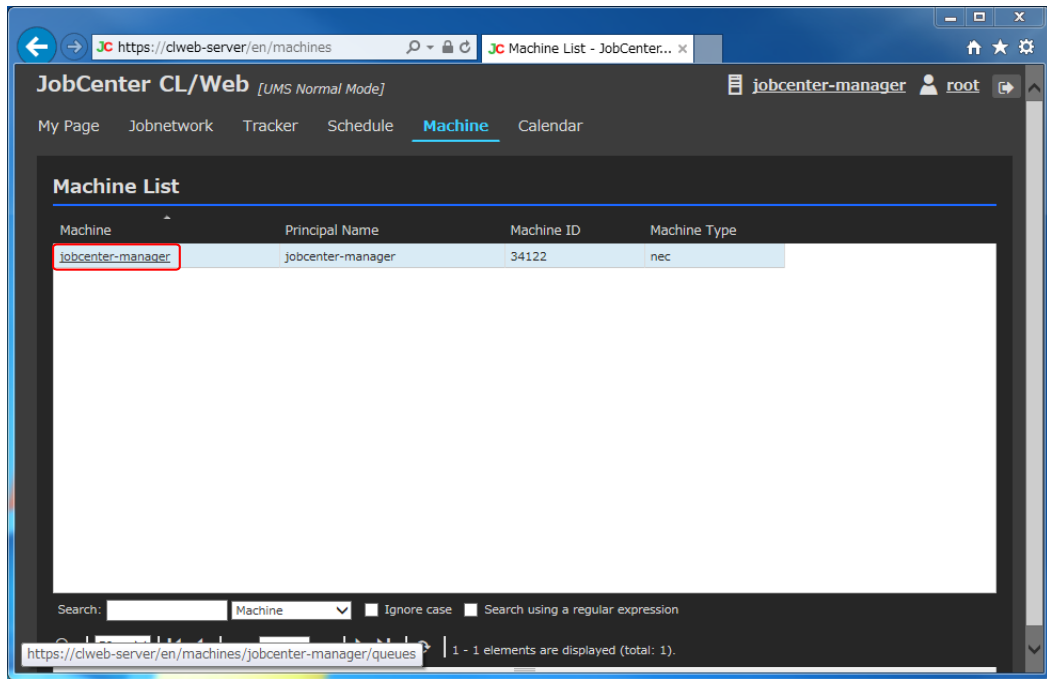


Figure 5.60. Window where a machine is selected

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

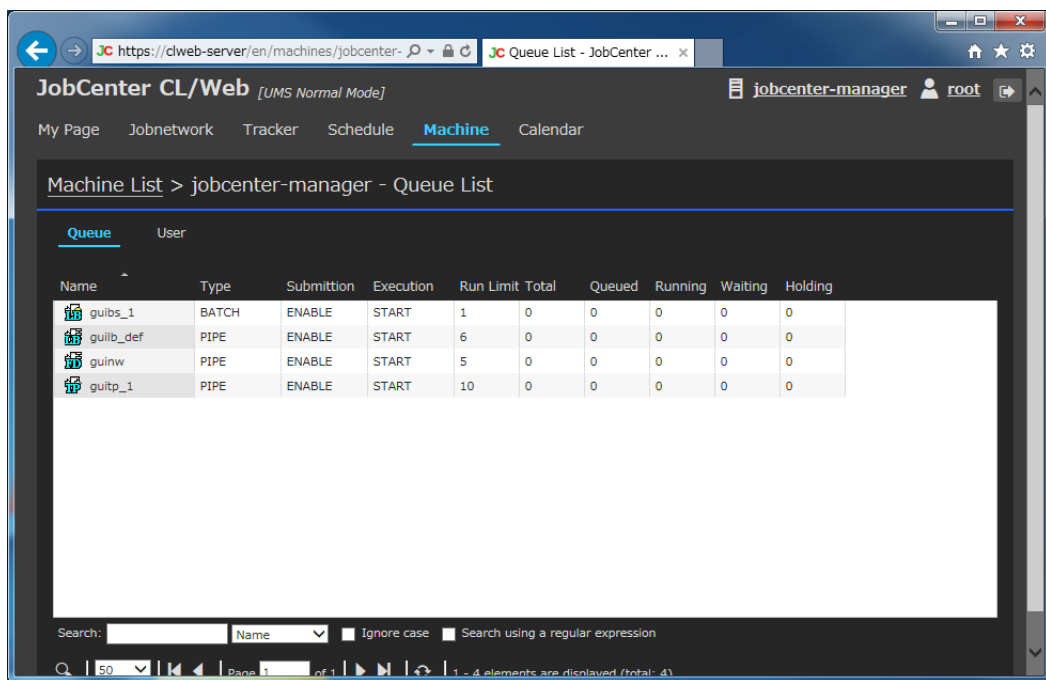


Figure 5.61. Queue list display window

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 in <Basic Guide>Section 11.1.2, "Displaying a Queue List in the NQS Frame Window"	
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 in <Basic Guide>Section 11.1.2, "Displaying a Queue List in the NQS Frame Window".	
Execution		
Run Limit		
Total		
Queued		
Running		
Waiting		
Holding		

5.8.3. 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.

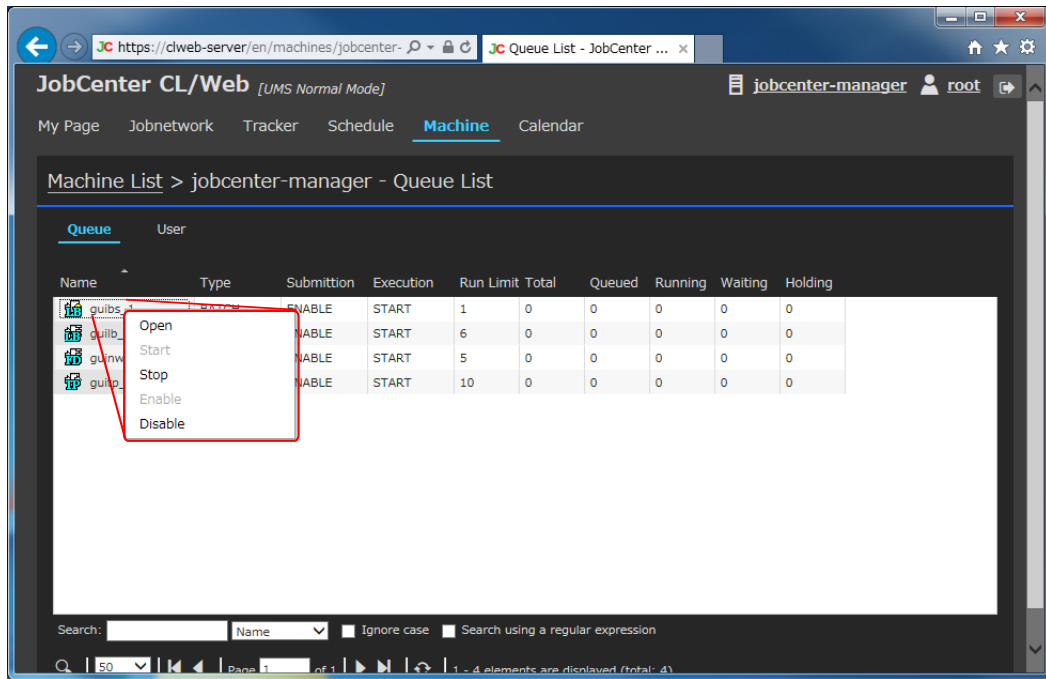


Figure 5.62. Window where a queue is selected



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].

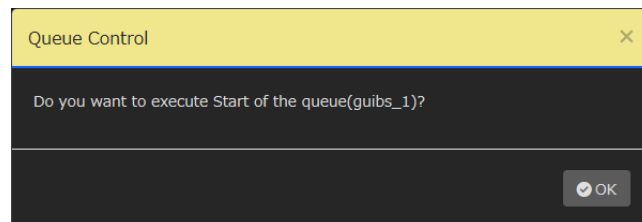


Figure 5.63. [Queue Control] start dialog box

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

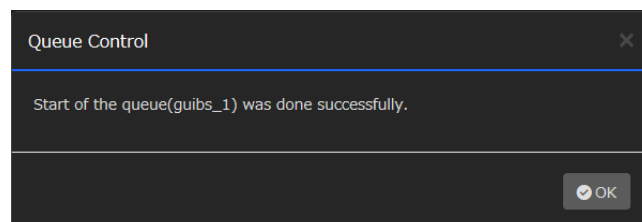


Figure 5.64. [Queue Control] end dialog box

■ 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.

5.8.4. Viewing a List of Users

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

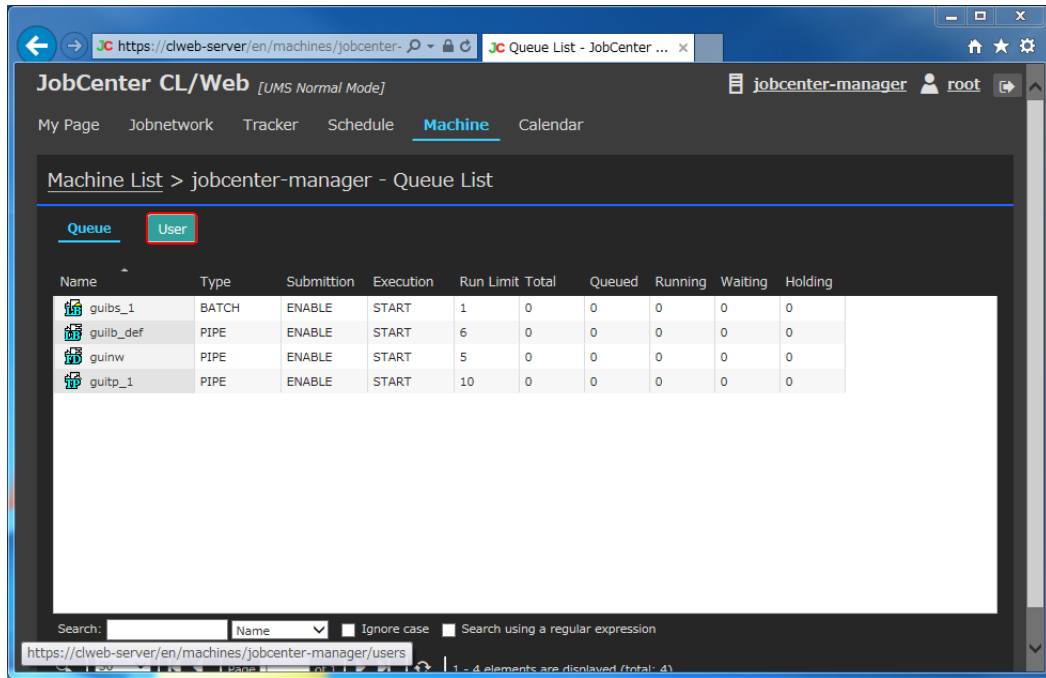


Figure 5.65. Window where the [User] tab is selected

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

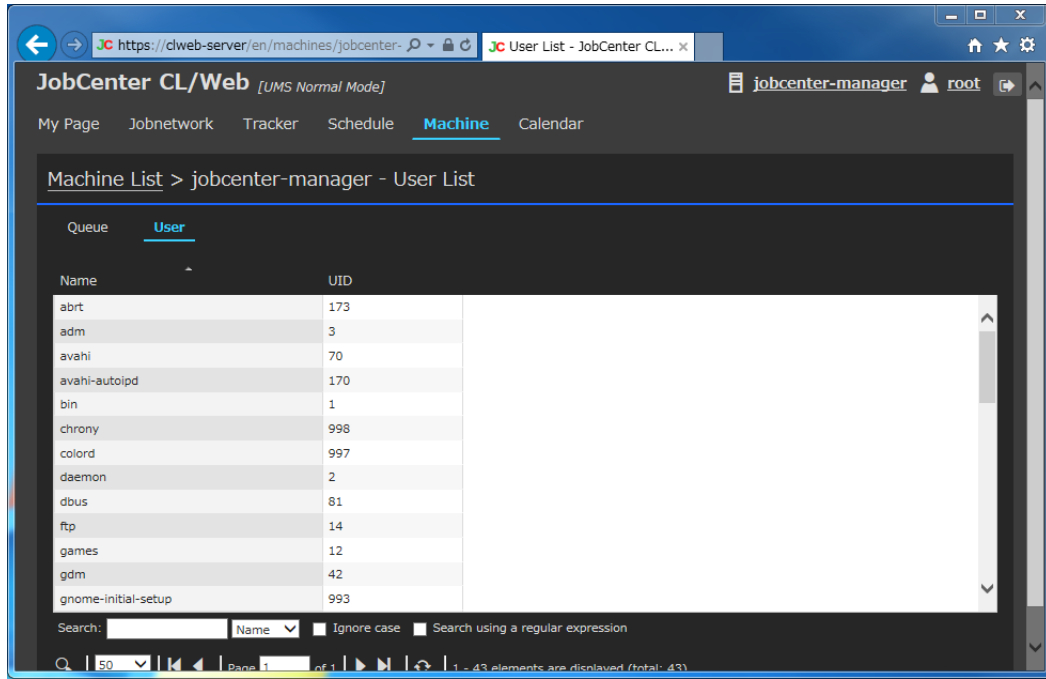


Figure 5.66. Window where the [User] tab is selected

■ User list columns

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

5.9. Calendar-related Operations

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

5.9.1. Viewing a List of Calendars

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

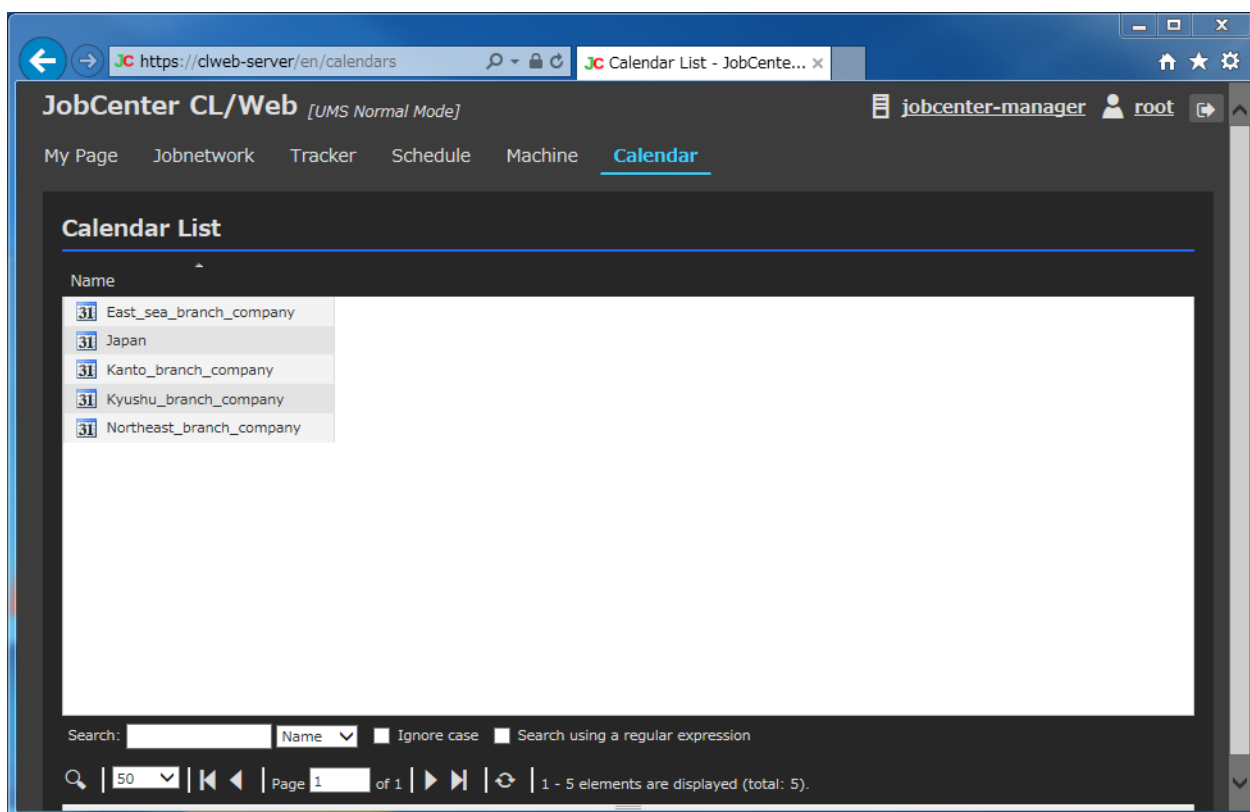


Figure 5.67. Calendar list display window

■ Calendar list column

Column name	Description	Remark
Name	Displays the calendar name.	

5.9.2. 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.

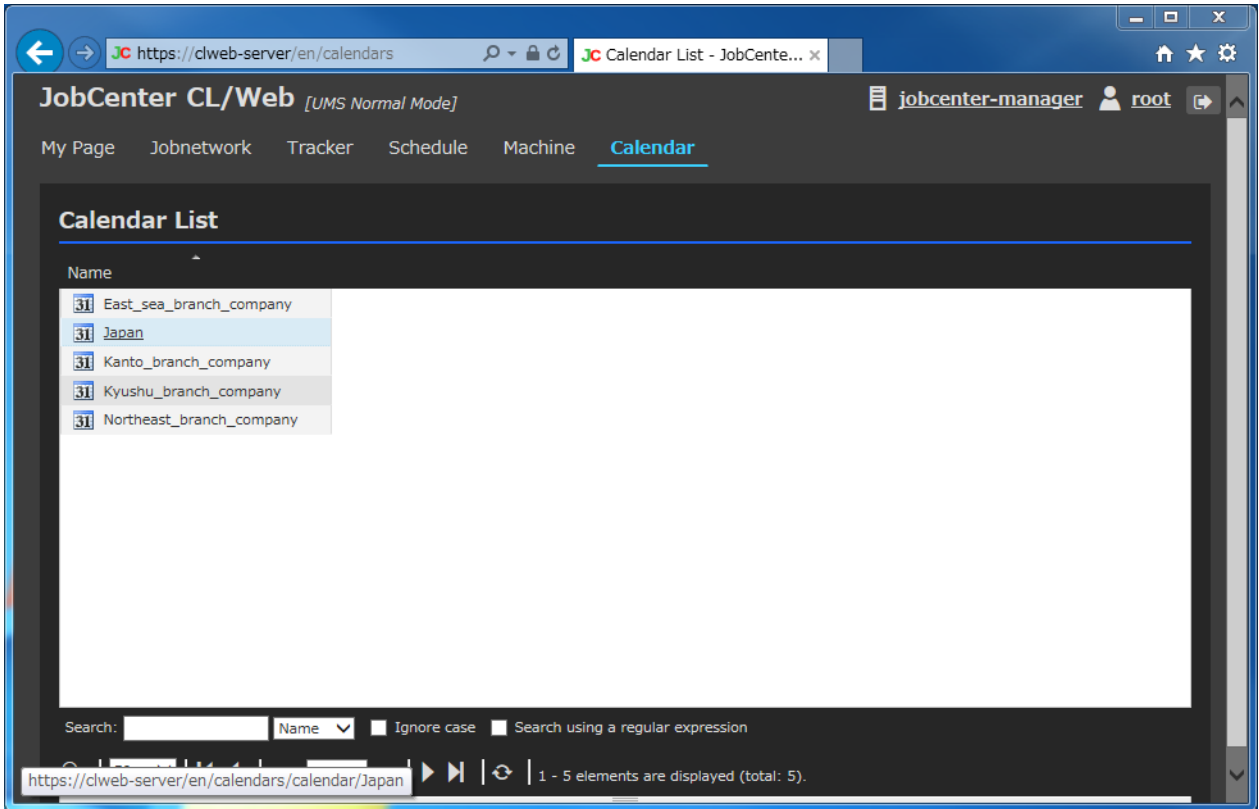


Figure 5.68. Calendar list display window

2. The definition of the selected calendar is displayed.

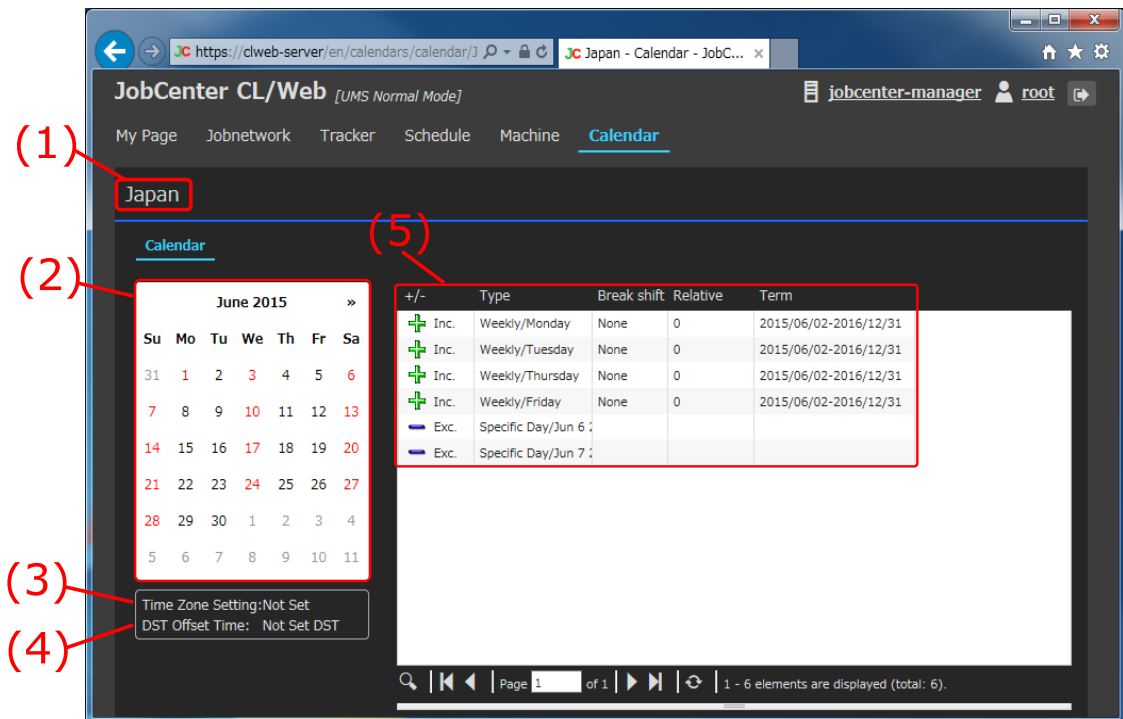


Figure 5.69. Calendar definition display window

■ Calendar definition columns

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].	

5.10. My Page Function

5.10.1. Function Overview

The My Page function allows the user to customize the information to be displayed. "Panels" having different functions can be placed on the [My Page] window. One type of panel displays only the information about the job networks that the user wants to monitor. There is also another type of panel that displays the transition in the number of JobCenter trackers.

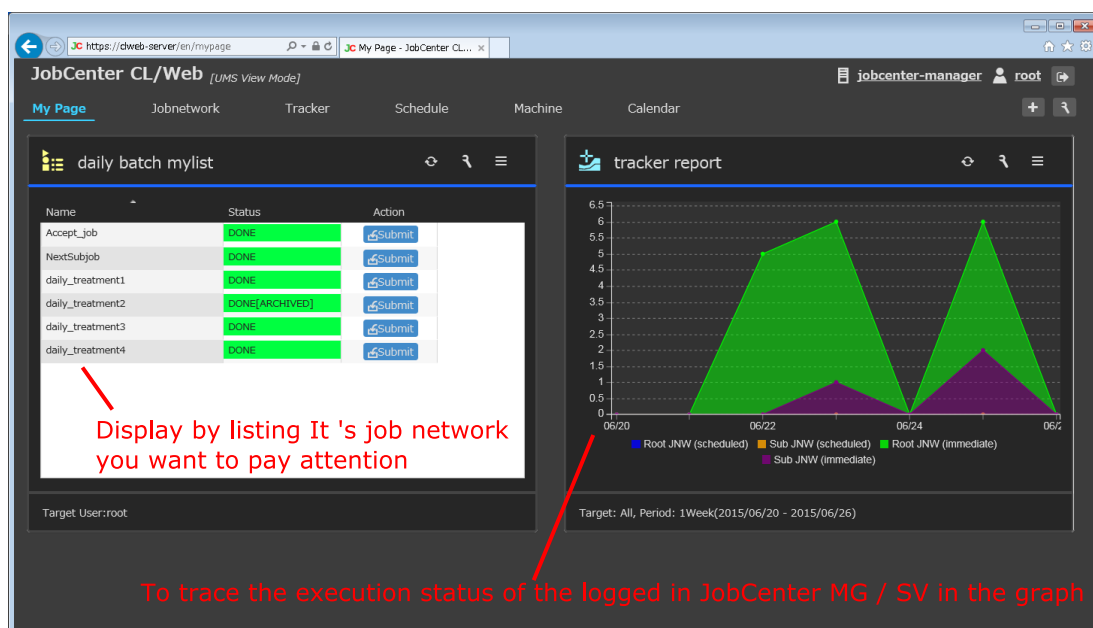


Figure 5.70. Example of [My Page] window

The following table lists the panels available with the My Page function.

Table 5.6. List of My Page panels

Category	Panel name	Function	Description
My List	JNW My List	Lets you create a list of job networks that you want to monitor.	For details, refer to Section 5.10.4.1.1, "JNW My List" .
	Tracker My List	Lets you create a list of only the trackers of those job networks that you want to monitor.	For details, refer to Section 5.10.4.1.2, "Tracker My List" .
Report	Tracker Summary	Lets you view the job network execution summary by status or progress in the form of a pie chart.	For details, refer to Section 5.10.4.2.1, "Tracker Summary" .
	Tracker Report (Can be added only by the JobCenter administrator.)	Lets you view the number of trackers used in the entire JobCenter or the number of trackers used by those users who are using most trackers, in the form of a graph.	For details, refer to Section 5.10.4.2.2, "Tracker Report" .

The My Page function allows you to use job network information in various ways. For example, you can place multiple [JNW My List] panels in a single window, as shown below, and reference the job networks of different users simultaneously.

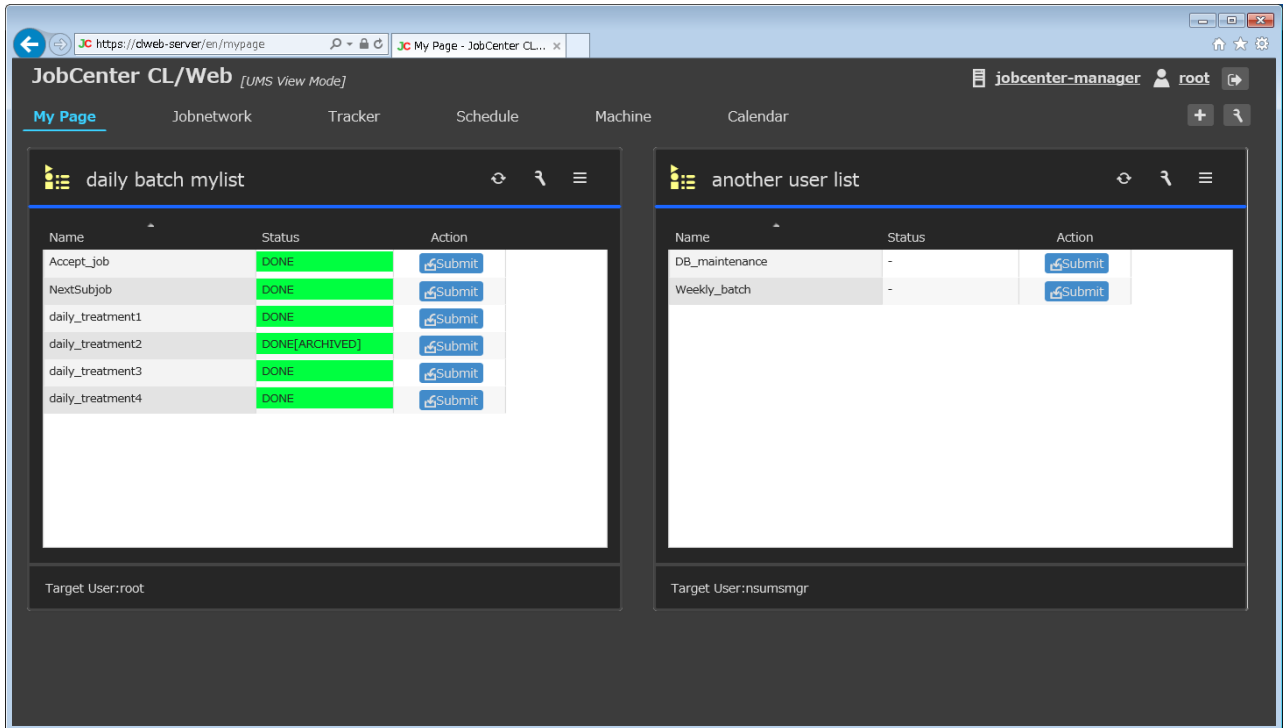


Figure 5.71. Referencing the job networks of multiple users simultaneously

The My Page limit mode function is also available that provides users with only the functions they need. Once the limit mode is set for users, only the [My Page] window is displayed after they log in, which makes operations simple and prevents operation errors. For details of the limit mode, refer to [Section 5.10.5, "Setting My Page \(JobCenter Administrator\)"](#).

5.10.2. Using My Page

5.10.2.1. Displaying My Page

When you log in to JobCenter CL/Web, the [My Page] window appears. When you have no panel added, the window looks as shown below.

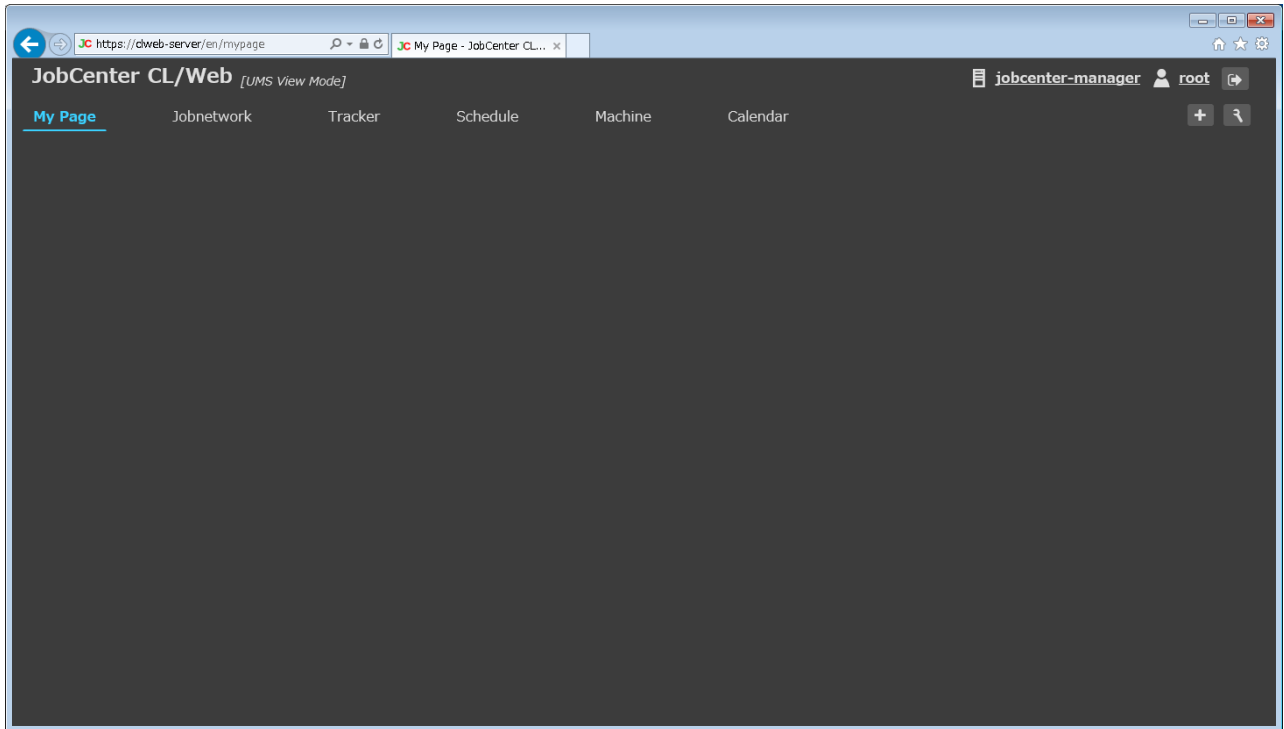


Figure 5.72. [My Page] window (when there is no panel added)

5.10.2.2. Adding a Panel

You can add panels to the [My Page] window. Once you add panels, the window is restored to the state it is in when you add them, the next time you log in.

To add a panel to the [My Page] window, first click the [Add Panel] button in the upper right of the window.

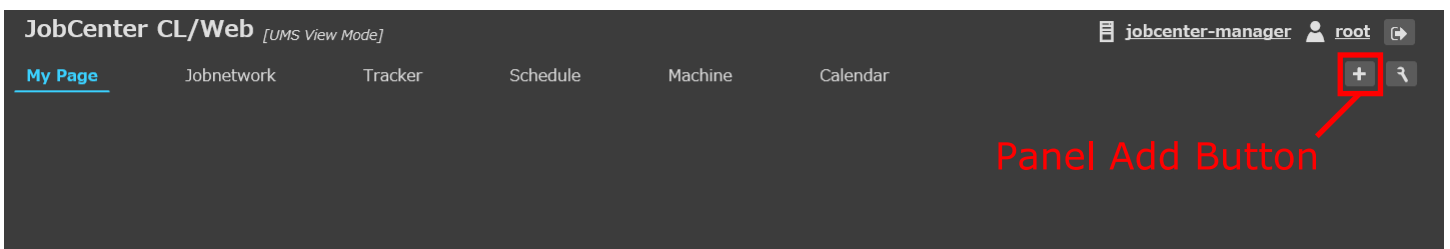


Figure 5.73. [Add Panel] button

If you click the [Add Panel] button, the [Add Panel] dialog box appears as shown below. To add a panel, select the one you want to add. For details of the settings of the [Add Panel] dialog box, refer to [Section 5.10.3.2, "Adding a Panel"](#).

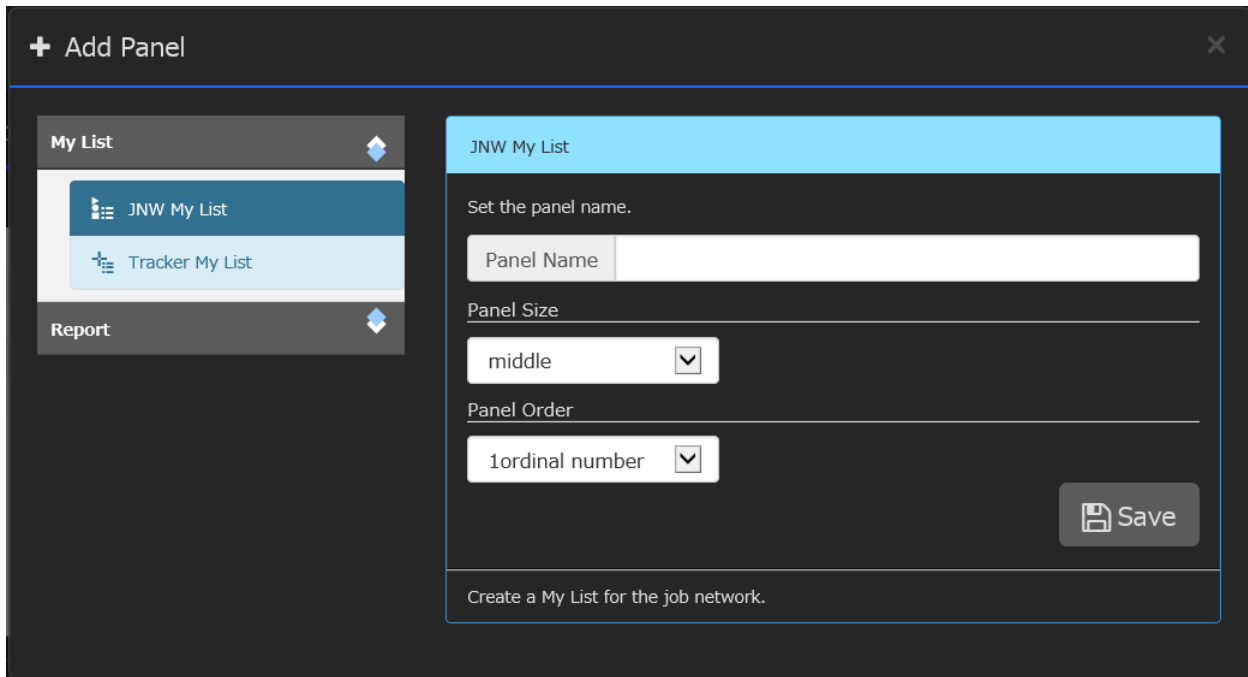


Figure 5.74. [Add Panel] dialog box

5.10.2.3. Setting a Panel

Each type of panel has its own set of items to be set. The [Panel Setting] dialog box lets you change the settings so that the panel displays the content you want to view. For information about the [Panel Setting] dialog box, refer to [Section 5.10.3.3, "Setting Dialog Box"](#).

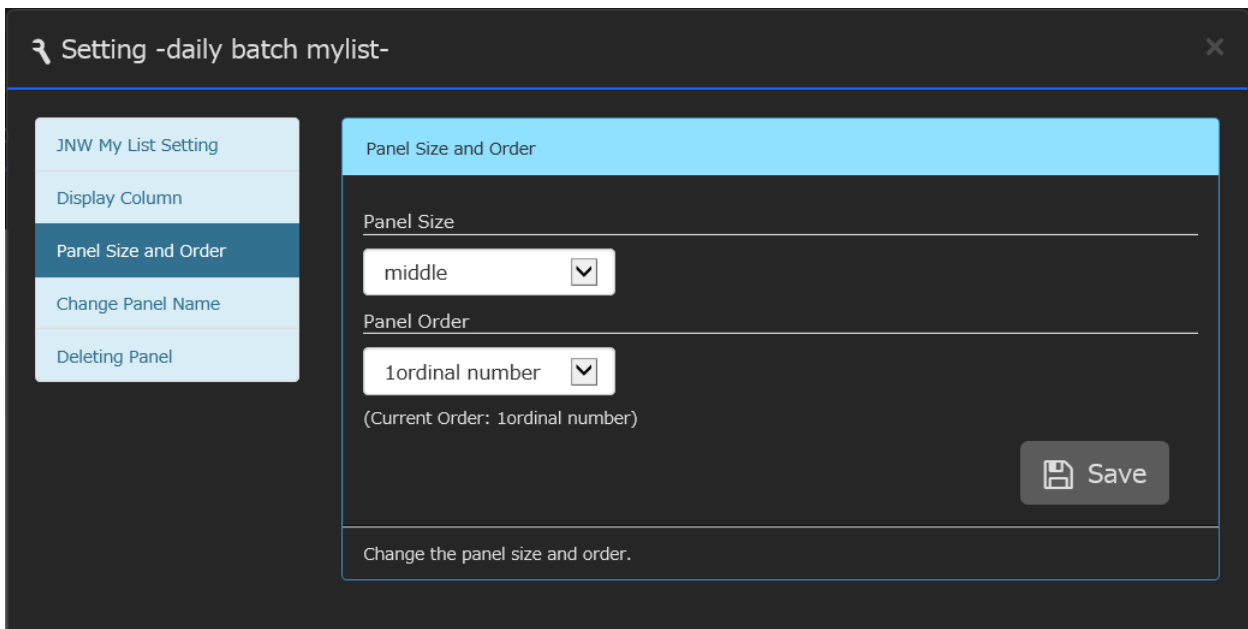


Figure 5.75. [Panel Setting] dialog box

5.10.3. Common Panel Operations

There are operations that are common to the panels that you can place in the [My Page] window, such as addition, deletion, and reload. These common operations are described below.

5.10.3.1. Panel Window

A panel window consists of three parts: header, body, and footer.

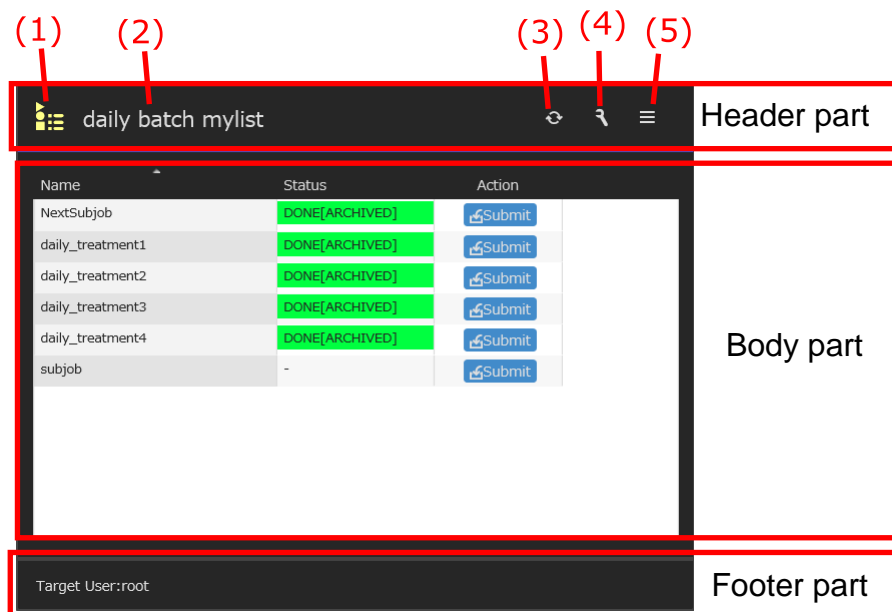


Figure 5.76. Panel window

1. Header part

The header part displays the panel name and buttons. The elements of the header part are as follows.

Table 5.7. Elements of the header part

No.	Element name	Description
(1)	Panel icon	An icon representing the type of panel is displayed. For information about the panel icons, refer to the sections pertaining to the individual panels in Section 5.10.4, "Details of Panels" .
(2)	Panel name	The panel name that you set when you added the panel is displayed. This panel name may be up to 30 characters long and contain Japanese characters and symbols as well. You can set a name that is identical to that of another panel. However, it is recommended to specify a different name so as to distinguish the panel from other panels.
(3)	[Reload] button	If you click this button, the information displayed in the body part is reloaded. The reload operation is performed based on

		the information of the setting dialog box. Any setting you change using the side menu will be restored to the state that is set in the setting dialog box.
(4)	[Panel Setting] button	The setting dialog box is displayed. The setting dialog box allows you to set the panel. For details, refer to Section 5.10.3.3, "Setting Dialog Box" .
(5)	[Side menu] button	The side menu slides from the right side of the body part. When you click somewhere outside the side menu, it slides out of view. For details, refer to Section 5.10.3.7, "Side Menu" .

2. Body part

The body part can display information that is unique to the panel. The information displayed in this area is updated through an appropriate operation such as clicking the [Reload] button in the header part. The following operations update the information in the body part.

- Displaying the initial [My Page] window
- Clicking the [Reload] button
- Saving the [Panel Setting] dialog box
- Changing a setting by using the side panel

3. Footer part

The footer part displays a summary of the information currently displayed in the body part and warning information (JobCenter MG/SV communication error).

5.10.3.2. Adding a Panel

If you click the [Add Panel] button at the upper right of the [My Page] window, the [Add Panel] dialog box appears.

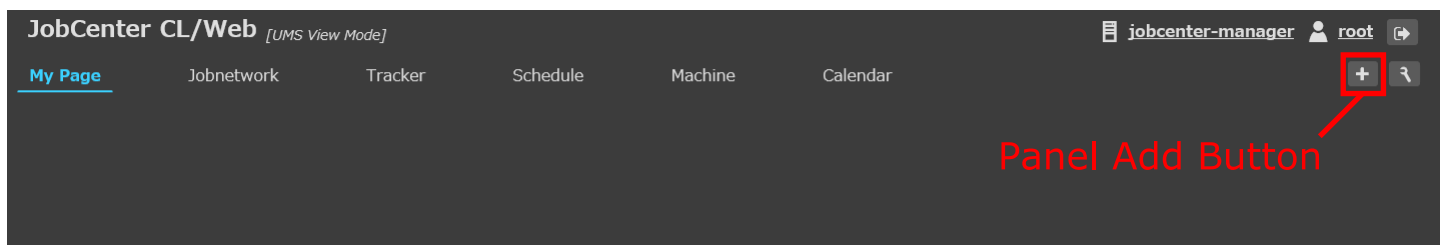


Figure 5.77. [Add Panel] button

On the left side of the [Add Panel] dialog box, select the type of panel that you want to add. Enter a panel name and other items to be set, and then click the [Save] button. If all necessary items have been set, the panel is added to the [My Page] window.

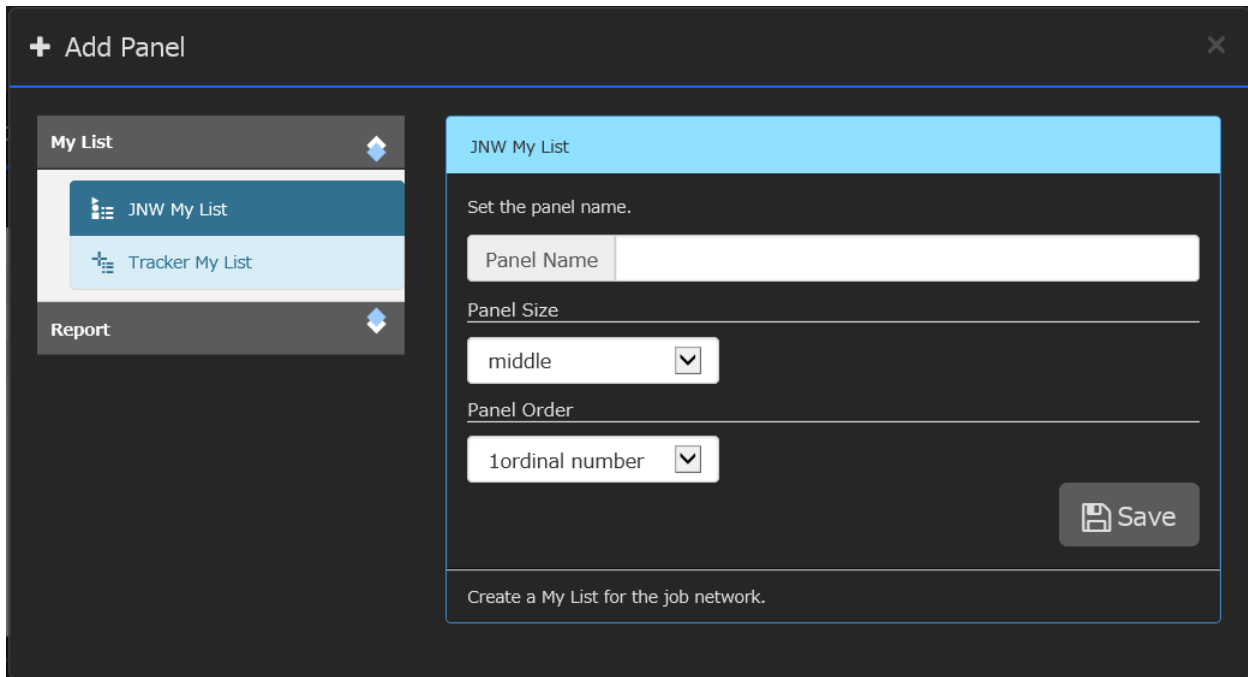


Figure 5.78. [Add Panel] dialog box

To quit adding the panel, click the [x] button at the upper right corner of the dialog box (or click somewhere outside the dialog box area). The addition of the panel is canceled, and the [Add Panel] dialog box is closed.

You can change the panel name, panel size, and panel order in the [Add Panel] dialog box after adding the panel, by using the setting dialog box.



No more than six panels can be added per user.

5.10.3.3. Setting Dialog Box

If you click the [Panel Setting] button, the setting dialog box appears as shown below. This setting dialog box lets you set not only the items unique to a specific panel but also the items common to all panels. When you select an item on the left side, the items you can set are displayed on the right side. Change the settings as necessary, and click the [Save] button to save the changes. The items that are saved using the setting dialog box will remain in effect the next time the same user logs in.

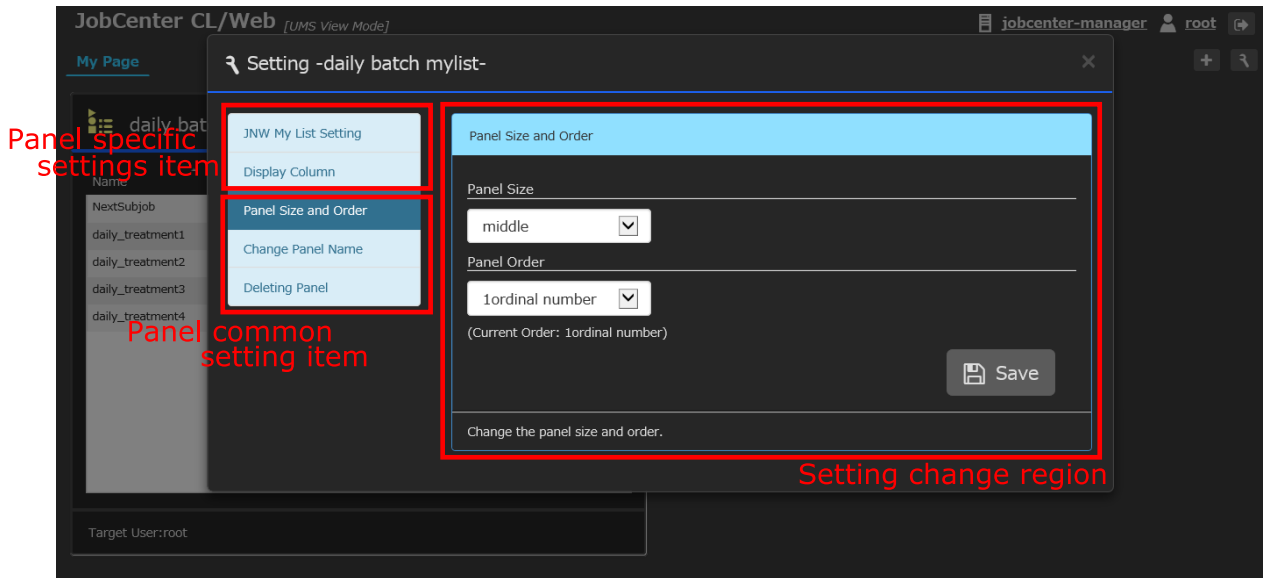


Figure 5.79. [Panel Setting] dialog box

To quit setting the panel, click the [x] button at the upper right corner of the dialog box (or click somewhere outside the dialog box area). The setting of the panel is canceled, and the setting dialog box is closed.

5.10.3.4. Moving a Panel or Changing a Panel Size

The [Panel Setting] dialog box allows you to move a panel or change the size of a panel. If you choose "Panel Size and Order" from the items on the left side of the setting dialog box, a list is displayed to let you change the panel size and order. After changing the settings, click the [Save] button to apply the changes.

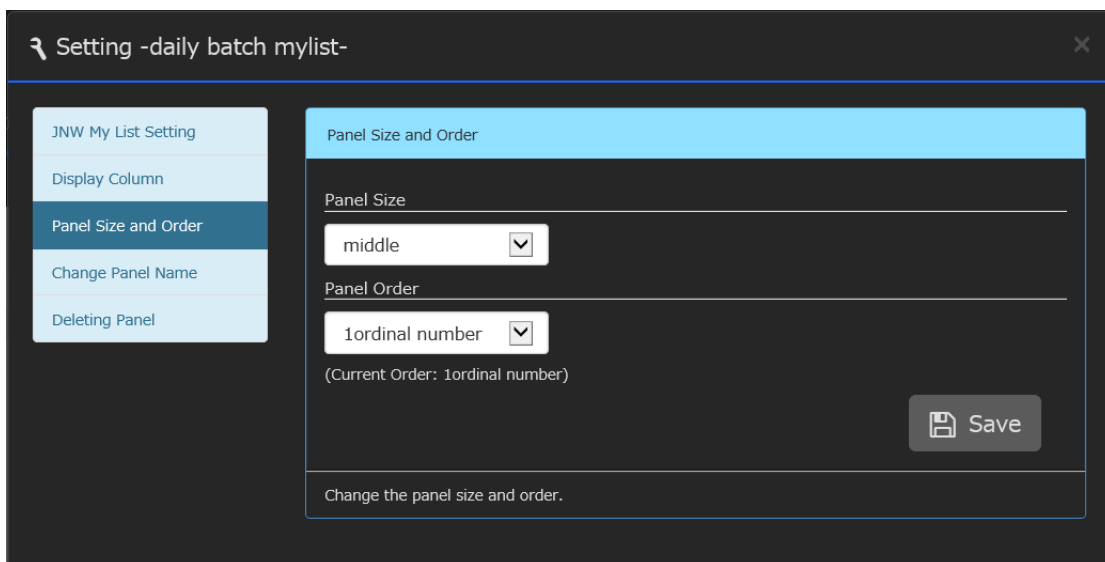
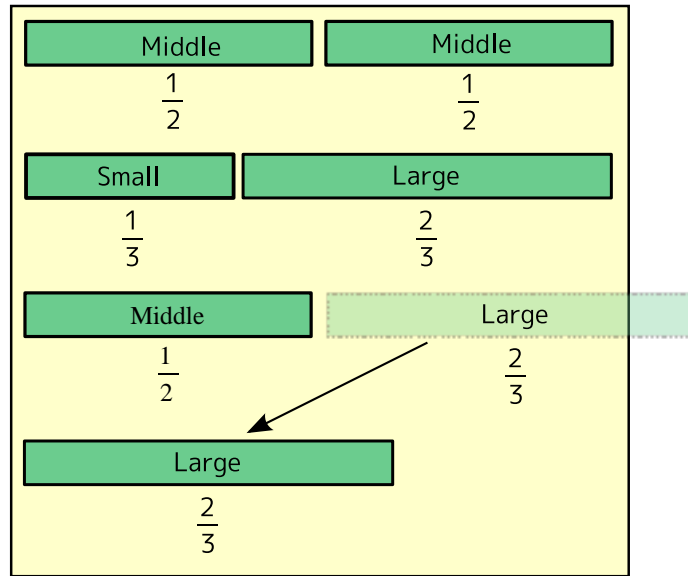


Figure 5.80. [Panel Setting] dialog box (moving a panel or changing a panel size)

For each panel that you place in the [My Page] window, you can set one of the four types of width (small, middle, large, and full). For example, you can place panels in the [My Page] window in a layout shown below.



If you exceed the frame displayed in the next column

Figure 5.81. Example of the panel layout

If the width of a panel extends off the window frame, the panel is displayed on the next row. As shown in the example above, if a panel of the middle size ($\frac{1}{2}$) and a panel of the large size ($\frac{2}{3}$) are placed side by side, the panel of the large size cannot be drawn on the same row and is therefore displayed on the next row. The following table shows the width necessary for each panel size. These width values change according to the width of the browser window (pixels).

Table 5.8. Width of the browser window and panel sizes

Browser width (pixels)	Panel size			
	small	middle	large	full
981 pixels or more	$\frac{1}{3}$ of the width	$\frac{1}{2}$ of the width	$\frac{2}{3}$ of the width	Entire width
768 to 980 pixels	$\frac{1}{2}$ of the width	$\frac{1}{2}$ of the width	Entire width	Entire width
767 pixels or less	Entire width	Entire width	Entire width	Entire width



If you change the browser window size on a PC, or if the browser window width changes as you change the orientation of the iPad from vertical to horizontal, the panel sizes (widths) dynamically change.

5.10.3.5. Changing a Panel Name

The [Panel Setting] dialog box allows you to change the name of a panel. Choose "Change Panel Name" from the items on the left side of the setting dialog box, and then enter a new panel name. After entering the panel name, click the [Save] button to apply the change.

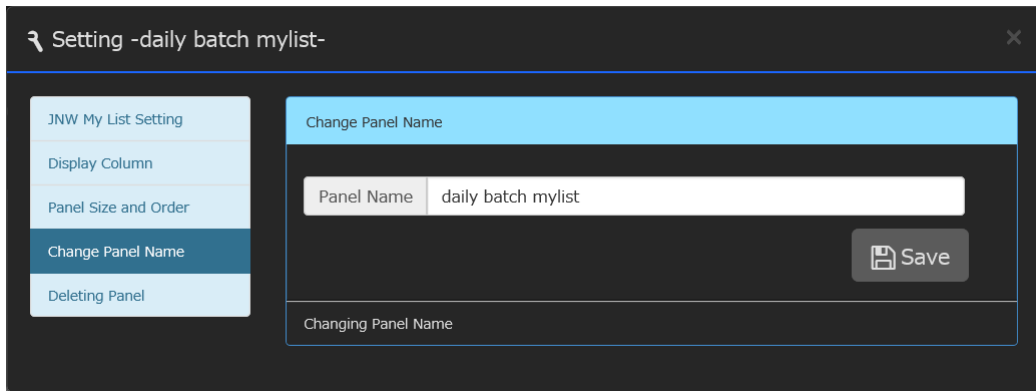


Figure 5.82. [Panel Setting] dialog box (changing a panel name)

5.10.3.6. Deleting a Panel

You can delete an unnecessary panel from the [Panel Setting] dialog box. If you choose "Delete Panel" from the items on the left side of the setting dialog box, the [Delete] button appears. If you click the [Delete] button, a confirmation dialog box appears. Before deleting the panel, confirm whether you want to delete it.

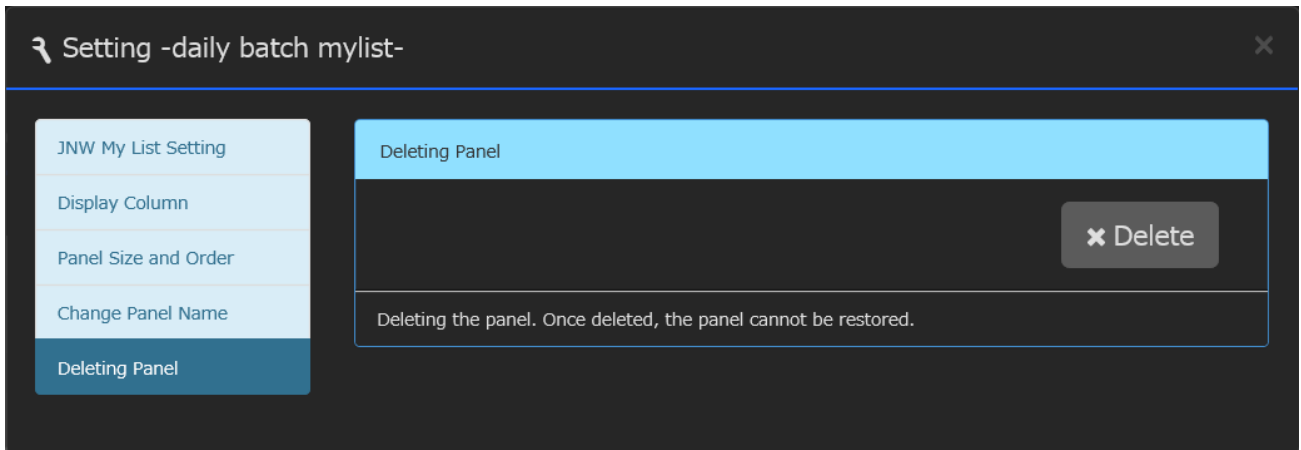


Figure 5.83. [Panel Setting] dialog box (deleting a panel)

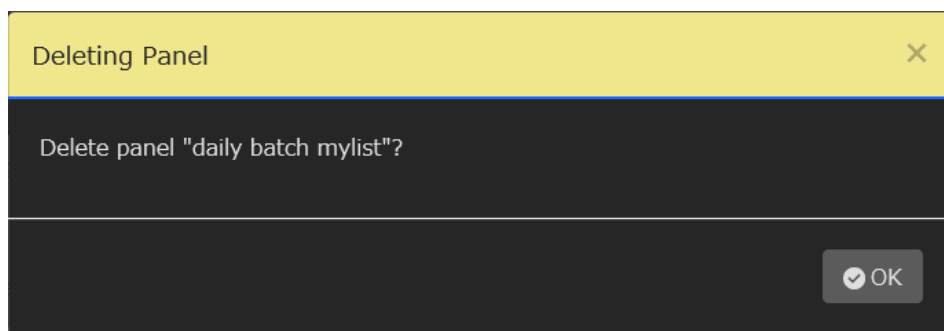


Figure 5.84. Confirmation dialog box for deleting a panel

5.10.3.7. Side Menu

If you click the [Side Menu] button, the side menu window slides from the right side of the body part. The side menu window lets you set and change the display conditions and contents. The items that you change in this window will be changed back to the settings made in the setting dialog box when you log out, reload the information, or perform some other operations.

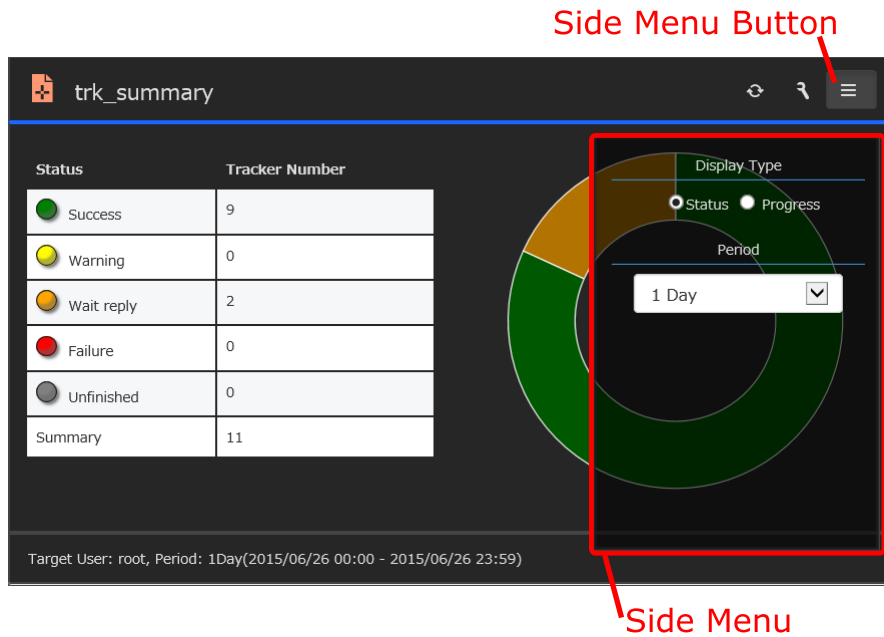


Figure 5.85. Side menu window

If you click somewhere outside the side menu window that has slid into view, the window is closed.

5.10.4. Details of Panels

There are two groups of panels: [My List] panels and [Report] panels. This section describes [My List] panels and [Report] panels in detail.

5.10.4.1. [My List] Panels

A [My List] panel displays a collection of job network definitions and tracker information that the user wants to reference in a single window so that the user can check them at a glance.

5.10.4.1.1. JNW My List

The [JNW My List] panel displays specified job networks. This panel allows you to display and submit only those job networks that you frequently use, as well as to reference their latest trackers in the same window.

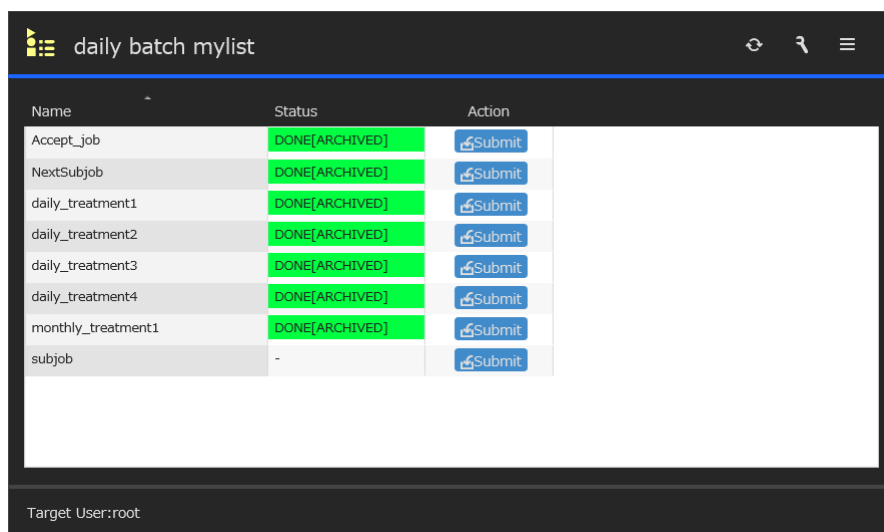


Figure 5.86. JNW My List

No item is displayed in the [JNW My List] panel when it is added. To display job networks, select target users and job networks from "JNW My List Setting" of the setting dialog box.

5.10.4.1.1.1. What the JNW My List Displays

After job networks are set, the JNW My List displays a list of registered job networks. The following table shows the columns of the JNW My List.

Table 5.9. Columns of the JNW My List

Column name	Description	Remark
Name	The job network name is displayed. If you click this item, a job network window opens in a new tab.	Default item
Type	The type of object is displayed. In the JNW My List, the type is fixed to job network.	
Status	The execution status of the job network is displayed. If you click this item, a tracker window opens in a new tab.	Default item
Status class	The status is displayed.	
Tracker ID	The tracker ID is displayed.	
Group	The name of the group to which the tracker belongs is displayed.	
Comment	The comment set for the job network is displayed.	
Action	The button for submitting the job network is displayed. If you click this button, the [Submit JNW] dialog box appears.	Default item



The [Submit JNW] dialog box of the [JNW My List] panel has unique settings, and the "Open Job Network Tracker Window" check box is not selected by default. If you select the check box, the tracker window opens in a new tab and the [JNW My List] panel is reloaded.

For the other settings of the [Submit JNW] dialog box, refer to [Section 5.4.3.3, "Setting Immediate Submission"](#).



The latest execution status of a job network and its tracker ID are displayed as the summary information (Status, Status class, and Tracker ID). If the job network has not been executed, "-" is displayed.



The right-click operation (context menu) is not available in the [JNW My List] panel.

5.10.4.1.1.2. Setting the JNW My List

The [JNW My List Setting] dialog box allows you to change the target user, the job networks of that user, and what to display in the columns.

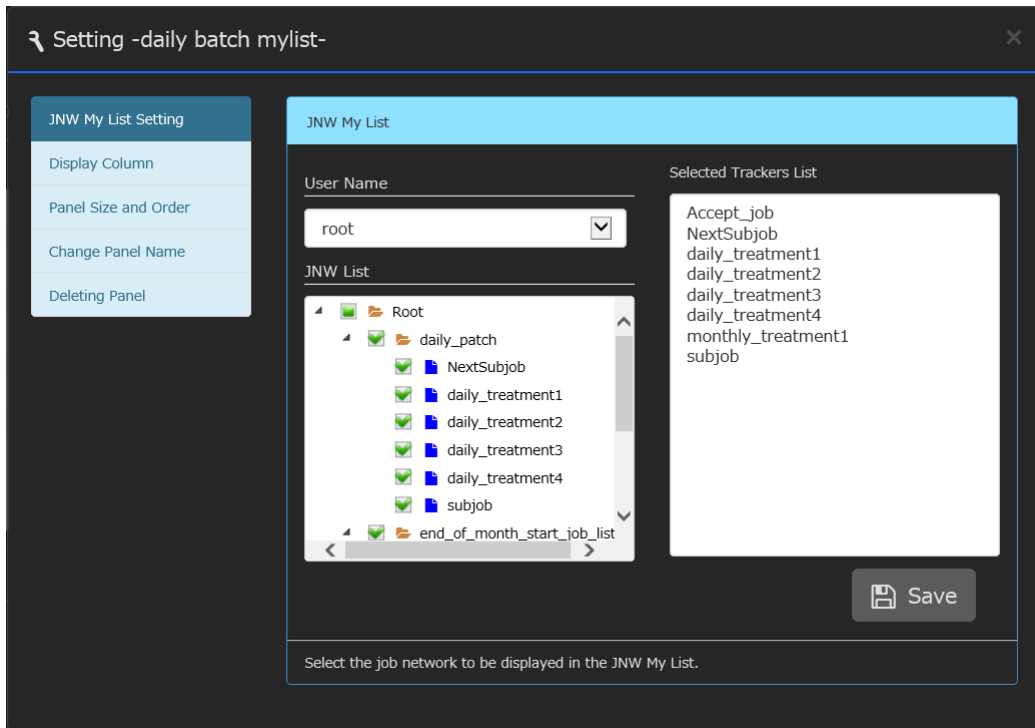


Figure 5.87. [JNW My List Setting] dialog box (JNW My List Setting)

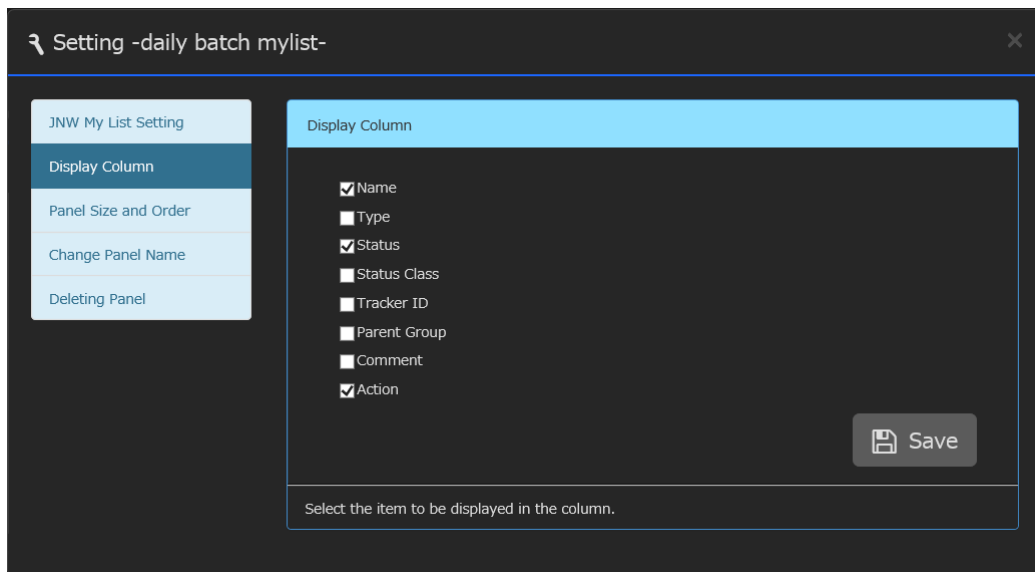


Figure 5.88. [JNW My List Setting] dialog box (Display Column)

■ Target User

Select the target user of the JNW My List.

✎

- Default value
Login user. Note that, when you are referencing another user by using the user switch function, the target user is the user to whom you have switched.
- Restrictions

A user with no reference permission cannot be selected.

- Remark

For details of the permissions related to the JNW My List, refer to [Section 5.10.4.3, "Permissions to Display Panels and Change Settings"](#).

■ Job Network List

A list of the job networks of the selected target user is displayed. Select the job network you want to register. The selected job network is displayed in the "Selected List".



- Default value

None

- Restrictions

At least one job network must be registered.

Up to 20 job networks can be registered.

■ Display Column

Set the default items for the columns of the JNW My List. For details of the items of the columns, refer to [Table 5.9, "Columns of the JNW My List"](#).



- Default value

Name

Status

Action

- Restrictions

Select one or more job networks.

- Remark

None

5.10.4.1.1.3. Side menu of the JNW My List

There is no side menu for the JNW My List.

5.10.4.1.2. Tracker My List

The [Tracker My List] panel displays a list of trackers of the job networks registered in the My List. This panel allows you to display the execution results of only those job networks that you want to monitor. Also, as with the Tracker List, you can jump to the detail page of the target tracker from the link.

Name	Status	Comment	Expected Start Time	Expected End Time	Start Time	End Time
NextSubjob	DONE[ARCHIVED]		2015/06/26 16:00:00	2015/06/26 16:00:00	2015/06/26 16:00:01	2015/06/26 16:00:01
monthly_treatment1	DONE[ARCHIVED]		2015/06/26 16:00:00	2015/06/26 16:00:04	2015/06/26 16:00:01	2015/06/26 16:00:02
daily_treatment4	DONE[ARCHIVED]		2015/06/26 15:40:33	2015/06/26 15:40:33	2015/06/26 15:40:33	2015/06/26 15:40:33
daily_treatment3	DONE[ARCHIVED]		2015/06/26 15:40:29	2015/06/26 15:40:29	2015/06/26 15:40:29	2015/06/26 15:40:29
daily_treatment1	DONE[ARCHIVED]		2015/06/26 15:40:24	2015/06/26 15:40:24	2015/06/26 15:40:24	2015/06/26 15:40:24
Accept_job	DONE[ARCHIVED]		2015/06/26 15:40:18	2015/06/26 15:40:18	2015/06/26 15:40:19	2015/06/26 15:40:19
NextSubjob	DONE[ARCHIVED]		2015/06/26 15:40:15	2015/06/26 15:40:15	2015/06/26 15:40:15	2015/06/26 15:40:15
daily_treatment1	DIALOG		2015/06/02 12:02:27	2015/06/02 12:02:27	2015/06/02 12:02:27	

10 | Page 1 of 1 | 1 - 8 elements are displayed (total: 8).

Target User:root, Period: 1Day(2015/06/26 - 2015/06/26)

Figure 5.89. Tracker My List (displayed in full size)

5.10.4.1.2.1. What the Tracker My List Displays

The Tracker My List displays a list of trackers of registered job networks (the same information as the Tracker List window). The content that this list displays is the same as that of the Tracker List window. For details, refer to [Section 5.5, "Tracker-related Operations"](#).



Clicking a displayed tracker name opens the tracker details window (track flow). Unlike the Tracker List window, a new tab opens.

By using the search window at the bottom of the body part, you can do a search in the same way as described in [Section 5.1.2, "Search Function"](#), and change the number of trackers to be displayed.

5.10.4.1.2.2. Setting the Tracker My List

You can register job networks using "Tracker My List Setting" in the setting dialog box. In the job network tree, select the check boxes of the job networks that you want to register. The trackers of the selected job networks are displayed in the list of the body part. Note that, if you do not have permission to reference trackers, you cannot reference trackers.

If you are authorized to reference trackers of another user, you can specify that user in "User Name" and select job networks. Change the user name in the setting dialog box, and specify the job networks that you want to register. Note that you can specify only one user per Tracker My List. If you want to monitor more than one user, create as many Tracker My Lists.

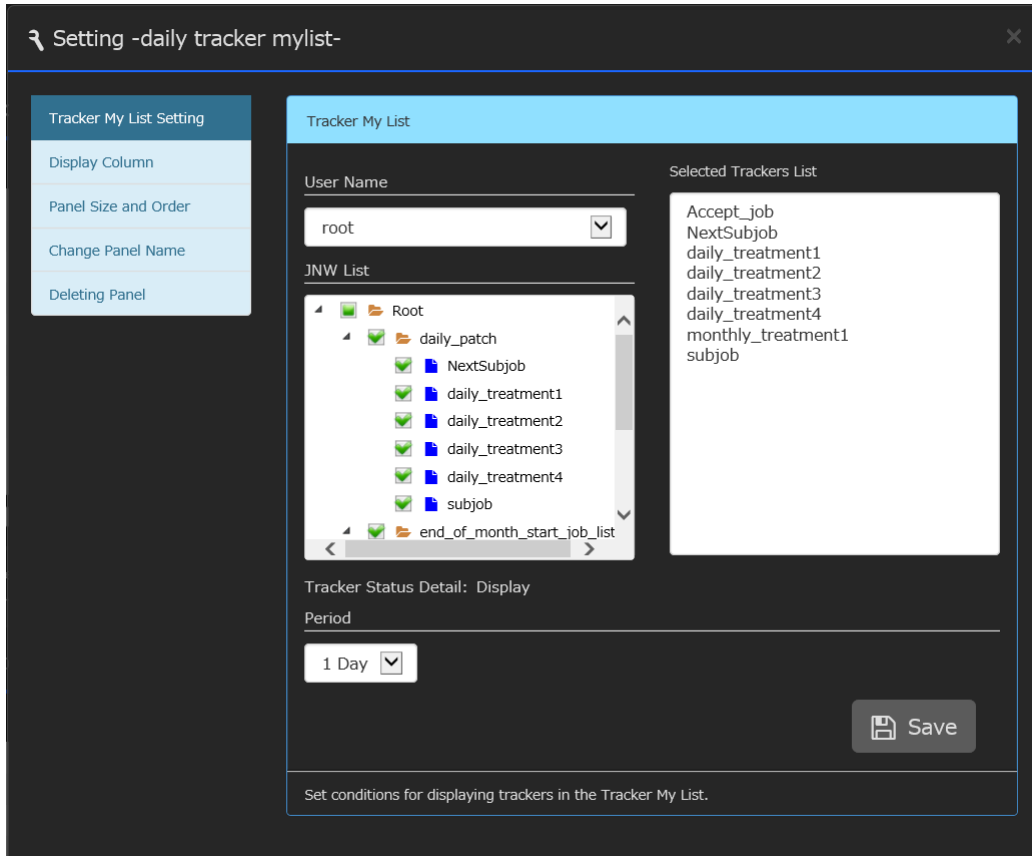


Figure 5.90. [Tracker My List Setting] dialog box (selecting job networks)

If you click the word "Show" next to "Tracker Status Detail", the items to be set in tracker status details are displayed.

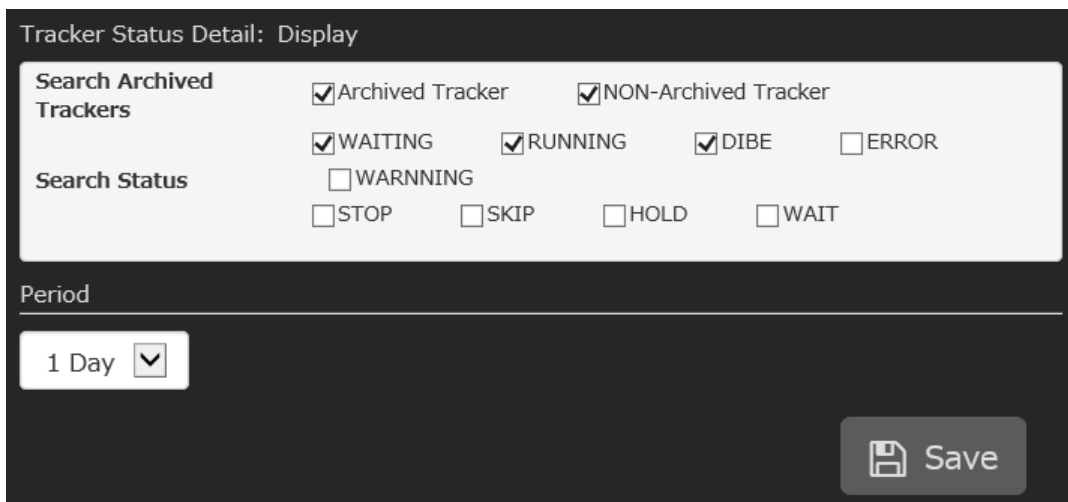


Figure 5.91. [Tracker My List Setting] dialog box (with tracker status details displayed)

■ Target User

Select the target user of the Tracker My List.

✎

- Default value

Login user. Note that, when you are referencing another user by using the user switch function, the target user is the user to whom you have switched.

- Restrictions

A user with no reference permission cannot be selected.

- Remark

For details of the permissions related to the Tracker My List, refer to [Section 5.10.4.3, "Permissions to Display Panels and Change Settings"](#).

■ Job Network List

A list of the job networks of the selected target user is displayed. Select the job network you want to register. The selected job network is displayed in the "Selected List".



- Default value

None

- Restrictions

At least one job network must be registered.

Up to 20 job networks can be registered.

■ Tracker Status Detail

Select the status, archive status, and other items that you want to output to the Tracker My List. For details of the individual items, refer to [Section 5.5.1, "Viewing Trackers"](#).



- Default value

Archived tracker

Unarchived tracker

Scheduled

Running

Complete

- Restrictions

Select one or more job networks.

■ Display period

Specify the period during which trackers are to be displayed. The available options are "1 day", "2 days", "3 days", "1 week", "2 weeks", and "4 weeks". For example, if you specify "1 week", the trackers during the past 1-week period including the present day can be displayed.



- Default value

1 day

- Restrictions

None

- Remark

If you specify a long period and the number of trackers to be displayed is large, it takes time before tracker status details are displayed.

You can change items of the columns to be displayed in the Tracker My List, by using "Display Column" in the setting dialog box.

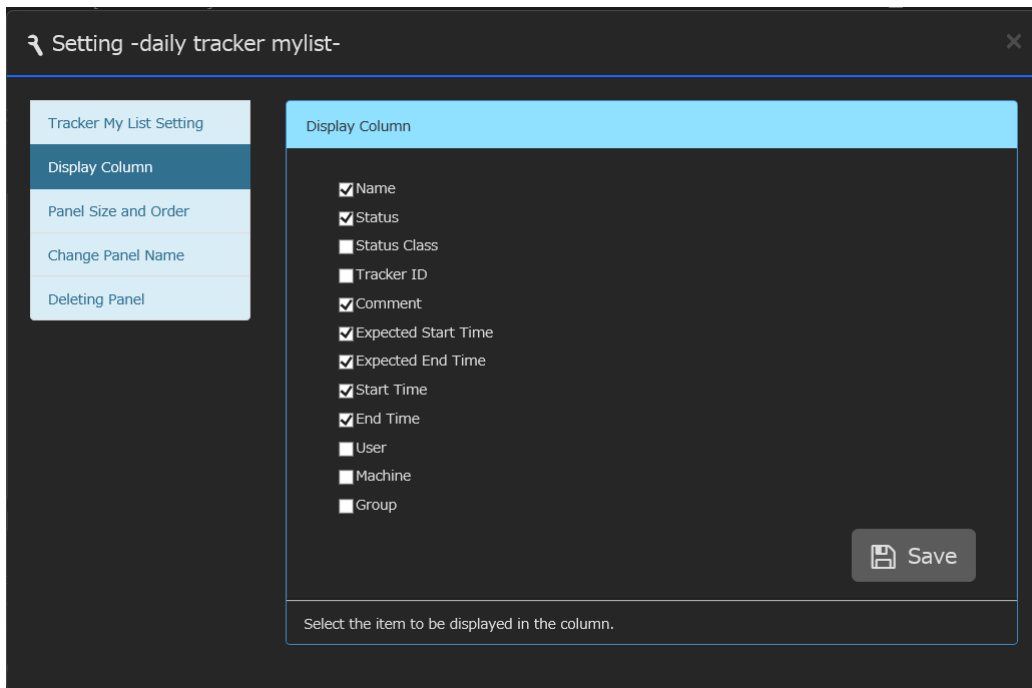



Figure 5.92. [Tracker My List Setting] dialog box (selecting the columns to be displayed)

■ Display Column

Set the default items for the columns of the Tracker My List. For details of the items of the columns, refer to [Section 5.5.1.1, "Listing Trackers"](#).

 ▪ Default value

Name

Status

Comment

Expected Start Time

Expected End Time

Start Time

- End Time
- Restrictions
 - Select one or more job networks.
 - Remark
 - None

5.10.4.1.2.3. Side Menu of the Tracker My List

If you open the side menu when the Tracker My List has any items to be displayed, you can specify the display period and filter your search.

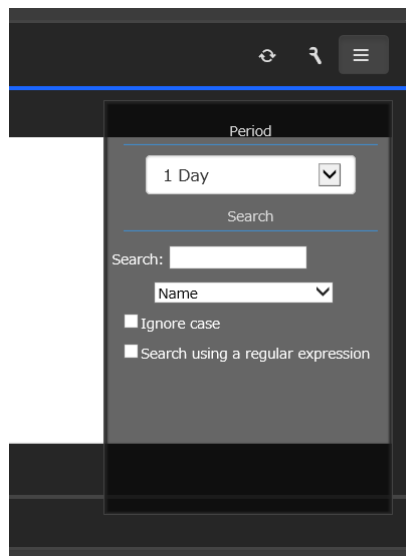



Figure 5.93. Side menu of the Tracker My List


■ Display period

The available options are "1 day", "2 days", "3 days", "1 week", "2 weeks", and "4 weeks".

- 
 - Default value
 - 1 day
 - Restrictions
 - None
 - Remark
 - After you make a change, the list is reloaded immediately, displaying the latest information.
 - When the list is reloaded, the display period is reset to the value you set.

■ Search

You can filter the items to be displayed in the list. This search is done in the same way as described in [Section 5.1.2.1, "Search Bar"](#). Specify a character string, and press the Enter key. The Tracker My List information is collected again, and the new list is displayed.



- Default value
 - None
- Restrictions
 - None
- Remark

After you press the Enter key, the list is reloaded immediately, displaying the latest information.

When the list is reloaded, the filter is canceled.

5.10.4.2. Report Panels

Report panels let you view the operation status and statistical information of JobCenter.

5.10.4.2.1. Tracker Summary

The [Tracker Summary] panel obtains and displays the current summary information of trackers (transition in the number of trackers by status). This panel allows you to check how many trackers have caused an error so far and how many trackers are scheduled to be submitted from now on.

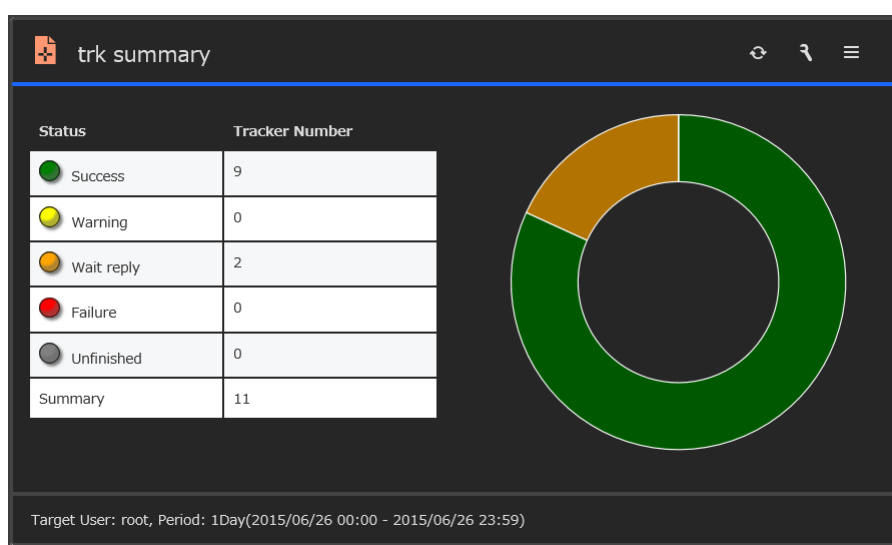



Figure 5.94. Tracker Summary

The [Tracker Summary] panel displays the tracker status when the panel is added. A table showing the number of tracks is displayed on the left side of the [Tracker Summary] panel, and a donut chart is on the right side. To change the display, make necessary changes using the setting dialog box. To change the display temporarily, use the side menu to make necessary changes.



When you use Internet Explorer or the FireFox browser, placing the mouse cursor on the donut chart displays a popup window showing the tracker items and their ratios.

5.10.4.2.1.1. What the Tracker Summary Displays

The Tracker Summary displays two types of information: "Status" and "Progress".

In addition to "SUCCESS", the status list displays "FAILURE", "HOLD", and other statuses that require user action. The following table shows the statuses that may be displayed in the list.

Table 5.10. List of the statuses

Status	Description
SUCCESS	Execution ended normally.
WARNING	Warning occurred.
HOLD	Execution is stopped to wait for a response from a dialog box.
FAILURE	Execution is stopped due to an error or ended abnormally.
INCOMPLETE	The tracker is scheduled or currently running, and not in the WARNING, HOLD, or ERROR status.

The "Progress" list displays the progress statuses. The following table shows the progress statuses that may be displayed in the list.

Table 5.11. List of the progress statuses

Progress	Description
DONE	Completed tracker
RUN	Currently running tracker
PREPARE	Scheduled tracker

5.10.4.2.1.2. Setting the Tracker Summary

In the [Tracker Summary] panel, you can change three items: target user, display type, and display period.

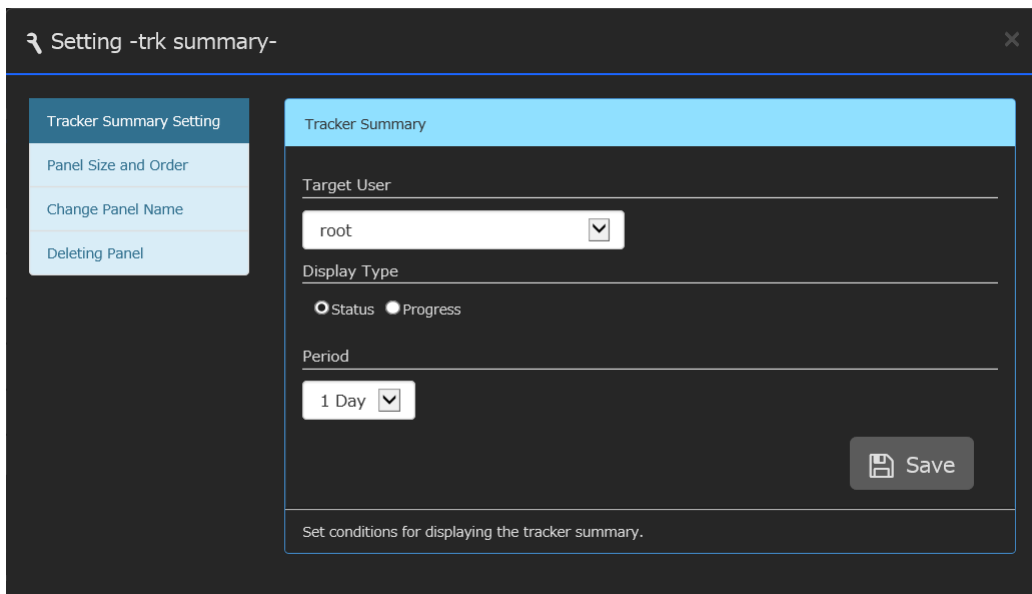



Figure 5.95. [Tracker Summary Setting] dialog box

■ Target User


Select the target user of the Tracker Summary. Besides an individual user, the JobCenter administrator can select all users.



- Default value
Login user. Note that, when you are referencing another user by using the user switch function, the target user is the user to whom you have switched.
- Restrictions
A user with no reference permission cannot be selected.
- Remark
For details of the permissions related to the Tracker My List, refer to [Section 5.10.4.3, "Permissions to Display Panels and Change Settings"](#).

■ Display Type


You can choose the display type between "Status" and "Progress".



- Default value
Status
- Restrictions
None
- Remark
None

■ Display period

The available options are "1 day", "2 days", and "3 days" including the reference date.



- Default value
1 day
- Restrictions
None
- Remark
The reference date refers to the day on which the [My Page] window is drawn for the first time or reloaded.

5.10.4.2.1.3. Side Menu of the Tracker Summary

The side menu of the Tracker Summary allows you to change the display type and display period.

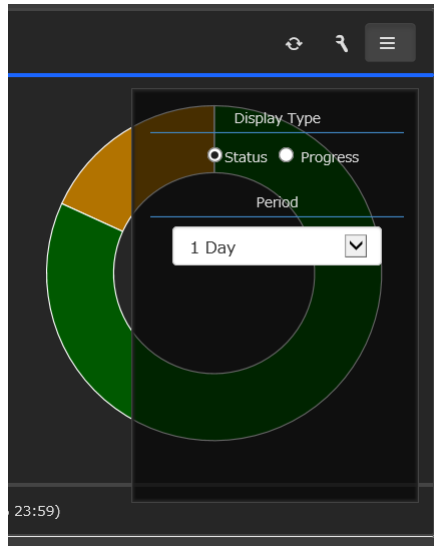


Figure 5.96. Side menu of the Tracker Summary

5.10.4.2.2. Tracker Report

The [Tracker Report] panel displays the transition in the number of archived trackers.

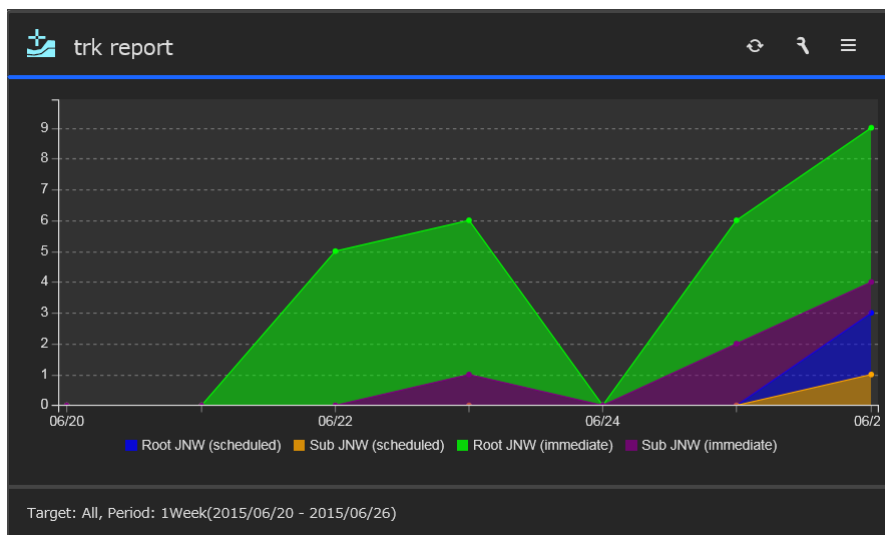


Figure 5.97. Tracker Report

The [Tracker Report] panel displays four stacked charts for one week's worth of trackers of all users when the panel is added. To change the display, make necessary changes using the setting dialog box. To change the display temporarily, use the side menu to make necessary changes.

5.10.4.2.2.1. What the Tracker Report Displays

The [Tracker Report] panel displays two types of report: "Overall" and "Each User". The "Overall" report combines four types of chart, each showing either root job networks or sub job networks and either job networks submitted according to schedule or job networks submitted immediately.

Table 5.12. List of the statuses in the charts

Item	Description
Root JNW (scheduled)	Number of job networks submitted according to schedule

Item	Description
Sub JNW (scheduled)	Number of sub job networks submitted according to schedule
Root JNW (immediate)	Number of job networks submitted immediately
Sub JNW (immediate)	Number of sub job networks submitted immediately

The "Each User" report displays charts for several users who submitted the most archived trackers during the display period. You can set and change the number of users to be displayed in this report.

There is another display function, which allows you to toggle between displaying and hiding a chart in the [Tracker Report] panel by clicking that chart.

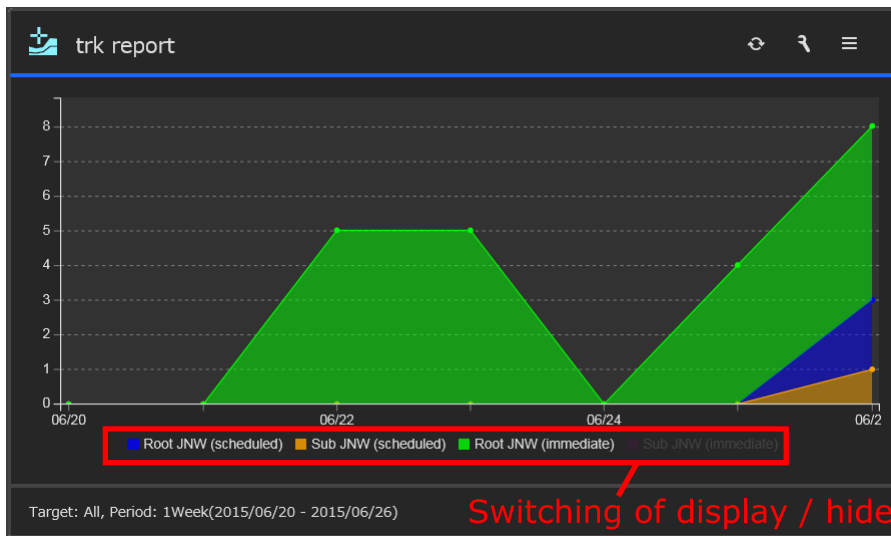


Figure 5.98. Tracker Report (hiding a chart)

5.10.4.2.2.2. Setting the Tracker Report

In the [Tracker Report] panel, you can change three items: chart type, display period, and report type.

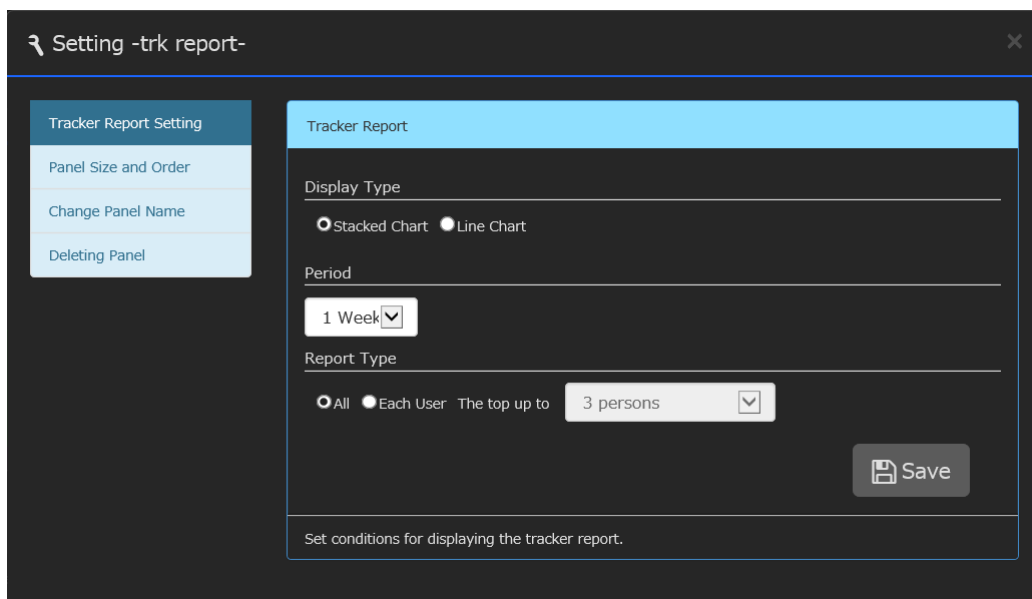



Figure 5.99. [Tracker Report setting] dialog box


■ Chart type


There are two types of chart: "Stacked Chart" and "Line Chart". If you choose "Stacked Chart", the number of job networks of each category is displayed in the form of a bar. If you choose "Line Chart", the number of job networks of each category is indicated by a line, instead of being stacked into a bar.

	<ul style="list-style-type: none">▪ Default value Stacked Chart▪ Restrictions None▪ Remark None
---	---

■ Display period

The available options are "1 day", "1 week", "2 weeks", "4 weeks", and "8 weeks" in the past including the reference date.

	<ul style="list-style-type: none">▪ Default value 1 week▪ Restrictions None▪ Remark The reference date refers to the day on which the [My Page] window is drawn for the first time or reloaded.
--	---

	<p>If you click somewhere on a chart when the display period is other than 1 day, the day corresponding to the position where you clicked is selected. If you change the display period in this condition using the side menu, the selected day becomes the reference date. Note that this change is temporary and becomes ineffective when the information is reloaded.</p>
---	--

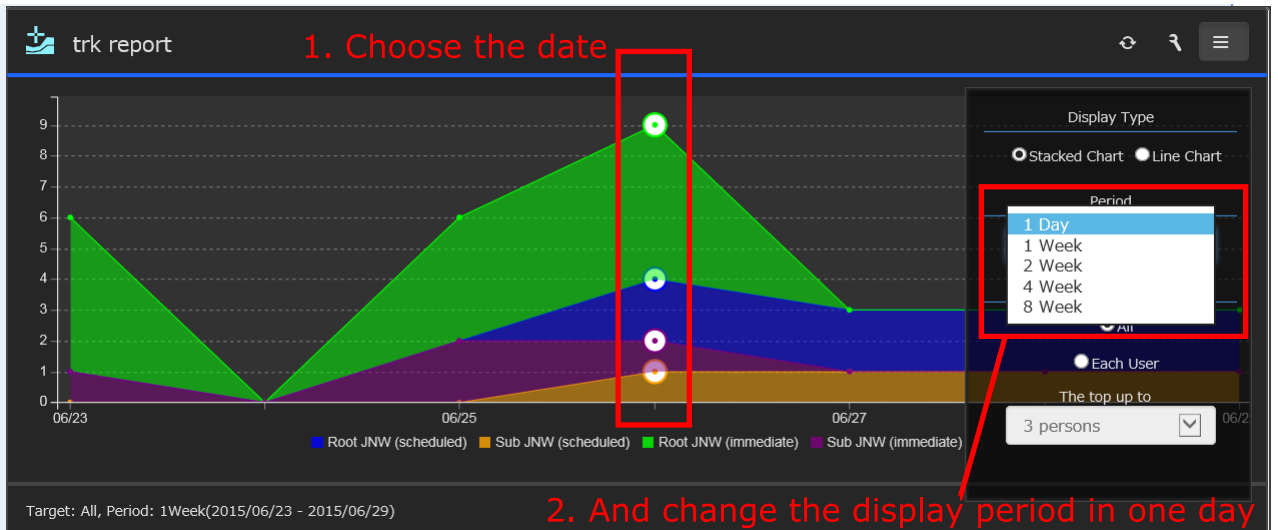


Figure 5.100. Changing the reference date in the Tracker Report temporarily (before the change)

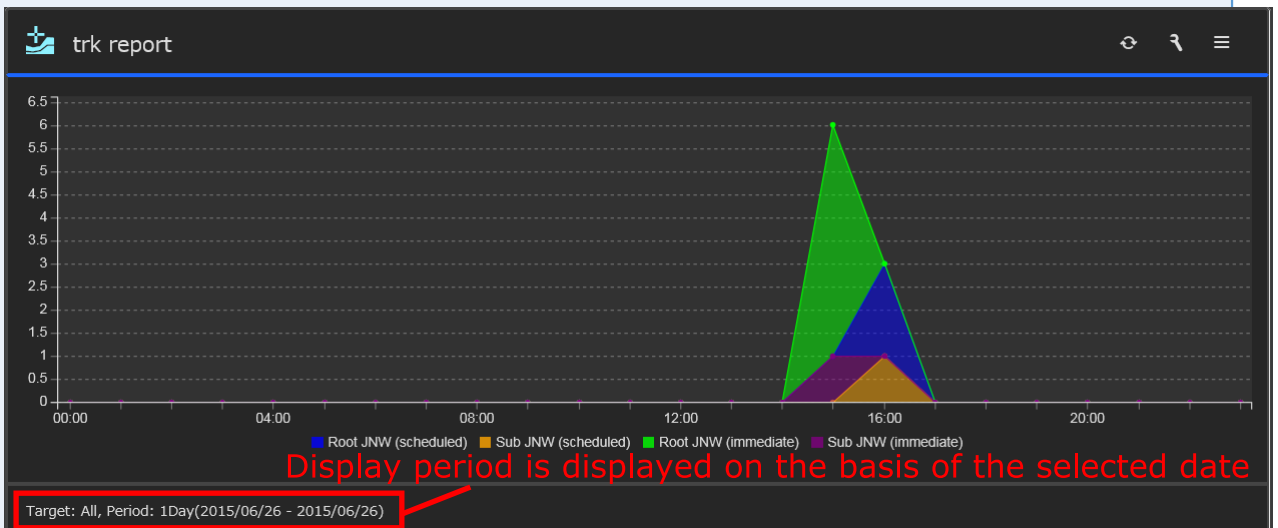


Figure 5.101. Changing the reference date in the Tracker Report temporarily (after the change)

■ Report type

You can choose between "Overall" and "Each User". If you choose "Each User", select how many users who submitted the most trackers during the display period are to be displayed, from "3 users", "5 users", and "10 users".

- ✎
 - Default value
 - Overall
 - Restrictions
 - None

- Remark

Users are ranked according to the total number of archived trackers that are submitted during the display period.

5.10.4.2.2.3. Side Menu of the Tracker Report

The side menu of the Tracker Report allows you to change the display type, display period, and report type.

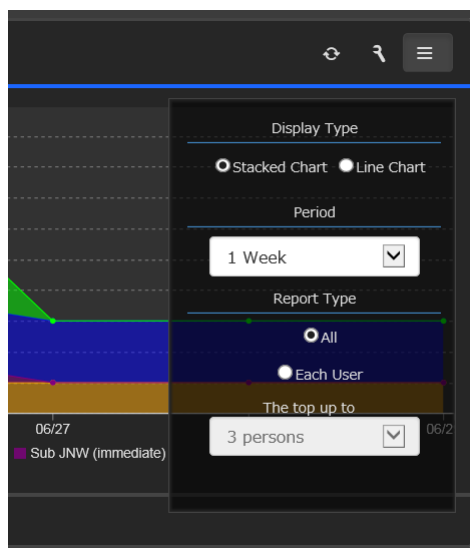


Figure 5.102. Side menu of the Tracker Report

5.10.4.3. Permissions to Display Panels and Change Settings

You need the JobCenter permissions to display panels and change settings.

The "JobCenter administrator" has all permissions and can display all the panels and change all the settings.

A "general user" needs the permissions shown in the table below to display individual panels and change settings. For details of the JobCenter permissions, refer to in <Basic Guide>Chapter 14, 「Authority Setting of General User (Permission)」 .

Panel name	Required permissions	Remark
JNW My List	JNW reference permission, JNW execution permission, tracker reference permission, tracker operation permission	If you do not have any of the indicated permissions or if access to the target user is limited, you cannot display the panel and change settings.
Tracker My List	Tracker reference permission	If you do not have any of the indicated permissions or if access to the target user is limited, you cannot display the panel and change settings.
Tracker Summary	Tracker reference permission	If you do not have any of the indicated permissions or if access to the target user is limited, you cannot display the panel and change settings.

Panel name	Required permissions	Remark
Tracker Report	A general user is not authorized to place the [Tracker Report] panel.	Only the JobCenter administrator can display the panel and change settings.

5.10.5. Setting My Page (JobCenter Administrator)

Only when you log in as the JobCenter administrator, the [My Page Setting] button is displayed in the upper right of the [My Page] window. If you click this button, the [My Page Setting] dialog box appears.

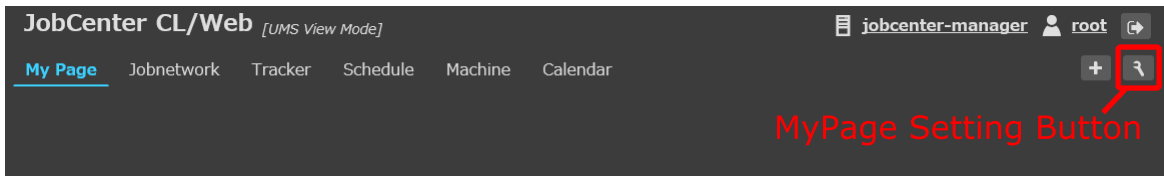


Figure 5.103. Setting button (displayed only for the JobCenter administrator)

The [My Page Setting] dialog box lets you set the "limit mode".



The [My Page Setting] button is displayed only when the JobCenter administrator is referencing his or her own [My Page] window. If the JobCenter administrator is referencing another user by using the user switch function, the [My Page Setting] button is not displayed.

5.10.5.1. Limit Mode

The limit mode function allows a specified user to access only the [My Page] window. This function prevents operation errors and makes operations easy to perform. For example, suppose that only the [Tracker My List] panel is placed in the [My Page] window and that the My Page is intended only to reference the job networks registered in the My List. This way, the only operation that the user has to perform is to reference the trackers in the My List, which helps prevent the user from performing erroneous operations such as submitting the wrong job network.

5.10.5.1.1. Setting the Limit Mode

In the setting dialog box, specify the user for whom you want to set the limit mode. In the example shown below, the limit mode is set for "user1". After selecting a user, click the [Save] button to save the setting.

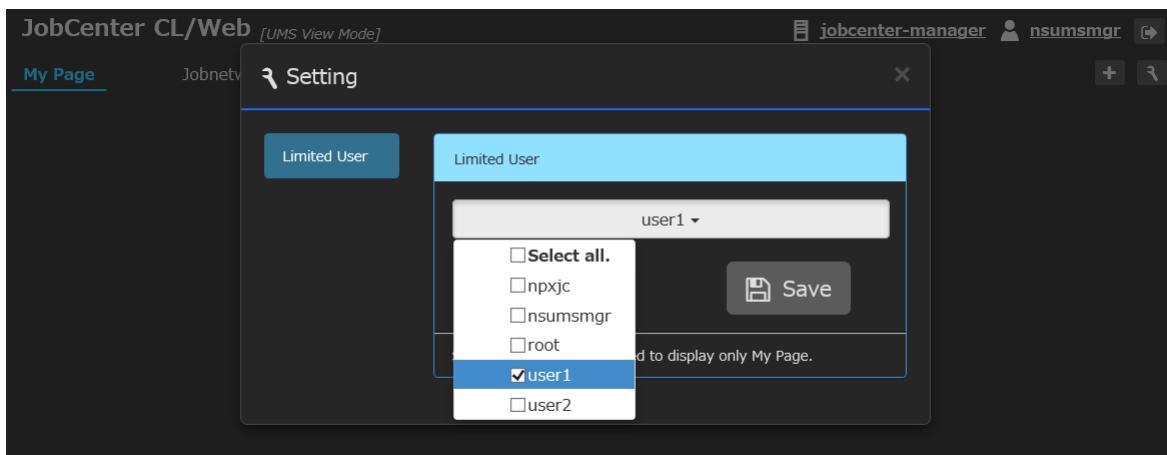


Figure 5.104. Specifying a limited user



It is also possible for the JobCenter administrator to make himself or herself a limited user. In that case, after the setting is saved, the information is automatically reloaded and the limited mode window is displayed.

When "user1" logs in after the setting is saved, only My Page is displayed. The limit mode takes effect when the target user logs in or when all pages are reloaded.

Figure 5.105. When a limited user logs in (only My Page is displayed)

5.10.5.1.2. User Operations in the Limit Mode

In the limit mode, the user can operate only those panels that are placed in the [My Page] window. For example, when the [JNW My List] panel is placed, the user can reference the job network flows of the job networks registered in the JNW My List and submit those job networks.

Note that the user cannot add panels to the [My Page] window or change the JNW My List by using the [Panel Setting] dialog box. The JNW My List of the user in the limited mode is set by the JobCenter administrator.

5.10.5.1.3. Setting a Panel for the User in the Limit Mode

The JobCenter administrator needs to set in advance the panel to be placed in the [My Page] window of the target user, by using the user switch function. The JobCenter administrator can display the [My Page] window of the target user, by switching the user name in the upper right of his or her [My Page] window.



Only the JobCenter administrator can reference the [My Page] window of the target user by using the user switch function. A general user can reference only his or her own [My Page] window.

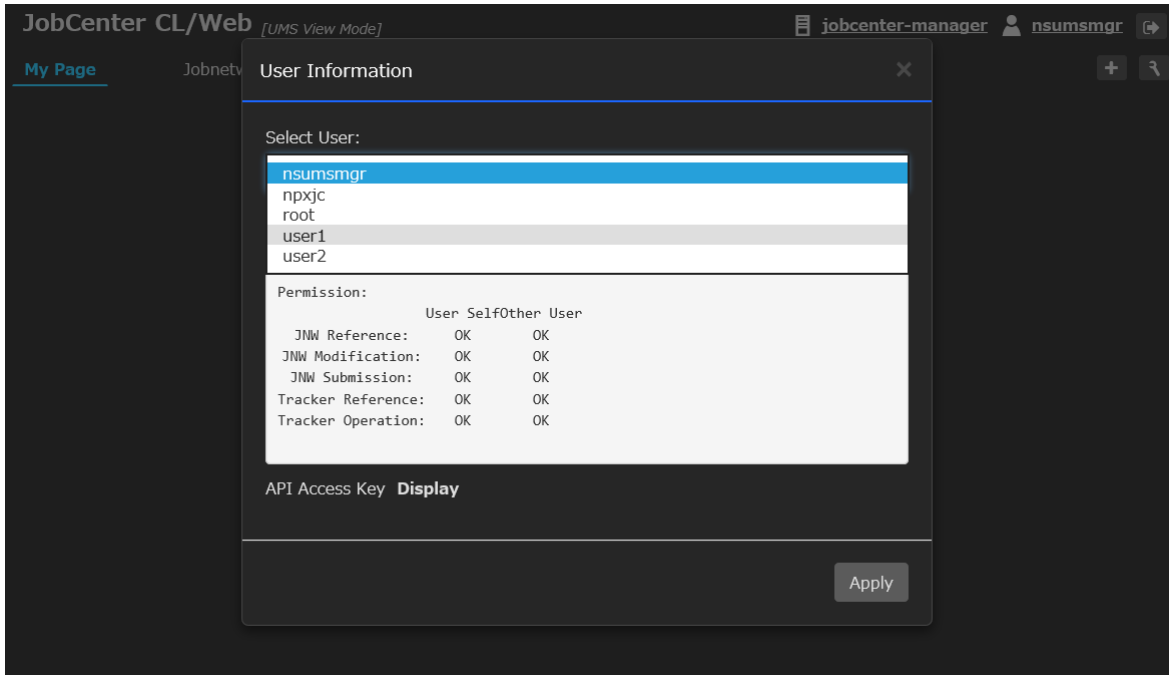


Figure 5.106. Switching users in the [My Page] window (from the JobCenter administrator to the limited user)

The following figure shows the window that is displayed when the JobCenter administrator "nsumsmgr" switches to the [My Page] window of the limited user "user1". The window has the user name "nsumsmgr(user1)" displayed on it and shows the content of the [My Page] window of "user1". If a panel is added or a setting is changed on this window, the change is also applied to the content displayed on the [My Page] window of the limited user "user1".

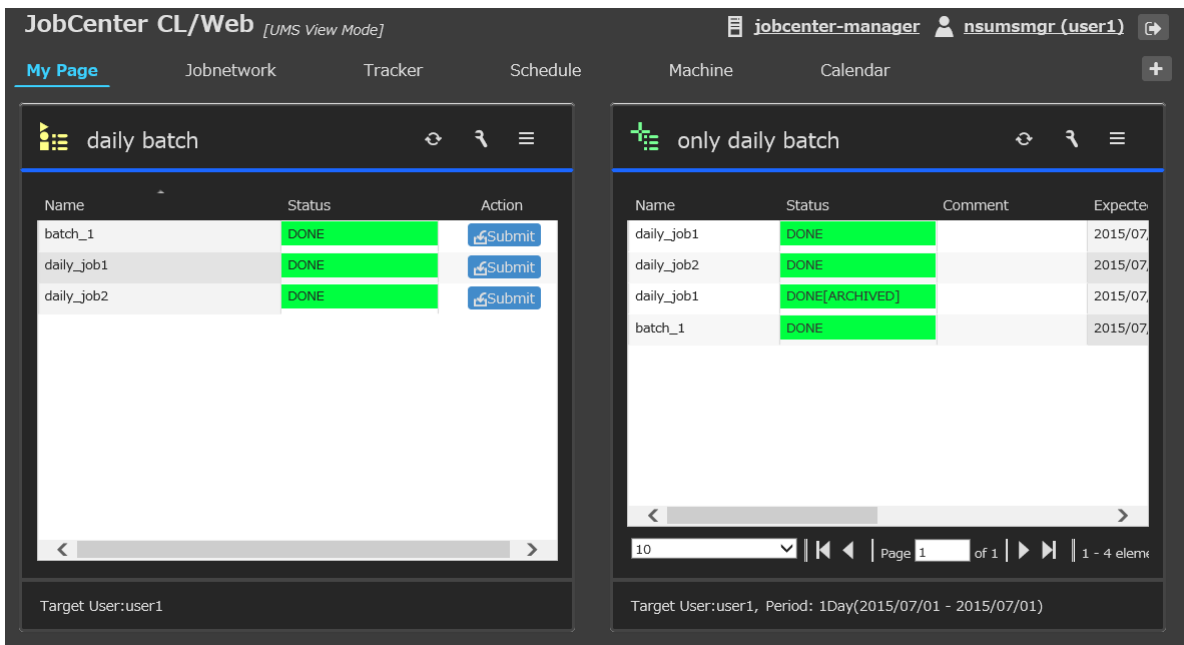


Figure 5.107. [My Page] window (when the JobCenter administrator displays and edits the [My Page] window of the limited user)

In the limit mode, the display result changes as shown below, depending on whether the login user is a limited user and whether the user is switched.

Login user	Whether the user is switched	Tabs displayed at the top	[Add Panel] button and setting button of each panel	[My Page Setting] button
JobCenter administrator (not limited user)	Not switched	All tabs	Displayed	Displayed
	Switched	All tabs	Displayed	Not displayed
JobCenter administrator (limited user)	Not switched	Only My Page	Not displayed	Displayed
	Switched	Only My Page	Not displayed	Not displayed
General user (not limited user)	Not switched	All tabs	Displayed	Not displayed
	Switched	All tabs	Not displayed (The [My Page] window itself cannot be referenced.)	Not displayed (The [My Page] window itself cannot be referenced.)
General user (limited user)	Not switched	Only My Page	Not displayed	Not displayed
	Switched	Only My Page	Not displayed (The [My Page] window itself cannot be referenced.)	Not displayed (The [My Page] window itself cannot be referenced.)

6 Web API function

This chapter describes web-based API functions that uses the HTTP/HTTPS protocol provided by CL/ Web server.

WebAPI is the interface for providing access to information including job networks and trackers managed by JobCenter

You are able to obtain or control the information described in [Section 6.5, “WebAPI version 2”](#) and [Section 6.6, “WebAPI version 1”](#) by sending an HTTP request in a specific format to the CL/Web server.

6.1. 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. 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.

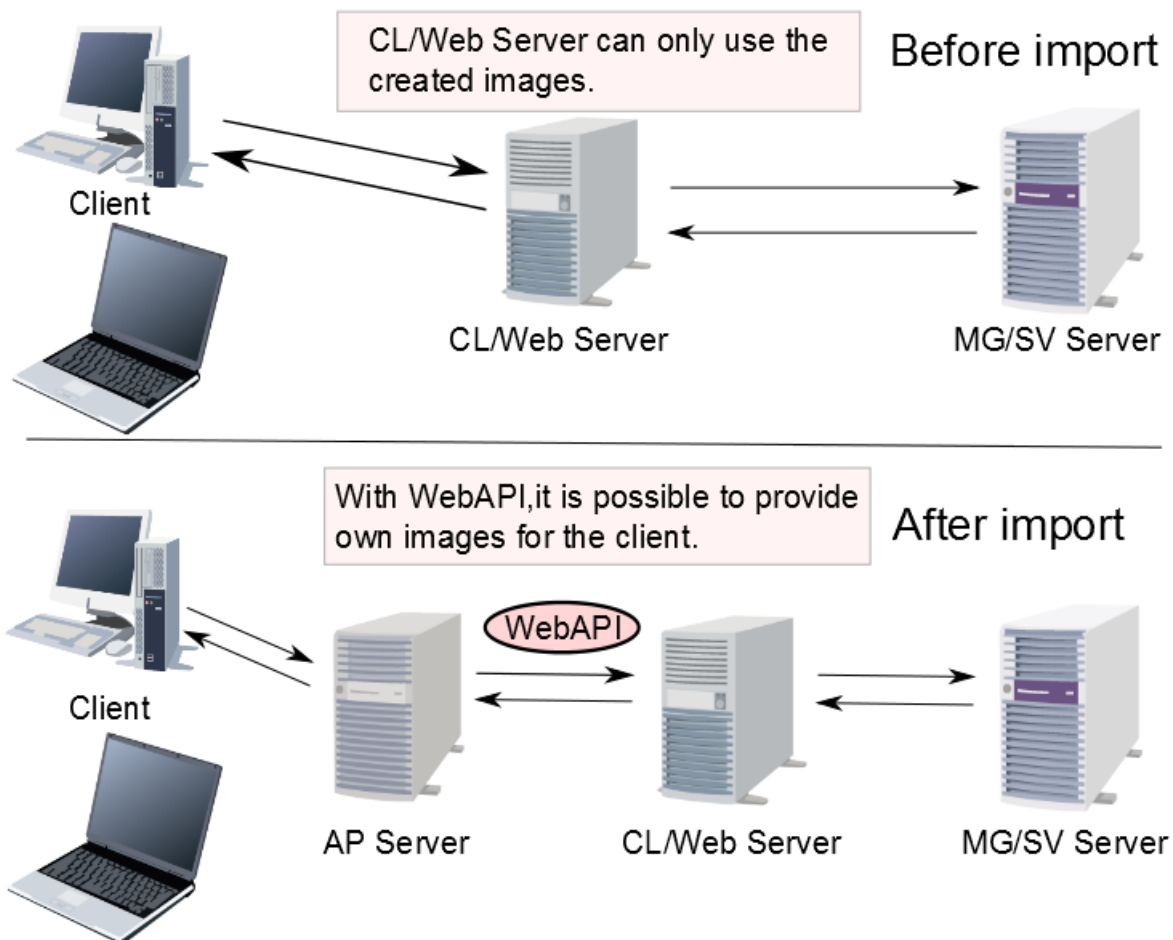


Figure 6.1. Effects of WebAPI introduction

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.

6.2. Request Contents of WebAPI

This section describes the contents specified in a request.

■ Use UTF-8 as character code encoding for input/output parameters of WebAPI.

■ To set a query parameter, append a question mark (?) to a URL, and specify as follows after "?":

```
parameter_name=value
```

■ When you set more than one parameter, separate them with an ampersand (&).

```
parameter1=value&parameter2=value
```

■ When you specify a character that cannot be used in URL, use the percent encoded character.

■ You can specify up to 10,240 characters for a URL. Note that you may be unable to use the maximum number of characters depending on the specifications of browser programs.



Internet Explorer allows up to 2,083 characters for a URL. For details, refer to the following information from Microsoft.

<https://support.microsoft.com/ja-jp/help/208427/>

6.3. Web API Versions

There are several versions of WebAPI. Each version of WebAPI is not compatible with others.

The latest version is version 2.

The differences between WebAPI version 1 and version2 are as follows:

- Endpoint (request URL)
- Request header
- Query parameter

For details of interfaces, see [Section 6.5, “WebAPI version 2”](#) and [Section 6.6, “WebAPI version 1”](#).

The differences in functions, refer to the following sections.

6.3.1. Functions of WebAPI version2

WebAPI version2 provides the following functions.

Table 6.1. Functions of WebAPI version2

Resource	Function	Reference
Job Network	Obtains job network list.	Section 6.5.2.1, “Acquiring the job network list”
	Controls the job networks.	Section 6.5.2.2, “Operation of the job network”
Tracker	Obtains a tracker list.	Section 6.5.3.1, “Acquiring the tracker list”
	Obtains a tracker details.	Section 6.5.3.2, “Acquiring detailed information on the tracker”
	Obtains a tracker part list.	Section 6.5.3.3, “Acquiring the tracker parts list”
	Obtains a tracker part details.	Section 6.5.3.4, “Acquiring detailed information on the tracker parts”

6.3.2. Functions of WebAPI version1

WebAPI version1 provides the following functions.

Table 6.2. Functions of WebAPI version1

Resource	Function	Reference
Job Network	Obtains job network list.	Section 6.6.2, “Obtaining Job Network List”
	Submits a job network immediately.	Section 6.6.3, “Immediate Job Network Submission”
Tracker	Obtains a tracker list.	Section 6.6.4, “Obtaining Tracker List”
	Obtains a tracker part list.	Section 6.6.5, “Obtaining Tracker Part List”
	Obtains a tracker status.	Section 6.6.6, “Obtaining Tracker Status”

Resource	Function	Reference
	Draws tracker flows.	Section 6.6.7, "Obtaining Tracker Flow"
	Operates tracker parts.	Section 6.6.8, "Execution of Tracker Part Control Instruction"
	Operates a tracker.	Section 6.6.9, "Execution of Tracker Control Instruction"

6.4. WebAPI Authentication

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

Perform an authentication using either of the two methods.

6.4.1. API Access Key Authentication

The API access key is the user-specific information (40-byte character string) retained in the CL/Web server. It is created automatically at the first login to the CL/Web Server. When requested by the user, it is initialized and a new 40-byte character string is created. The API access key is not created by using personal data (user information, password information, etc.). Therefore, a user is not identified by the API access key.

Specify the following parameter in the HTTP request to authenticate a user by the API access key.

■ Query parameter: API access key

For how to specify parameters, refer to the descriptions for each version of API.



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

6.4.1.1. Referencing the API Access Key

Follow the steps below to search the API Access Key.

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.

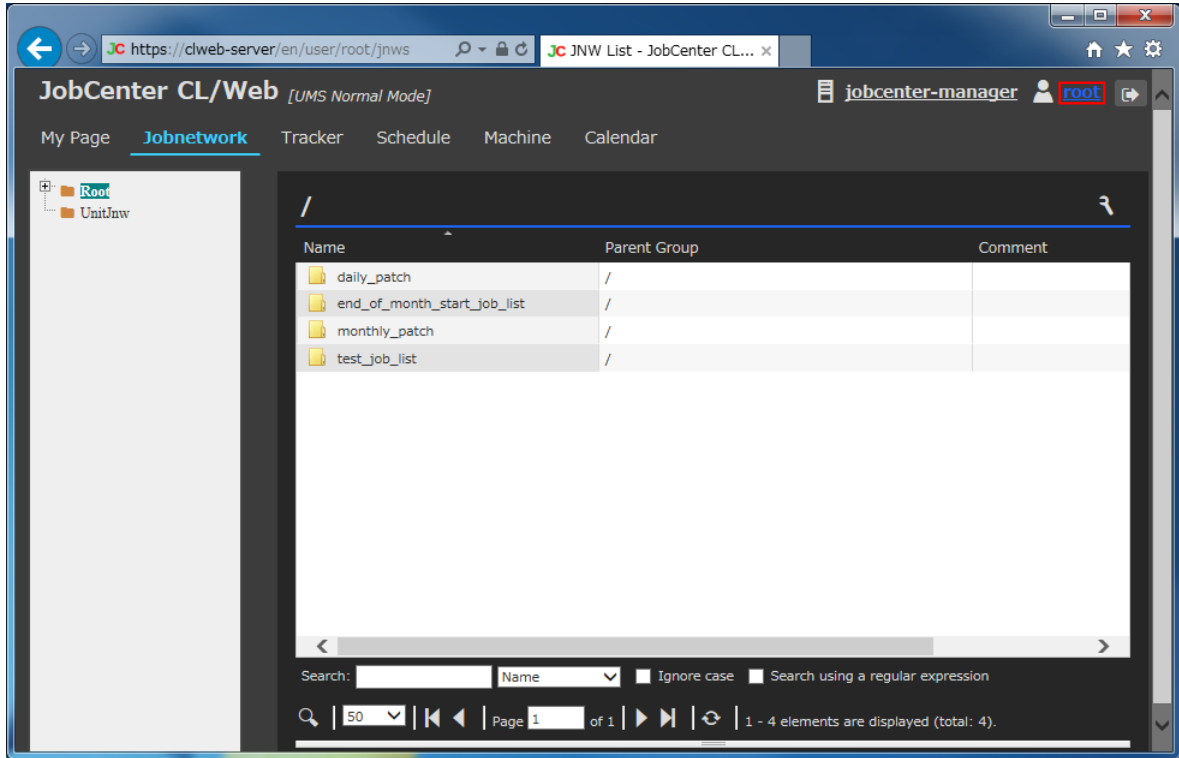


Figure 6.2. Click the user name

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

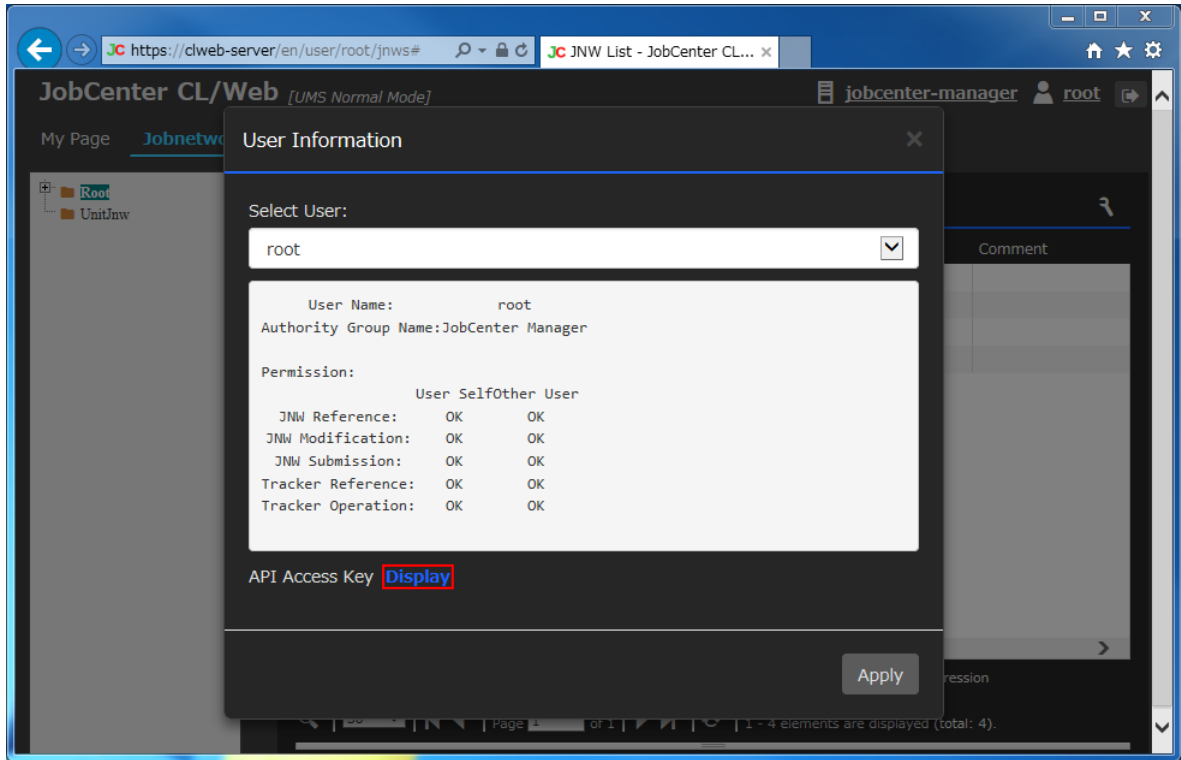


Figure 6.3. Clicking the [Display] button

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.)

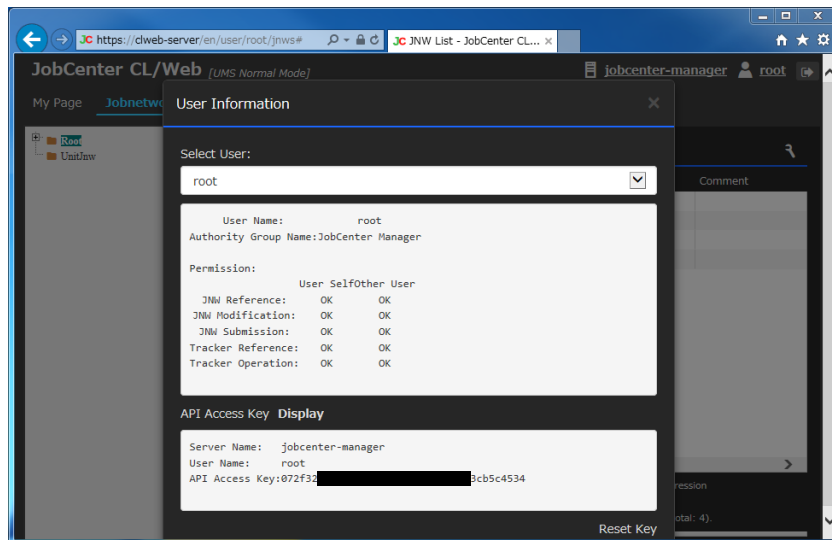


Figure 6.4. API Access Key Information window

6.4.2. HTTP Authentication (Basic Authentication)

Specify the following in the HTTP request to authenticate a user by the HTTP authentication.

- Query parameter: Hostname or IP address of MG/SV
- Request header: Base64-encoded character string that consists of a username and a password, separated by a colon(:)

HTTP authentication uses the same mechanism as that of Basic authentication; therefore, special characters cannot be used in the request header. Specify the base64-encoded character string that consists of a username and a password, separated with a colon (:). For Ruby, the following code can be used:

```
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 how to specify parameters, refer to the descriptions for each version of API.

6.5. WebAPI version 2

This section describes the CL/Web WebAPI version 2 (referred to as WebAPI (V2) hereafter).

6.5.1. Usage

This chapter describes the basic usage of WebAPI (V2).

6.5.1.1. API authentication method

This section describes the authentication method in WebAPI (V2).

■ API access key authentication

Set the API access key in `api_key` in the query parameter in the URL. For details of how to refer to the Access key, see [Section 6.4.1.1, "Referencing the API Access Key"](#).

```
api_key = <API access key>
```

■ HTTP (Basic) authentication

Set the host name or IP address of MG/SV of the connection destination in `manager_hostname` in the query parameter in the URL.

```
manager_hostname = <MG/SV host name or IP address of the connection destination>
```

Set the user name and password with the Base64-encoded character string in Authorization of the request header.

```
Authorization: Basic <"username:password" (this is a character string encoded in Base64)>
```

6.5.1.2. Parameter format

This section describes the parameter format used in WebAPI (V2).

Table 6.3. Parameter format list

Format	Example of the values
String	"Character string"
Integer	0
Boolean	true
Hash	{"key":value}
Array	["run"]
Null	null
PartsName	"JOB1"
Jobnetwork	"JNW1"
TrackerId	"JNW1:JNW1-1.20180402000000"
ISO8601	"2018-04-02T00:00:00+09:00"

■ String

This parameter is filled with character strings.

■ Integer

This parameter is filled with integer value.

■ Boolean

This parameter is filled with truth value.

Indication of true or 1 means a true value, while false or 0 means a false value.

■ Hash

This parameter is filled with hashes.

This is indicated by an object in the format of "key": value. Join hashes by a comma to set multiple hashes.

Example) {"key1": value1, "key2": value2}

■ Array

This parameter is filled with arrays.

When the element type such as Array [Hash] is declared, an element of corresponding type is contained in this parameter.

In the case of an array without an element, the array remains null ([]).

■ Null

This parameter is filled with null. This means that no data exists.

■ Jobnetwork

This is the special type of String. This shows the job network name that conforms to the following rules.

- Do not exceed 40 bytes.
- Use an alphabetical character, underscore, numeric character, or two-byte character at the head.
- Do not use a space, tab, linefeed, control character, one-byte katakana or the following symbols.
 - + ! " # \$ % & ' () * , . / : ; < = > ? @ [\] ^ ` { | } ~



How to calculate the number of bytes varies depending on the language used for setting up JobCenter MG/SV that issued the request. For the Japanese environment, the number of bytes of the character strings is calculated in Shift-JIS.

■ PartsName

This is the special type of String. This shows the name of the part to be allocated to the job network flow and this name conforms to the following rules.

- Do not exceed 40 bytes.
- Use an alphabetical character, underscore, numeric character, or two-byte character at the head.
- Do not use a space, tab, linefeed, control character or the following symbols.
 - ! " # \$ % & ' () * , . / : ; < = > ? @ [\] ^ ` { | } ~



How to calculate the number of bytes varies depending on the language used for setting up JobCenter MG/SV that issued the request. For the Japanese environment, the number of bytes of the character strings encoded by Shift-JIS is calculated.

■TrackerId

This is the special type of String. This shows the tracker ID and conforms to the following rules.

<Job network name>. <Submit time>

■ Job network name

This indicates the job network name. The job network name conforms to the restrictions of the Jobnetwork type.

The subjob network is indicated in the format of <Uppermost position job network name>:<Subjob network name>.

Example) JNW1: JNW1-1: JNW1-1-1

Up to 10 layers are used for the job network.

■ Submit time

The time (according to GMT) when the job network is submitted is shown in the format of YYYYMMDDhhmmss.

Example) 20180402000000

The value is limited as described below.

- Lower limit: 19970101000000
- Upper limit: 20371231235959

■ISO8601

This is the special type of String. The time is indicated in the format of <Date> T <Time> <Time zone> that is the expanded format of ISO8601.

■ Date

The date is indicated in the format of YYYY-MM-DD.

Example) 2018-04-02

■ Time

The hours, minutes, and seconds are indicated in the format of hh:mm:ss.

Example) 18:30:59

■ Time zone

This indicates the time zone. The time zone is indicated in the format of the UTC time format (Z) or of the + (-) hh:ss.

Example) +09:00

For the response data, the time zone is indicated in the UTC time format.

The value is limited as described below.

- Lower limit: 1997-01-01T00:00:00+00:00
- Upper limit: 2037-12-31T23:59:59+00:00

6.5.1.3. Request format

In WebAPI (V2), API is executed by sending a request in the following format to the CL/Web server.

```
<Method> /api/<Version>/<Resource>?<Query parameter>
```

Example of URL

```
https://example.com/api/v2/jobnetworks?manager_hostname=example.com
```

This section describes the elements in the request format.

Table 6.4. Elements in request format

Item	Description	Example
Method	Specify the method of the HTTP request. You can specify the GET method and POST method.	GET
Version	Specify the API version. You can specify the version "v2.0" or "v2". Specifying "v2" and omitting the minor version mean that the latest minor version is specified. This omitted specification has the advantage that correction of the request URL is not required even if the WebAPI minor version is upgraded.	v2
Resource	Specify the resource to be accessed. For details, refer to the description of the request URL for each API.	jobnetworks
Query parameter	Specify the query parameter. For details, refer to Section 6.5.1.3.2, "Query parameter" .	manager_hostname=example.com



The API version is indicated in the format of <Major version>.<Minor version>. Currently, the latest version is 2.0.



Regardless of the connected MG/SV environment, the parameters entered in each parameter are case-sensitive.

6.5.1.3.1. Request header

This section describes the request header required when sending the HTTP request to the CL/Web server. The fields required for the request header are shown below.

Table 6.5. Request header

Field name	Description	Example
Host	Specify the host information of the CL/Web server that sends a request. Specify the host information in the format of "<Host name>:<Port number>".	example.com:80

Field name	Description	Example
Authorization	Specify the authentication information when sending the HTTP request in the HTTP authentication (Basic authentication). This is not required when using the API access key authentication. The authentication information is specified in the format of "Basic <"username:password"> Base64-encoded character string with a colon between the user name and password".	Basic xxxxxxxxxxxxxx
Accept	Specify the media type to be specified for the response data. "application/json" must always be specified. Omitting this means that the "*/*" is specified, which means that all the data formats are allowed.	application/json
Content-Type	Specify the media type of the request body if the request body exists. "application/json" must always be specified.	application/json
Content-Length	Specify the request body length (bytes) if the request body exists.	1234



Specify the media type in the format of "Top level type name/Sub type name." Specifying * as the top level type name means that "*/*" is specified regardless of the sub type name value.



If an error occurs in the HTTP request when Content-Length is not specified or when the specified value exceeds the body size, the response is returned in the HTML format. In this case, the request is not recorded in the trail log.

6.5.1.3.2. Query parameter

It is required to specify either of the following query parameters according to the authentication method in WebAPI (V2).

Table 6.6. Query parameter

Parameter	Description	Example
manager_hostname	Specify the MG/SV host name or IP address when sending the HTTP request in the HTTP authentication (Basic authentication).	example.com
api_key	Specify the API access key (40-byte character string) to send the HTTP request for the API access key authentication.	dsfvo... (40 bytes)



If both "manager_hostname" and "api_key" are specified, an error occurs.

Other than those described above, specify the query parameter prepared for each API.

For the API that uses the POST method, you can specify the parameter to be specified as the query parameter in the request body . If the parameter is specified in both the query parameter and request body, the query parameter value is used.

If the same parameter is specified in the query more than once, the parameter value specified later is used.

6.5.1.3.3. Request body

This section describes the request body for sending the HTTP request.

The request body must be specified in the JSON format. For the parameters that can be specified in the request body, refer to the description of the request body for each API.

You can also use the query parameter to specify the parameter to be specified in the request body. If the parameter is specified in both the query parameter and request body, the query parameter value is used.

If the same parameter is specified in the request body more than once, the parameter specified later is used.

6.5.1.4. Response format

This section describes the basic elements of the format of the response returned by the CL/Web server.

The response body is constructed in the JSON format.

6.5.1.4.1. Response header

When the response is returned, the HTTP header is composed of the following elements.

Table 6.7. Response header

Field name	Description	Example
Content-Type	Indicates the media type of the response body if the response body exists.	application/json
Content-Length	Indicates the response body length (bytes) if the response body exists.	1234
Date	Indicates the date when the response was sent.	Wed, 07 Feb 2018 01:35:13 GMT

6.5.1.4.2. Response body returned when API succeeds

This section describes the response body returned by the CL/Web server when API succeeds.

6.5.1.4.2.1. Single response data

The response body for a single unit of response data is described below.

```
{
  "data":{
    <Result of each API>
  }
}
```

Table 6.8. Response body parameter (single)

Parameter	Type	Description	Example
data	Hash	Returns the results of each API in Hash. For details, refer to the description of the response body for each API.	{"tracker_id":"jnw1.20171016052922"}

6.5.1.4.2.2. More than one response data

For more than one response data, the response body is described below.

```
{
  "count":<Data count>,
  "data":[
    {<Result of each API>},
    {<Result of each API>}
  ]
}
```

Table 6.9. Response body parameter (multiple)

Parameter	Type	Description	Example
count	Integer	Returns the number of elements of the data parameter.	1
data	Array[Hash]	Returns the Hash array of the results of each API. For details, refer to the description of the response body for each API.	{"jobnetwork_name":"jnw1", "comment":"Comment", "group_path":"UnitJnw"}

6.5.1.4.3. Response body returned when API fails

The format of the response body returned by the CL/Web server when API fails.

```
{
  "error_code":<Error code>,
  "errors":[
    {
      "message":<Error message>
    }
  ]
}
```

Table 6.10. Response body parameter (at failure)

Parameter	Type	Description	Example
error_code	String	This is an error code that indicates the error category. For the error code to be returned, refer to Section 6.5.4, "Error list" .	"NOT_FOUND"
errors	Array[Hash]	This is the Hash array to store the error message. If more than one error exists in the parameter specified in the query or body, more than one error message is stored.	[{"message":"The resource is not found."}]
message	String	This is an error message that indicates details of the error. For the details of error messages, refer to Section 6.5.4, "Error list" .	"The resource is not found."

6.5.2. Job network resource

The API executed for the job network resource is described.

6.5.2.1. Acquiring the job network list

6.5.2.1.1. Description of functions

Acquire the job network list defined by the authenticated users.

6.5.2.1.2. HTTP request specifications

■ HTTP method

GET

■ Request URL

/api/v2/jobnetworks

■ Request header

For the request header, refer to [Section 6.5.1.3.1, "Request header"](#).

■ Parameter

There is no parameter specific to API.

For the common authentication parameter to be specified in WebAPI (V2), refer to [Section 6.5.1.3.2, "Query parameter"](#).

■ Example of request

```
GET
https://example.com/api/v2/jobnetworks?api_key=dsfvoeishfhseiofhoseihfiosheiofhsoehfi
```

6.5.2.1.3. HTTP response specifications

■ On API success

- HTTP status code

200

- Response body

For the response body format returned when API succeeds, refer to [Section 6.5.1.4.2.2, "More than one response data"](#).

The execution result format of the API stored in the data parameter array is described below.

Table 6.11. Response body parameter list

Parameter	Type	Description	Example
jobnetwork_name	Jobnetwork	This indicates the job network name.	"NewJnw"
comment	String	This is the comment set in the job network.	"Comment"
group_path	String	This indicates the path of the group to which the job network belongs.	"UnitJnw"

Example of response body

```
{
  "count":3,
```

```
"data":[
  {"jobnetwork_name":"NewJNW",
   "comment":"Comment",
   "group_path":"Root/Group1"
  },
  {"jobnetwork_name":"UnitJNW2",
   "comment":"UNITJNW comment",
   "group_path":"UnitJnw"
  },
  {"jobnetwork_name":"UnitJNW3",
   "comment":"",
   "group_path":"UnitJnw"
  }
]
```

■ When API fails:

Refer to [Section 6.5.1.4.3, "Response body returned when API fails"](#).

6.5.2.1.4. Notes

Unlike WebAPI (V1), the data that can be acquired by API that obtains the job network list does not contain the group and shortcut.

6.5.2.2. Operation of the job network

6.5.2.2.1. Functional description

Perform the operation specified by the "action" parameter for the specified job network. It enables users to submit the job network.

6.5.2.2.2. HTTP request specifications

■ Method

POST

■ Request URL

/api/v2/jobnetworks/<Job network name>

■ Request header

For the request header, refer to [Section 6.5.1.3.1, "Request header"](#).

■ Parameter

For the common query parameter to be used in WebAPI (V2), refer to [Section 6.5.1.3.2, "Query parameter"](#).

The parameters specific to API are described below.

Table 6.12. Request parameter list

Parameter	Field to which to specify the parameter	Type	Required	Description	Limitation on versions
<Job network name>	URL	Jobnetwork	✓	Specify the job network name to be submitted.	-
action	Request body	String	✓	Specify details of the operation for the job network.	-
submission_time	Request body	ISO8601	-	Specify the time when the job network is submitted.	-
set_in_advance	Request body	String	-	Specify the preliminary settings for submitting the job network.	-
job_parameter	Request body	String	-	Specify the job parameter when the job network is submitted.	-
comment	Request body	String	-	Specify the comment when the job network is submitted.	-
environment_variable	Request body	Hash	-	Specify the environment variable when the job network is submitted.	R15.2 or later
shift_time_enabled	Request body	Boolean	-	Set whether to shift the timing to submit the job network.	-

Parameter	Field to which to specify the parameter	Type	Required	Description	Limitation on versions
top_priority_enabled	Request body	Boolean	-	Set whether to give the highest priority on the execution of the job network.	-

Details of each parameter are described below.

<p>action</p> <p>Specify details of the operation for the job network.</p> <p>The following values can be specified.</p> <ul style="list-style-type: none"> ▪ submit <p>Submit the job network.</p>
--

<p>submission_time</p> <p>Specify the time when the job network is submitted.</p> <p>For the parameter format, refer to Section 6.5.1.2, "Parameter format".</p> <p>If the past time is specified, the tracker for the specified time is created.</p> <p>If this parameter is omitted, the job network is submitted immediately.</p>
--

<p>set_in_advance</p> <p>Specify the preliminary settings for submitting the job network. You can submit the job network with the specified settings.</p> <p>If this parameter is omitted, the job network is operated according to the job network parameter.</p> <p>The following values can be specified.</p> <ul style="list-style-type: none"> ▪ hold <p>Holds the related job network when the job network is submitted.</p> <ul style="list-style-type: none"> ▪ skip <p>Skips the related job network when the job network is submitted.</p> <ul style="list-style-type: none"> ▪ off <p>The related job network is not held or skipped when the job network is submitted.</p>

<p>job_parameter</p> <p>Specify the job parameter (NSJNW_PARAM environment variable) when the job network is submitted.</p> <p>If the NSJNW_PARAM environment variable is specified in the environment_variable parameter, the value of this parameter is ignored, and the job network is operated according to the value of the NSJNW_PARAM environment variable in the environment_variable parameter.</p>
--

If this parameter is omitted, the job network is operated according to the value of the job network environment variable.

The following characters cannot be used for the job parameter.

- Tab, linefeed, control character
- # ' "
- Odd number of "\" at the tail
- Unmatched curly brace (Example: a{b)
- Characters that cannot be used in the language used for the setup of MG/SV (for the Japanese environment, characters not defined in Shift-JIS)

comment

Specify the comment when the job network is submitted.

If this parameter is omitted, the job network is operated according to the comment of the job network.

Up to 256 bytes ^{Note 1} of the characters can be used for a comment, and the following characters cannot be used.

- Tab, linefeed, control character
- ^ # \$; () [] { } \ | < > " & ' "
- Characters that cannot be used in the language used for the setup of MG/SV (for the Japanese environment, characters not defined in Shift-JIS)

environment_variable

Specify the environment variable as of the time when the job network is submitted in the Hash-type format of <Environment variable name>:<Environment variable value>.

For the parameter format, refer to [Section 6.5.1.2, "Parameter format"](#).

If a null character is specified as the environment variable value, the job network is operated while the environment variable value remains null.

If the NSJNW_PARAM environment variable is specified, the value specified as the job parameter is ignored, and the job network is operated according to the value specified as this NSJNW_PARAM environment variable.

If this parameter is not specified or if the environment variable is not specified in this parameter, the job network is operated according to the value specified as the job network environment variable.

Up to 51 bytes ^{Note 1} of the characters can be used for the environment variable name, and the following characters cannot be used.

- Null character
- Space, tab, linefeed
- = # ' "
- Unmatched curly brace (Example: a{b)

- Characters that cannot be used in the language used for the setup of MG/SV (for the Japanese environment, characters not defined in Shift-JIS)

The following characters cannot be used for the environment variable value.

- Tab, linefeed
- # ' "
- Odd number of \ at the tail
- Unmatched curly brace (Example: a{b)
- Characters that cannot be used in the language used for the setup of MG/SV (for the Japanese environment, characters not defined in Shift-JIS)



Note 1: The number of bytes are calculated in the environment of the language in which the JobCenter MG/SV was set up.

For the Japanese environment, the number of bytes are converted according to Shift-JIS. One-byte katakana is converted as one byte.

shift_time_enabled

If another tracker of the same submit time exists in the job network to be submitted, the tracker is not created. In this case, set whether to shift the timing to submit the job network.

For the parameter format, refer to [Section 6.5.1.2, "Parameter format"](#).

To specify this parameter, it is required to specify `submission_time`.

If this parameter is not specified, the job network is operated as `false` is specified.

The following values can be specified.

- true or 1

If the tracker has been created at the same time, the job network is submitted one second after the specified time.

If the tracker has been created at one second after the specified time, the job network is submitted after one second further.

- false or 0

If the tracker has been created at the same time, the job network is not submitted later, and the tracker is not created.



Although the tracker is not created as a result of the API execution, an error does not occur, and ID of the tracker already created in `tracker_id` of the response data is displayed.

top_priority_enabled

If the number of submitted job networks exceeds the upper limit of job networks that can be executed concurrently and those job networks wait for submission, set whether to give the highest priority on submitting these job networks.

For the parameter format, refer to [Section 6.5.1.2, "Parameter format"](#).

If this parameter is not specified, the job network is operated as false is specified.

The following values can be specified.

- true or 1

The job networks are preferentially executed. If there is more than one job network specified as described here, the job networks are submitted in the order of the submit time.

- false or 0

The job network is submitted while the priority remains normal.

■ Example of request

```
POST
https://example.com/api/v2/jobnetworks/NewJnw1?api_key=dsfvoeishfhseiofhoseihfiosheiofhsioehfi
{
  "action": "submit",
  "submission_time": "2017-12-24T05:44:00+09:00",
  "set_in_advance": "off",
  "job_parameter": "param",
  "comment": "comment",
  "environment_variable":
  {
    "key1": value1,
    "key2": value2
  },
  "shift_time_enabled": true,
  "top_priority_enabled": 0
}
```

6.5.2.2.3. HTTP response specifications

■ On API success

- HTTP status code

201

- Response body

For the response body format returned when API succeeds, refer to [Section 6.5.1.4.2, "Response body returned when API succeeds"](#).

The format of the execution result of the API stored in the data parameter is described below.

Table 6.13. Response body parameter list

Parameter	Type	Description	Example
tracker_id	TrackerId	Returns the value of the created tracker ID.	"jnw1.20180101024501"

Example of response body

```
{
  "data": {
```

```
"tracker_id": "jnw1.20170711054131"  
}  
}
```

■ When API fails:

Refer to [Section 6.5.1.4.3, "Response body returned when API fails"](#).

6.5.2.2.4. Notes

If `shift_time_enabled` is enabled to submit the job network later, submitting can be delayed by up to 10 minutes. If the job network is submitted after more than 10 minutes, an error response is returned with status code of 500 and error code of `INTERNAL_SERVER_ERROR`.

6.5.3. Tracker resource

The API executed for the tracker resource is described.

6.5.3.1. Acquiring the tracker list

6.5.3.1.1. Description of functions

WebAPI acquires the tracker list, tracker status, and other information for an authenticated user. It also acquires the tracker of the subjob network.

You can specify the period or status as the condition for narrowing down the tracker to be acquired. For details, refer to [Table 6.14, "Request parameter list"](#).

6.5.3.1.2. HTTP request specifications

■ HTTP method

GET

■ Request URL

/api/v2/trackers

■ Request header

There is no parameter specific to API.

For the request header common in API, refer to [Section 6.5.1.3.1, "Request header"](#).

■ Parameter

For the common authentication parameter to be specified in WebAPI (V2), refer to [Section 6.5.1.1, "API authentication method"](#).

The parameters specific to API are described below.

Table 6.14. Request parameter list

Parameter	Field to which to specify the parameter	Format	Required	Description	Limitation on versions
jobnetwork_name	Query parameter	Jobnetwork	-	Specify the job network name of the tracker to be acquired.	-
tracker_id	Query parameter	TrackerId	-	Specify the tracker ID of the tracker to be acquired.	-
from	Query parameter	ISO8601	-	Specify the start date of the acquisition period.	-
to	Query parameter	ISO8601	-	Specify the end date of the acquisition period.	-
status	Query parameter	String	-	Specify the status of the tracker to be acquired.	-
output_scope	Query parameter	String	-	Specify the condition for outputting the tracker that has been acquired.	-



If more than one parameter has been specified, the operation is executed under the conditions (AND condition) that match all the specified parameters.

Details of each parameter are described below.

jobnetwork_name

Acquires the tracker that completely matches the job network name.

This parameter cannot be specified at the same time as the tracker_id parameter.

For the parameter format, refer to [Section 6.5.1.2, "Parameter format"](#).

tracker_id

Acquires the tracker that completely matches the tracker ID.

This parameter cannot be specified at the same time as the parameters other than output_scope.

For the parameter format, refer to [Section 6.5.1.2, "Parameter format"](#).

from,to

Acquires the tracker in the specified period. Specify the start date in the 'from' parameter, the end date in the 'to' parameter.

You can specify the date within the range from the current time to three months later in the 'from' and 'to' parameters.

If these parameters are omitted, acquires the tracker for the day requested by API.

For the parameter format, refer to [Section 6.5.1.2, "Parameter format"](#).

status

Acquires the tracker in the specified status. More than one status can be specified.

To specify more than one status, separate them with commas (,). (Example) status = run, error

When specifying more than one status, the operation is executed under the OR condition.

The following values can be specified.

Value	Description
wait	Acquires the tracker that has not started.
run	Acquires the tracker being executed.
done	Acquires the tracker that has exited.
error	Acquires the tracker in which an error occurs.
warning	Acquires the tracker that is issuing a warning.
stop	Acquires the tracker being stopped.
skip	Acquires the tracker being skipped.
hold	Acquires the tracker being held.
waiting	Acquires the tracker that is waiting.

output_scope

The output condition of the tracker that meets the conditions for other parameters is specified.

If this parameter is omitted, only the tracker that meets the condition is returned.

The following values can be specified.

- full

Returns all the trackers that met the conditions including the uppermost tracker and subjob network tracker.

- top_level_only

Returns the uppermost tracker only among the trackers that meet the conditions.

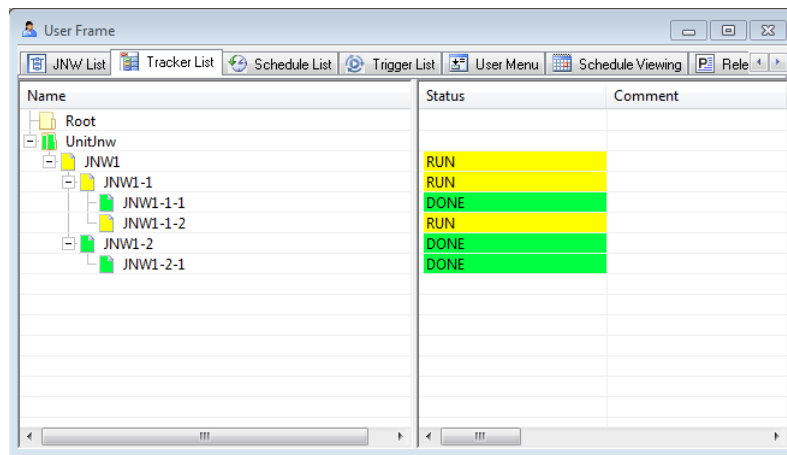


Figure 6.5. Description of output_scope

If the API that acquires the tracker list by specifying 'status=run' in the query parameter is issued to the users that have the trackers as shown in the above figure, the operation result varies according to the value of output_scope parameter as described below.

- Tracker acquired when output_scope is not set

JNW1,JNW1-1,JNW1-1-2

- Tracker acquired when output_scope=full is specified

JNW1,JNW1-1,JNW1-1-1,JNW1-1-2,JNW1-2,JNW1-2-1

- Tracker acquired when output_scope=top_level_only is specified

JNW1

■ Example of request

```
GET
https://example.com/api/v2/trackers?api_key=dsfvoeishfhseiofhoseihfiosheiofhsioehfi
&jobnetwork_name=NewJnw&from=2018-01-01T00:00:00Z&to=2018-02-01T00:00:00Z
&output_scope=top_level_only
```

6.5.3.1.3. HTTP response specifications

■ On API success

- HTTP status code

200

- Response body

For the response body format returned when API succeeds, refer to [Section 6.5.1.4.2.2, “More than one response data”](#).

The execution result of the API stored in the data parameter array is described below.

Table 6.15. Response body parameter list

Parameter	Type	Description	Example
jobnetwork_name	Jobnetwork	This indicates the job network name of the tracker.	"NewJnw"
status	Array[String]	This indicates the tracker status.	["run"]
substatus	Array[String]	This indicates the tracker substatus.	["waiting_object"]
group_path	String	This indicates the path of the group to which the tracker belongs.	"UnitJnw"
tracker_id	TrackerId	This indicates the tracker ID.	"jnw1.20180101000000"
comment	String	This indicates the tracker comment.	"Comment"
expected_start_time	ISO8601	This indicates the expected start time of the tracker.	"2018-04-02T00:00:00Z"
expected_end_time	ISO8601	This indicates the expected exit time of the tracker.	"2018-04-02T00:00:00Z"
start_time	ISO8601/Null	This indicates the actual start time of the tracker.	"2018-04-02T00:00:00Z"
end_time	ISO8601/Null	This indicates the actual exit time of the tracker.	"2018-04-02T00:00:00Z"
user_name	String	This indicates the name of the user that executed the tracker.	"nsumsmgr"
machine_name	String	This indicates the name of the machine in which the tracker was executed.	"example.com"

Details of each parameter are described below.

status
The tracker status is indicated by an array that has one or more elements. For details of the status, refer to Section 6.5.3.5, “Tracker status” .

substatus

Detailed information on the status or the reason for this status is indicated by an array that has zero or more elements.

For details of the substatus, refer to [Section 6.5.3.5, "Tracker status"](#).

group_path

This indicates the path of the group to which the tracker belongs.

The tracker whose job network was deleted is indicated as "UnitJnw".

start_time

This indicates the actual start time of the tracker.

The following trackers do not have the actual start time. Therefore, be sure to set this to null.

- A tracker is waiting ('status' contains "wait")
- A tracker has skipped a branch ('status' contains "skip", and 'substatus' contains "branch_skip")

end_time

This indicates the actual exit time of the tracker.

The following trackers do not have the actual exit time. Therefore, be sure to set this to null.

- A tracker is waiting ('status' contains "wait")
- A tracker is running ('status' contains "run")
- A tracker has skipped a branch ('status' contains "skip", and 'substatus' contains "branch_skip")

Example of response body

```
{
  count":2,
  data":[
    {
      "jobnetwork_name":"jnw1",
      "status":["done","error"],
      "substatus":["abort","operation_hold","archived"],
      "group_path":"Root/Group"
      "tracker_id":"jnw1.20171224054401",
      "comment":"jnw1",
      "expected_start_time":"2017-10-17T22:30:00Z",
      "expected_end_time":"2017-10-17T22:50:00Z",
      "start_time":"2017-10-17T22:30:00Z",
      "end_time":"2017-10-17T22:50:00Z",
      "user_name":"nsumsmgr",
      "machine_name":"example.com"
    },
    {
      "jobnetwork_name":"subjnw1",
      "status":["done","error"],
      "substatus":["abort","operation_hold","archived"],
      "group_path":"Root/Group/sub"
      "tracker_id":"jnw1:subjnw1.20171224054401",
      "comment":"jnw1",
```

```
"expected_start_time":"2017-10-17T22:30:00Z",  
"expected_end_time":"2017-10-17T22:50:00Z",  
"start_time":"2017-10-17T22:30:00Z",  
"end_time":"2017-10-17T22:50:00Z",  
"user_name":"nsumsmgr",  
"machine_name":"example.com"  
}  
]  
}
```

■ When API fails

Refer to [Section 6.5.1.4.3, "Response body returned when API fails"](#).

6.5.3.1.4. Notes

- Among the trackers to be output with `output_scope=full` specified, the subjob network that is not in the acquisition period and that has been archived is not included in the acquisition result.
- If a large amount of trackers are included in the acquisition period specified in the 'from' and 'to' parameters, a processing error may occur due to insufficient memory in the CLWEB server. Specify the shorter period within the required range in the 'from' and 'to' parameters.

6.5.3.2. Acquiring detailed information on the tracker

6.5.3.2.1. Description of functions

This API acquires the detailed information on the tracker.

6.5.3.2.2. HTTP request specifications

■ HTTP method

GET

■ Request URL

/api/v2/trackers/<Tracker ID>

■ Request header

For the request header, refer to [Section 6.5.1.3.1, "Request header"](#).

■ Parameter

For the common authentication parameter to be specified in WebAPI (V2), refer to [Section 6.5.1.1, "API authentication method"](#).

The parameters specific to API are described below.

Table 6.16. Parameter

Parameter	Field to which to specify the parameter	Type	Required	Description	Limitation on versions
<Tracker ID>	URL	TrackerId	✓	Specify ID of the tracker for which detailed information is acquired.	-

■ Example of request

```
GET https://example.com/api/v2/trackers/NewJnw1.20180101000000?
api_key=dsfvoeishfhseiofhoseihfiosheiofhsioehfi
```

6.5.3.2.3. HTTP response specifications

■ On API success

- HTTP status code

200

- Response body

For the response body format returned when API succeeds, refer to [Section 6.5.1.4.2.1, "Single response data"](#).

The execution result of the API stored in the data parameter object is described below.

Table 6.17. Response body parameter

Parameter	Type	Description	Example
jobnetwork_name	Jobnetwork	This indicates the job network name of the tracker.	"NewJnw"
status	Array[String]	This indicates the tracker status.	["run"]
substatus	Array[String]	This indicates the tracker substatus.	["waiting_object"]
group_path	String	This indicates the path of the group to which the tracker belongs.	"UnitJnw"
tracker_id	TrackerId	This indicates the tracker ID.	"jnw1.20180101000000"
comment	String	This indicates the tracker comment.	"Comment"
expected_start_time	ISO8601	This indicates the expected start time of the tracker.	"2018-04-02T00:00:00Z"
expected_end_time	ISO8601	This indicates the expected exit time of the tracker.	"2018-04-02T00:00:00Z"
start_time	ISO8601/Null	This indicates the actual start time of the tracker.	"2018-04-02T00:00:00Z"
end_time	ISO8601/Null	This indicates the actual exit time of the tracker.	"2018-04-02T00:00:00Z"
user_name	String	This indicates the name of the user that executed the tracker.	"nsumsmgr"
machine_name	String	This indicates the name of the machine in which the tracker was executed.	"example.com"
environment_variable	Hash/Null	This indicates the environment variable set in the tracker.	{"param1":value1, "param2":value2}
log	String/Null	This is the tracker log.	"2017/10/18 07:30 JNW START - \n"

Details of each parameter are described below.

status
The tracker status is indicated by an array that has one or more elements.
For details of the status, refer to Section 6.5.3.5, "Tracker status" .

substatus
Detailed information on the status or the reason for this status is indicated by an array that has zero or more elements.
For details of the substatus, refer to Section 6.5.3.5, "Tracker status" .

group_path

This indicates the path of the group to which the tracker belongs.

The tracker whose job network was deleted is indicated as "UnitJnw".

start_time

This indicates the actual start time of the tracker.

The following trackers do not have the actual start time. Therefore, be sure to set this to null.

- A tracker is waiting ('status' contains "wait")
- A tracker has skipped a branch ('status' contains "skip", and 'substatus' contains "branch_skip")

end_time

This indicates the actual exit time of the tracker.

The following trackers do not have the actual exit time. Therefore, be sure to set this to null.

- A tracker is waiting ('status' contains "wait")
- A tracker is running ('status' contains "run")
- A tracker has skipped a branch ('status' contains "skip", and 'substatus' contains "branch_skip")

environment_variable

This indicates the tracker environment variable. If the specified tracker is the subjob network, this parameter is omitted.

If the NSJNW_PARAM environment variable is not set when the job network is submitted, the environment variable name is also displayed as NSJNW_PARAM. At this time, the environment variable value is null.

When the text is converted to UTF-8, an invalid character is replaced with '?'.

The following trackers do not have the environment variable. Therefore, be sure to set this to null.

- If a tracker is waiting ('status' contains "wait" and 'substatus' does not contain "prepare")
- Tracker that was archived without the environment variable information

log

This indicates the tracker log. If the specified tracker is the subjob network, this parameter is omitted.

When the text is converted to UTF-8, an invalid character is replaced with '?'.

The following trackers do not have the log. Therefore, be sure to set this to null.

- If a tracker is waiting ('status' contains "wait" and 'substatus' does not contain "prepare")
- Tracker that archived without the log file information

Example of response body

```
{
```

```
"data": {
  "jobnetwork_name": "jnw1",
  "status": ["done", "error"],
  "substatus": ["abort", "operation_hold", "archived"],
  "group_path": "Root/Group",
  "tracker_id": "jnw1.20171224054401",
  "comment": "jnw1",
  "expected_start_time": "2017-10-17T22:30:00Z",
  "expected_end_time": "2017-10-17T22:50:00Z",
  "start_time": "2017-10-17T22:30:00Z",
  "end_time": "2017-10-17T22:50:00Z",
  "user_name": "nsumsmgr",
  "machine_name": "example.com",
  "environment_variable": {"NSJNW_PARAM": "", "param1": "value1", "param2": "value2"},
  "log": "2017/10/18 07:30 JNW START - jnw1\n2017/10/18 07:30 REPORT -
trklloc=seq_0000/0000000000000001\n . . . . \n2017/10/18 07:50 JNW END - jnw1"
}
```

■ On API failure

Refer to [Section 6.5.1.4.3, “Response body returned when API fails”](#).

6.5.3.2.4. Notes

If this API is executed for the tracker to be deleted at the same timing as the tracker is deleted, the tracker environment variable may not be acquired.

6.5.3.3. Acquiring the tracker parts list

6.5.3.3.1. Function Overview

This API acquires the parts list existing in the specified tracker. The types of the parts on which the information can be acquired in this API are described below.

- Subjob network parts
- Unit job parts
- Custom job parts
- ERB job parts
- BI job parts
- PC job parts
- WOBS job parts
- Dialog parts
- Event transmission parts
- Event reception parts

6.5.3.3.2. HTTP request specifications

■ HTTP method

GET

■ Request URL

/api/v2/trackers/<Tracker ID>/parts

■ Request header

There is no request header specific to this API. Refer to the request header common to WebAPI (V2) in [Section 6.5.1.3.1, "Request header"](#).

■ Parameter

For the common authentication parameter to be specified in WebAPI (V2), refer to [Section 6.5.1.1, "API authentication method"](#).

The parameters specific to API are described below.

Table 6.18. Parameter

Parameter	Specifying area	Format	Required	Description	Limitation on versions
<Tracker ID>	URL	TrackerId	✓	Specify ID of the tracker for which the parts list is acquired.	-

tracker_id	Specify ID of the tracker for which the parts list is acquired. Specify the tracker ID completely matched.				
------------	--	--	--	--	--

For the format of this parameter, refer to [Section 6.5.1.2, "Parameter format"](#).

■ Example of request

```
GET
https://example.com/api/v2/trackers/NewJnw.20180101012345/parts?
api_key=dsfvoeishfhseiofhoseihfiosheiofhsoehfi
```

6.5.3.3.3. HTTP response specifications

■ On API success

- HTTP status code

200

- Response body

For the response body format returned when API succeeds, refer to [Section 6.5.1.4.2.2, "More than one response data"](#). The models of the tracker parts to be elements of the data parameter array are described below. The parameter list is shown below.

Table 6.19. Response body parameter list

Parameter	Type	Description	Example
tracker_id	TrackerId	Target tracker ID for which the parts list was acquired	"NewJnw.20180101012345"
part_type	String	Identifier indicating the part type	"unit_job"
part_name	PartsName	Part name	"JOB1"
status	Array[String]	Part status	["run"]
substatus	Array[String]	Details and reasons of part status	["abort"]
expected_start_time	ISO8601/Null	Expected start time of the parts	"2018-04-02T00:00:00Z"
expected_end_time	ISO8601/Null	Expected exit time of the parts	"2018-04-02T00:00:00Z"
start_time	ISO8601/Null	Actual start time of the parts	"2018-04-02T00:00:00Z"
end_time	ISO8601/Null	Actual exit time of the parts	"2018-04-02T00:00:00Z"
exit_code	Number/Null	Exit code of the parts	0
end_reason	String/Null	Reason why the part exited	"Completed with exit(0)."

Details of each parameter are described below.

part_name

This indicates the part name. The definition of the same name can be allocated in the subjob network parts and other parts, and the part name may not be unique in the response body of the part list.

part_type

This is the identifier indicating the part type. The correspondence of the part types and identifiers are shown below.

Part type	Part identifier
Subjob network	sub_jobnetwork
Unit job parts	unit_job
ERB job parts	erp_job
BI job parts	bi_job
PC job parts	pc_job
WOBS job parts	wobs_job
Custom job parts, extended custom job parts	custom_job
Dialog parts	dialog
Event transmission parts	event_transmission
Event reception parts	event_reception

status

The tracker status is indicated by an array that has one or more elements.

For details of the status, refer to [Section 6.5.3.6, "Tracker part status"](#).

substatus

Detailed information on the status or the reason for this status is indicated by an array that has zero or more elements. A null array is set if detailed information or reason does not exist.

For details of the substatus, refer to [Section 6.5.3.6, "Tracker part status"](#).

expected_start_time, expected_end_time

This indicates the expected start time and expected exit time of the parts.

The following parts do not have the expected start time and expected exit time. Therefore, be sure to set this to null.

- Dialog parts
- Event transmission parts
- Event reception parts

start_time

This indicates the actual start time of the parts.

If a part is in the following status, that part does not have the actual start time. Therefore, be sure to set this to null.

- A part is waiting or being submitted ('status' contains "wait", and 'substatus' does not contain "submit")
- A part has skipped a branch ('substatus' contains "branch_skip")

end_time

This indicates the actual exit time of the parts.

If a part is in the following status, that part does not have the actual exit time. Therefore, be sure to set this to null.

- A part is waiting ('status' contains "wait")
- A part is running ('status' contains "run")
- A part has skipped a branch ('substatus' contains "branch_skip")

exit_code

This indicates the exit code of the parts.

If a part is not exiting yet, set this to null.

If the part type is set to the subjob network parts, this parameter does not exist.

end_reason

This indicates a reason why the part exited.

If the part type is set to the subjob network parts or the event transmission parts, this parameter does not exist.

For details of the value set in end_reason, refer to [Section 6.5.3.7, "Reason for exit of the tracker parts"](#).

Example of response body

```
{
  "count":2,
  "data":[
    {
      "tracker_id":"jnw1.20171213100000",
      "part_type":"unit_job",
      "part_name":"JOB1",
      "status":["done"],
      "substatus":[],
      "expected_start_time":"2017-12-13T10:00:00Z",
      "expected_end_time":"2017-12-13T10:01:00Z",
      "start_time":"2017-12-13T10:00:00Z",
      "end_time":"2017-12-13T10:01:00Z",
      "exit_code":0,
      "end_reason":"Completed with exit(0).",
    },
    {
      "tracker_id":"jnw1.20171213100000",
      "part_type":"sub_jobnetwork",
      "part_name":"subjnw",
      "status":["done"],
      "substatus":[],
      "expected_start_time":"2017-12-13T10:01:00Z",
      "expected_end_time":"2017-12-13T10:05:00Z",
      "start_time":"2017-12-13T10:01:00Z",
      "end_time":"2017-12-13T10:05:00Z"
    }
  ]
}
```

```
}
```

■ On API failure

Refer to [Section 6.5.1.4.3, “Response body returned when API fails”](#).

6.5.3.4. Acquiring detailed information on the tracker parts

6.5.3.4.1. Function Overview

This API acquires detailed information on the parts by specifying the tracker and its parts. The types of the parts on which detailed information can be acquired are described below.

- Unit job parts
- WOBS job parts
- Custom job parts
- Dialog parts
- Event transmission parts
- Event reception parts

6.5.3.4.2. HTTP request specifications

■ HTTP method

GET

■ Request URL

/api/v2/trackers/<Tracker ID>/parts/<Part name>

■ Request header

There is no request header specific to this API. Refer to the request header common to WebAPI (V2) in [Section 6.5.1.3.1, "Request header"](#).

■ Parameter

For the authentication parameter to be specified commonly in WebAPI (V2), refer to [Section 6.5.1.1, "API authentication method"](#).

The parameters specific to API are described below.

Table 6.20. Parameter

Parameter	Field to which to specify the parameter	Type	Required	Description	Limitation on versions
<Tracker ID>	URL	TrackerId	✓	Specify ID of the tracker that has the parts on which detailed information is acquired.	-
<Part name>	URL	PartsName	✓	Specify the part name on which detailed information is acquired.	-

■ Example of request

```
GET
https://example.com/api/v2/trackers/NewJnw.20180101012345/parts/JOB1?
api_key=dsfvoeishfhseiofhoseihfiosheiofhfsioehfi
```

6.5.3.4.3. HTTP response specifications

■ On API success

- HTTP status code

200

- Response body

For the response body format returned when API succeeds, refer to [Section 6.5.1.4.2.1, “Single response data”](#). The format of the execution result of the API stored in the data parameter is described below.

In this API, the response data parameter varies depending on the type of the parts on which detailed information is acquired. The following parameters are common regardless of the part types.

Table 6.21. Parameter common to the response body

Parameter	Type	Description	Example
tracker_id	TrackerId	Tracker ID of the target for which detailed information was acquired	"NewJnw"
part_type	String	Identifier indicating the part type	"unit_job"
part_name	PartsName	Part name	"JOB1"
status	Array[String]	Status of the part	["run"]
substatus	Array[String]	Details and reasons of part status	["abort"]
expected_start_time	ISO8601/Null	Expected start time of the parts	"2018-04-02T00:00:00Z"
expected_end_time	ISO8601/Null	Expected exit time of the parts	"2018-04-02T00:00:00Z"
start_time	ISO8601/Null	Actual start time of the parts	"2018-04-02T00:00:00Z"
end_time	ISO8601/Null	Actual exit time of the parts	"2018-04-02T00:00:00Z"
exit_code	Number/Null	Exit code of the parts	0
end_reason	String/Null	Reason why the part exited	"Completed with exit(0)."

The following parameters exist when detailed information on the unit job parts, WOBS job parts, and custom job parts is acquired.

Table 6.22. Response body parameter specific to the unit job parts, WOBS job parts, and custom job parts

Parameter	Type	Description	Example
execute_machine_name	String/Null	Name of the machine in which the job was executed.	"example.com"
request_id	String/Null	Request ID allocated to the job	"0.example.com"
standard_output	String	Results of the parts sent to the standard output	"some\ntext\n"

Parameter	Type	Description	Example
standard_error	String	Results of the parts sent to the standard error output	"eho: command not found"

The following parameters exist when detailed information on the dialog parts is acquired.

Table 6.23. Response body parameter specific to the dialog parts

Parameter	Type	Description	Example
message	String	Message set in the parts	"Waiting for reply ..."

The following parameters exist when detailed information on the event transmission parts is acquired.

Table 6.24. Response body parameter specific to the event transmission parts

Parameter	Type	Description	Example
destination_hostname	String	The name of a host to which to transmit the event	"example.com"
event_id	String	Event ID to be transmitted	"some_event_id"
message	String	Event message to be transmitted	"some_event_message"

The following parameters exist when detailed information on the event reception parts is acquired.

Table 6.25. Response body parameter only for the event reception parts

Parameter	Type	Description	Example
source_hostname	String/Null	The name of a host from which the event is transmitted	"example.com"
event_id	String/Null	Event ID that has been received	"some_event_id"
message	String/Null	Event message that has been received	"some_event_message"

Details of each parameter are described below.

part_name
This indicates the part name.

part_type	
This is the identifier indicating the part type. The correspondence of the part types and identifiers are shown below.	
Part type	Part identifier
Unit job parts	unit_job
WOBS job parts	wobs_job
Custom job parts, extended custom job parts	custom_job
Dialog parts	dialog
Event transmission parts	event_transmission

Part type	Part identifier
Event reception parts	event_reception

status
The tracker status is indicated by an array that has one or more elements. For details of the status, refer to Section 6.5.3.6, "Tracker part status" .

substatus
Detailed information on the status or the reason for this status is indicated by an array that has zero or more elements. A null array is set if detailed information or reason does not exist. For details of the substatus, refer to Section 6.5.3.6, "Tracker part status" .

expected_start_time, expected_end_time
This indicates the expected start time and expected exit time of the parts. The following parts do not have the expected start time and expected exit time. Therefore, be sure to set this to null.
<ul style="list-style-type: none"> • Dialog parts • Event transmission parts • Event reception parts

start_time
This indicates the actual start time of the parts. If a part is in the following status, that part does not have the actual start time. Therefore, be sure to set this to null.
<ul style="list-style-type: none"> • A part is waiting or being submitted ('status' contains "wait", and 'substatus' does not contain "submit") • A part has skipped a branch ('substatus' contains "branch_skip")

end_time
This indicates the actual exit time of the parts. If a part is in the following status, that part does not have the actual exit time. Therefore, be sure to set this to null.
<ul style="list-style-type: none"> • A part is waiting ('status' contains "wait") • A part is running ('status' contains "run") • A part has skipped a branch ('substatus' contains "branch_skip")

exit_code
This indicates the exit code of the parts. If a part does not exit, set this to null.

end_reason

This indicates a reason why the part exited

If the part type is set to the event transmission parts, this parameter does not exist.

For details of the value set in end_reason, refer to [Section 6.5.3.7, "Reason for exit of the tracker parts"](#).

execute_machine_name

This indicates the name of the machine in which the job was executed. This parameter is set only for the unit job parts, WOBS job parts, and custom job parts.

If a part is in the following conditions, the part does not have the request ID. Therefore, set this to null.

- A part is waiting or being submitted ('status' contains "wait", and 'substatus' does not contain "submit")
- A part has skipped a branch ('substatus' contains "branch_skip")

request_id

This indicates the request ID allocated to the job. This parameter is set only for the unit job parts, WOBS job parts, and custom job parts.

If a part is in the following status, the part does not have the request ID. Therefore, set this to null.

- A part is waiting or being submitted ('status' contains "wait", and 'substatus' does not contain "submit")
- A part has skipped a branch ('substatus' contains "branch_skip")

standard_output

This indicates the standard output results of the job. This parameter is set only for the unit job parts, WOBS job parts, and custom job parts.

If a part is in the following status, there is no information that can be displayed. Therefore, set this to null character ("").

- A part is waiting or being submitted ('status' contains "wait", and 'substatus' does not contain "submit")
- A part has skipped a branch ('substatus' contains "branch_skip")
- The output path of the standard output is set in the part parameters
- The standard output is eliminated from the information to be contained in the archive in the user environment setting, and if the tracker containing the parts has been archived

standard_error

This indicates the standard error output results of the job. This parameter is set only for the unit job parts, WOBS job parts, and custom job parts.

If a part is in the following status, there is no information that can be displayed. Therefore, set this to null character ("").

- A part is waiting or being submitted ('status' contains "wait", and 'substatus' does not contain "submit")
- A part has skipped a branch ('substatus' contains "branch_skip")
- The output path of the standard error output is set in the part parameters
- The standard error output is eliminated from the information to be contained in the archive in the user environment setting, and if the tracker containing the parts has been archived

message

This indicates the message set in the parts. This parameter is set only for the dialog parts, event transmission parts, and event reception parts.

If the part type is set to the event reception parts and if no event is received, set this to null.

event_id

This indicates the event ID set in the parts. This parameter is set only for the event transmission parts and event reception parts.

If the part type is set to the event reception parts and if no event is received, set this to null.

destination_hostname

This indicates the name of a host to which to transmit the event. This parameter is set only for the event transmission parts.

source_hostname

This indicates the name of a host from which the event is transmitted. This parameter is set only for the event reception parts.

Set this to null if no event is received.

Example of response body

```
{
  "data": {
    "tracker_id": "jnw1.20171213100000",
    "part_type": "unit_job",
    "part_name": "JOB1",
    "status": ["done", "error"],
    "substatus": [],
    "expected_start_time": "2017-12-13T10:00:00Z",
    "expected_end_time": "2017-12-13T10:01:00Z",
    "start_time": "2017-12-13T10:00:00Z",
    "end_time": "2017-12-13T10:01:00Z",
    "exit_code": 1,
    "end_reason": "Completed with exit(1).",
    "execute_machine_name": "example.com",
    "request_id": "12345.example.com",
    "standard_output": "some\\ttext\\n",
    "standard_error": "eho: command not found"
  }
}
```

■ On API failure

Refer to [Section 6.5.1.4.3, "Response body returned when API fails"](#).

Notes

- If this API is executed for the unit job parts, custom job parts, and WOBS parts at the same time as the trackers to which these parts are allocated are deleted, the standard output result (standard_output) and standard error output result (standard_error) may be returned as null character strings ("").

6.5.3.5. Tracker status

This section describes the status of the tracker (information on the status of execution of the job network or the result information) in WebAPI (V2).

The tracker status is indicated by 'status' and 'substatus' parameters in WebAPI (V2).

6.5.3.5.1. Correspondence between the tracker statuses and the status display in CL/Win and CL/Web

The tracker status display in CL/Win and CL/Web, and corresponding status of the status and substatus parameters in WebAPI (V2) are shown below.

Table 6.26. Tracker status correspondence table

Status in CL/Win and CL/Web	status	substatus
WAIT	wait	-
PREPARE	wait	prepare
PREPARE[HOLD]	wait,hold	prepare,operation_hold
PREPARE[SKIP]	wait,skip	prepare,operation_skip
RUN	run	-
RUN[END WAIT]	run,waiting	-
RUN[WAIT]	run,waiting	waiting_object
RUN[WARNING]	run,warning	-
RUN[WARNING][END WAIT]	run,warning,waiting	-
RUN[WARNING][WAIT]	run,warning,waiting	waiting_object
RUN[ERROR]	run,error	-
RUN[ERROR][END WAIT]	run,error,waiting	-
RUN[ERROR][WAIT]	run,waiting	waiting_object
STOP(ERROR)	error,stop	-
STOP(ERROR)[ARCHIVED]	error,stop	archived
DIALOG	run,waiting	dialog
HOLD	run,waiting,hold	-
DONE	done	-
DONE[ARCHIVED]	done	archived
DONE[HOLD]	done,hold	operation_hold
DONE[HOLD][ARCHIVED]	done,hold	operation_hold,archived
DONE[SKIP]	done,skip	operation_skip
DONE[SKIP][ARCHIVED]	done,skip	operation_skip,archived
DONE(ERROR)	done,error	-
DONE(ERROR)[ARCHIVED]	done,error	archived
DONE(ERROR)[HOLD]	done,error,hold	operation_hold
DONE(ERROR)[HOLD][ARCHIVED]	done,error,hold	operation_hold,archived
DONE(ERROR)[SKIP]	done,error,skip	operation_skip
DONE(ERROR)[SKIP][ARCHIVED]	done,error,skip	operation_skip,archived
WARNING	done,warning	-
WARNING[ARCHIVED]	done,warning	archived

Status in CL/Win and CL/Web	status	substatus
WARNING[HOLD]	done,warning,hold	operation_hold
WARNING[HOLD][ARCHIVED]	done,warning,hold	operation_hold,archived
WARNING[SKIP]	done,warning,skip	operation_skip
WARNING[SKIP][ARCHIVED]	done,error,skip	operation_skip,archived
ABORT	done,error	abort
ABORT[ARCHIVED]	done,error	abort,archived
ABORT[HOLD]	done,error,hold	abort,operation_hold
ABORT[HOLD][ARCHIVED]	done,error,hold	abort,operation_hold,archived
ABORT[SKIP]	done,error,skip	abort,operation_skip
ABORT[SKIP][ARCHIVED]	done,eror,skip	abort,operation_skip,archived
KILLED	done	killed
KILLED[ARCHIVED]	done	killed,archived
KILLED[HOLD]	done,hold	killed,operation_hold
KILLED[HOLD][ARCHIVED]	done,hold	killed,operation_hold,archived
KILLED[SKIP]	done,skip	killed,operation_skip
KILLED[SKIP][ARCHIVED]	done,skip	killed,operation_skip,archived
SKIPPED[RUNLIM]	done,skip	run_limit
SKIPPED[RUNLIM][ARCHIVED]	done,skip	run_limit,archived
SKIPPED ON BRANCH	done,skip	branch_skip
SKIPPED ON BRANCH[ARCHIVED]	done,skip	branch_skip,archived
SKIPPED ON BRANCH[HOLD]	done,skip,hold	branch_skip,operation_hold
SKIPPED ON BRANCH[HOLD][ARCHIVED]	done,skip,hold	branch_skip,operation_hold,archived
SKIPPED ON BRANCH[HOLD][SKIP]	done,skip	branch_skip,operation_skip
SKIPPED ON BRANCH[SKIP][ARCHIVED]	done,skip	branch_skip,operation_skip,archived
SKIPPED	done,skip	parent_skip
SKIPPED[ARCHIVED]	done,skip	parent_skip,archived
SKIPPED[HOLD]	done,skip,hold	parent_skip,operation_hold
SKIPPED[HOLD][ARCHIVED]	done,skip,hold	parent_skip,operation_hold,archived
SKIPPED[SKIP]	done,skip	parent_skip,operation_skip
SKIPPED[SKIP][ARCHIVED]	done,skip	parent_skip,operation_skip,archived

(Legend) -: A value does not exist.

6.5.3.5.2. Tracker status

This parameter holds the value that indicates the tracker status. Multiple values are held in the status parameter depending on the tracker part status.

The values of the status are listed below.

Table 6.27. Tracker status value list

Value of status	Description
wait	Tracker that has not started

Value of status	Description
run	Tracker being executed
done	Tracker that has already exited
error	Tracker in which an error occurs
warning	Tracker that is issuing a warning
stop	Tracker being stopped
skip	Tracker being skipped
hold	Tracker being held
waiting	Tracker that is waiting

6.5.3.5.3. Tracker substatus

This parameter holds the detailed status information or the value that indicates the reason for this status. Some trackers do not have the substatus value or have more than one substatus value depending on the tracker status.

The substatus values are listed below.

Table 6.28. The list of tracker substatus values

Value of status	Value of substatus	Description
done	killed	Tracker whose job network being executed is discontinued due to skip operation, etc.
error	abort	Tracker whose job network being executed is discontinued due to an error in this job network
skip	operation_skip	Tracker skipped by operation
	parent_skip	Tracker whose parent job network is skipped and whose subjob network has already been skipped
	branch_skip	Tracker whose branch has already been skipped due to omission of processing in the branch part
	run_limit	Tracker skipped by the simultaneous execution count control process
hold	operation_skip	Tracker held by operation
waiting	waiting_object	Tracker waiting due to the waiting parts
	dialog	Tracker waiting due to the dialog parts
-	archived	Archived tracker

(Legend) -: Value that can be set regardless of the status value

6.5.3.6. Tracker part status

This section describes the tracker part status in WebAPI (V2).

The status and substatus parameters are used for indication of the tracker part status in WebAPI (V2).

6.5.3.6.1. Correspondence between the tracker statuses and the status display in CL/Win and CL/Web

The tracker part status display in CL/Win and CL/Web, and corresponding status of the status and substatus parameters in WebAPI (V2) are shown below.

Table 6.29. Tracker part status correspondence table

Status in CL/Win and CL/Web	status	substatus
WAIT	wait	-
WAIT[SKIP]	wait,skip	operation_skip
WAIT[HOLD]	wait,hold	operation_hold
SUBMIT	wait	submit
RUN	run	-
SUSPEND	run	suspend
RUN(STOP)	run	stopping
STOP(ERROR)	run,error,stop	-
DIALOG	run,waiting	dialog
DONE	done	-
DONE[SKIP]	done,skip	operation_skip
DONE[HOLD]	done,hold	operation_hold
DONE(ERROR)	done,error	-
DONE(ERROR)[SKIP]	done,error,skip	operation_skip
DONE(ERROR)[HOLD]	done,error,hold	operation_hold
WARNING	done,warning	-
WARNING[SKIP]	done,warning,skip	operation_skip
WARNING[HOLD]	done,warning,hold	operation_hold
ABORT	done,error	abort
ABORT[SKIP]	done,error,skip	abort,operation_skip
ABORT[HOLD]	done,error,hold	abort,operation_hold
KILLED	done	killed
KILLED[SKIP]	done,skip	killed,operation_skip
KILLED[HOLD]	done,hold	killed,operation_hold
SKIPPED	done,skip	parent_skip
SKIPPED[SKIP]	done,skip	parent_skip,operation_skip
SKIPPED[HOLD]	done,skip,hold	parent_skip,operation_hold
SKIPPED ON BRANCH	done,skip	branch_skip
SKIPPED ON BRANCH[HOLD][SKIP]	done,skip	branch_skip,operation_skip
SKIPPED ON BRANCH[HOLD]	done,skip,hold	branch_skip,operation_hold

6.5.3.6.2. Tracker part status

This parameter holds the value that indicates the tracker part status. Multiple values are held in the status parameter depending on the tracker part status.

The values set in the status parameter and corresponding state of tracker part are listed below.

Table 6.30. Tracker part status value list

Value of status	Description
wait	Part that has not started
run	Part being executed
done	Part that has exited
error	Part in which an error occurs
warning	Part issuing a warning
stop	Part being stopped
skip	Part being skipped
hold	Part being held
waiting	Part that is waiting

6.5.3.6.3. Tracker part substatus

This parameter holds the detailed status information or the value that indicates the reason for this status. Some trackers do not have the substatus value or have more than one substatus value depending on the tracker part status.

Values of the substatus of the subjob network parts are set according to [Section 6.5.3.5.3, "Tracker substatus"](#). When acquiring the tracker part list, the value "(archived)" that indicates the archived tracker is not set in substatus of the subjob network part. (A null array is returned.)

The values set in the substatus of the parts other than the subjob network parts are listed below.

Table 6.31. The list of tracker substatus values

Value of status	Value of substatus	Description
done	killed	Part discontinued due to skip operation, etc.
error	abort	Part in which an error occurs
skip	operation_skip	Part skipped by operation
	parent_skip	Part not executed due to discontinuation of the job network
	branch_skip	Part allocated at branch which is not executed by the branch part
hold	operation_hold	Part held by operation
wait	submit	The part is being submitted or waiting for submission due to the simultaneous execution count control of the destination queue.
run	dialog	The dialog part is waiting for the action of the user.
	stopping	Part being stopped
	suspend	Part suspended by operation

6.5.3.7. Reason for exit of the tracker parts

In WebAPI (V2), set the reason for exit of the tracker parts or the results of exit in (end_reason) as a message. The message format varies depending on the parts type.

The end_reason messages corresponding to the parts types are listed below.

Table 6.32. The list of reasons for exit of tracker parts

Part type	Value of end_reason	Description
■ Unit job parts	null	The part has not exited yet, and there is no reason for exit.
■ WOBS job parts	"Jobstep restart."	The jobstep restart function saves the check point.
■ Custom job part	"Completed with exit(exit_code)."	The part has exited with the exit code <exit_code>.
■ Extended custom job part	"Completed with signal(signal_code)."	The part has exited with the signal code <signal_code>.
■ Event reception parts	"Deleted by qdel command."	The job request has been deleted by the automatic deletion due to a failure in transferring the job request to the remote machine or by the operation. In this case, this part has not been executed.
	"Unknown or internal error."	An undefined error has occurred.
■ ERB job parts	null	The part has not exited yet, and there is no reason for exit.
■ BI job parts	"Abort."	Execution of the part has been discontinued.
■ PC job parts	"Skipped."	The part has not been executed due to the branch condition.
	"Error."	The part has exited due to an error.
	"Finished."	The part has exited successfully.
■ Dialog parts	null	The part has not exited yet, and there is no reason for exit.
	"Reply is OK."	The dialog part has exited due to the "OK" operation.
	"Reply is ERROR."	The dialog part has exited due to the "Error" operation.

6.5.4. Error list

The following errors are returned in WebAPI (V2).

Table 6.33. Error list

Status code	Error code	Error message	Cause
400	INVALID_PARAM	The key is invalid. (<Parameter name>)	This error is returned if the parameter not defined in each API is specified or if the key of the hash-type parameter is invalid.
		The required key is not specified. (<Parameter name>)	This error is returned if a required parameter is not specified.
		The value format is invalid. (<Parameter name>)	This error is returned if the parameter value format is invalid.
		The value range is invalid. (<Parameter name>)	This error is returned if the parameter value range is invalid.
		The value is invalid. (<Parameter name>)	This error is returned if the parameter value is invalid.
		The key includes one or more invalid characters. (<Parameter name>)	This error is returned if the key of the hash-type parameter contains the invalid character.
		The value includes one or more invalid characters. (<Parameter name>)	This error is returned if the value of the hash-type parameter contains the invalid character.
		The key is too long. (<Parameter name>)	This error is returned if the key name of the hash-type parameter exceeds the upper limit of the character count.
		The value is too long. (<Parameter name>)	This error is returned if the parameter value exceeds the upper limit of the character count.
		The value type is invalid. (<Parameter name>)	This error is returned if the value type of a parameter is invalid.
		Empty string cannot be specified to the key. (<Parameter name>)	This error is returned if the key name of the hash-type parameter is null.
		Empty string cannot be specified to the value. (<Parameter name>)	This error is returned if the parameter value is null.
		The request body format is invalid.	This error is returned if the request body format is not JSON.
The key is not supported in the version of manager. (<Parameter name>)	This error is returned if a parameter that cannot be used		

Status code	Error code	Error message	Cause
			in the versions of the connected MG/SV is specified.
		The key with dependency is not specified. (<Parameter name>)	This error is returned if the other parameters having dependencies are not specified.
		The specified period is invalid. (<Parameter name>)	This error is returned if the specified period is invalid.
		The key is mutually exclusive. (<Parameter name>)	This error is returned if the parameters that cannot be specified simultaneously are specified.
401	AUTHENTICATION_FAILED	The HTTP Authorization request header is required.	This error is returned if the Authorization header does not exist in the HTTP authentication.
		The api_key is invalid.	This error is returned if the API access key is invalid
		The user name or password is invalid. (server = <Host name of MG/SV at the connection destination>, user = <User name>)	This error is returned if the user name or password is invalid at authenticating.
		Communication with the server failed. Check the server name. (server = <Host name of MG/SV at the connection destination>)	This error is returned if the host name of MG/SV specified in manager_hostname during the HTTP authentication is not resolved.
		The api_key or manager_hostname query is required.	This error is returned if both api_key and manager_hostname do not exist in the parameter.
		The api_key and manager_hostname can not be specified together.	This error is returned if both api_key and manager_hostname are specified in the parameter.
403	PERMISSION_DENIED	You do not have permission.(job network reference)	This error is returned if there is no reference permission for the target job network.
		You do not have permission.(job network execute)	This error is returned if there is no submit permission for the target job network.
		You do not have permission.(tracker reference)	This error is returned if there is no reference permission for the tracker of the target user.
	PARTS_NOT_SUPPORTED	The part type is not support. (<Part type>)	This error is returned if a part not supported by the target API is specified in the URL.
404	NOT_FOUND	The resource is not found.	This error is returned if a URL that does not exist is specified.

Status code	Error code	Error message	Cause
405	METHOD_NOT_ALLOWED	The resource does not support the http method. (<HTTP method>)	This error is returned if the HTTP method is not supported for the specified URL.
406	NOT_ACCEPTABLE	The request is not acceptable.	This error is returned if Accept header specified in the request header is not supported in the CL/Web server.
415	MEDIATYPE_NOT_SUPPORTED	The media type is not support.	This error is returned if Content-Type specified in the request header is not supported in the CL/Web server.
500	CONNECTION_FAILED	Communication with the server failed. Check whether the server is active. (server = <Host name of MG/SV at the connection destination>)	This error is returned if MG/SV at the connection destination is not running.
	INTERNAL_SERVER_ERROR	The server was unable to complete your request.	This error is returned if an error unexpected by CL/Web and MG/SV occurs.

6.6. WebAPI version 1

This section describes the CL/Web WebAPI version 1 (referred to as WebAPI (V1) hereafter).

6.6.1. Usage

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:

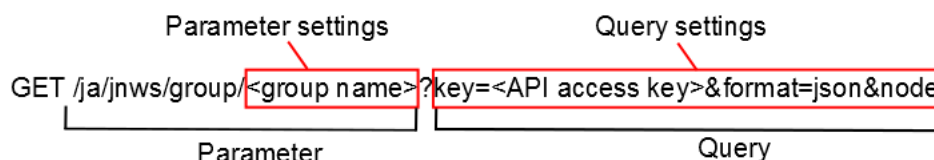


Figure 6.6. GET method setting items



(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>]

6.6.2. 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.

The screenshot shows a web browser window with the URL `http://hanabi/cgi/b_sample1.rb`. The page title is "[JNW List]". Below the title, it displays "Group name: Root", "Number of pages : 1", and "Number of data : 22". The main content is a table with the following structure:

Operation	Name	Type	Group	Comment
Open	DailyTask	Group	/	
Open	MonthlyTask	Group	/	
Display flow	Submit	JNW01	Jobnetwork /DailyTask	
Display flow	Submit	JNW02	Jobnetwork /DailyTask	
Display flow	Submit	JNW03	Jobnetwork /DailyTask	
Display flow	Submit	JNW04	Jobnetwork /DailyTask	
Display flow	Submit	JNW05	Jobnetwork /DailyTask	
Display flow	Submit	JNW06	Jobnetwork /DailyTask	
Display flow	Submit	JNW07	Jobnetwork /DailyTask	
Display flow	Submit	JNW08	Jobnetwork /DailyTask	
Display flow	Submit	JNW09	Jobnetwork /DailyTask	
Display flow	Submit	JNW10	Jobnetwork /DailyTask	
Display flow	Submit	JNW11	Jobnetwork /MonthlyTask	
Display flow	Submit	JNW12	Jobnetwork /MonthlyTask	
Display flow	Submit	JNW13	Jobnetwork /MonthlyTask	
Display flow	Submit	JNW14	Jobnetwork /MonthlyTask	

Figure 6.7. 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>&rp=<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&rp=50&node=all
```

- For HTTP authentication

```
GET /<language locale>/jnws/group/<group name>?mghost=<MGSV server address>&format=json&page=<page number>&rp=<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&rp=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.

- rp 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 6.34. 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 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.

6.6.3. 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.

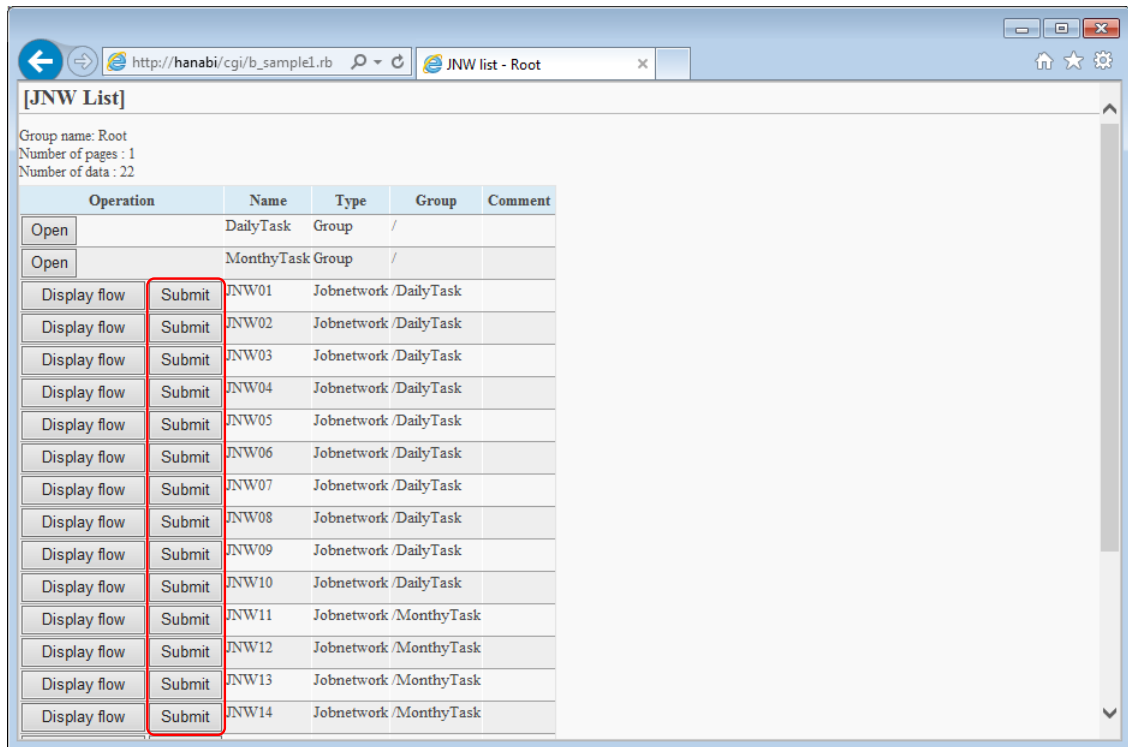


Figure 6.8. Example of immediate job network submission

■ 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=dsfvoeishfhseiofhoseihfiosheiofhsioehfi&format=json&jobparam=params_test&comment=test_comment&stime=
16:21&initflag=hold
```

- For HTTP authentication

```
GET /<language locale>/jnws/jnw/<job network name>/submit?mghost=<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 6.35. 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

6.6.4. Obtaining Tracker List

■ Function description

A list of specified trackers can be obtained.

For example, the following screen can be created.

Operation	Name	Status	Comment	Expected start time	Expected end time	Start time	End time	User	Machine	Group
Display flow	JNW04	RUN[ERROR]		2013/12/16 14:26:45	2013/12/16 14:26:45	2013/12/16 14:26:45		Administrator	jcserver	/DailyTask
Skip										
Operate										
Display flow	JNW05	HOLD		2013/12/16 14:27:20	2013/12/16 14:27:20	2013/12/16 14:27:21		Administrator	jcserver	/DailyTask
Skip										
Operate										
Display flow	JNW11	DONE		2013/12/16 14:27:40	2013/12/16 14:27:40	2013/12/16 14:27:40	2013/12/16 14:27:40	Administrator	jcserver	/MonthyTask
Skip										
Operate										
Display flow	JNW12	RUN		2013/12/16 14:28:01	2013/12/16 14:28:01	2013/12/16 14:28:01		Administrator	jcserver	/MonthyTask
Skip										
Operate										
Display flow	JNW04	DONE [ERROR] [ARCHIVED]		2013/12/16 14:27:05	2013/12/16 14:27:05	2013/12/16 14:27:05	2013/12/16 14:27:05	Administrator	jcserver	/DailyTask
Skip										
Operate										
Display flow	JNW01	DONE [ARCHIVED]		2013/12/16 14:26:15	2013/12/16 14:26:15	2013/12/16 14:26:16	2013/12/16 14:26:16	Administrator	jcserver	/DailyTask
Skip										
Operate										
Display flow	JNW02	DONE [ARCHIVED]		2013/12/16 14:26:19	2013/12/16 14:26:19	2013/12/16 14:26:19	2013/12/16 14:26:19	Administrator	jcserver	/DailyTask
Skip										
Operate										

Figure 6.9. 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>&rp=<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&rp=50&node=all&subjnw=1&start_date=2013/0
```

- For HTTP authentication

```
GET /<language locale>/trackers/group/<group path>?mghost=<MGSV server address>&format=json&page=<page number>&rp=<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&rp=50&node=all&subjnw=1&start_date=2013/07/13&start_time=11:45&
```

■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.

■ rp 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 6.36. 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	{"msg":"Set period_unit to month, week, day, hour, or min."}	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.

6.6.5. 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).

The screenshot shows a web browser window with the URL `http://hanabi/cgi/b_sample1.rb`. The page title is "[Tracker flow (detail): JNW01.20131216053733]". The main content is a flowchart starting with a 'Start' node, followed by three parallel vertical paths of jobs (JOB1-JOB4, JOB5-JOB8, JOB9-JOB12), and ending with an 'End' node. Below the flowchart, there is a table of job details. A red box highlights the table.

Name	Type	Status	Expected start time	Expected end time	Start time	End time	Machine
JOB10	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:36	jcserver
JOB1	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:34	2013/12/16 14:37:34	jcserver
JOB11	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:36	jcserver
JOB2	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:34	2013/12/16 14:37:34	jcserver
JOB12	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:36	2013/12/16 14:37:36	jcserver
JOB3	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:34	2013/12/16 14:37:34	jcserver
JOB4	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:34	jcserver
JOB5	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver
JOB6	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver
JOB7	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver
JOB8	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver
JOB9	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver

Figure 6.10. 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>&rp=<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&rp=50&view=parts_table
```

- For HTTP authentication

```
GET /<language locale>/trackers/tracker/<tracker ID>?mghost=<MGSV server address>&format=json&page=<page number>&rp=<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&rp=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.
- rp 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 6.37. 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

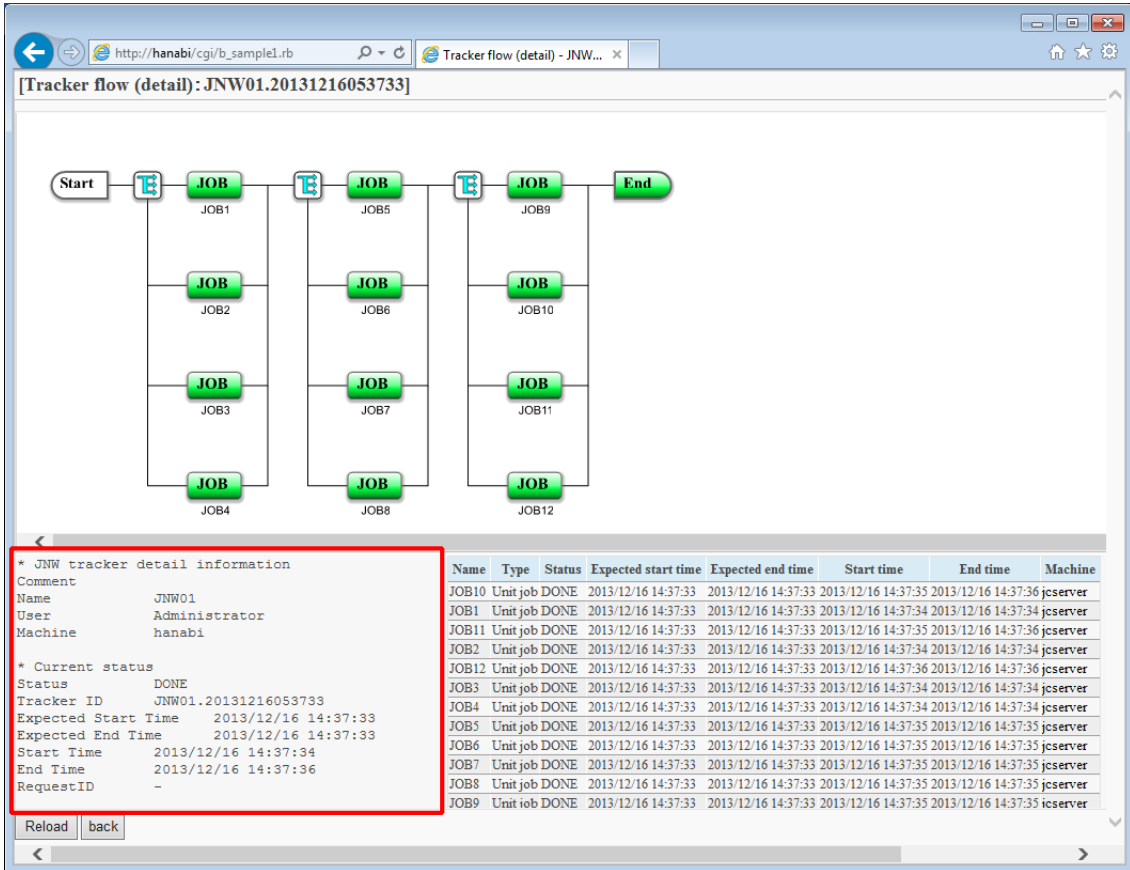
None

6.6.6. 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)



The screenshot shows a web browser window with the URL `http://hanabi/cgi/b_sample1.rb`. The page title is "[Tracker flow (detail): JNW01.20131216053733]". The main content is a flowchart with a "Start" node, three parallel vertical paths of jobs, and an "End" node. The jobs are labeled JOB1 through JOB12. Below the flowchart is a table of job details, which is highlighted with a red border. The table has columns for Name, Type, Status, Expected start time, Expected end time, Start time, End time, and Machine. The data in the table is as follows:

Name	Type	Status	Expected start time	Expected end time	Start time	End time	Machine
JOB10	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:36	jcserver
JOB1	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:34	2013/12/16 14:37:34	jcserver
JOB11	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:36	jcserver
JOB2	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:34	2013/12/16 14:37:34	jcserver
JOB12	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:36	2013/12/16 14:37:36	jcserver
JOB3	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:34	2013/12/16 14:37:34	jcserver
JOB4	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:34	jcserver
JOB5	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver
JOB6	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver
JOB7	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver
JOB8	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	jcserver
JOB9	Unit job	DONE	2013/12/16 14:37:33	2013/12/16 14:37:33	2013/12/16 14:37:35	2013/12/16 14:37:35	icsserver

Below the table, there are buttons for "Reload" and "back".

Figure 6.11. 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=dsfvoeishfhseiofhoseihfiosheiofhsioehfi&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 6.38. 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

6.6.7. 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)

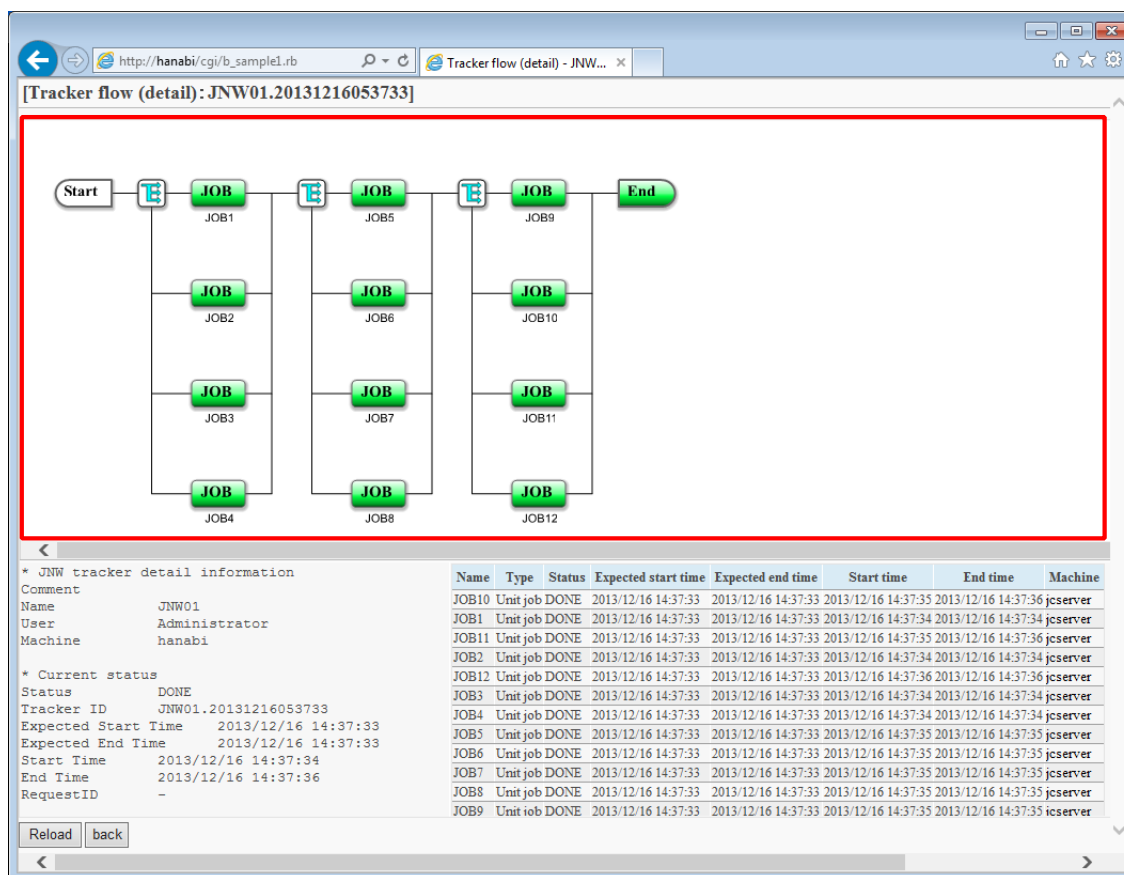


Figure 6.12. Example of tracker details display

■ 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 6.39. 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).

6.6.8. 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.

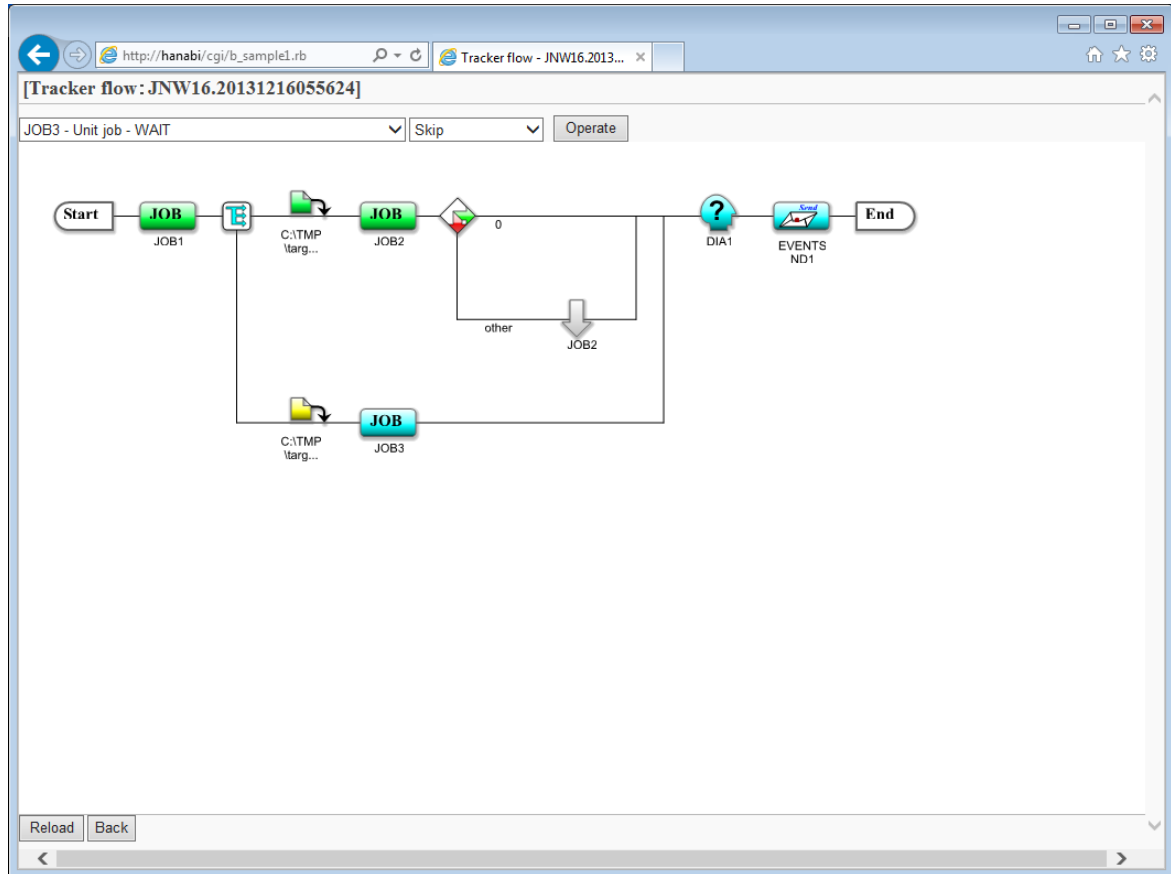


Figure 6.13. Example of tracker part control instruction

■ 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 6.40. Part list


Part name	Part content
UJOB	"unit job"
BIJOB	"BI job"
ERPJOB	"ERP 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 6.41. 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 6.42. 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 6.43. 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"
forcestart	"forced start"
rerun	"rerun"
restart	"restart"
freecontrol	"release control"
statusdone	"change to be considered as normal"

-

Table 6.44. erpjob:"ERP job"

Instruction name	Processing content
skip	"skip"
noskip	"release skip"
hold	"hold"
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 6.45. 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 6.46. 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 6.47. 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 6.48. 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 6.49. wait:"job waiting"

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

- Table 6.50. 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 6.51. cont:"continue"

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

6.6.9. 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.

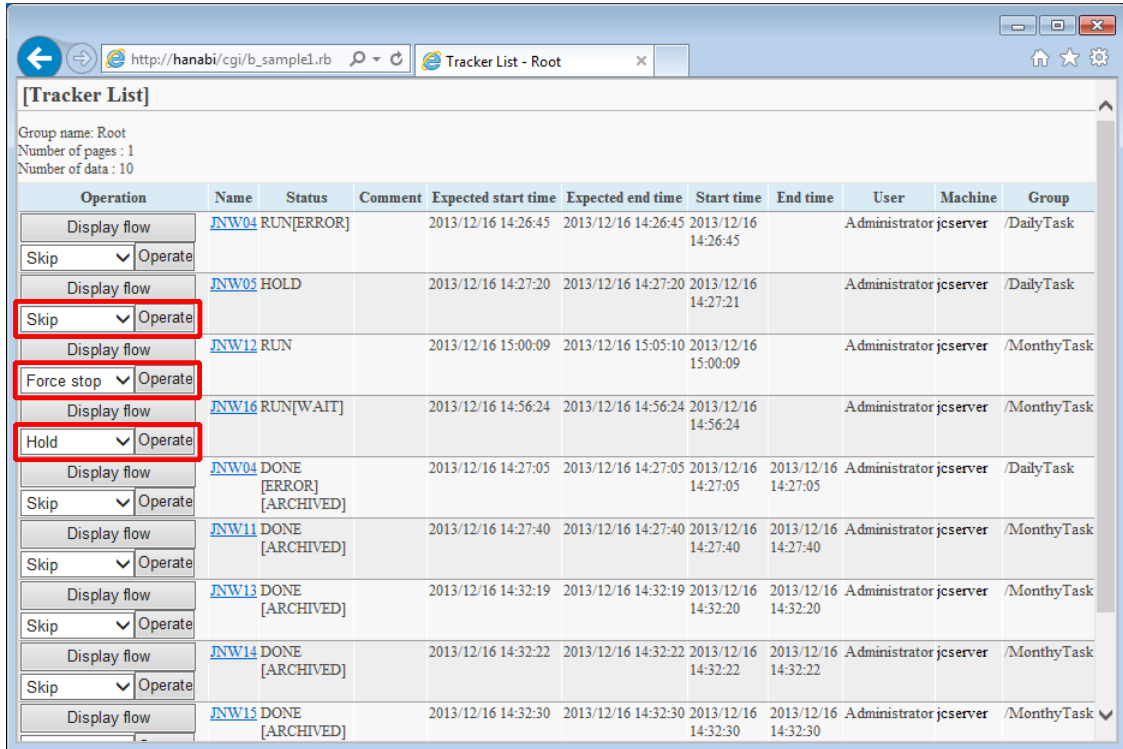


Figure 6.14. Example of tracker stop instruction screen

■ 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=dsfvoeishfhseiofhoseihfiosheiofhsoehfi&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 6.52. 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 6.53. 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.

7 Details of Other Functions

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



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

7.1. 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.

7.1.1. 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 7.1. 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 is used in the HELO command.	Character string	SMTP server domain name
<code>\$mail_authentication</code>	Specify authentication for transmission. If authentication is not required, specify "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

■ To specify the character string as the set value, pay attention to the following items.

- Enclose the character string to be specified with " " (double quotation marks) or ' ' (single quotation marks).
- To contain double quotation marks in the character string already enclosed with " " (double quotation marks), escape the marks inside with backslashes (\).
- To contain single quotation marks in the character string already enclosed with ' ' (single quotation marks), escape the marks inside with backslashes (\).

- To contain a sharp (#) in the character string, it must be enclosed with ' ' (single quotation marks).
- If a firewall exists in the machine where CL/Web Server is installed, you need to open the network port to be used by CL/Web Server.

The following is an example of 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"
```

7.1.2. 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 7.2. 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 7.3. 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

7.1.3. 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.

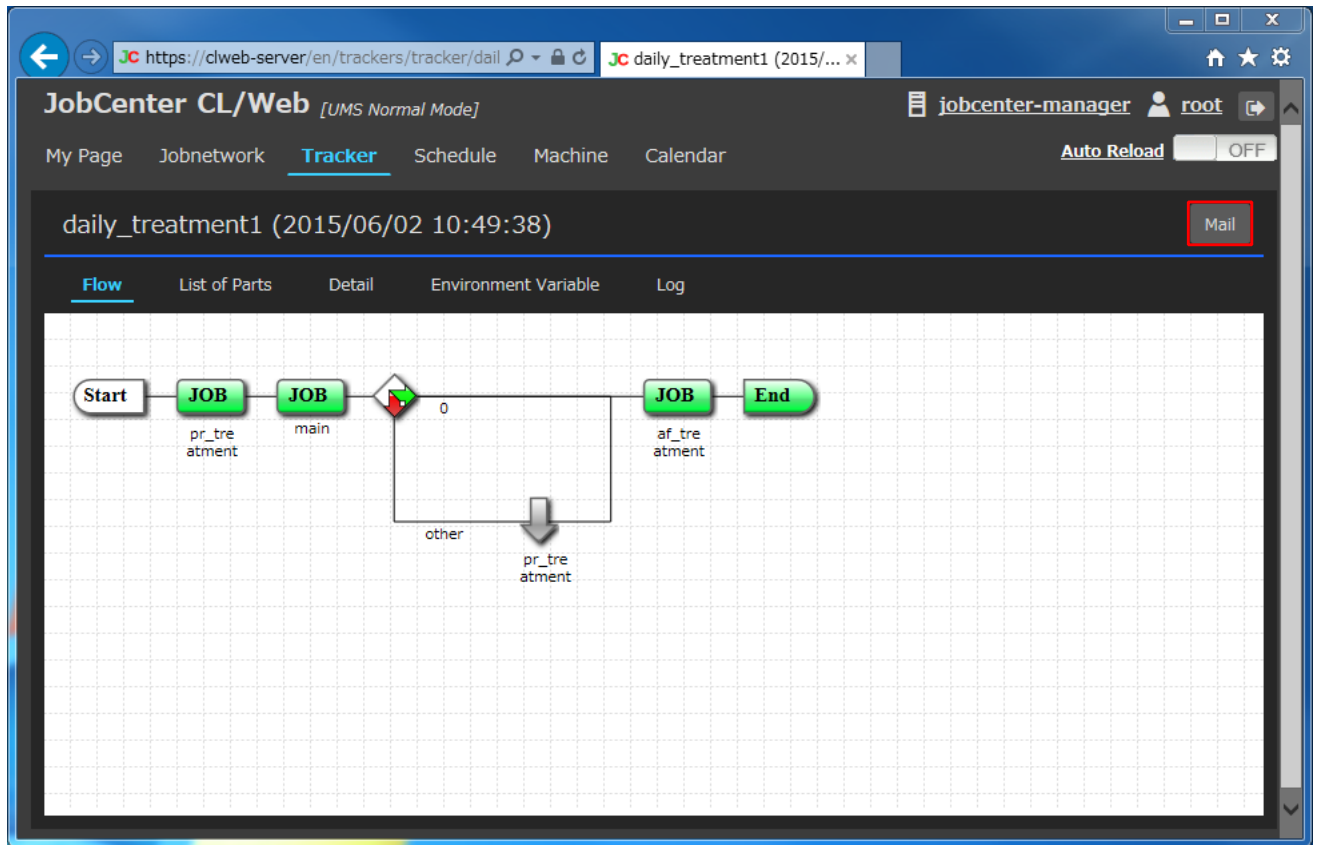


Figure 7.1. Window where the [Mail] button is displayed

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].

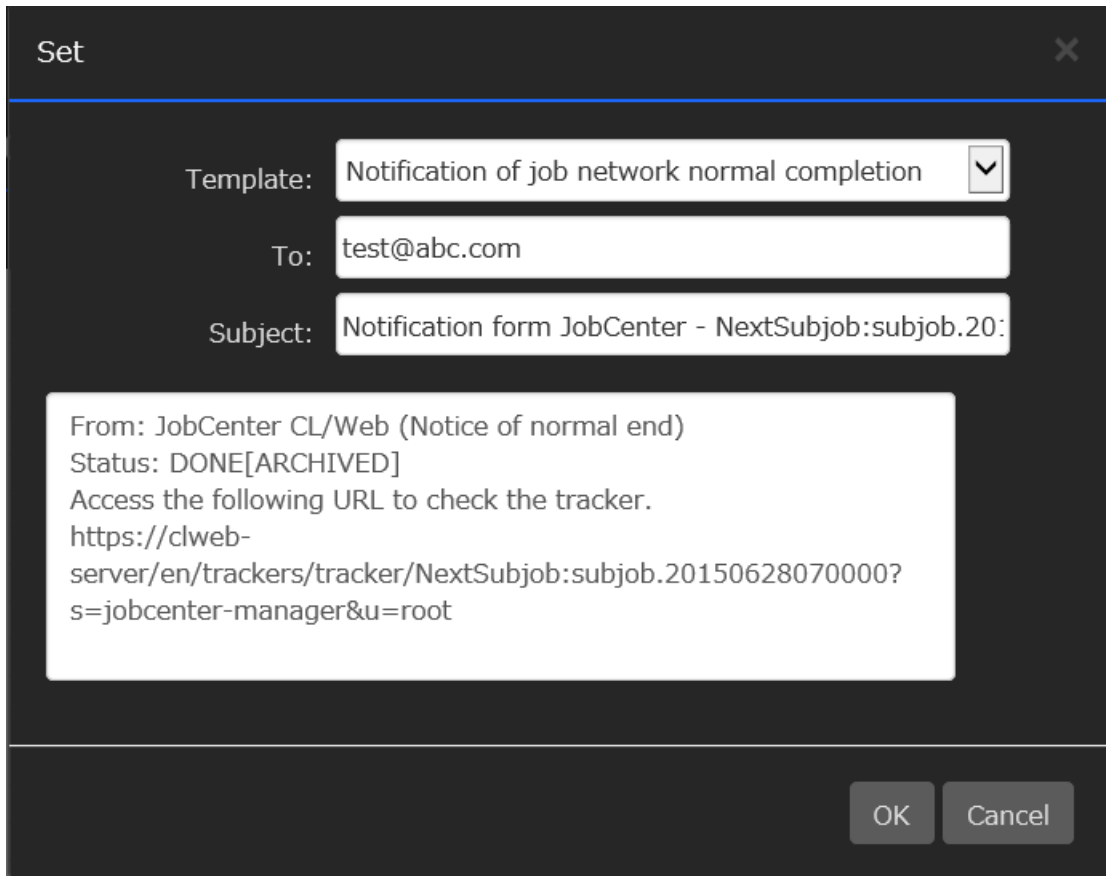


Figure 7.2. [Send Mail] dialog box

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].

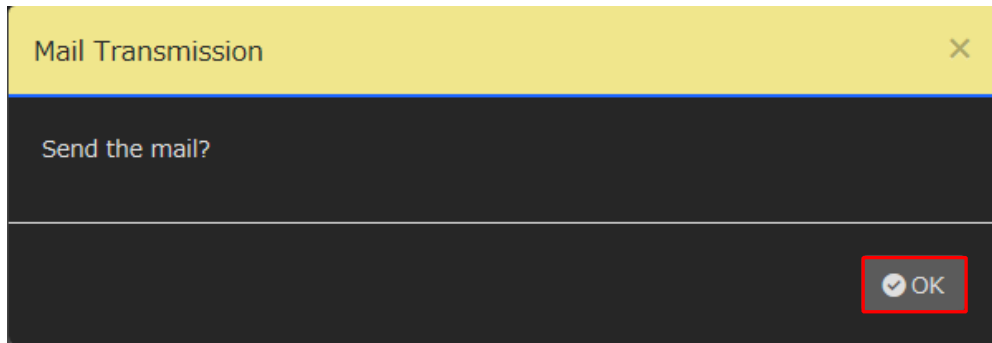


Figure 7.3. Mail transmission confirmation dialog box

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

7.1.4. 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 7.4. 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 delimiting by using commas (",").	Character string	test@abc.com
\$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 7.5. 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]

7.2. Macro Functions

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

7.2.1. 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 in <Basic Guide>Section 15.5, "List of Macros That Can Be Used in Subjects and Messages".

■ Case study

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

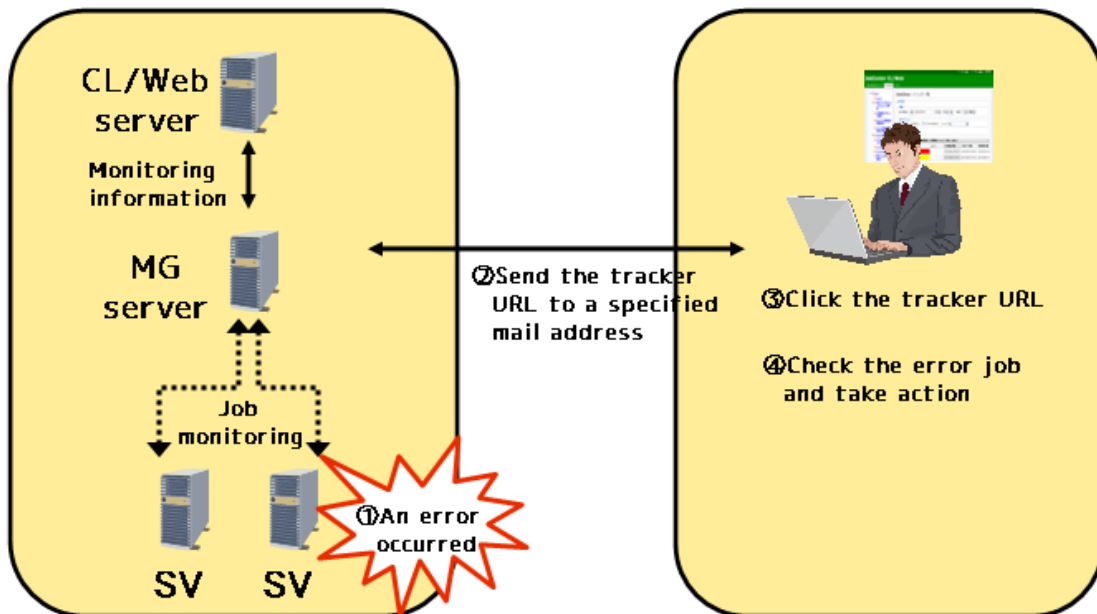


Figure 7.4. Case study 1

■ 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 in <Basic Guide>Section 15.2, "Reporting an Error to a Specified Destination by Mail".

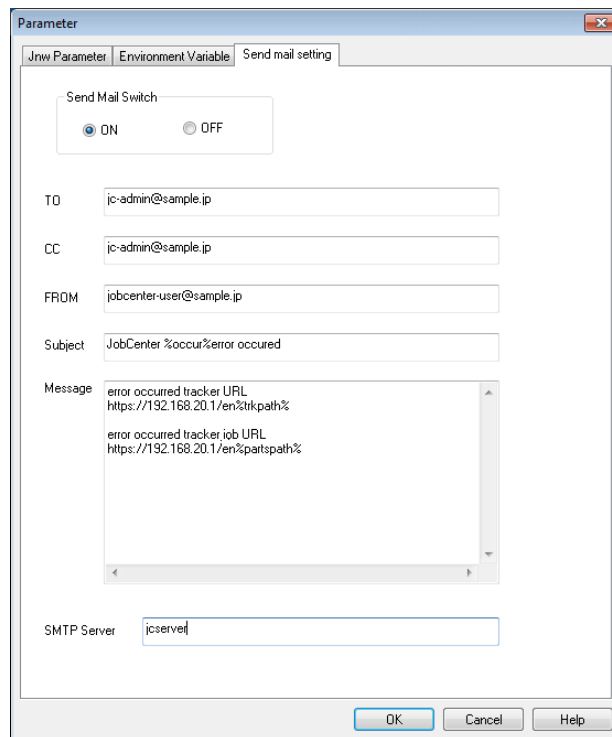


Figure 7.5. Mail setting window example for CL/Win

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 https://192.168.20.1/en%trkpath%

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

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.

7.2.2. 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 in <Environment Guide>Chapter 11, 「Event Linkage」 .

In the following case study, an example of linkage with the Micro Focus Operations Manager software product is described.

■Case study

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

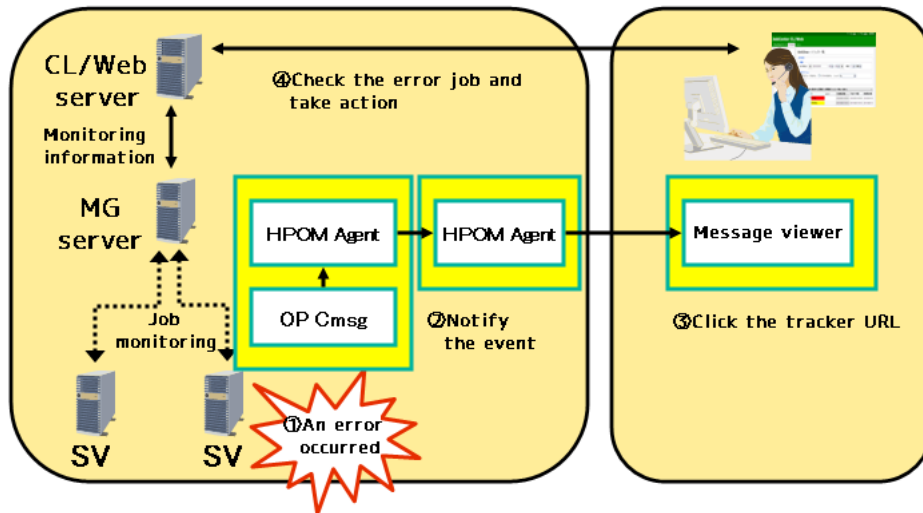


Figure 7.6. Case study 2

■ Case study 2 is described below.

1. A job error occurs in JobCenter SV.
2. The Micro Focus Operations Manager software 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.

7.3. Other User Monitoring Function

This section describes other user monitoring function.

7.3.1. Function Overview

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

7.3.2. 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.

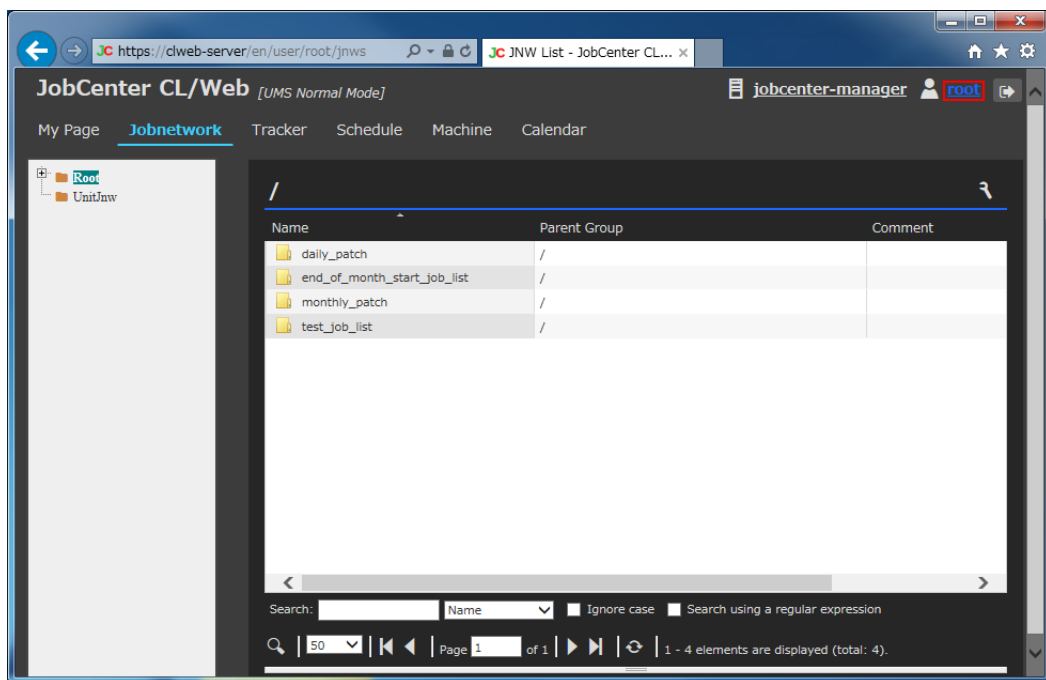


Figure 7.7. Clicking user name

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].

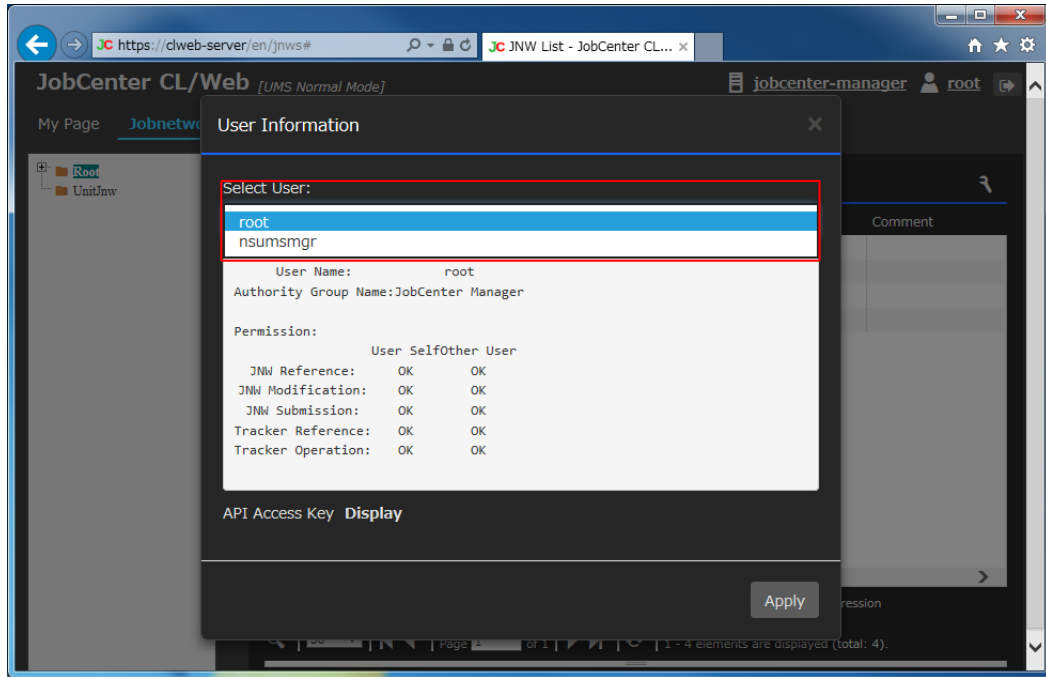


Figure 7.8. Select user name

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

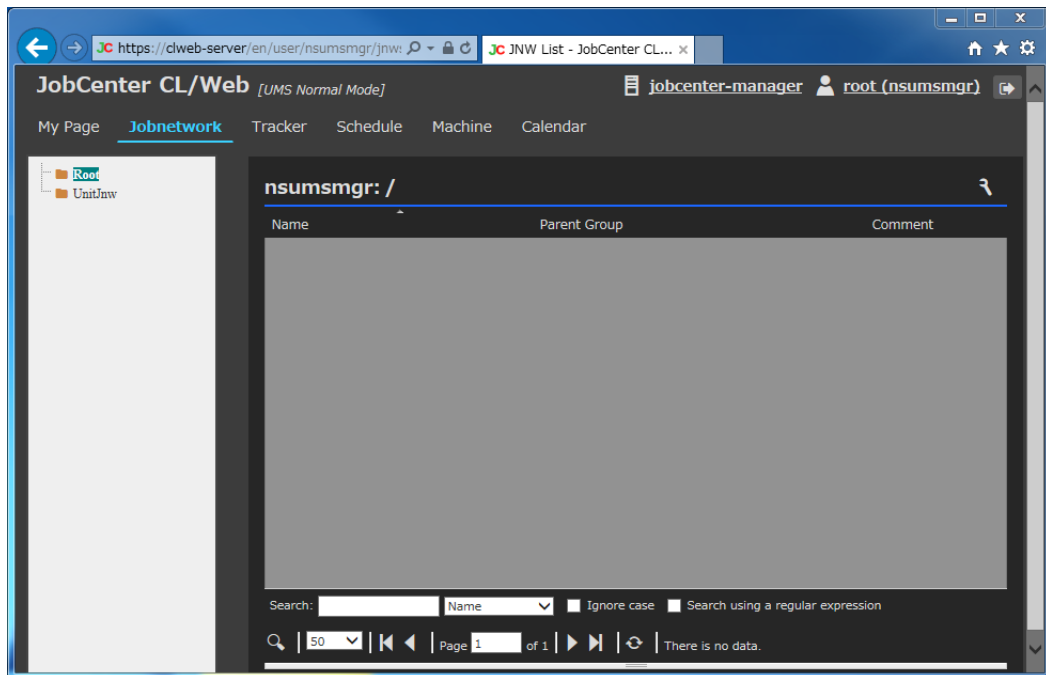


Figure 7.9. After switching to another user

7.4. Amazon SNS Linkage Function

This section describes the function of linkage with Amazon Simple Notification Service (hereafter SNS).

7.4.1. Function Overview

Message transmission service Amazon SNS supports message transmission via HTTP or HTTPS.

This function immediately submits a job network from the CL/Web server when CL/Web receives a message from SNS.

For example, if the system is designed so that an instance failure on AWS is detected (<1>) and the message is automatically transmitted via SNS (<2>), the job network for recovery can be submitted (<3>).

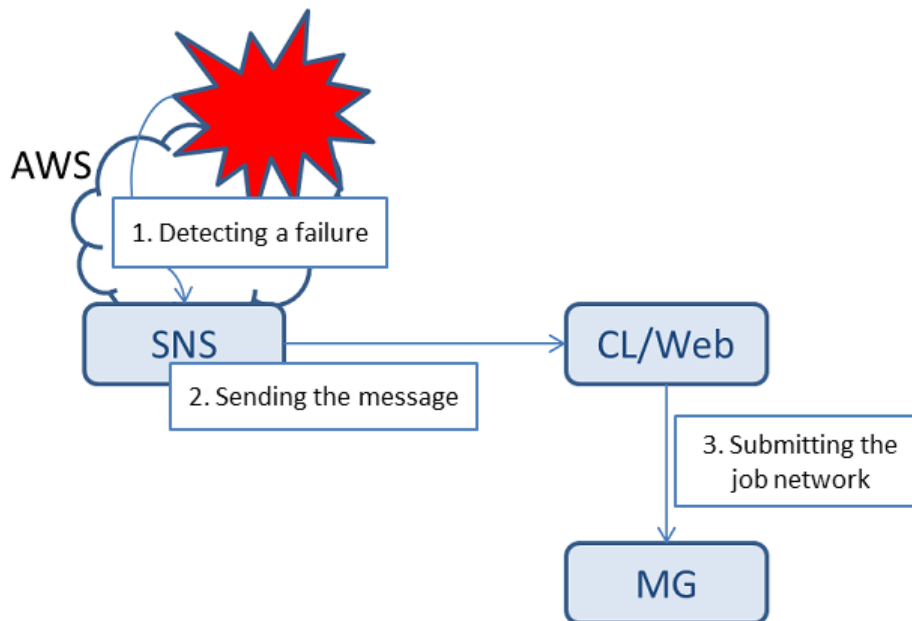


Figure 7.10. Image of the SNS linkage function

To use the message transmission service, you need to subscribe to and publish the topic. In this document, "topic", "to subscribe to the topic", and "to publish the topic" are defined as below.

Topic	a communication channel through which a topic message is sent and a notification is received
Subscribe to the topic	to perform the registration needed to receive the message that was published in response to the topic
Publish the topic	to send a message to the URL at which the user has subscribed to the topic.



Use of this function requires that the CL/Web server be ready to accept HTTP or HTTPS requests from SNS.

7.4.2. Flow of Using the Amazon SNS Linkage Function

This section describes the steps needed to use this function.

Before starting the setting, prepare the following:

- The name of the job network to be submitted when a message is received from SNS
- The API access key of the user who has the above job network



For how to examine the API access key, refer to [Section 6.4.1.1, "Referencing the API Access Key"](#).

The API access key includes information about the target JobCenterMG and user name. Note that if the user names are identical but the MGs are different, the API access keys are different.

7.4.2.1. Subscribing to the Topic

To receive messages from SNS, you need to subscribe to the topic.

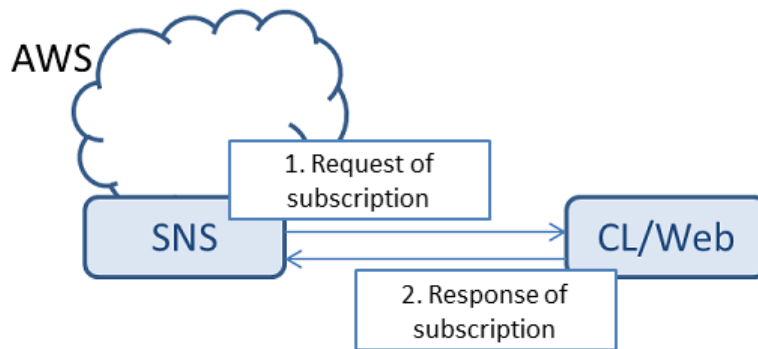


Figure 7.11. Subscription to the topic

Below are the steps from manually creating a new SNS topic on the AWS management console to completing the subscription.

1. Open the AWS management console in the Web browser, and select SNS from the service list.
2. The [SNS Home] screen appears. Select [Topics] from the left pane.
3. The [Topics] screen appears. Click the [Create new topic] button.
4. A dialog box appears. Enter [Topic name] and [Display name], and then click the [Create topic] button.

The topic is created and added to the topic list.

5. Click the created topic on the [ARN] column in the topic list.
6. The [Topics Details] screen appears. Click [Create Subscription].
7. A dialog box appears. Specify [Protocol] and [Endpoint].

For [Protocol], select HTTP if the CL/Web server has been set for an HTTP server, or select HTTPS if it has been set for an HTTPS server.

Specify [Endpoint] in the following format:

```
http(s)://<CL/Web host name>/ja/jnws/jnw/<JNW name to be submitted>/aws/sns?key=<CL/Web API access key>
```

Example: If [Protocol] is HTTP, the CL/Web host name is "clwebserver.local", the JNW name to be submitted is "SNS_linkage", and the API access key is "dsfvoeishfhseiofhoseihfiosheiofhiosheiohfi"

```
http://clwebserver.local/ja/jnws/jnw/SNS_linkage/aws/sns?
key=dsfvoeishfhseiofhoseihfiosheiofhsioehfi
```

After specifying this, click the [Create Subscription] button.

The one added to the subscription list appears, and the subscription confirmation process starts.

- When the subscription ID appears in [Subscription ID] in the subscription list, the subscription confirmation is completed.



If the subscription confirmation process is not completed with "PendingConfirmation" displayed in [Subscription ID], check the following:

- [Protocol] was specified correctly.
- The URL in [Endpoint] is correct.
- The CL/Web API access key is valid.
- If [Protocol] is HTTPS, the CL/Web server uses a server certificate that contains the signature of a certifying body accredited by Amazon SNS.



More than one subscription can be set for a single topic. More than one JNW can thus be submitted for publication of a single topic.

Message transmission cannot be achieved by specifying a specific subscription for a single topic. Thus, create the topic according to the type of the JNW to be submitted.

7.4.2.2. Publishing the Topic

After publishing the topic, you can send an HTTP or HTTPS request message from Amazon SNS to the URL at which the user has subscribed to this topic.

Below are the steps to manually publish the SNS topic from the AWS management console.

- Open the AWS management console in the Web browser, and select SNS from the service list.
- The [SNS Home] screen appears. Select [Topics] from the left pane.
- The [Topics] screen appears. From the topic list, select the topic to be subjected to the publication process, and click the check box located on the left of its name.

After the box is checked, click the [Publish topic] button.

- The [Publish a message] screen appears. Specify [Subject], [Message format], and [Message].

For [Subject], specify any character strings.

For [Message format], specify "Raw".

[Message] is set to the job parameter of the job network that is submitted immediately. It can be referenced, as environment variable NSJNW_PARAM, from each unit job. Thus, enter a valid character string for the job parameter.

After specifying this, click the [Publish message] button.

Once "Message published with request id..." appears, the message transmission process is complete.

5. Check that the job network has been submitted.



If the job network has not been submitted, check the following:

- The CL/Web API access key specified during topic subscription setting is still valid.
- There exists the JNW name specified during topic subscription setting.
- The user who has the job network to be submitted has the authority to execute the JobCenter job network.
- A character string that is valid for the job parameter was entered in [Message].

7.5. Trail log function

The trail log function saves the HTTP request received by the CL/Web Server in a log.

7.5.1. Location where the log is saved

The trail log is saved in the following locations.

■ In Windows

```
%InstallDirectory%\log\access.log
```

■ In UNIX

```
%InstallDirectory%/log/access.log
```

The trail log is daily managed, and the previous logs are saved in the format of "access_YYYYMMDD.log".

7.5.2. Retention period

You can set the retention period for the trail log in the setting file (clweb.conf) in the CL/Web server. For the details of the setting file, refer to [Section 3.1.1, "CL/Web Configuration File \(clweb.conf\)"](#).

Table 7.6. Set values of the parameter of clweb.conf (the retention period for the trail log)

Setting	Description	Type	Set value
\$access_log_retention_period	Sets the trail log retention period (day) within the range between 1 and 2000.	Numerical value	365 (default value)

When the trail log retention period is set to "1", the current trail log (access.log) and the trail log of the previous day (access_YYYYMMDD.log) are saved, and the trail log two days before (access_YYYYMMDD.log) is deleted.

7.5.3. Log format

The trail log is recorded in the following format for each HTTP request.

```
<Request source IP address> <Authenticated user> [<Request time>] "<HTTP method> <Request URL>  
<HTTP version>" <Status code> <Response size>
```

Assume that the HTTP request with the following contents is sent:

- Request source IP address: 192.168.1.1
- Authenticated user: nsumsmgr
- Request time: January 01, 2017, 10:30:30 (JST)
- HTTP method: GET
- Request URL: /api/v2/jobnetworks
- HTTP version: HTTP/1.1
- Status code: 200
- Response size: 1234

When the CL/Web server received the request described above, the trail log contains the record

192.168.1.1 nsumsmgr [2017-01-01T10:30:30+09:00] "GET /api/v2/jobnetworks HTTP/1.1" 200 1234

described below.

Each item of the log format is described below.

Table 7.7. Log format item

Item	Description
Request source IP address	Records the IP address of the terminal that sent the HTTP request.
Authentication user	Records the Basic authentication information or the user information in the API access key authentication information. If there is no authentication information, this item shows "-".
Request time	Records the time when the HTTP request is received in the ISO 8601 extended format.
HTTP method	Records the HTTP request method.
Request URL	Records the HTTP request URL.
HTTP version	Records the HTTP request version.
Status code	Records the HTTP status code that the CL/Web server returned for the HTTP request.
Response size	Records the number of bytes of the response body that the CL/ Web server returned for the HTTP request.

8 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 in <Command Reference>Section 7.2, "clweb_getinfo (Collecting All Primary Information Necessary to Identify the Cause of a CL/Web Server Failure)".

9 Calculating an Approximate Disk Usage

This chapter describes how to determine the disk space needed for the CL/Web installation directory.

In CL/Web, the trail log function retains the trail log in the installation directory during the specified period of time.

Therefore, the disk space required for the CL/Web installation directory is equal to the sum of the size of the fixed disk and the disk space for storing the trail log.

Check the details of the trail log [Section 7.5, "Trail log function"](#).

9.1. Fixed Disk Size

Check the fixed disk size required to install CL/Web in <Release Notes>Chapter 3, 「Operating Environment」 .

9.2. Disk Space Required for Storing Trail Log

Use the following formula to know an approximate amount of disk space for storing the trail log.

The number of requests per day x the log size per request (about 300 byte) x Retention period

The number of requests is the sum of the number of requests issued by operating CL/Web screens and by using Web API functions.

When calculating the number of requests from CL/Web screens, double the number of counts of operations on CL/Web screens and regard that value as the number of requests.

However, assume that the number of requests is eight for the operations to display My Page tab .



The size of the trail log per request varies depending on the elements such as the length of a URL and the username contained in the requests.

The log size per request in the estimation formula above is set to 300 bytes. It is considered as the average value in the normal usage of CL/Web.

For the actual contents of the trail log, refer to [Section 7.5, "Trail log function"](#).

10 Notes and Restrictions

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

10.1. Notes

- When installing CL/Web Server, you need to assign a number to the port that will use the TLS(SSL) protocol and open a hole in the firewall.
- When you attempt to connect to the default CL/Web Server, a connection cannot be established from a browser for which only SSLv3 is enabled. Set the browser to enable TSL. (In Internet Explorer or Firefox, TSL is enabled by default.) If you want to change settings so that a connection can also be established using SSL, refer to [Section 3.1.2, "Setting the Port to Use"](#).
- 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.

<CL/Web installation path>\vendor\cmd\win\amd64\clweb_serv.exe

10.2. 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.

11 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.

11.1. CL/Web Server Error Messages

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

Table 11.1. 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

11.2. Web Browser Error Messages

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

Table 11.2. 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.
An odd number of double slashes (\\) cannot be entered at the end of a password. An opening curly brace ({) cannot be entered when there is no closing curly brace (}) after that.	You cannot enter an odd number of double slashes (\\) at the end of a password. You cannot enter an opening curly brace ({) without entering any closing curly brace (}) after that. Change the password so that it does not end with an odd number of double slashes (\\) or contain an opening curly brace ({) when there is no closing curly brace (}) after that.
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.
Schedule reference permission was denied.	There is no schedule reference permission.

Error Message List

	<p>Check your CL/Win permission settings to see whether you have permission to list and view job networks.</p>
Trigger reference permission was denied.	<p>There is no trigger reference permission.</p> <p>Check your CL/Win permission settings to see whether you have permission to list and view job networks.</p>
Failed to get information.	<p>The processing for collecting the information to be displayed in the My Page panel failed.</p> <p>Check whether the JobCenter MG/SV has started normally.</p>
One or more items need to be selected in Tracker Status Detail.	<p>An attempt was made to save the content of the [Tracker My List Setting] dialog box for the My Page without selecting any item in "Tracker Status Detail".</p> <p>Select one or more items in "Tracker Status Detail".</p>
The job network reference permission and execution permission, as well as the tracker reference permission and operation permission, are necessary.	<p>An attempt was made to add JNW My List when the job network reference permission and execution permission, as well as the tracker reference permission and operation permission, were unavailable.</p> <p>Check the CL/Win permission settings to make sure that the user is authorized to list and reference job networks and trackers.</p>
Internet Explorer cannot display the webpage.	<p>There is a problem with the communication with the CL/Web Server.</p> <p>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".</p>

