

# SSH Key generation and login: MobaXterm version

National Institutes of Natural Sciences  
Okazaki Research Facilities  
Research Center for Computational Science (RCCS)

(Verified with MobaXterm Personal Edition v23.6)

# Changelog

- Jul. 16, 2019 First version
- Feb 3, 2021 Update (images, ssh key recommendation etc.)
- Jan 5, 2022 Verified with version 21.5 and update about RSA
- Mar 8, 2022 Updated for MobaXterm 22.0
- Dec 20, 2022 Verified with MobaXterm 22.3
- Jan 18, 2024 Verified with MobaXterm 23.6

# Introduction

The aim of this document is to explain how to login to RCCS supercomputer using MobaXterm.

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- Install MobaXterm
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# Install MobaXterm

MobaXterm can be downloaded from the following site:

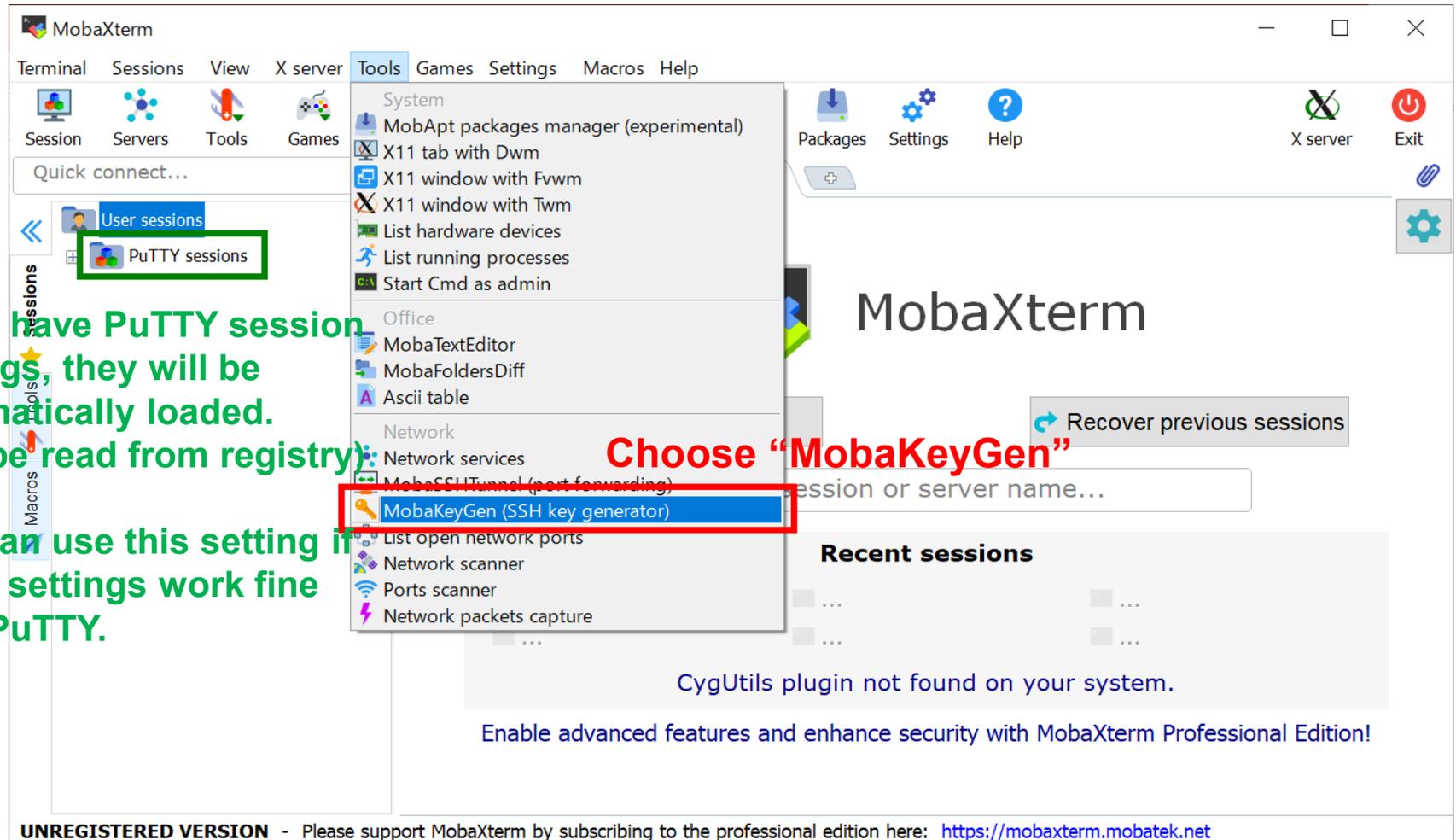
<https://mobaxterm.mobatek.net/>

Please install it according to the instruction.

- Both of Home Edition & Professional Edition have SSH capability.
- We use Portable version of Home Edition in this guide.  
(Installer version would also work correctly.)

# SSH key generation (1)

Launch MobaXterm and select “MobaKeyGen” in “Tools” menu.



The screenshot shows the MobaXterm application window. The 'Tools' menu is open, displaying a list of system and office utilities. The 'MobaKeyGen (SSH key generator)' option is highlighted with a red rectangular box. A red text annotation 'Choose “MobaKeyGen”' points to this option. In the left sidebar, the 'Sessions' panel is visible, with 'User sessions' and 'PuTTY sessions' listed. A green text annotation 'If you have PuTTY session settings, they will be automatically loaded. (maybe read from registry):' is positioned near the 'PuTTY sessions' entry. Another green text annotation 'You can use this setting if these settings work fine with PuTTY.' is located below the first one. The main window area shows the 'MobaXterm' logo and a search bar for sessions. At the bottom, a message states 'CygUtils plugin not found on your system.' and a promotional link for the professional edition is provided.

**If you have PuTTY session settings, they will be automatically loaded. (maybe read from registry):**

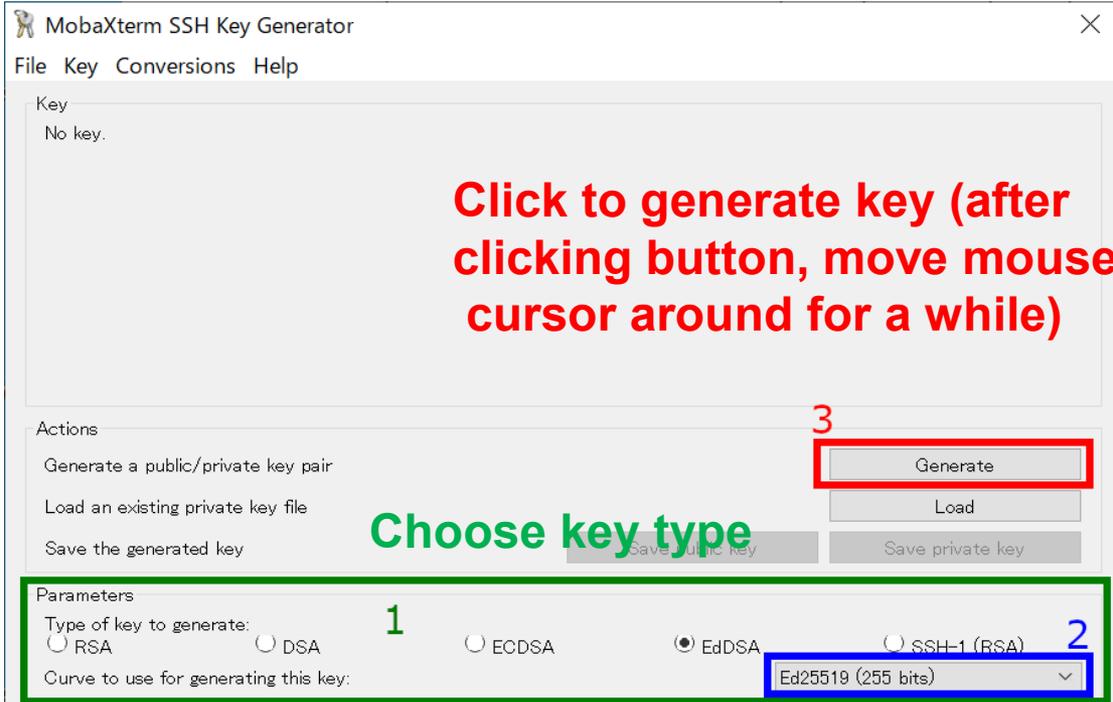
**You can use this setting if these settings work fine with PuTTY.**

**Choose “MobaKeyGen”**

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

# SSH key generation (2)

Choose key type and then click “Generate” button.



\* Old versions of MobaXterm do not support new RSA SHA2 algorithms (rsa-sha2-256/512). Please use newer MobaXterm version.

Specify key length

- Ed25519 (check EdDSA and choose Ed25519 in the box)<sup>†</sup>
  - ECDSA (256, 384, or 521 bits)
  - RSA 4096 bits (choose RSA and input 4096 in the box)\*
- (If you have no preference, please try Ed25519.)

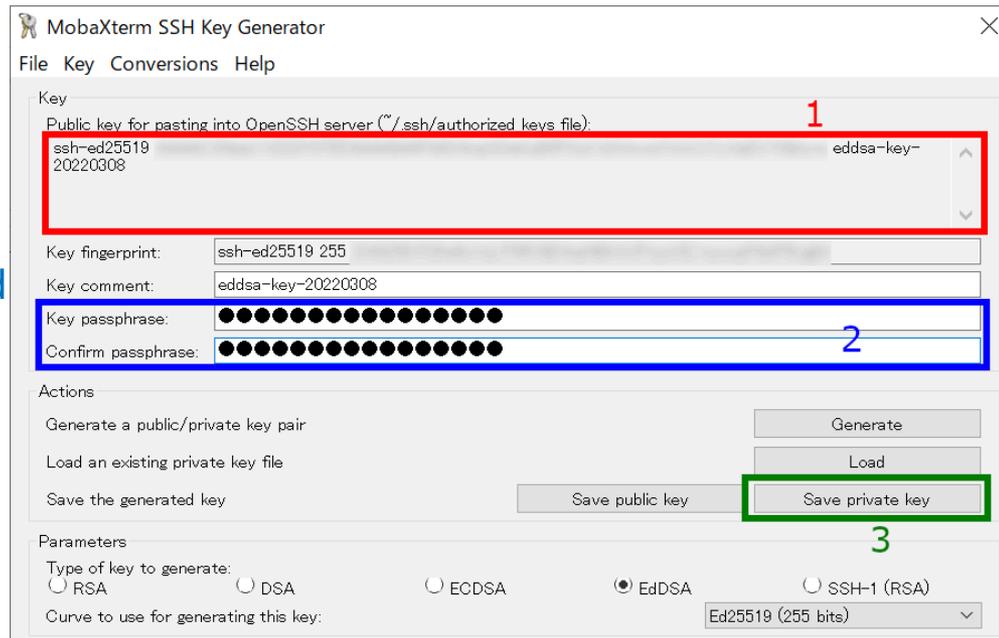
Recommended  
Key Types

<sup>†</sup>Ed448 keys won't be accepted for now.

# SSH key generation (3)

Once key generation finished, new items will be shown.

This is the public key we need. You should save this key in a file. **(Please copy whole the key (starting from ssh- or ecdsa-). This window is often too small for some types of keys.)**



Click to save the private key. You might want to choose easy-to-understand filename such as rccs.ppk or ccfepp.ppk.

RCCS recommends passphrase of 10 or more characters and containing all the following 4 types of characters.

- lower-case
- upper-case
- number
- symbol

- Generated private key file must be kept secret.
- OpenSSH type private key can be obtained from “Conversions” menu (if needed).
- Public key can be restored from the private key; try “Load” button.

# Register Public Key

Before login, you need to register the public key.

The procedure of the public key registration is available from the following link.

<https://ccportal.ims.ac.jp/en/account/>

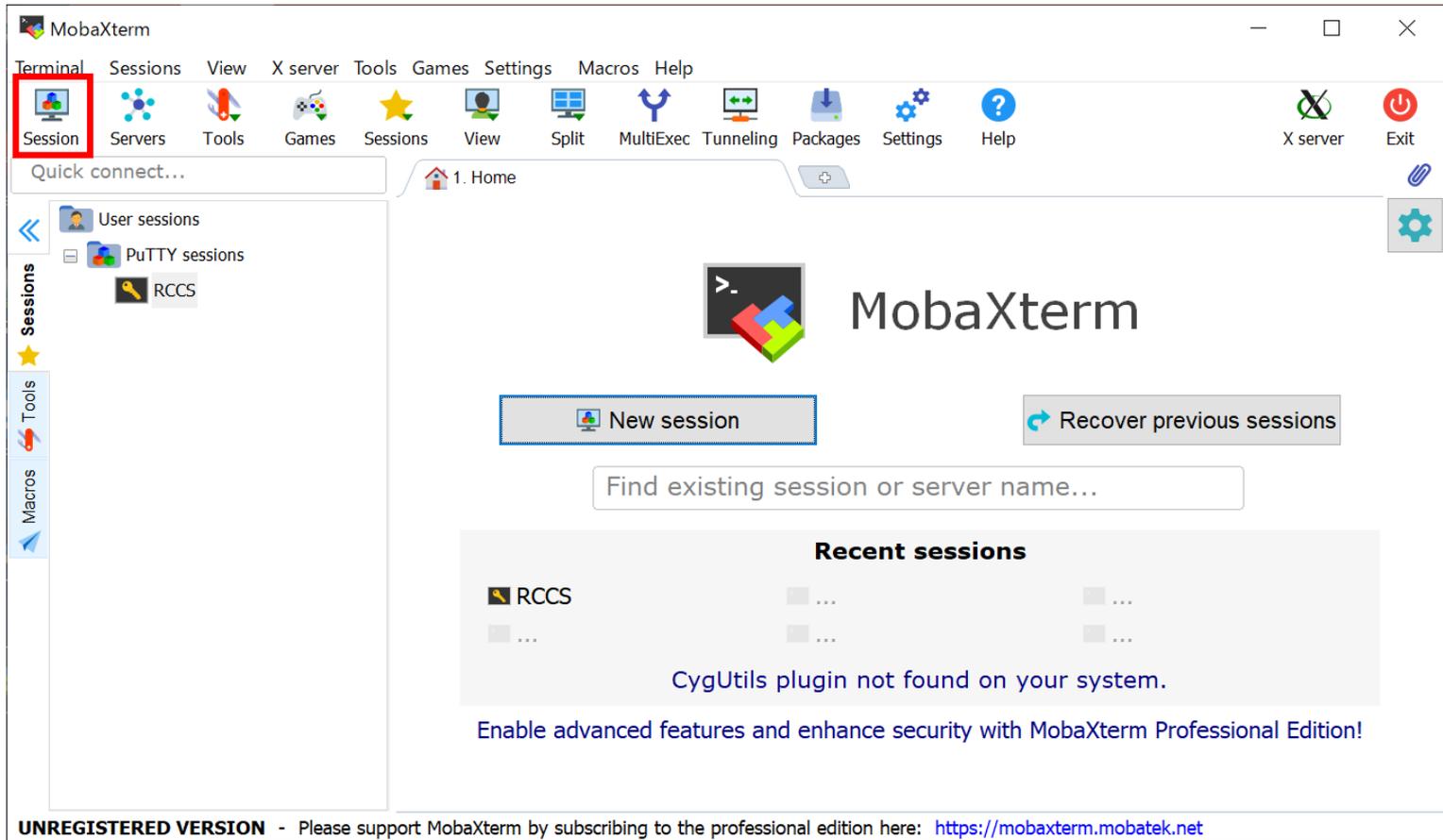
Don't use key from "Save public key" button of MobaKeyGen. Key displayed at "Public key for pasting into OpenSSH..." part of MobaKeyGen window is the one what we need.

Also, the private key file must be kept secret.

# Login (1)

Return to the initial view and click “Session” icon.

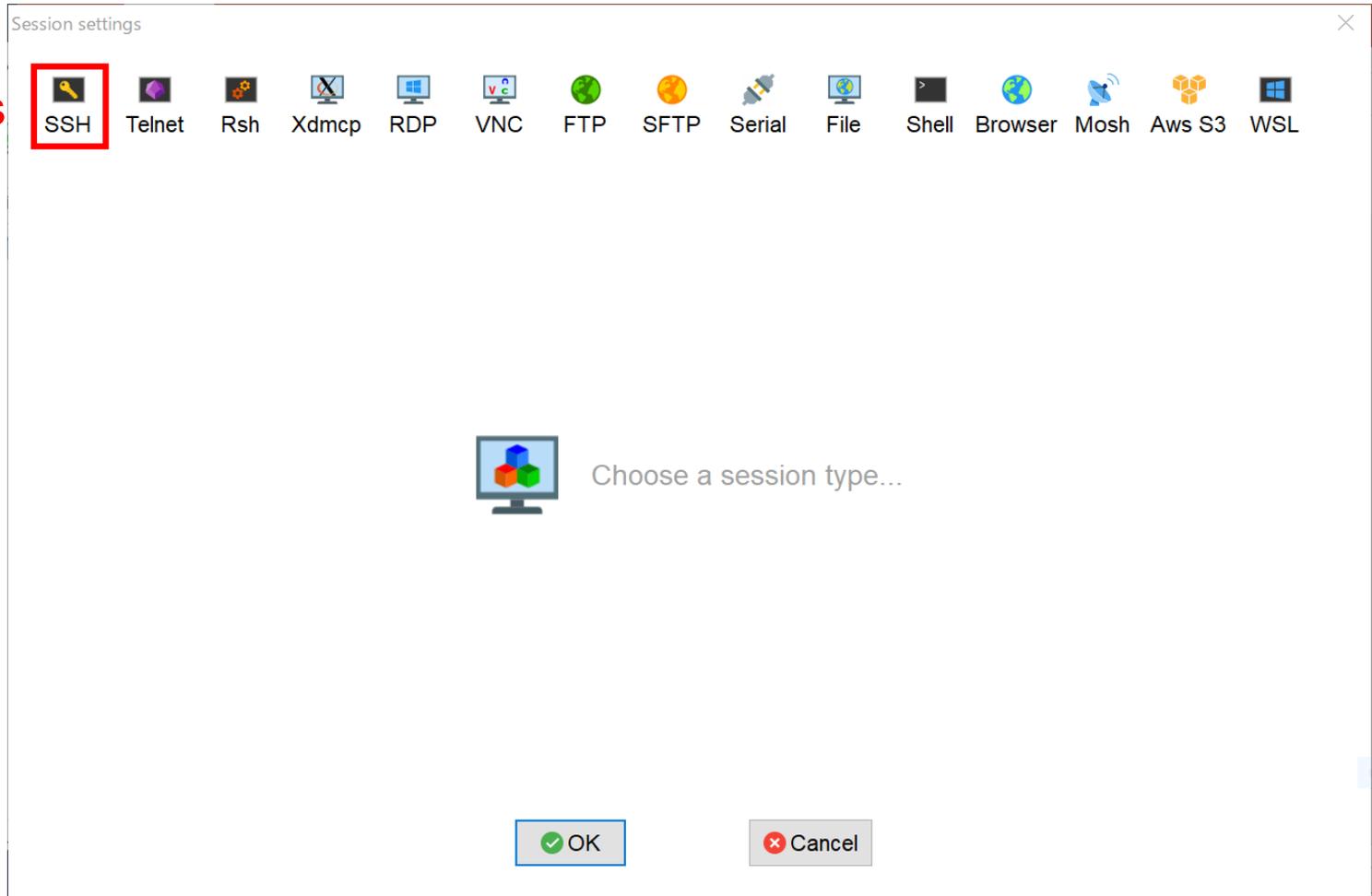
Click this



# Login (2)

Create new SSH session.

Click this



# Login (3)

Input server information in the window.

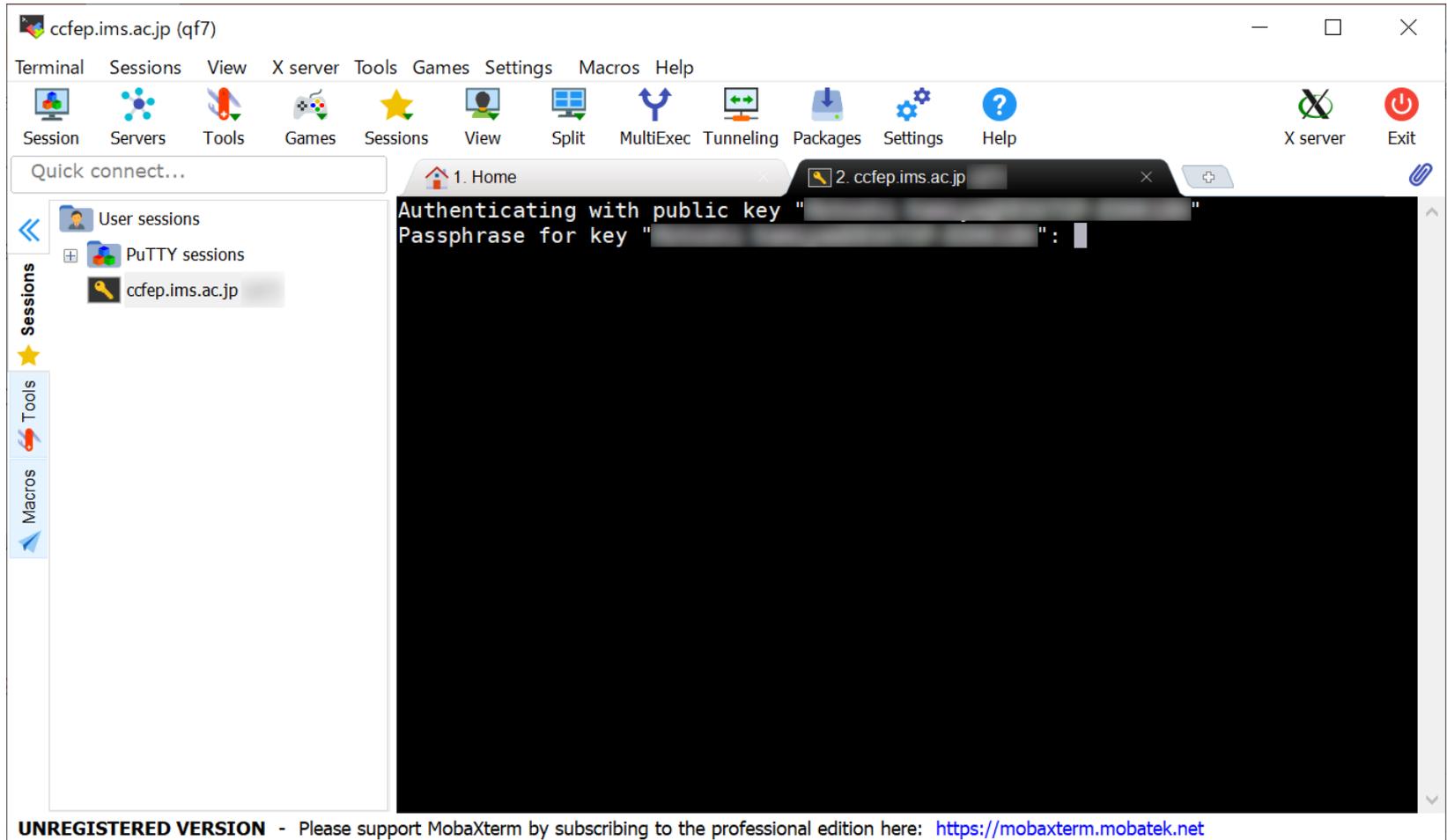
The screenshot shows the 'Session settings' dialog box with the following annotations:

- Step 1:** A green box highlights the 'Remote host' field containing 'ccfep.ims.ac.jp'. A green arrow points to it with the text 'Input host name "ccfep.ims.ac.jp"'. A blue box highlights the 'Specify username' checkbox, which is checked. A blue arrow points to it with the text 'Check this and input RCCS user name'.
- Step 2:** A blue box highlights the empty 'Specify username' text field. A blue arrow points to it with the text '(three letters ID given by RCCS)'.
- Step 3:** An orange box highlights the 'Advanced SSH settings' tab. An orange arrow points to it with the text 'Click to open setting tab'.
- Step 4:** A red box highlights the 'Use private key' checkbox, which is checked. A red arrow points to it with the text 'Check this and specify private key file'. A red box highlights the 'id\_rsa' private key file name in the adjacent text field.
- Step 5:** A green box highlights the 'OK' button. A green arrow points to it with the text 'Finally, click to connect'.

Finally, click to connect

# Login (4)

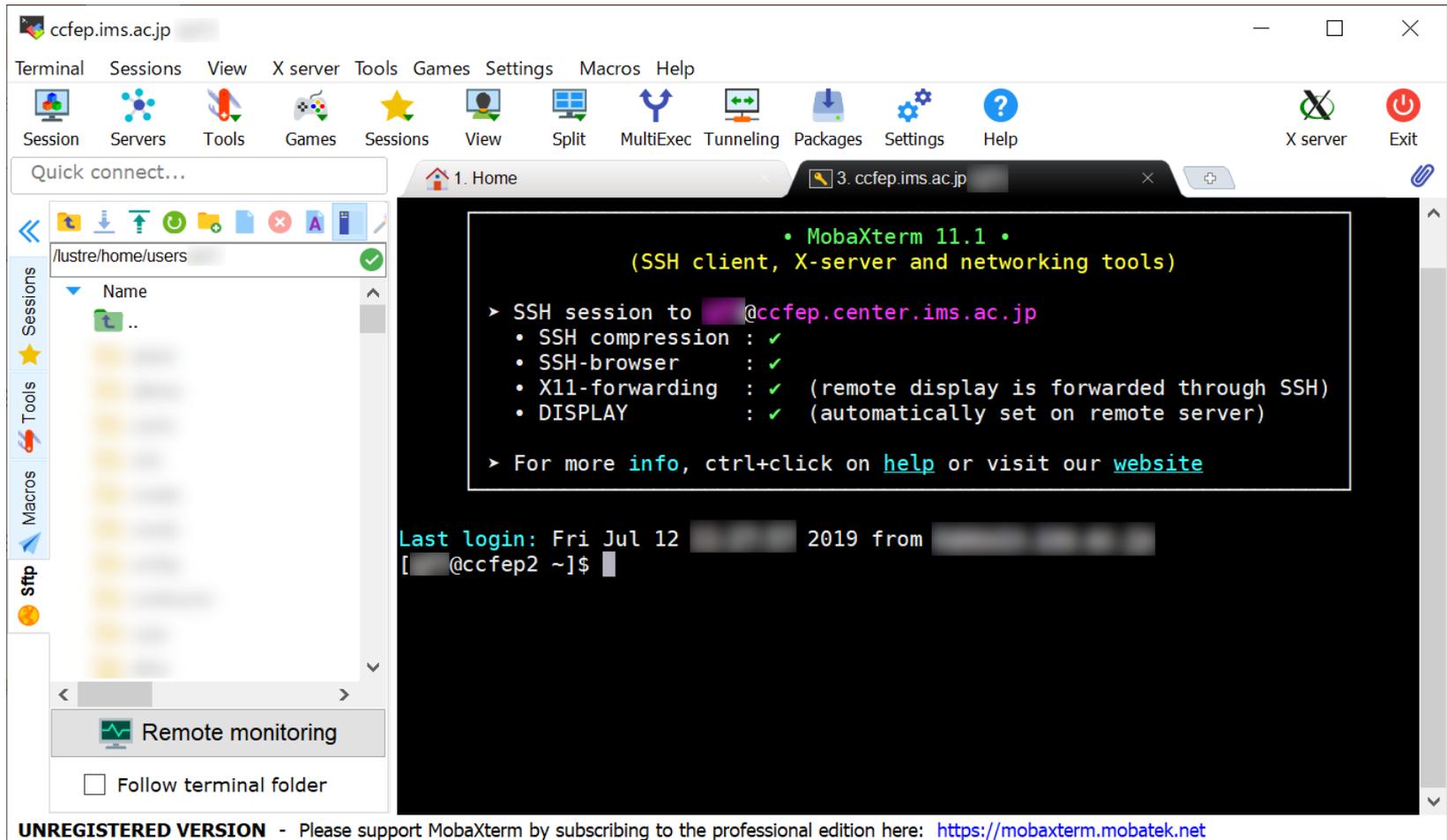
Passphrase will be asked upon connection.



(The message depends on key type (OpenSSH or PuTTY); this sample uses PuTTY type key.)

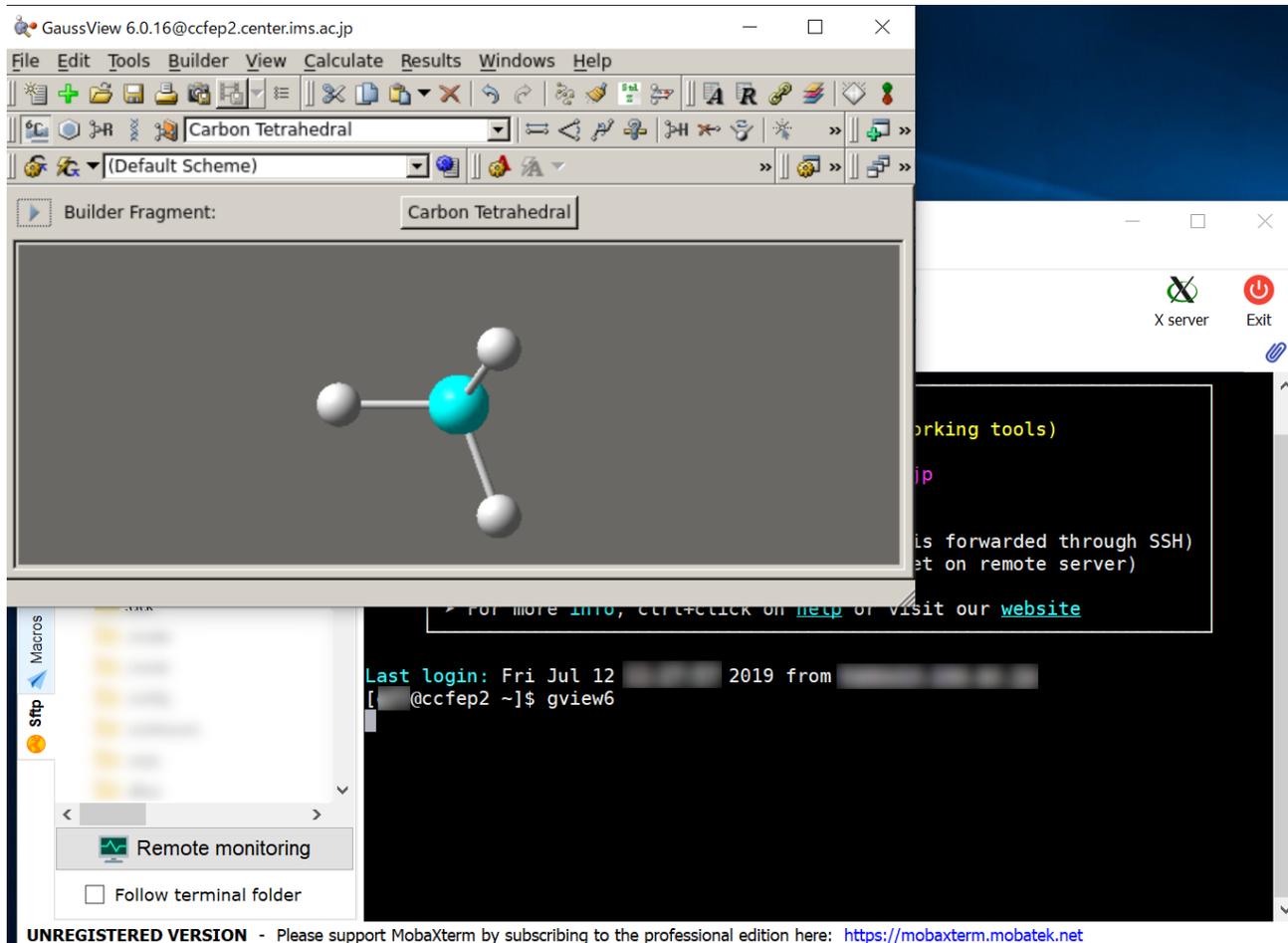
# Login (5)

If everything works fine, you can successfully login to RCCS.



# Tips (1): X11

MobaXterm has Xserver functionality.  
You can use X window application without special settings.



(If X11-forwarding item in welcome ~ message is checked, X11 would be available.)

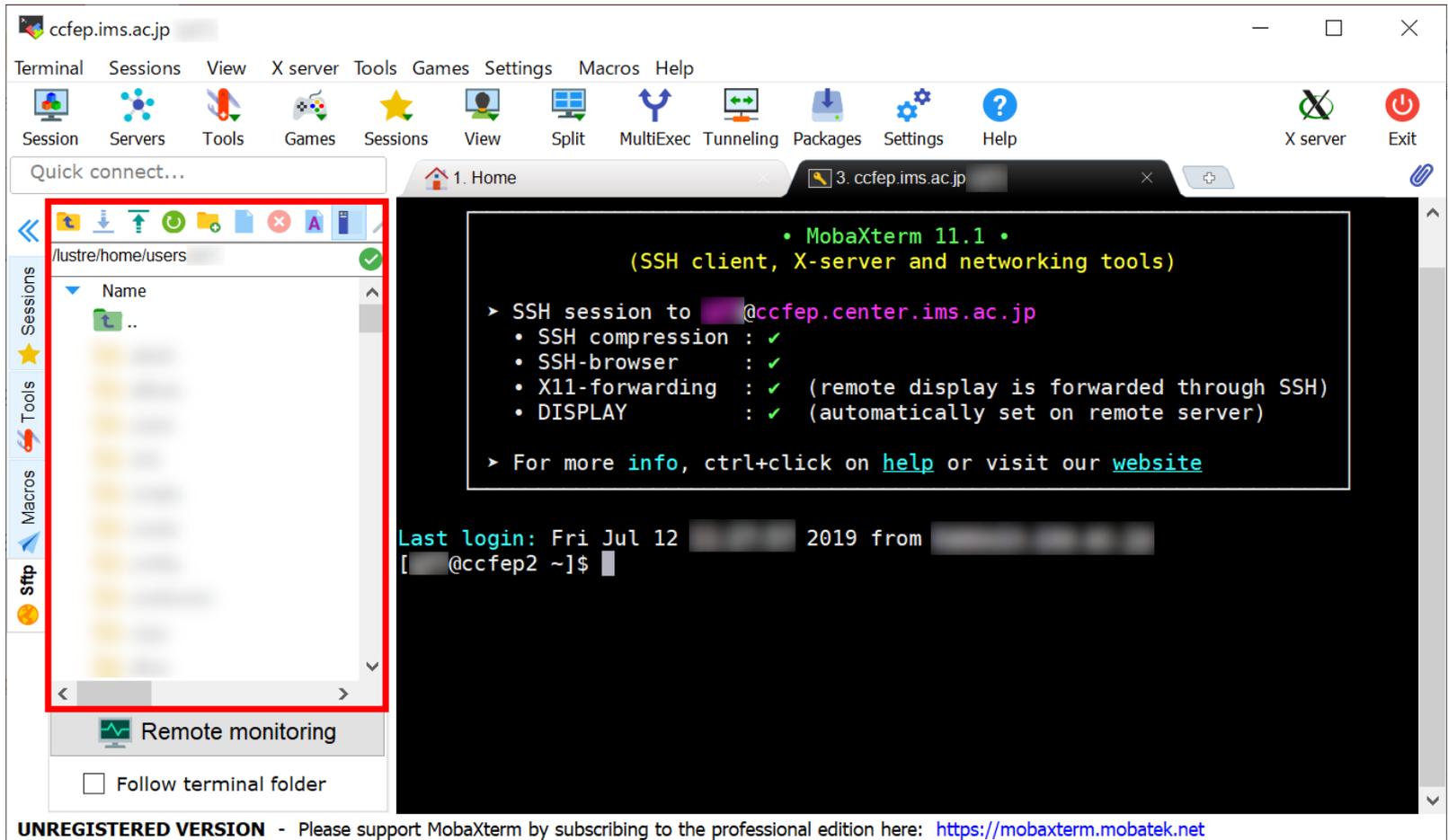
## Tips (2): verify server

MobaXterm won't verify server upon first connection.

You can enable server verification by checking “Validate host identity at first connection” item in [Settings] menu > [Configuration].

# Tips (3): SFTP

MobaXterm has SFTP function. In case of SSH connection, the red squared region works as SFTP subsystem. You can download files using this window.



(SFTP specific session can also be created.)