
Supercomputer Fugaku Startup Guide Version 1.12

RIKEN Center for Computational Science

Sep 26, 2025

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INTRODUCTION

1.1 Overview of this document

This document describes the settings required to use the supercomputer Fugaku after registering your account. Section 2 describes the necessary web browser settings for logging into the Fugaku website. Section 3 describes how to use the web portal Open OnDemand (<https://openondemand.org/>), which allows access to Fugaku through a web browser. The following are the two main ways to use Fugaku:

- Using Open OnDemand through a web browser
- Using terminal software (e.g., PuTTY)

With Open OnDemand, you can also perform command-line operations equivalent to those available with terminal software. If you wish to use terminal software, after completing the settings in Section 2, follow the procedure in Section 3.1 to log in to the Fugaku website, then refer to “User’s Guide” → “Use and job execution” → “[4.4. Login](#)”.

1.2 About trademarks

Company names and product names in the text may be trademarks or registered trademarks of the respective companies. Other trademarks and registered trademarks are generally trademarks or registered trademarks of their respective companies. Please note that trademark names (TM, (R)) are not always added to system names, product names, etc., described in this document.

1.3 Change log

This indicates the update history of this document.

Version 1.12 September 26, 2025

- The procedure was changed to use Fugaku from the Web browser.

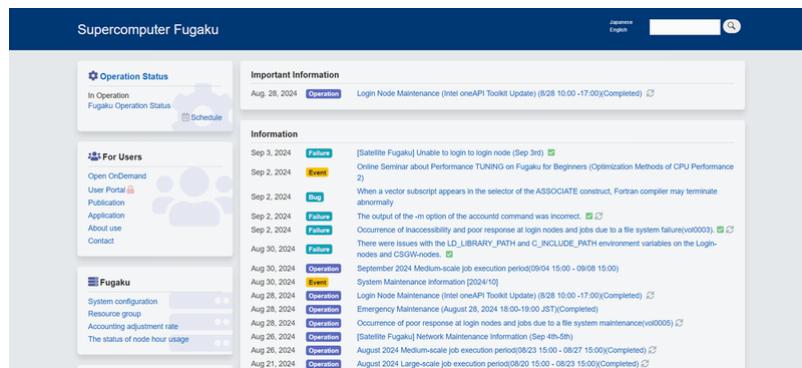
CHAPTER TWO

WEB BROWSER SETTINGS

Use the Fugaku via the Fugaku website or Open OnDemand. To use the Fugaku website or Open OnDemand, you need to install a client certificate in your browser.

Fugaku website

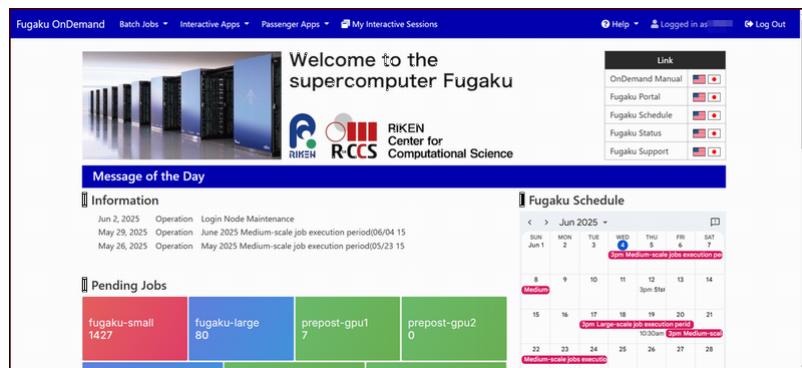
This website contains various announcements, manuals and user support information related to Fugaku.



The screenshot shows the main page of the Supercomputer Fugaku website. It features a sidebar with links for Operation Status, For Users (Open OnDemand, User Portal, Publication, Application, About us, Contact), and Fugaku (System configuration, Resource group, Accounting adjustment rate, Node hour usage). The main content area includes a "Important Information" section with a log entry for Aug 28, 2024, regarding a login node maintenance update. Below it is an "Information" section with multiple log entries from Sep 3, 2024, to Aug 21, 2024, detailing various system events and errors.

Open OnDemand

Open OnDemand is a web portal for using parallel computer systems via a web browser. You can use Open OnDemand to upload files, manipulate the shell, run jobs, and more.



The screenshot shows the Fugaku OnDemand web portal. It has a header with navigation links for Batch Jobs, Interactive Apps, Passenger Apps, and My Interactive Sessions. The main area features a banner for the supercomputer Fugaku, the RIKEN logo, and the RCCS logo. Below the banner are sections for "Message of the Day", "Information" (with log entries for Jun 2, 2025, May 29, 2025, and May 26, 2025), "Pending Jobs" (listing fugaku-small, fugaku-large, prepost-gpu1, and prepost-gpu2), and a "Fugaku Schedule" calendar for June 2025. The schedule highlights specific job execution periods.

2.1 Installing client certificates

Client certificate is used to access the Fugaku website and Open OnDemand. Please install client certificate on the web browser used to access the Fugaku website and Open OnDemand.

Please prepare the followings before installing the client certificate.

- Client certificate :"user account name.p12" file
- Client certificate pathphrase

Client certificate

Once the account issue is completed, the client certificate is sent via e-mail to the e-mail address you entered when applying. Please save the attached "local account name.p12" file to the device (e.g. PC) which installs the client certificate. The "local account name.p12" file contains the private key of the client, the client certificate (public key), and the root certificate of the client certificate authority.

Client certificate pathphrase

The passphrase is sent in written form or PDF file separately from the client certificate. It will be required when installing the client certificate. Please store at the safe place.

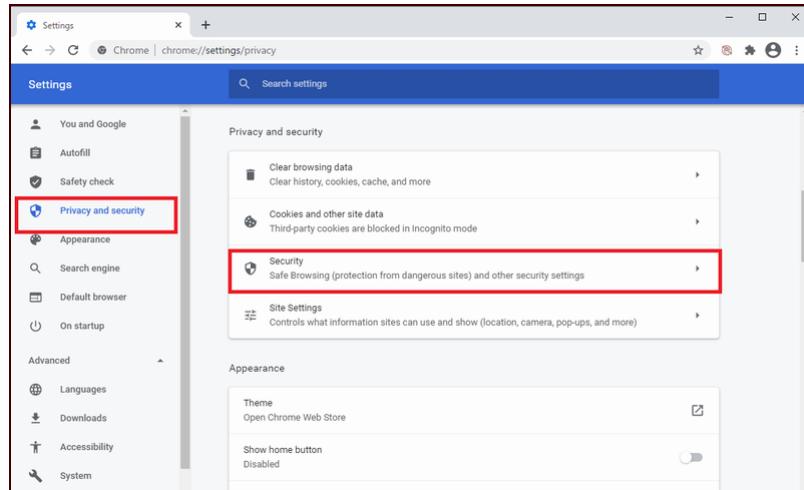
This section explains how to install client certificates on Chrome and Firefox, the recommended web browsers for the Fugaku website.

Note: If you use a different browser than the specified browser, confirm the certificate management method of the browser yourself, and install the client certificate in the browser to be used.

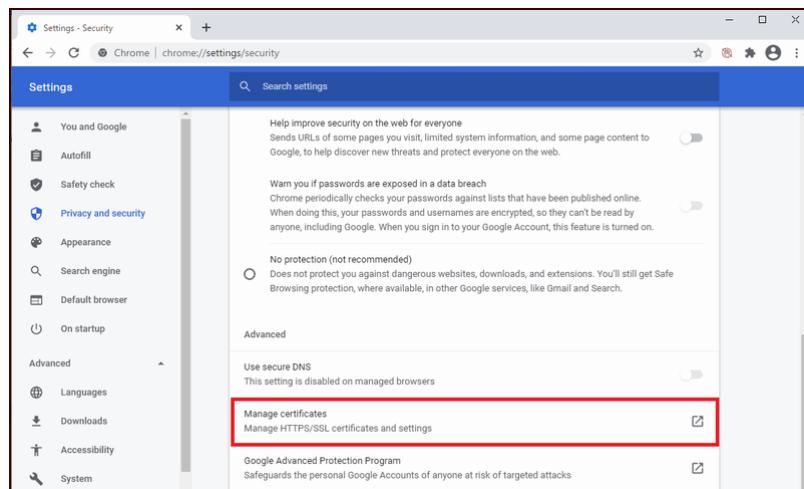
2.1.1 Installing the certificate to Chrome (Windows)

This indicates how to install Chrome on Microsoft Windows. The difference may be seen depending on the version of Chrome. If the screen is different, please try with confirming the Chrome information.

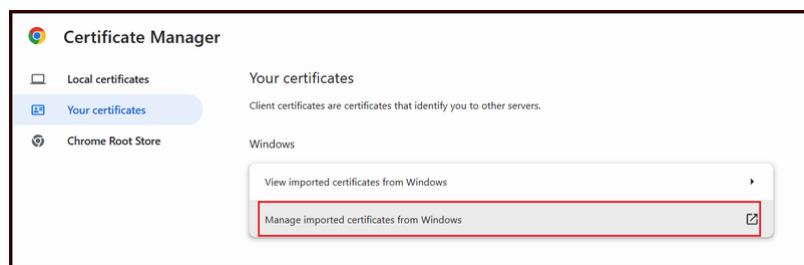
1. Start Chrome and open *[Settings]*. Click on *[Privacy and security]*'s *[Security]*.



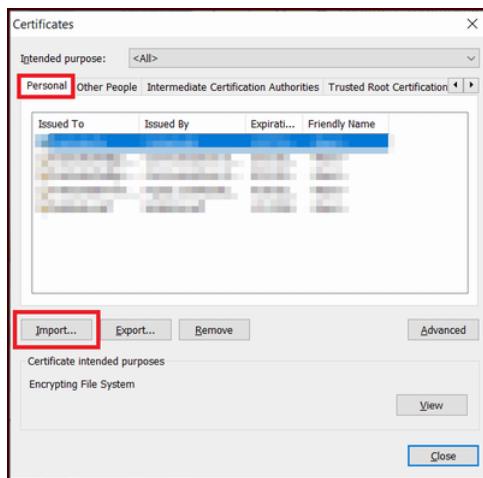
2. Click on *[Manage certificates]*.



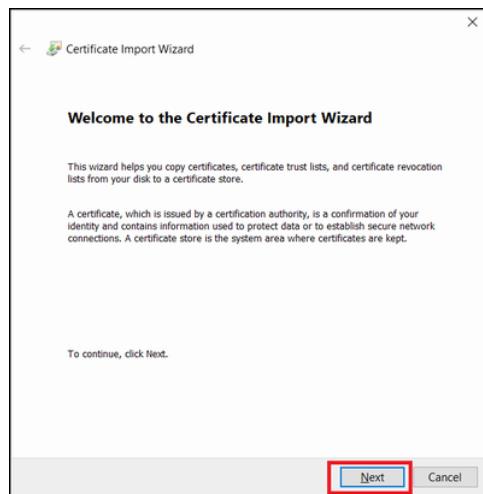
3. Click on *[Manage imported certificates from Windows]*.



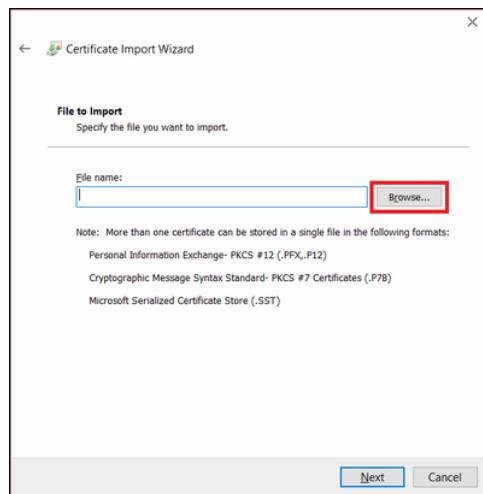
4. Once certificates manager is started, select [*Personal*] and click on [*Import...*].



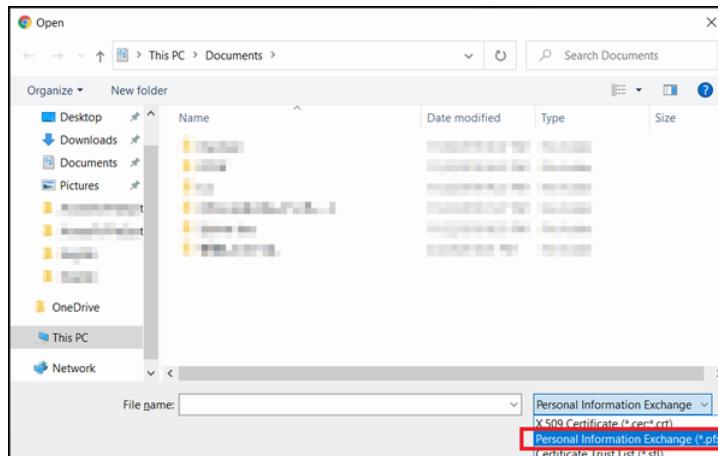
5. Once certificate import wizard is opened, click on [*Next*].



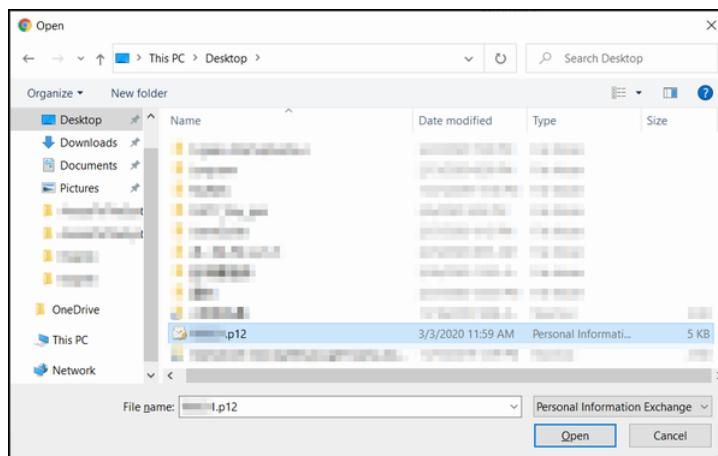
6. Click on [*Browse...*].



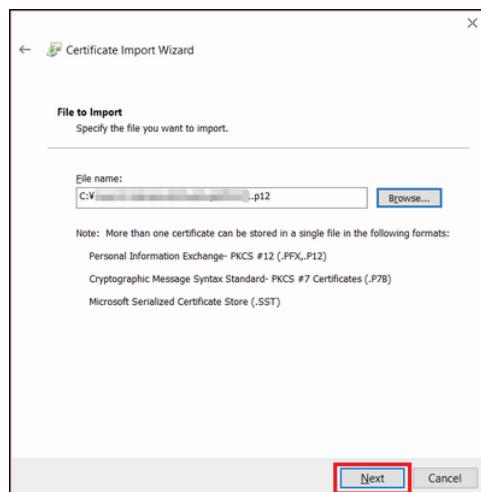
7. Change the file type to [Personal Information Exchange (*.pfx, *.p12)].



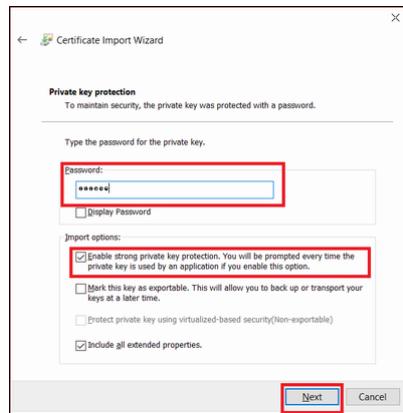
8. Select “user account name.p12” file and click on [Open].



9. After setting a file name, click on [Next].

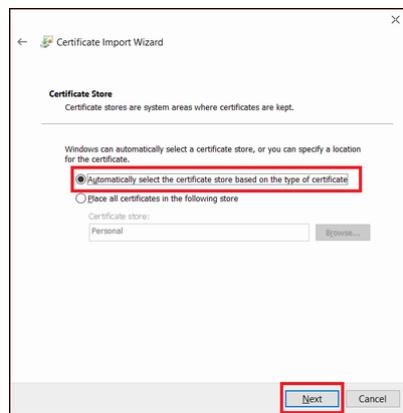


10. Input the client certificate passphrase to *Password* and check the import option [*Enable Strong privat key protectin.*] then click on [*Next*].

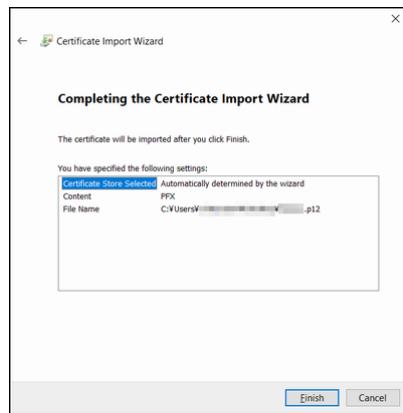


Attention: If the client certificate passphrase is wrong it shows an error and cannot go forward.

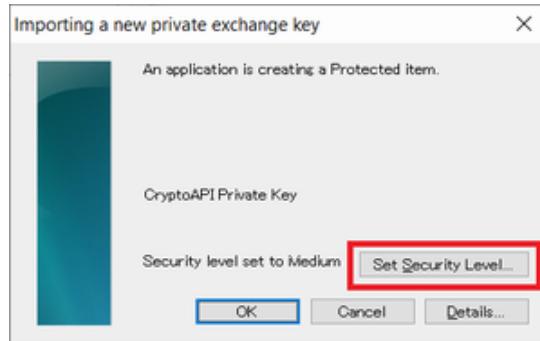
11. Check *Automatically select the certificate store based on the type of certificate* and click on [*Next*].



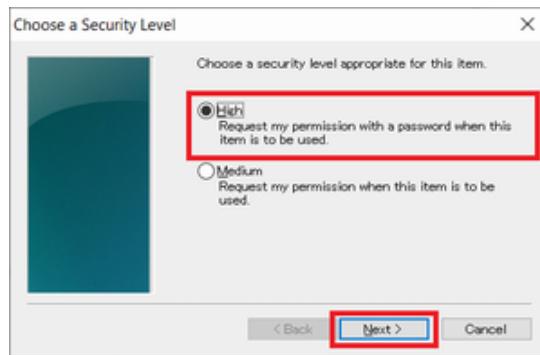
12. Click on [*Finish*].



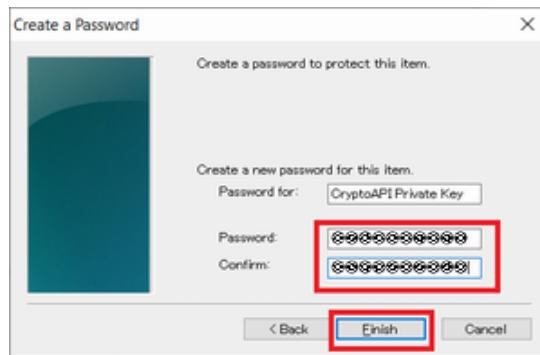
13. The “Importing a new private exchange key” screen will be displayed continuously, click on [*Set Security Level*].



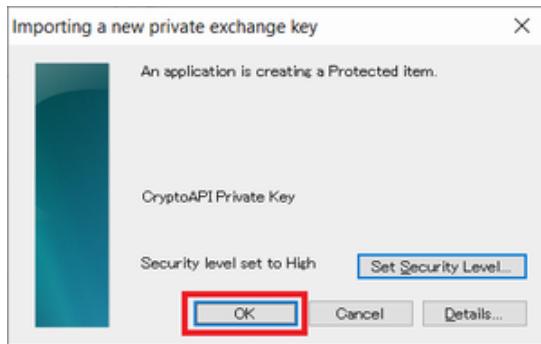
14. Check [*High*] and click on [*Next*].



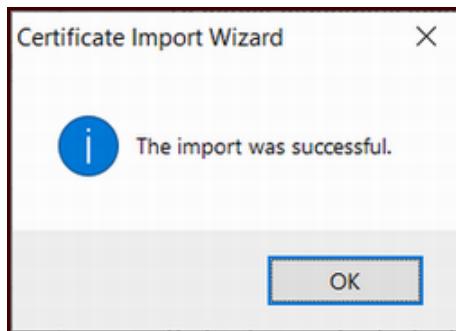
15. Set the password and click on [*Finish*].



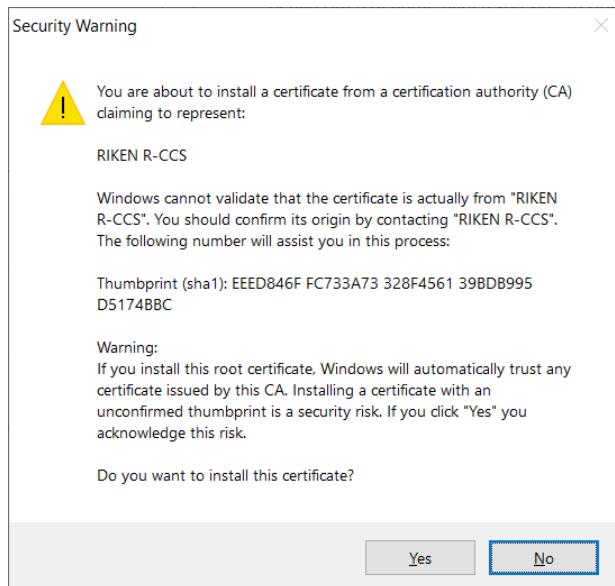
16. Click on [OK].



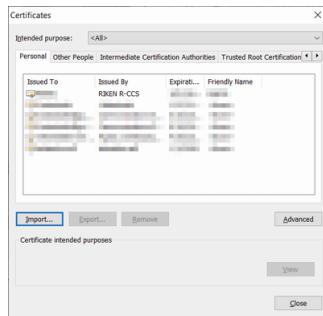
17. Click on [OK].



18. If a security warning is issued, confirm that the Thumprint is (SHA-1): EED846F FC733A73 328F4561 39BDB995 D5174BBC and click on [Yes].



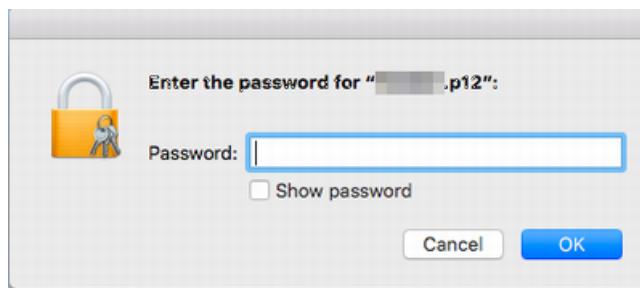
19. Installation of client certificate is all done.



2.1.2 Installing the certificate to Chrome (Mac)

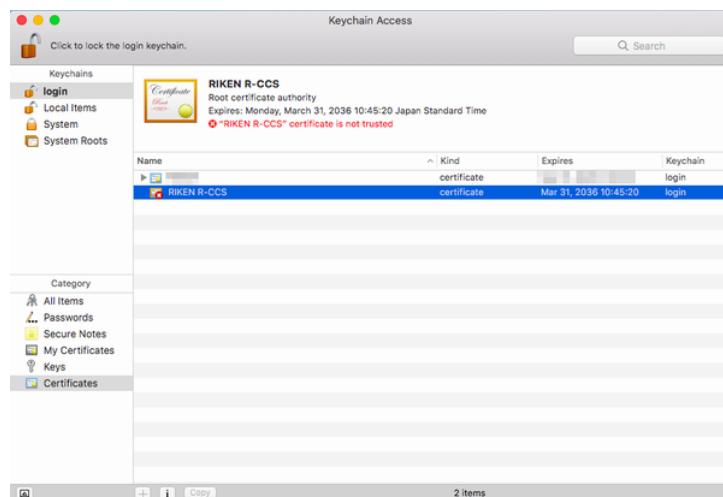
This indicates how to install Chrome on Mac. At macOS, the client certificate is managed at “Key chain access”.

1. Client certificate: Double click “user account name.p12” file. The password input screen is show first. Enter the client certificate passphrase and click on *[OK]*.

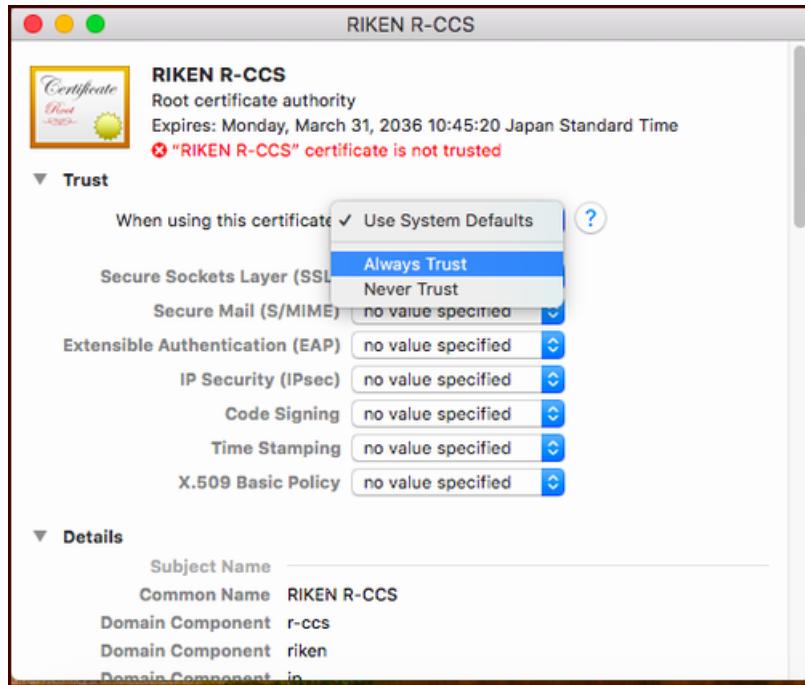


Attention: If the client certificate passphrase is wrong it shows an error and cannot go forward.

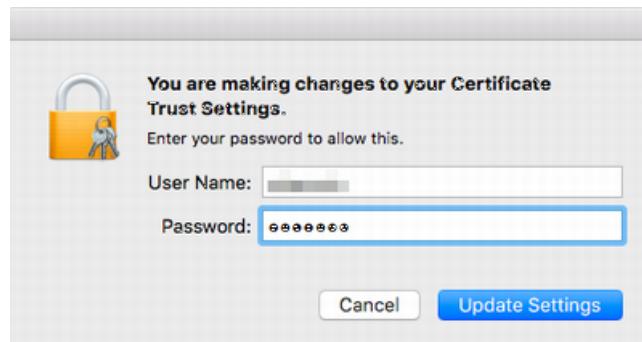
2. Open “Key chain access” screen and double click on the server certificate (RIKEN R-CCS) that issused the client certificate.



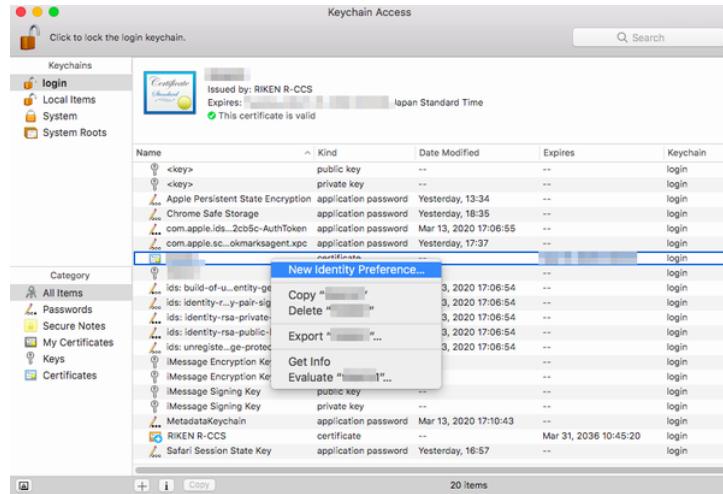
3. Click on “Route certificate authority” - “Trust” and from the list of “When using this certificate”, select “Always trust” and close the screen.



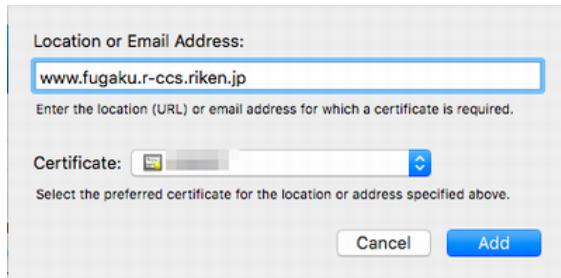
4. You will be prompted for your Mac administrator username and password to reflect the change in trust settings. Input these and click on [*Update setting*].



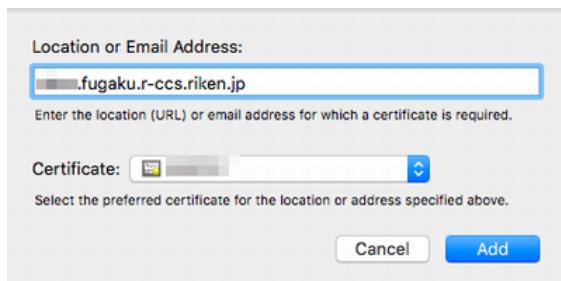
5. On the “Keychain Access” screen, hold down the Control key and click the client certificate (the local account name is shown in the name field), select [New identify preference]



6. To “Location or Email Address:”, input “<https://www.fugaku.r-ccs.riken.jp/>” and click on [Add].



7. With the same steps, register “<https://api.fugaku.r-ccs.riken.jp/>”.

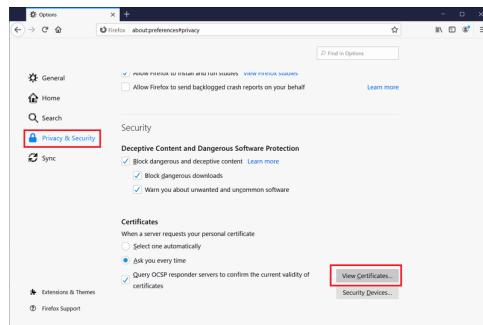


8. Confirm if “<https://www.fugaku.r-ccs.riken.jp/>” and “<https://api.fugaku.r-ccs.riken.jp/>” ‘s “Identify preference” is registered to “Key chain access” and close the screen. Installation is all done.

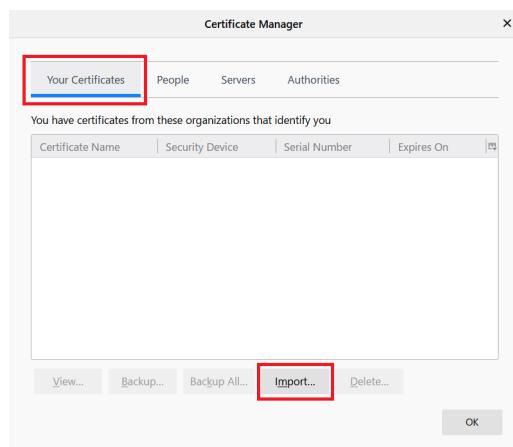
2.1.3 Installing the certificate to Firefox (Windows)

This indicates how to install Firefox on Microsoft Windows. The difference may be seen depending on the version of Firefox. If the screen is different, please try with confirming the Firefox information.

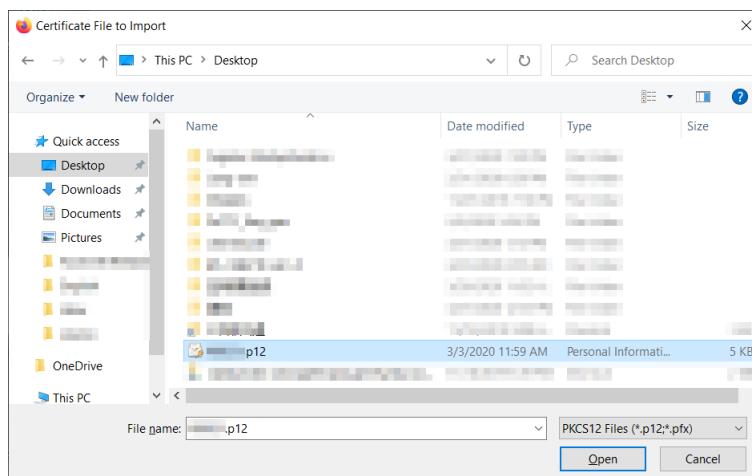
1. Start Firefox and open [*Option*]. Click on [*Privacy and Security*]’s [*View certificates*].



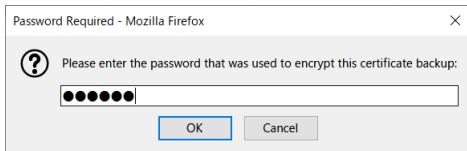
2. Once the certificate manager is started, select [*Your Certificates*] and click on [*Import...*].



3. Client certificate: Select “local account name.p12” file and click on [*Open*].

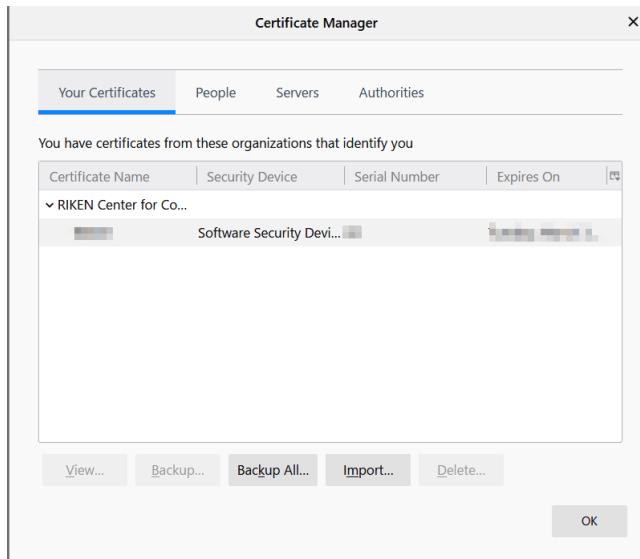


4. Input the client passphrase to *Password* and click on *[OK]*.

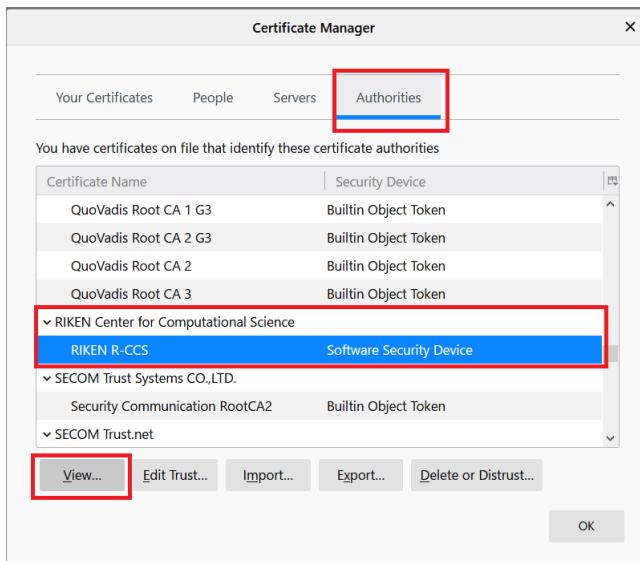


Attention: If the client certificate passphrase is wrong it shows an error and cannot go forward.

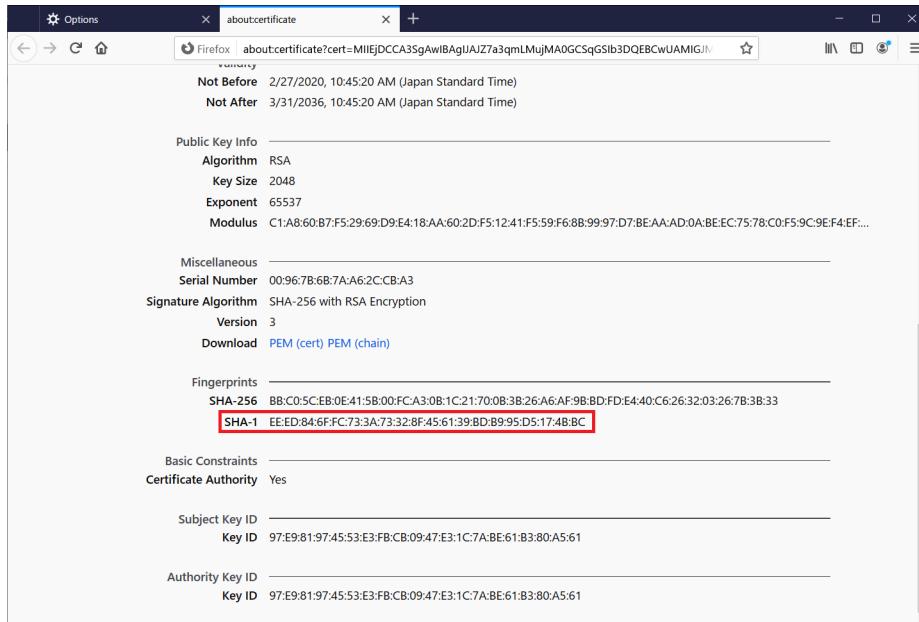
5. Confirm if the client certificate is registered.



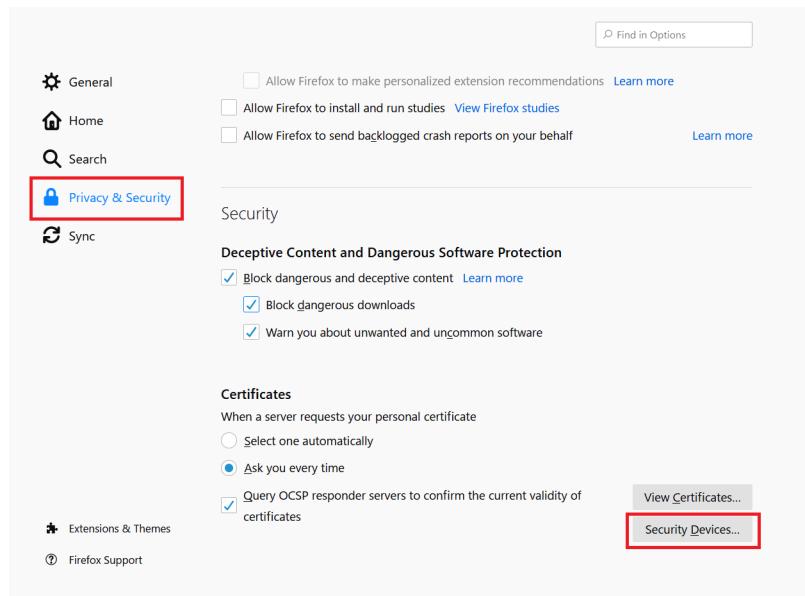
6. Select *[Authorities]* and from the list, select “RIKEN R-CCS” and click on *View...*



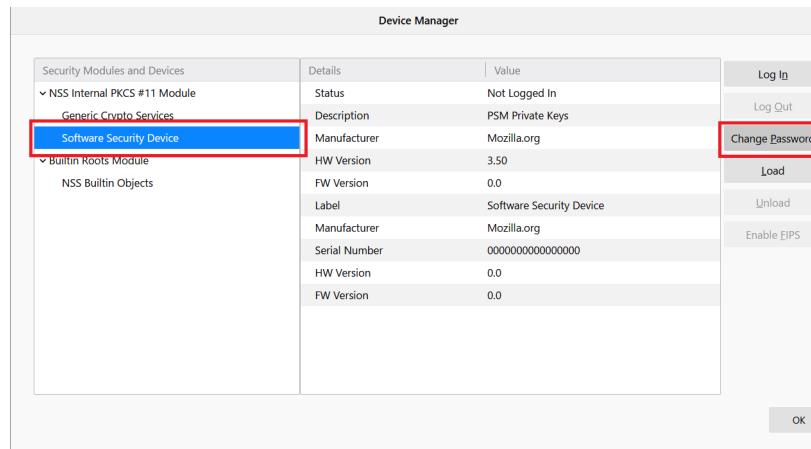
7. Please confirm if the certificate's Fingerprints is (SHA-1): EEE846F FC733A73 328F4561 39BDB995 D5174BBC.



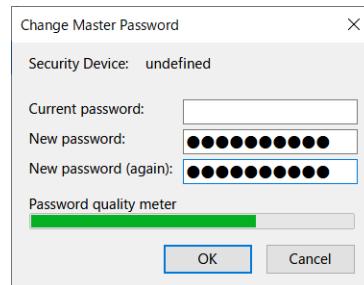
8. Next, set the password to be entered when using the client certificate. Click on *Security Devices...*



9. Once device manager is started, select *Software Security Device* and click on *Change password*.



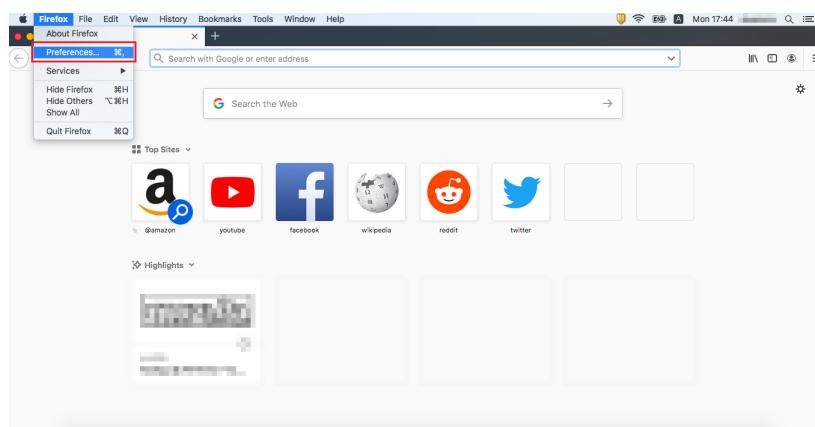
10. Set any password required when using the client certificate, click on *OK*.



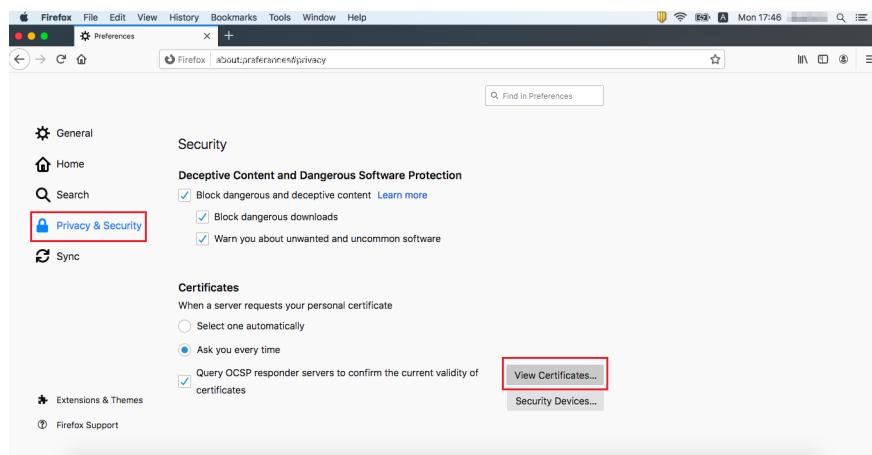
11. After registering the password, close Device Manager. This is the end of setting the password when using the client certificate. The password you set here will be used to connect to the Fugaku website, Open OnDemand.

2.1.4 Installing the certificate to Firefox (Mac)

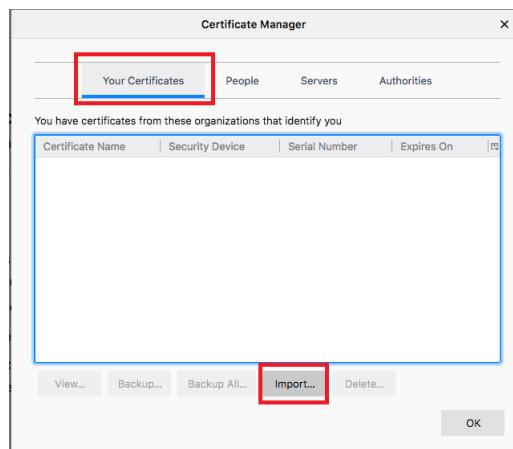
1. Start Firefox, then click [*Preferences...*] from menu.



2. Click [*View certificates...*] in *Privacy and security* tab.



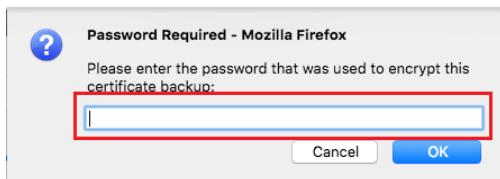
3. Once certificate manager started, select [*Your certificate*] then click [*Import...*].



4. Select the “local account name.p12” file saved on your computer, click [*Open*].

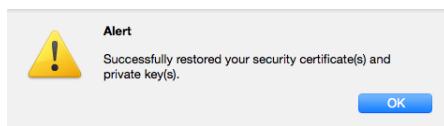


5. Input the passphrase of the obtained client certificate to *Password area*, click [OK].

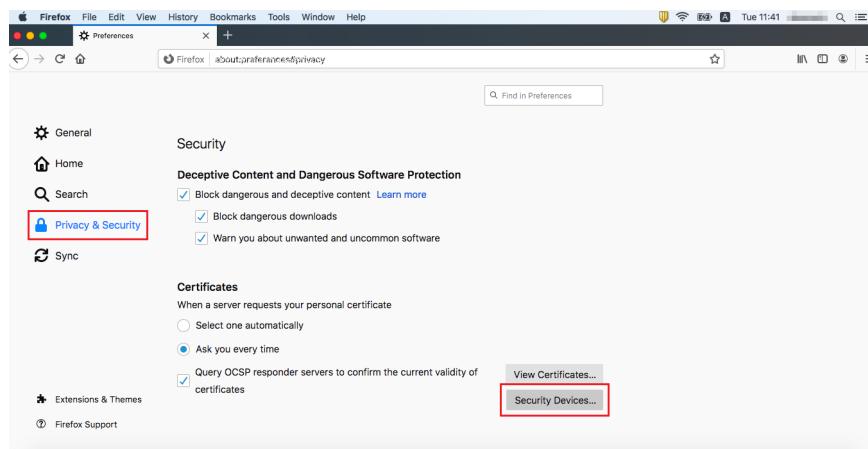


Attention: If the client certificate passphrase is incorrect, an error is displayed and you cannot proceed to the next screen.

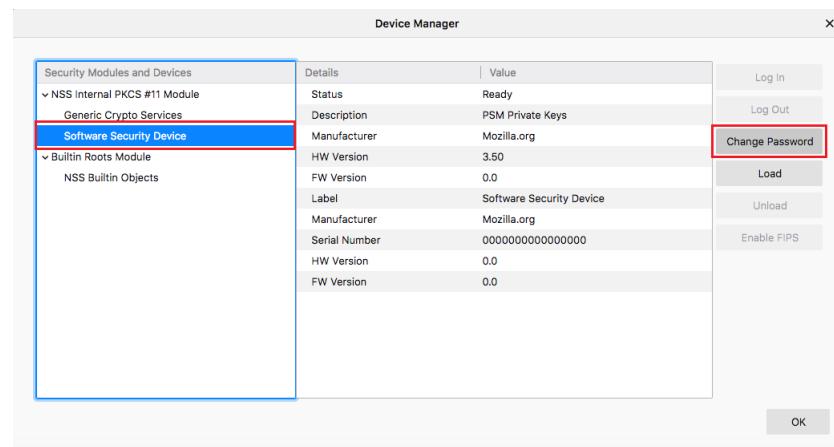
6. Confirm that the client certificate has been registered, click [OK] and close the certificate manager. This completes the client certificate installation process.



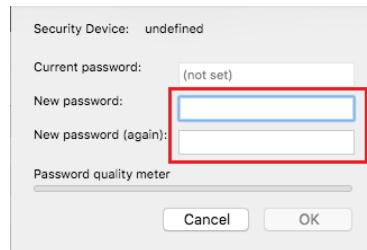
7. Next, set the password to be entered when using the client certificate. Click *Security device*....



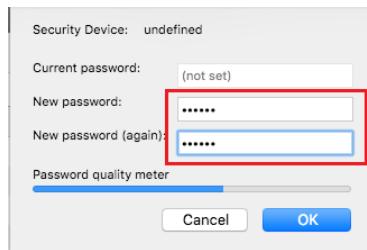
8. Once device manager starts, select *Software Security Device* then click *Change password*....



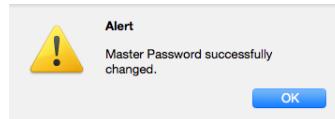
9. Set an arbitrary password required when using the client certificate, click *OK*.



10. Click *OK*.



11. Click *OK* and close device manager. This completes the password setting procedure when using the client certificate.



USE OF FUGAKU

3.1 Fugaku website

For the Fugaku website, open the following URL.

<https://www.fugaku.r-ccs.riken.jp/en/>

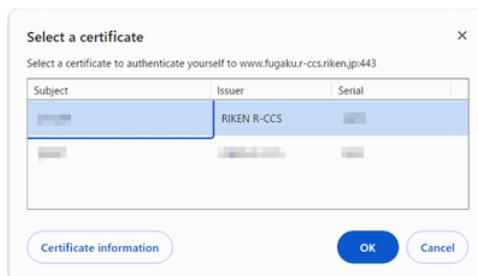
The following screen appears on the Fugaku website. If the Select Client Certificate dialog box appears, select a client certificate.

For details on how to use Fugaku, refer to the following materials on the Fugaku website.

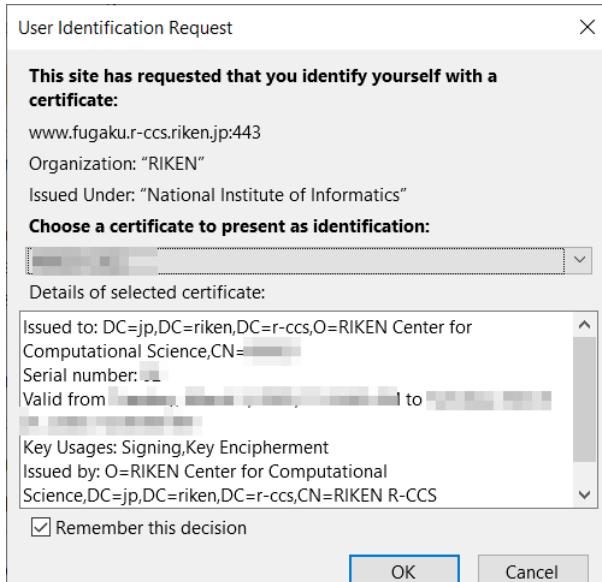
- Workshop materials
- Users Guide

If the certificate request screen appears when you open the Fugaku website, you can take action as follows:

1. When the Select Client Certificate dialog appears, select the client certificate for the local account you want to use.
 - The example of Chrome dialog

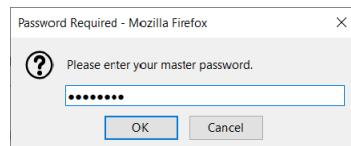


- The example of Firefox dialog



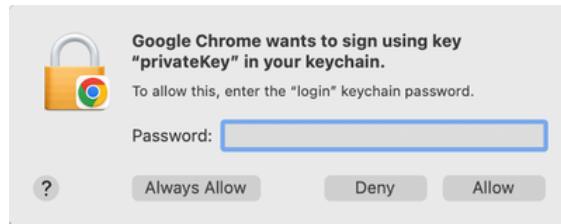
2. In the password input dialog, enter the password of the private key registered when the client certificate was installed. If you're using macOS Keychain, enter the Keychain password.

- The example of Firefox dialog



- The example of Keychain (macOS)

Enter the keychain password (usually the same as your computer login password).



Note: If you are repeatedly prompted to enter a password for the keychain when using Chrome on your Mac, click "Always Allow" in the password input dialog.

3.2 Open OnDemand

Click Open OnDemand from the “For Users” menu on the left side of the Fugaku website.

The screenshot shows the Supercomputer Fugaku website's main page. On the left, there is a sidebar with several sections: "Operation Status" (Medium-scale job running), "For Users" (with "Open OnDemand" highlighted in red), "Fugaku" (System configuration, Resource group, Node hour usage), and "Information" (Operation). The main content area is titled "Important Information" and lists various system events and notices. One notice is highlighted with a red box: "Occurrence of inaccessibility and poor response at login nodes and jobs due to a file system failure.(vol0004)" dated Jul. 8, 2025.

Open OnDemand screen appears.

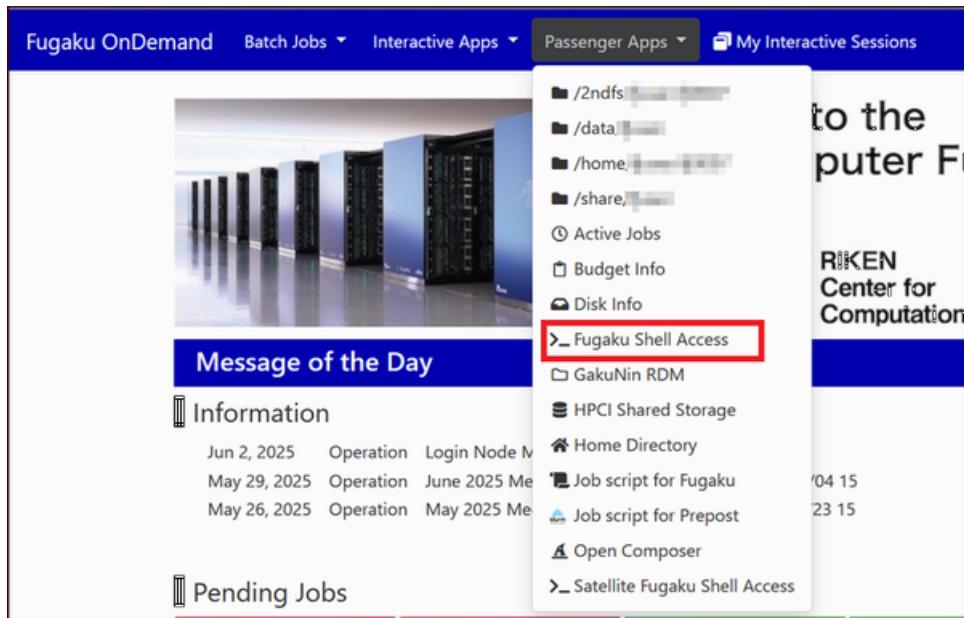
The screenshot shows the Fugaku OnDemand interface. At the top, it says "Welcome to the supercomputer Fugaku" and features the RIKEN and RCCS logos. On the left, there's a "Message of the Day" section and an "Information" section listing recent operations. On the right, there's a "Fugaku Schedule" calendar for June 2025, showing scheduled job execution periods. Below the schedule, there's a "Pending Jobs" section with four colored boxes: red (fugaku-small 1427), blue (fugaku-large 80), green (prepost-gpu1 7), and green (prepost-gpu2 0).

Open OnDemand Link section provides a reference to the [OnDemand Manual](#).

From Open OnDemand, we will introduce the “How to log in with a shell” and “How to transfer files” screens for the login node of Fugaku.

3.2.1 How to log in with a shell

Select “Fugaku Shell Access” from the “Passenger Apps” pull-down menu on Open OnDemand screen.



An SSH connection to the login node of Fugaku appears in the web browser. You can work with login node commands in a web browser.

```

Host: login
Last login: Mon Jun 9 16:25:22 2025 from 10.4.254.68
*** SYSTEM Information as of Jun 09,2025. ***
Latest announcements (For details https://www.fugaku.r-ccs.riken.jp/en)
[Important Information]
Mar 27, 2025 Operation Power-saving operation of Fugaku in FY2025
Mar 25, 2025 Operation Important: Change the default power mode for job executions in all resource groups
Nov 20, 2024 Restriction Restriction About using of Boost mode in FY2025
[Information]
Jun 9, 2025 Operation June 2025 Medium-scale job execution period(06/04 15:00 ~ 06/08 15:00)(Completed)
Jun 2, 2025 Operation Login Node Maintenance: OpenSSH Update(Rerun: 06/02 10:00-12:00)(Completed)
May 28, 2025 Operation May 2025 Medium-scale job execution period(05/23 15:00 ~ 05/27 15:00)(Completed)

The schedule of operations for large scale jobs
schedule :06/17 (Tue) 15:00 - 06/20 (Fri) 15:00 (JST)

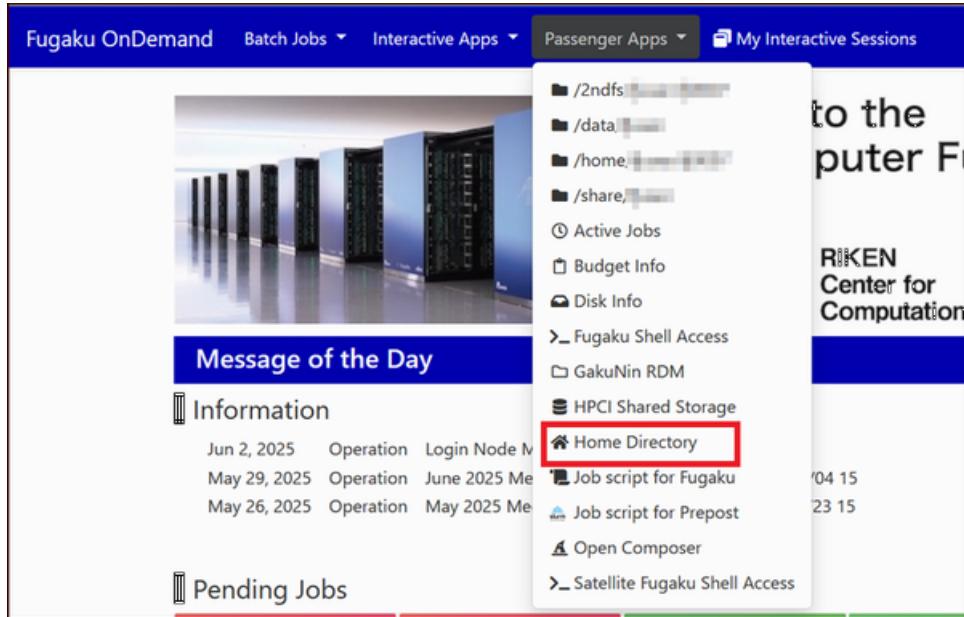
[Resource Usage(%)] [Disk Usage(%)/Disk i-node(%)]
Total Period1 vol1 vol2 vol3 vol4 vol5 vol6
0 - - - - - - (Updated at 2025/06/09 08:20:12)
0 0 - - - - - (Updated at 2025/06/09 08:20:12)
- - - - - - - (Updated at 2025/06/09 08:22:35)

login6$ 

```

3.2.2 How to transfer files

Select “Home Directory” from the “Passenger Apps” pull-down menu on Open OnDemand screen.



The Home Directory of the login node for Fugaku appears as follows:. You can work with files on the login node in your web browser.

Select Upload or Download at the top of the screen to transfer files between your computer using a web browser and the login node of Fugaku.

The screenshot shows the Fugaku OnDemand file manager interface. At the top, there are buttons for "Open in Terminal", "Refresh", "New File", "New Directory", "Upload", "Download", "Copy/Move", and "Delete". On the left, a sidebar shows the directory structure: "Home Directory" (selected), "/home", "/data", "/share", and "/2ndfs". The main area shows a list of files and directories in the current directory, which is "/home/[REDACTED]/[REDACTED]". The list includes ".pycache_", "arm", "bin", "C", "fapptest", and "fj_extention". There are checkboxes for "Type", "Name", "Size", and "Modified at". There are also checkboxes for "Show Owner/Mode" and "Show Dotfiles", and a "Filter:" input field. A message at the bottom says "Showing 47 of 85 rows - 0 rows selected".