東京大学
THE UNIVERSITY OF TOKYO

東京大学情報基盤センター
INFORMATION TECHNOLOGY CENTER, THE UNIVERSITY OF TOKYO

Wisteria/BDEC-01 (Odyssey)
How to login

Information Technology Center
The University of Tokyo

If you have any questions, please contact Kengo Nakajima at nakajima(at)cc.u-tokyo.ac.jp
Please DO NOT contact official support site

Before Accessing Odyssey …

- **Please make sure that:**
  - **the OS of your PC is the most updated version**
  - **proper anti-virus software with the most updated version is installed to your PC**

- Supercomputers in ITC/U.Tokyo
  - Information Technology Center, The University of Tokyo
- Login to Odyssey
- After Login

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  - Information Technology Center, The University of Tokyo
- **Login to Odyssey**
- After Login

Login to Odyssey

- SSH Public Key Authentication（SSH公開鍵認証, SSH=Secure Shell）: Safer than Password Authentication
- Procedures
  - **Windows：Cygwin，Mac・Unix：Terminal**
  - ① Creating Keys (Private Key, Public Key) on PC
    - Passphrase: Password for SSH Public Key Authentication
    - **“Empty Passphrase” is prohibited**
    - **If you have already created keys on your PC before, you can skip ①（Please make sure it is with “passphrase”）**
  - ② Accessing the Portal Site
    - User ID（t89XYZ） and “Initial Password with 8-Characters” (Info-1/Info-2)
    - You are requested to change Password after accessing the portal site
      - Several rules for number of characters, combinations etc.
  - ③ Registration of the Public Key through the Portal Site
    - **② and ③ are essential, even if you have already had UID’s on Odyssey**
  - ④ Login to Odyssey by ssh

① Creating Keys on PC (1/3)

```
$ ssh-keygen -t rsa

Generating public/private rsa key pair.
Enter file in which to save the key (/home/user/.ssh/id_rsa): <Return↓>
Enter passphrase (empty for no passphrase): Your Favorite Passphrase <Return↓>
Enter same passphrase again: Same Passphrase <Return↓>
Your identification has been saved in /home/user/.ssh/id_rsa.
Your public key has been saved in /home/user/.ssh/id_rsa.pub.

The key fingerprint is:
SHA256:vt880+PTcscHkOyabvxGjeRsMWLAWds+ENsDcReNwKo nakajima@KNs-NEW-VAIO
The key's randomart image is:
+---[RSA 2048]----+
|          . o=oo.o+ |
|           +  O... . |
|            .+o+.    |
|              +oB.   |
|            So *o*   |
|           .E   B.o  |
|            .. = . o |
|             .=oB o + |
|            .+o+*O .. |
+----[SHA256]-----+
```

Procedures

- **ssh-keygen –t rsa <Return↓>**
- <Return↓>
- Your Favorite Passphrase <Return↓>
- Same Passphrase <Return↓>
- **"Empty Passphrase" is prohibited**

① Creating Keys on PC (1/3)

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Generating public/private rsa key pair.
Enter file in which to save the key (/home/user/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/user/.ssh/id_rsa.
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The key's randomart image is:
+---[RSA 2048]----+
|          . o=oo.o+ |
|           +  O... . |
|            .+o+.    |
|              +oB.   |
|             So *o*  |
|            .E   B.o |
|             .. = . o|
|              .=oB o +|
|             .+o+*O .|
+----[SHA256]-----+
```

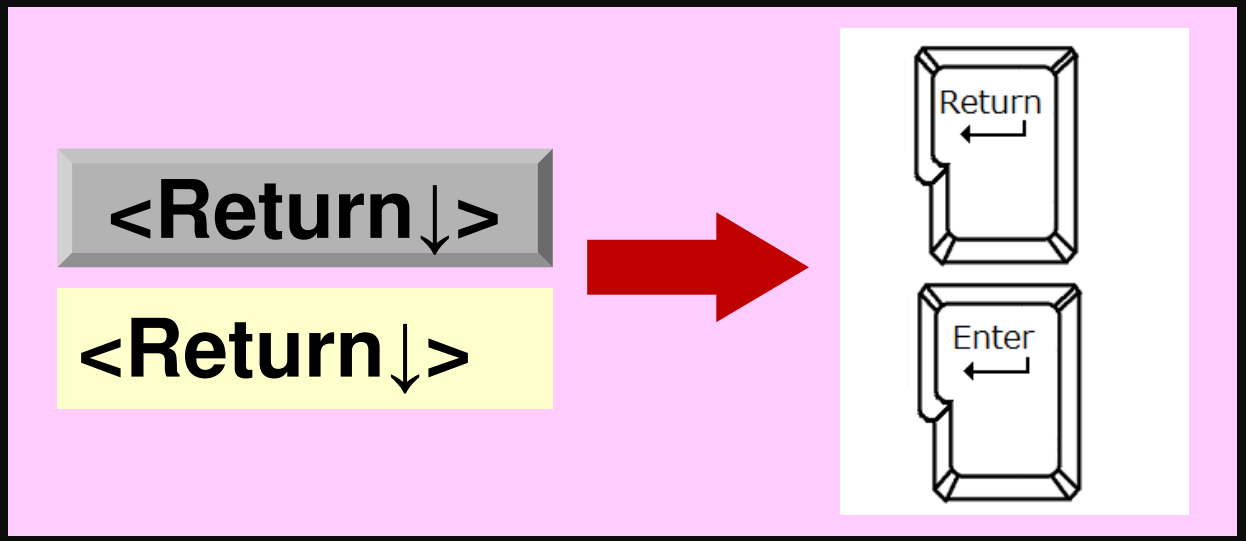
<Return↓>

Your Favorite Passphrase

<Return↓>

Same Passphrase

<Return↓>



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The key fingerprint is:
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The key's randomart image is:
+---[RSA 2048]----+
|          . o=oo.o+ |
|           +  O... . |
|            .+o+.    |
|              +oB.   |
|             So *o*  |
|            .E   B.o |
|             .. = . o|
|              .=oB o +|
|             .+o+*O .|
+----[SHA256]-----+
```

<Return↓>

Your Favorite Passphrase <Return↓>

Same Passphrase <Return↓>

Procedures

- **ssh-keygen –t rsa <Return↓>**
- <Return↓>
- Your Favorite Passphrase <Return↓>
- Same Passphrase <Return↓>
- **“Empty Passphrase” is prohibited**

① Creating Keys on PC (2/3)

```
$ cd ~/.ssh

$ ls

 id_rsa                          ⇒秘密鍵（Private Key）
 id_rsa.pub                      ⇒公開鍵（Public Key）

$ cat id_rsa.pub

ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQDa6InmOYYaCrWjQDukjiNEfdW8veUwJyZtEI3oDuOA28
eey6pOwbtI7JBO9xnI17O7HG4yYvOM81+/nlAHy5tAfJlyOdsPzjTgdTBLdgi3cSf5pWEY6U96
yaErOEi8Wge1HkXrhcwUjGDVTzvTORefe6zLdRziL/KNmmesSQfR5lsZ/ihsjMgFxGaKsHHq/I
ErCtHIIIf9V/Ds2yj6vkAaWH6asBn+ZsRiRFvwHPhkYAnp/j3LY6b8QfqgOp4WZRenh/HgySWT
YIGi8x67VzMaUlm9qlKOQFMCaK2rivX1fmbwyWJ/vrWDqiek6YXoxLDu+GPeQ4CPvxJcZnqF9g
f3 nakajima@KNs-NEW-VAIO
```

① Copying the Public Key (3/3)

```
$ cd .ssh

$ ls

  id_rsa
  id_rsa.pub

$ cat id_rsa.pub
```

Procedures

- **cat id_rsa.pub <Return↓>**
- setting the cursor on “ssh-rsa”
- selecting from “ssh-rsa” to “f3” on the last line and “copy”
- **You can include “nakaima@KNs-NEW-VAIO”, but registration may fail if multi-byte characters are there (This info. may not appear in certain OS)**

```
ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQDa6InmOYYaCrWjQDukjiNEfdW8veUwJyZtEI3oDuOA28
eey6pOwbtI7JBO9xnI17O7HG4yYvOM81+/nlAHy5tAfJlyOdsPzjTgdTBLdgi3cSf5pWEY6U96
yaErOEi8Wge1HkXrhcwUjGDVTzvTORefe6zLdRziL/KNmmesSQfR5lsZ/ihsjMgFxGaKsHHq/I
ErCtHIIIf9V/Ds2yj6vkAaWH6asBn+ZsRiRFvwHPhkYAnp/j3LY6b8QfqgOp4WZRenh/HgySWT
YIGi8x67VzMaUlm9qlKOQFMCaK2rivX1fmbwyWJ/vrWDqiek6YXoxLDu+GPeQ4CPvxJcZnqF9g
f3 nakajima@KNs-NEW-VAIO
```

② Accessing the Portal Site (1/3)

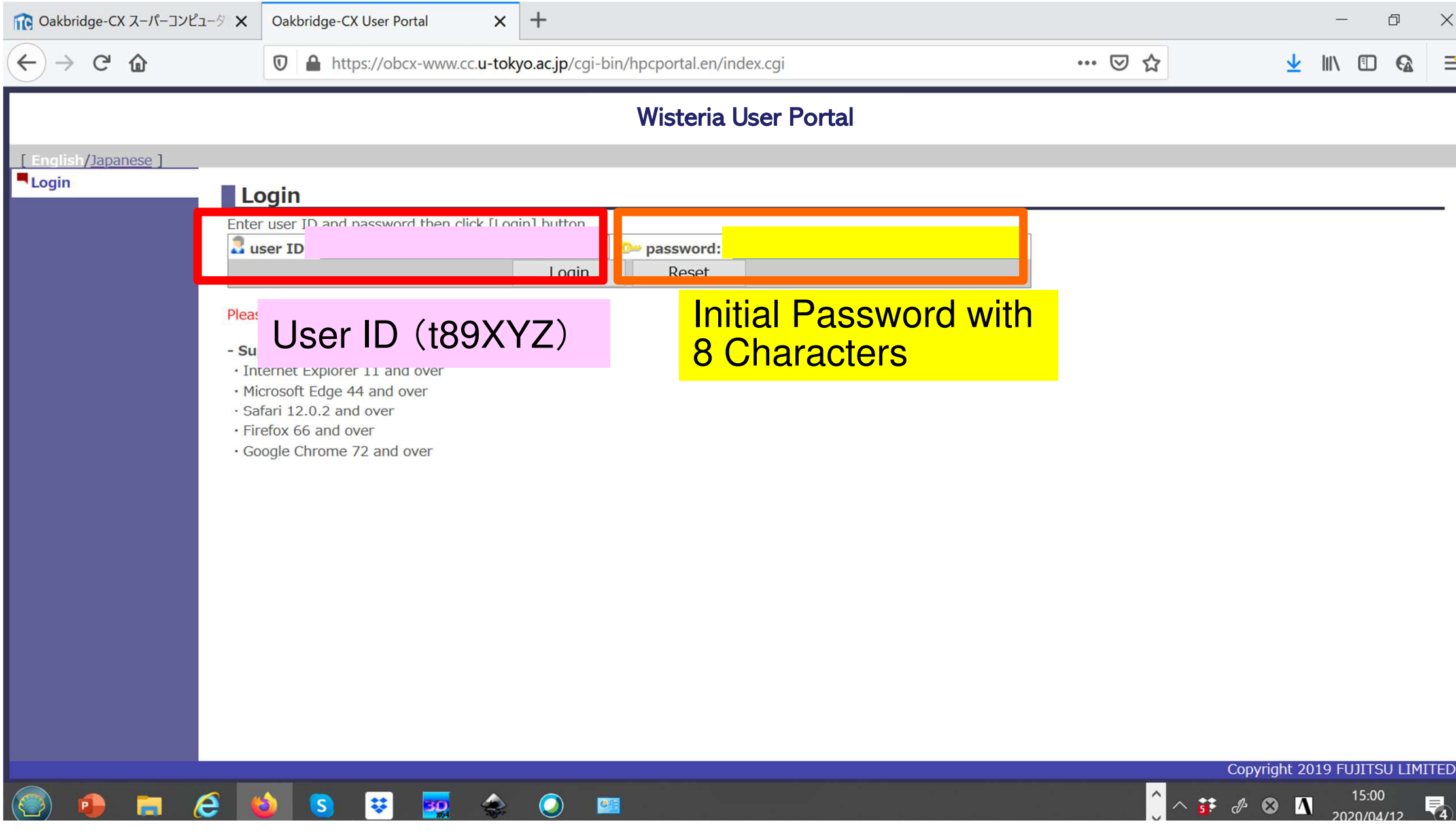
- Please prepare 2 e-mails from me
- Info-1
  - User ID: t89XYZ
- Info-2
  - Initial Password (8-Characters): e.g. Pas#w0rd

System Information/Portal Site

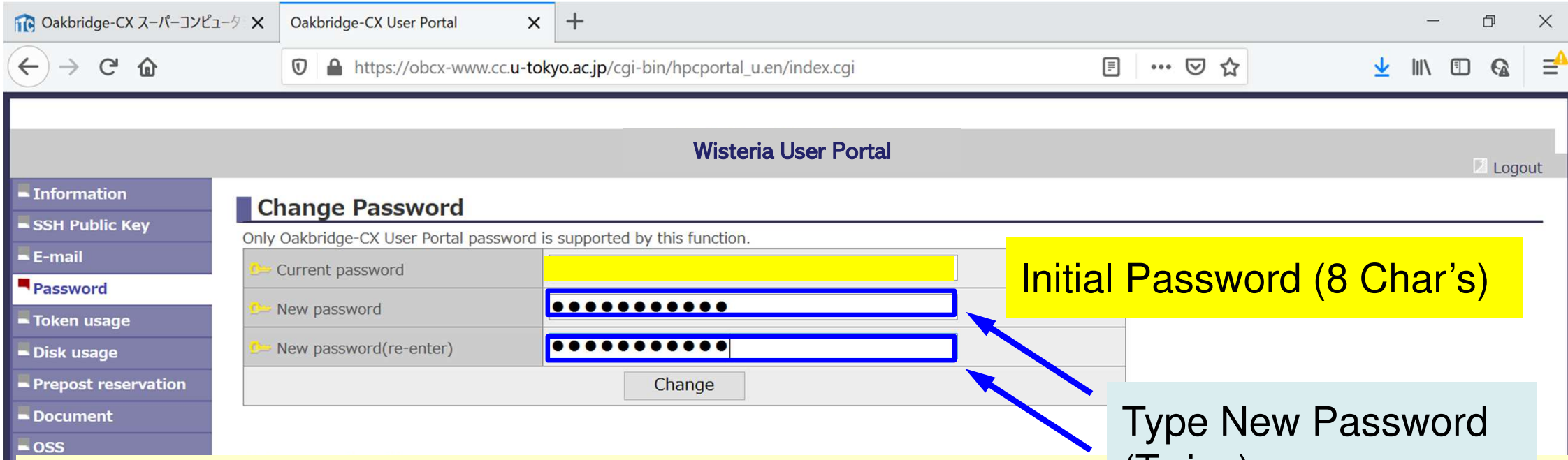
- 日本語
  - https://wisteria-www.cc.u-tokyo.ac.jp/cgi-bin/hpcportal.ja/index.cgi
  - https://www.cc.u-tokyo.ac.jp/supercomputer/wisteria/service/
- English
  - https://wisteria-www.cc.u-tokyo.ac.jp/cgi-bin/hpcportal.en/index.cgi

② Accessing the Portal Site (2/3)

https://wisteria-www.cc.u-tokyo.ac.jp/cgi-bin/hpcportal.en/index.cgi



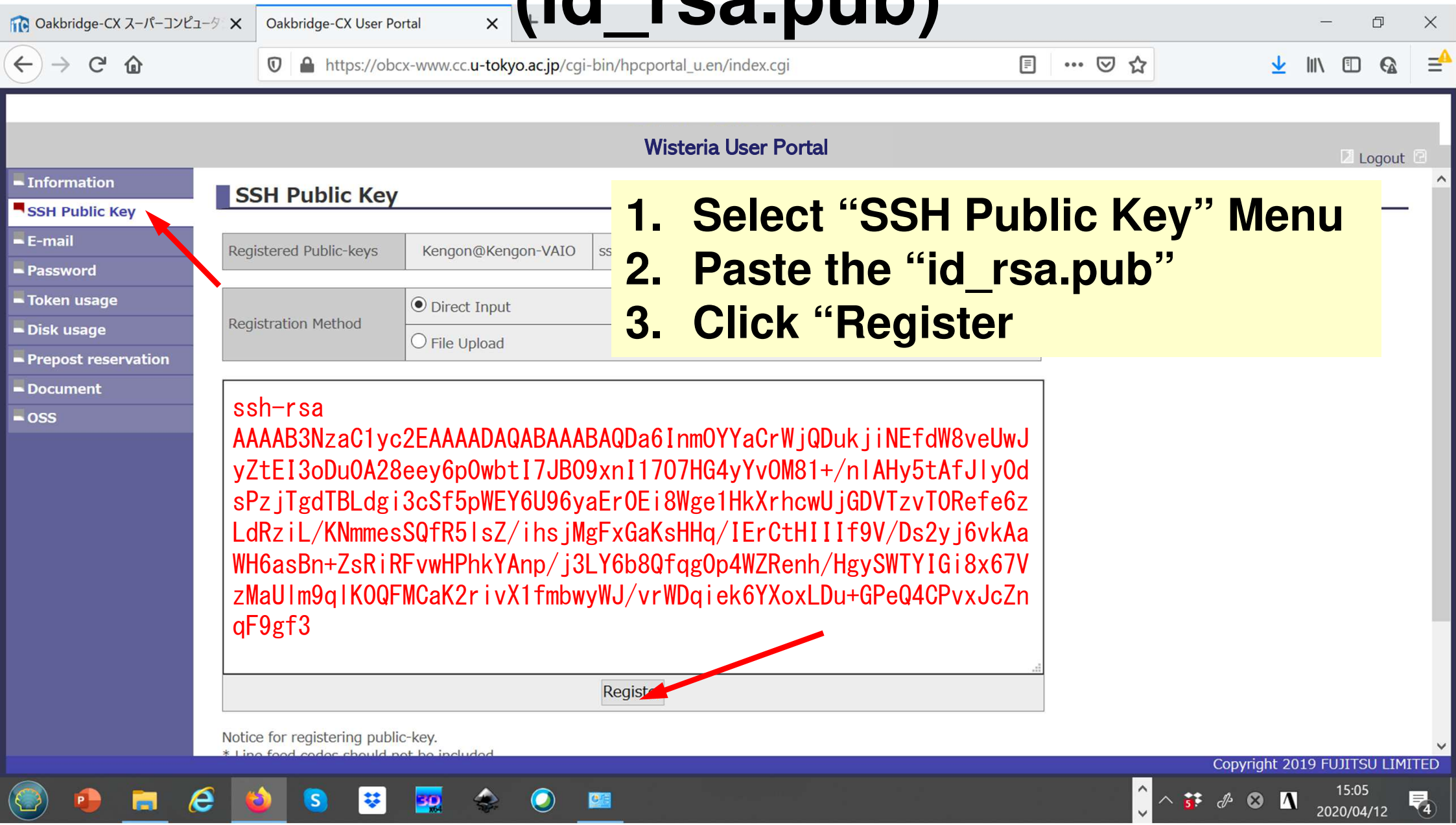
② Changing Initial Password (2/3)



Password Policy

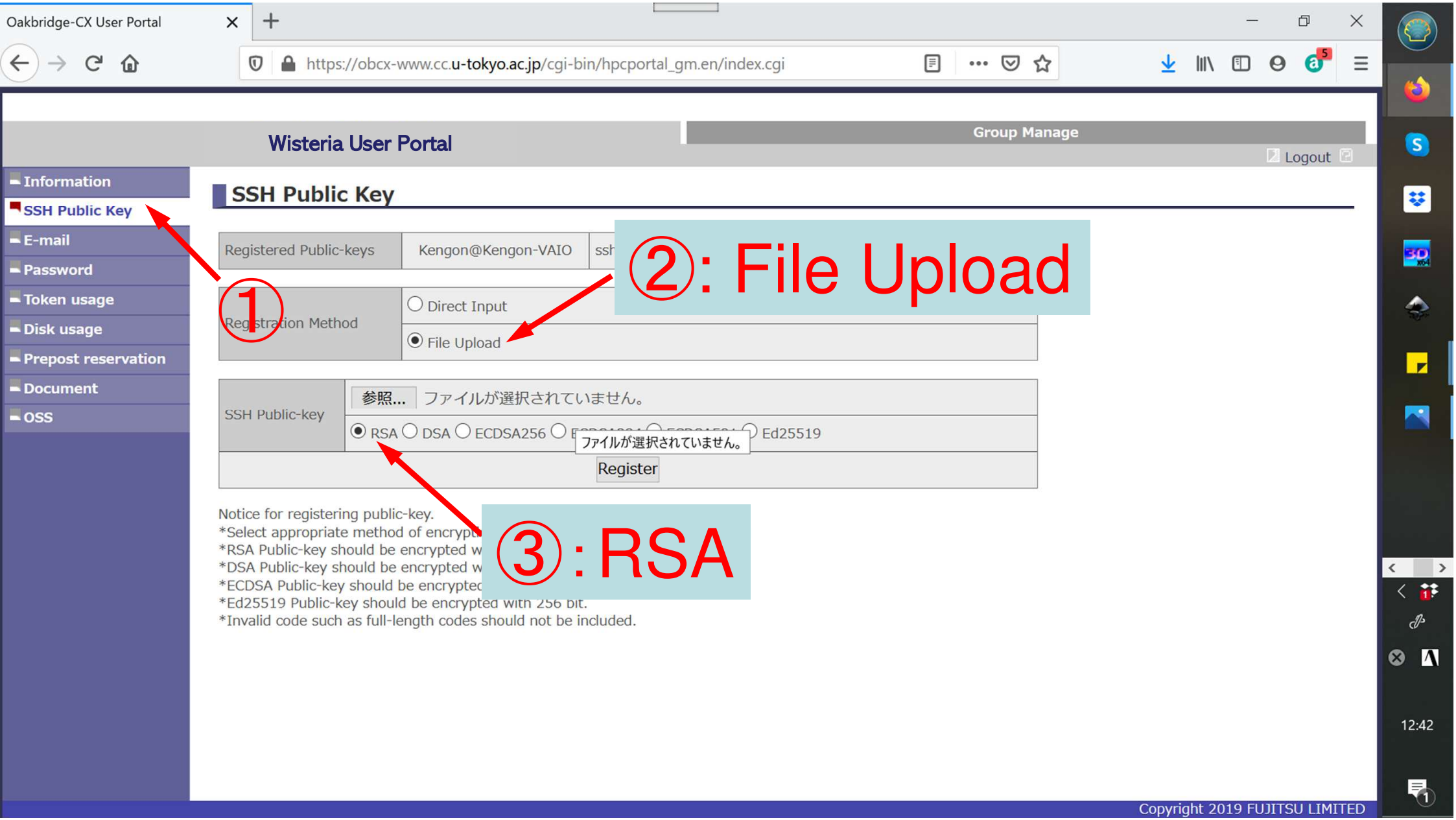
- ✓ at least eight characters in length
- ✓ should not contain three or more characters from current password
- ✓ should not be the same as the past 2 times.
- ✓ should contain all character types of lower case letters, upper case letters, arabic numbers, and special characters
- ✓ special characters can be used are as follow:
  blank, !, ", #, $, %, &, ', (,), *, +, ,, -, ., /, :, ;, <, =, >, ?, @, [, ¥,], ^, _, `, {, |, }, ~,
- ✓ not a name or linux dictionary word
- ✓ do not contain multi-byte characters

③ Registration of the Public Key (id_rsa.pub)

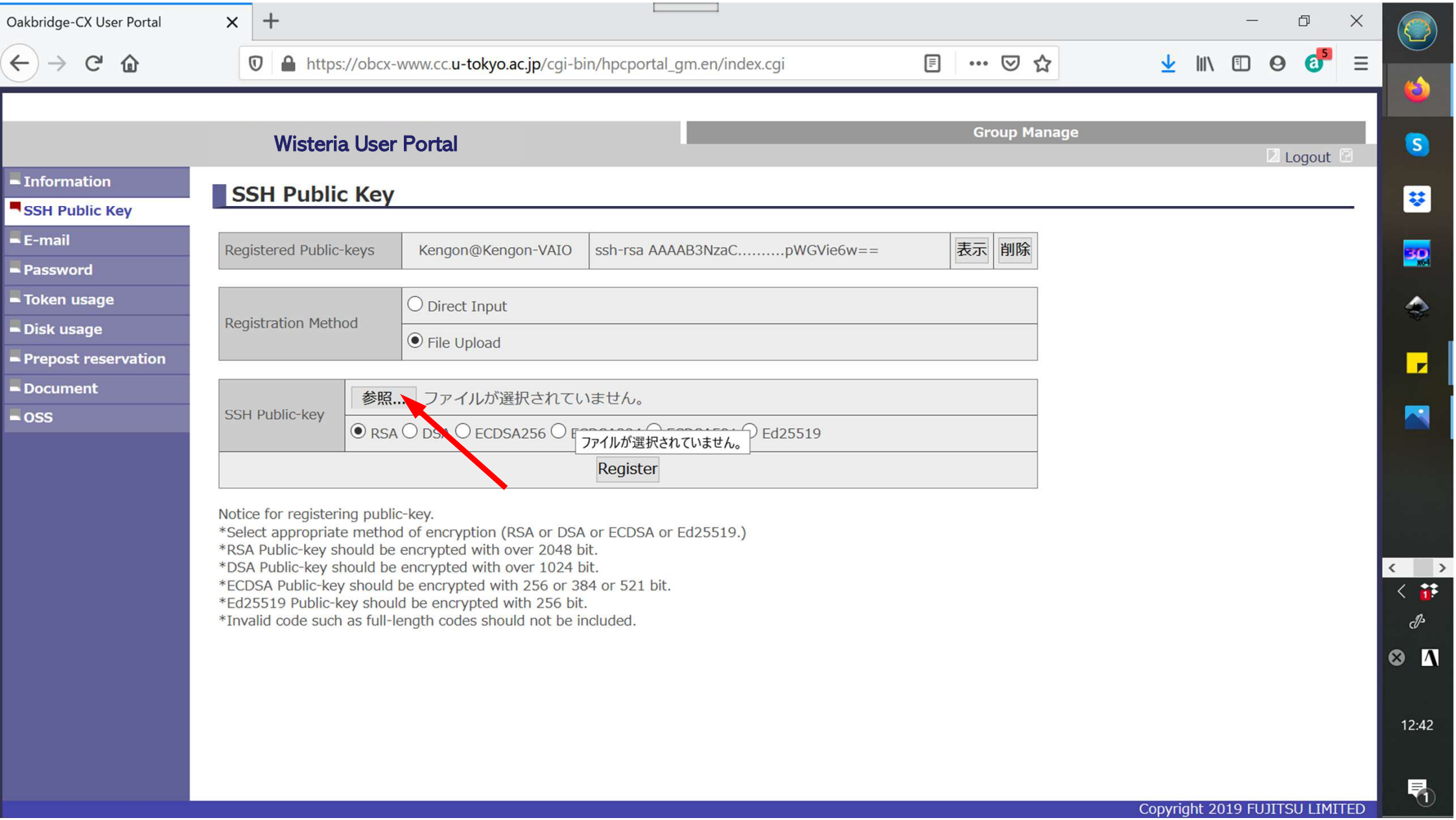


1. Select “SSH Public Key” Menu
2. Paste the “id_rsa.pub”
3. Click “Register

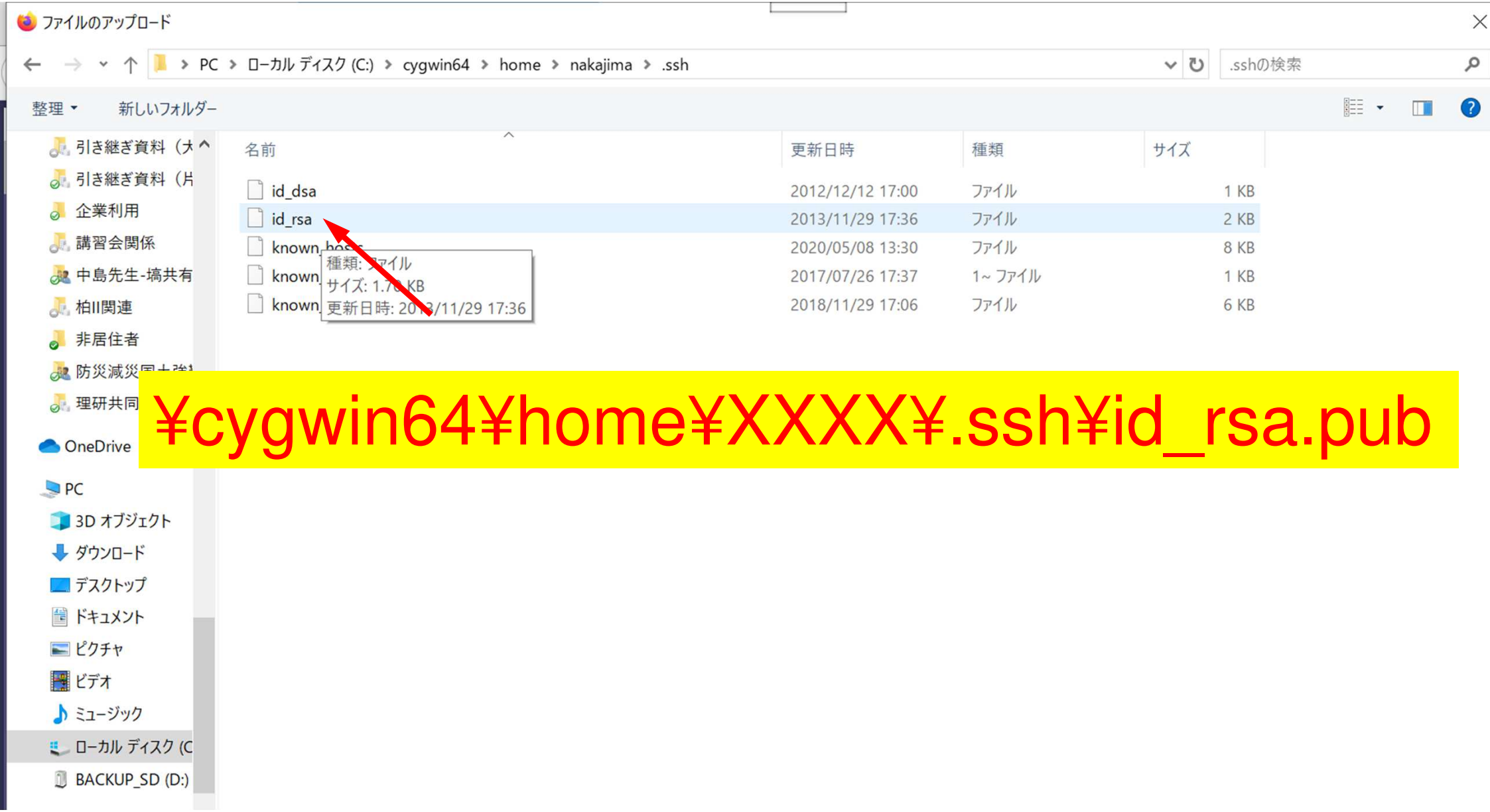
③ Registration of the Public Key (id_rsa.pub): Direct Upload (1/4)



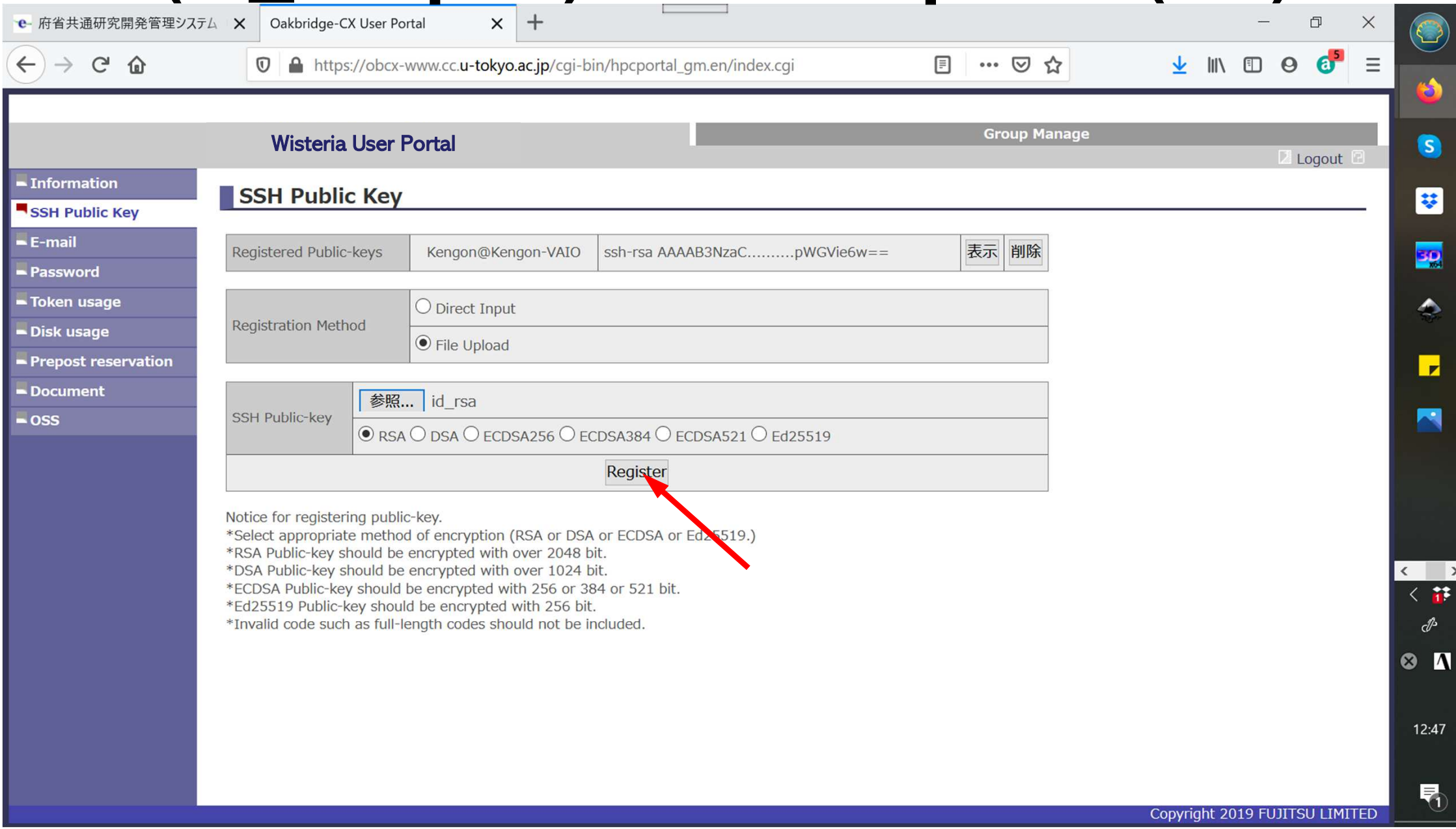
③ Registration of the Public Key (id_rsa.pub): Direct Upload (2/4)



③ Registration of the Public Key (id_rsa.pub): Direct Upload (3/4)



③ Registration of the Public Key (id_rsa.pub): Direct Upload (4/4)



④ Login to Odyssey from PC (1/2) Initial

```
$ ssh t89XYZ@wisteria.cc.u-tokyo.ac.jp  Return

The authenticity of host 'wisteria.cc.u-tokyo.ac.jp' can't be established.
ECDSA key fingerprint is SHA256:/XXXXX ...
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  Return
Warning: Permanently added 'wisteria.cc.u-tokyo.ac.jp' to the list of known hosts.
Enter passphrase for key '/home/nakajima/.ssh/id_rsa': Your Passphrase  Return
```

1. ssh t89XYZ@wisteria.cc.u-tokyo.ac.jp <Return>
2. yes <Return>
3. Your Passphrase <Return>

④ Login to Odyssey from PC (1/2) after 2nd Login

```
$ ssh t80XYZ@wisteria.cc.u-tokyo.ac.jp  Return
Enter passphrase for key '/home/nakajima/.ssh/id_rsa': Your Passphrase  Return
```

1. ssh t89XYZ@wisteria.cc.u-tokyo.ac.jp <Return>
2. Your Passphrase <Return>

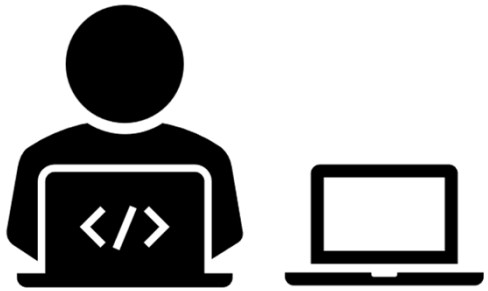
④ Login to Odyssey from PC (2/2)

```
--------------------------------------------------------------------------------
  Wisteria/BDEC-01 Information                              Date: May. 14, 2021
--------------------------------------------------------------------------------

  Welcome to Wisteria/BDEC-01 system

  * Operation Schedule
     05/14(Fri) 10:00 - 05/28(Fri) 09:00  Normal Operation
     05/24(Mon) 09:00 - 05/24(Mon) 17:00  HPC Challenge(Odyssey
     05/28(Fri) 09:00 - 05/28(Fri) 22:00  System Maintenance
     05/28(Fri) 22:00 -                   Normal Operation

    For more information about this service, see
    https://www.cc.u-tokyo.ac.jp/supercomputer/schedule.php

  * How to use
    Users Guide can be found at the User Portal (https://wisteria-www.cc.u-tokyo
.ac.jp/).

  If you have any questions, please refer to the following URL and contact us:

    https://www.cc.u-tokyo.ac.jp/supports/contact/

Last login: Mon May 17 10:04:54 2021 from 133.11.59.131

[t00XYZ@wisteria06 ~]$
```

Schedule of future maintenance etc. will be displayed

Please DO NOT contact this URL if you have questions

SSH Public Key Authentication (1/4)
① Creating Keys on PC



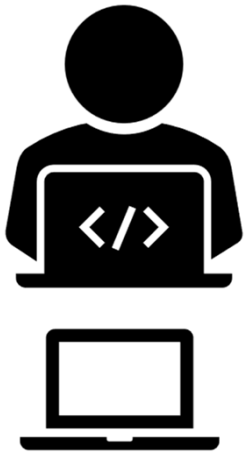
```
$> ssh-keygen -t rsa
```

id_rsa
秘密鍵/Private Key

\+ Passphrase

id_rsa.pub
公開鍵/Public Key

SSH Public Key Authentication (2/4)
② Accessing the Portal Site



id_rsa
秘密鍵/Private Key

+ Passphrase

id_rsa.pub
公開鍵/Public Key

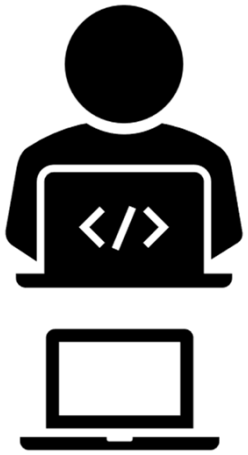
tXYZZZ
+ Password

tABCCC
+ Password

Portal Site OBCX

Portal Site Wisteria

SSH Public Key Authentication (3/4)
③ Registration of the Public Key
Each Public Key can be installed to multiple systems



id_rsa
秘密鍵/Private Key

+ Passphrase

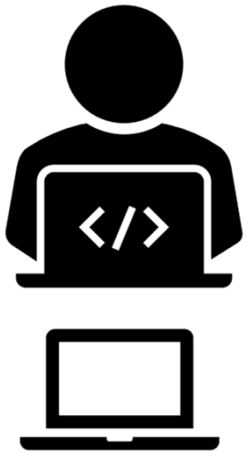
id_rsa.pub
公開鍵/Public Key

Portal Site
OBCX

id_rsa.pub
公開鍵/Public Key

Portal Site
Wisteria

SSH Public Key Authentication (3/4)
③ Registration of the Public Key
Each Public Key can be installed to multiple systems



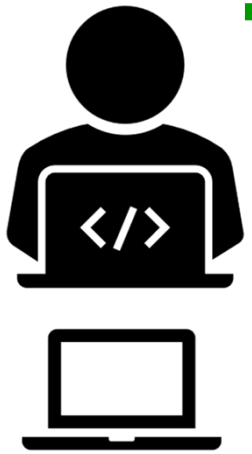
id_rsa
秘密鍵/Private Key

+ Passphrase

Portal Site OBCX

Portal Site Wisteria

SSH Public Key Authentication (4/4)
④ Login to Odyssey etc. from PC
Private Key (id_rsa) + Passphrase



```
$> ssh tXYZZZ@obcx.cc.u-tokyo.ac.jp
```

id_rsa
秘密鍵/Private Key

+ Passphrase


```
$> ssh tABCCC@ofp.jcahpc.jp
```

id_rsa
秘密鍵/Private Key

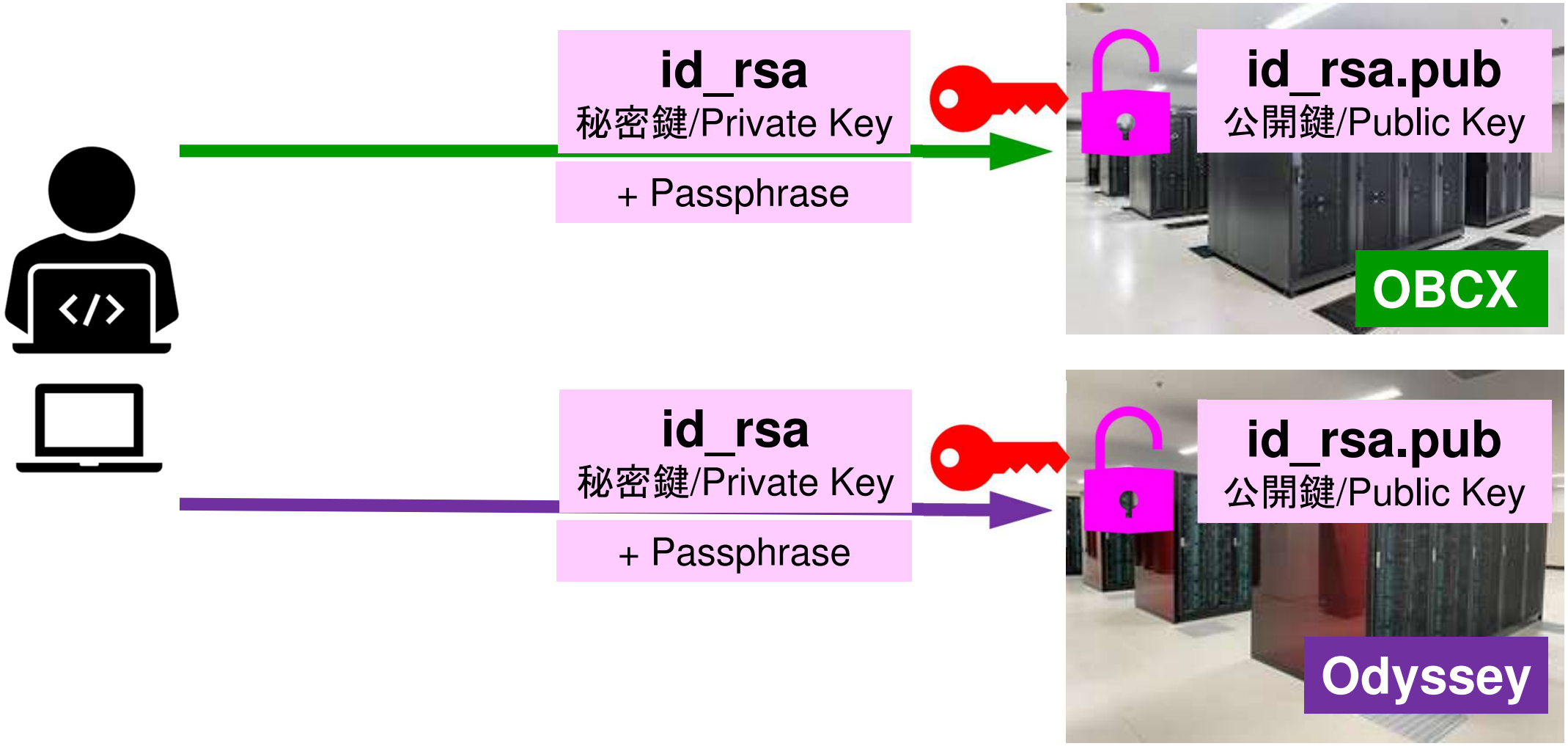
+ Passphrase

SSH Public Key Authentication
SSH公開鍵認証

SSH= Secure Shell

- **id_rsa**
  - Private Key（秘密鍵）on Your PC
  - Keep it confidential ! (e.g. do not give it to others, do not copy, do not move etc.)
- **id_rsa.pub**
  - Public Key（公開鍵）on Supercomputers
  - You can copy, can send it to others via e-mail etc.
- If the info of the Private Key on your PC and Public Key on the supercomputer matches, you can login.
- **If you have multiple PC's, please create individual set of (Private/Public) keys on each PC**
  - **You can register multiple Public Key's on Supercomputer**

SSH Public Key Authentication (4/4)
④ Login to Odyssey etc. from PC
Private Key (id_rsa) + Passphrase



If you use multiple PC's, you need to create a pair of keys (private/public) on EACH PC !!

```
$> ssh-keygen -t rsa
```

id_rsa
秘密鍵/Private Key
+ Passphrase

id_rsa.pub
公開鍵/Public Key

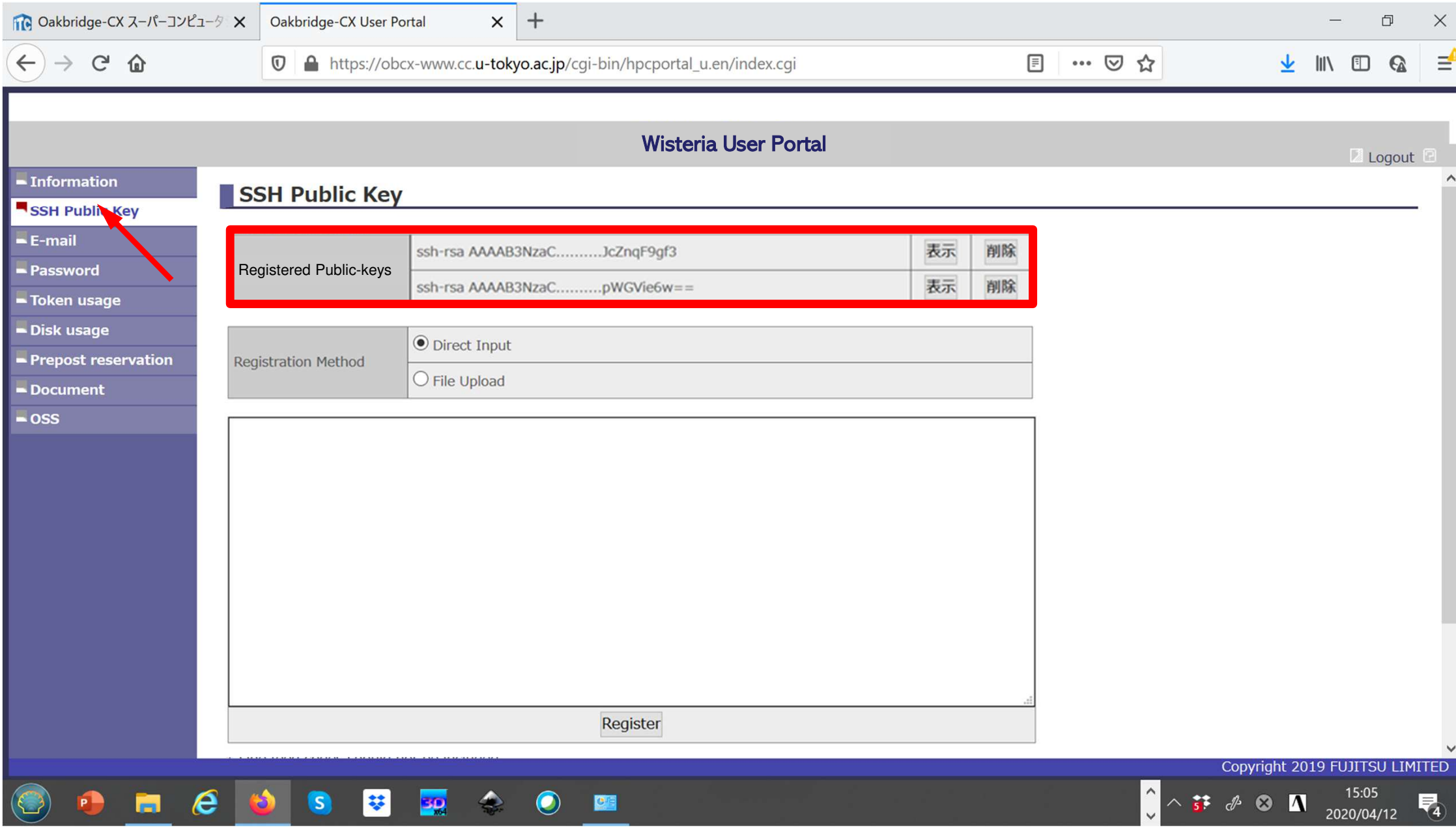
id_rsa
秘密鍵/Private Key
+ Passphrase

id_rsa.pub
公開鍵/Public Key

Portal Site OBCX

Portal Site Wisteria

Multiple public-keys can be registered !



Multiple public-keys can be registered !

```
$> ssh-keygen -t rsa
```

id_rsa
秘密鍵/Private Key

+ Passphrase

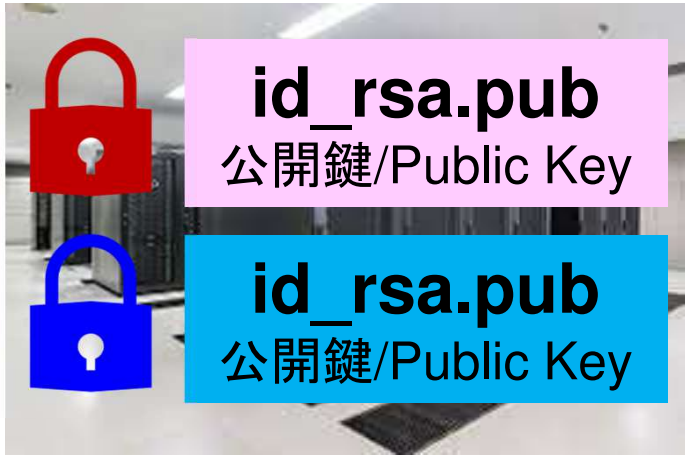
id_rsa.pub
公開鍵/Public Key

id_rsa
秘密鍵/Private Key

+ Passphrase

id_rsa.pub
公開鍵/Public Key

Portal Site OBCX



id_rsa.pub
公開鍵/Public Key

id_rsa.pub
公開鍵/Public Key

Portal Site Wisteria

id_rsa.pub
公開鍵/Public Key

id_rsa.pub
公開鍵/Public Key

- Supercomputers in ITC/U.Tokyo
  - Information Technology Center, The University of Tokyo
- Login to Odyssey
- **After Login**

Login to OBCX from PC

```
$ ssh t89XYZ@odyssy.cc.u-tokyo.ac.jp
Enter passphrase for key '/home/nakajima/.ssh/id_rsa: Your Passphrase <Return↓>
```

1. ssh t89XYZ@odyssey.cc.u-tokyo.ac.jp <Return↓>
2. Your Passphrase <Return↓>

After Login …

```
$ pwd <Return↓>

/home/t89XYZ

$ cd /work/gt89/t89XYZ <Return↓>
$ pwd <Return↓>

/work/gt89/t89XYZ

$ cd <Return↓>
$ pwd <Return↓>

/home/t89XYZ
```

1. “/home/t89XYZ” is the default login directory
2. Because capacity of /home is very small, please move to “/work/gt89/t89XYZ”
3. You can go back to /home/t89XYZ by typing “cd”

Copy：PC to Wisteria-Odyssey (W-O)

```
$ scp ./a.dat  t89XYZ@wisteria.cc.u-tokyo.ac.jp:
```
<Return↓>

“a.dat” in the Current Directory of PC is copied to /home/t89XYZ on W-O

```
$ scp ./a.dat  t89XYZ@wisteria.cc.u-tokyo.ac.jp:/work/gt89/t89XYZ/test/
```

“a.dat” in the Current Directory of PC is copied to /work/gt89/t89XYZ/test on W-O

```
$ scp -r ./testL t89xyz@wisteria.cc.u-tokyo.ac.jp:
```

“testL” directory in the Current Directory of PC and its contents are copied to /home/t89XYZ on W-O

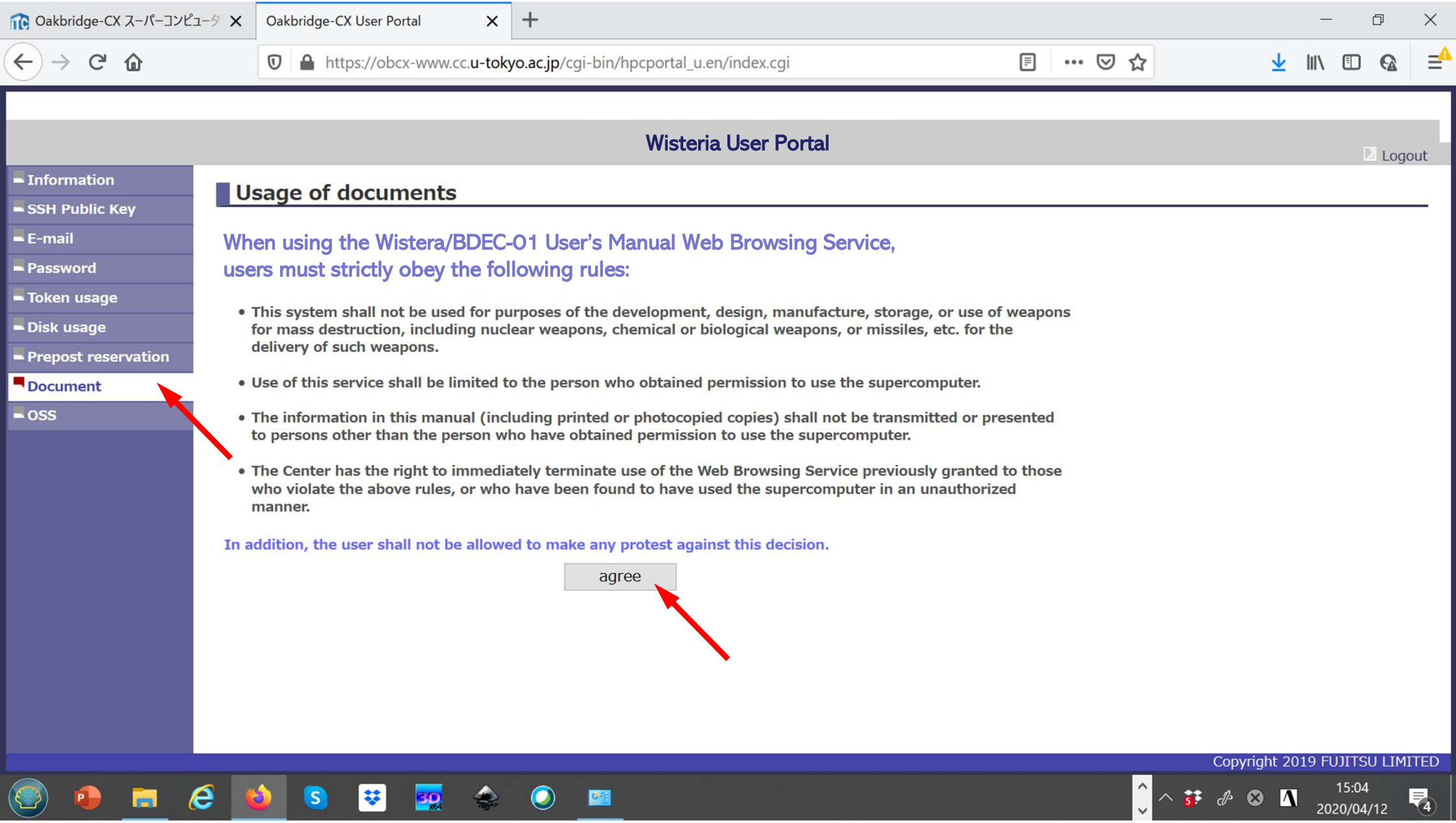
```
$ scp -r ./testL t89xyz@wisteria.cc.u-tokyo.ac.jp:/work/gt89/t89XYZ/test
```

“testL” directory in the Current Directory of PC and its contents are copied to /work/gt89/t89XYZ/test on W-O

Copy：W-O to PC

```
$ scp t89XYZ@wisteria.cc.u-tokyo.ac.jp:~/a.dat ./
 “a.dat” on /home/t89XYZ on W-O is copied to the Current Directory of PC

$ scp t89XYZ@wisteria.cc.u-tokyo.ac.jp:/work/gt89/t89XYZ/test/a.dat ./
 “a.dat” on /work/gt89/t89XYZ/test on W-O is copied to the Current
Directory of PC

$ scp -r t89XYZ@wisteria.cc.u-tokyo.ac.jp:~/L1 ./
 “L1” directory in /home/t89XYZ on W-O and its contents are copied to
 “L1” directory in the Current Directory on PC

$ scp -r t89XYZ@wisteria.cc.u-tokyo.ac.jp:/work/gt89/t89XYZ/test/L1 ./
 “L1” directory in /work/gt89/t89XYZ/test on W-O and its contents are
copied to  “L1” directory in the Current Directory on PC
```

Manuals on the Portal Site



If you have any questions, please contact KN (Kengo Nakajima)

nakajima(at)cc.u-tokyo.ac.jp

Do not contact ITC support directly.

It is strictly prohibited to use the Wisteria/BDEC-01 system for purposes other than this class.

You cannot use Aquarius (GPU part).