Oracle Cloud FastConnect Service

Release 1.0.3

R-CCS HUD Unit

Jul 01, 2021

CONTENTS

For Japanese Manual

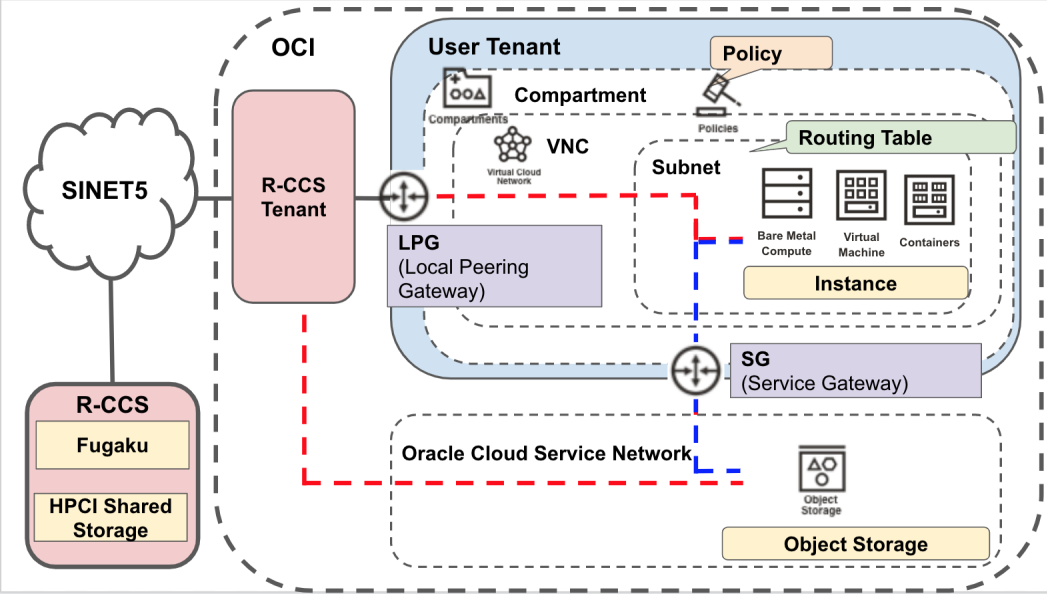
CHAPTER

ONE

OVERVIEW

The Leased Line has been established between R-CCS and Oracle Cloud Infrastructure (OCI).
Users of Fugaku and HPCI shared storage could use this Line by applying for the “R-CCS Oracle Cloud FastConnect Service”.
The following are the benefits of using this service.
(1) You can use more secure transfer between R-CCS and OCI.
(2) No transfer fees for reading and writing from and to OCI.
(3) Securely use instances with the Private IP address issued by R-CCS.

Application is required to use the Oracle Cloud FastConnect Service.
In addition, the user’s OCI tenant must be connected to the R-CCS OCI tenant for this service.



CHAPTER

TWO

NOTES ON USE

FastConnect is a service that uses a leased circuit between the Oralce Cloud Data Center Japan East(Tokyo) and R-CCS.
If you wish to use this service, please make sure to create an OCI tenant in Japan East(Tokyo) region.

CHAPTER

THREE

MANUALS

- English
- (WEB) https://hudtech.r-ccs.riken.jp/ocisf/html_eng
- (PDF) https://hudtech.r-ccs.riken.jp/ocisf/oracle-cloud-rccs-doc_eng.pdf
- Japanase
- (WEB) https://hudtech.r-ccs.riken.jp/ocisf/html
- (PDF) https://hudtech.r-ccs.riken.jp/ocisf/oracle-cloud-rccs-doc.pdf

CHAPTER

FOUR

APPLICATION FORM

Please use the following application form.
For information on how to obtain the information needed to fill out the form, please refer to the manuals.
Applications can be made using the web form or by sending the application form in PDF format to oci-rccs@ml.riken.jp.
Once completed, please send the application form in PDF format to oci-rccs@ml.riken.jp.

- Web Form * https://docs.google.com/forms/u/2/d/1xifEL8fxnWHeCjm1WchWqSTn_zZ4fbL-Z7BNmF1wWIk/edit
- **PDF Form**
  - English
  - (WORD) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form_eng.docx
  - (PDF) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form_eng.pdf
  - Japanese
  - (WORD) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form.docx
  - (PDF) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form.pdf

CHAPTER

FIVE

INFORMATION OR FAILURES AND MAINTENANCE

- https://hudtech.r-ccs.riken.jp/ocisf/maintenance

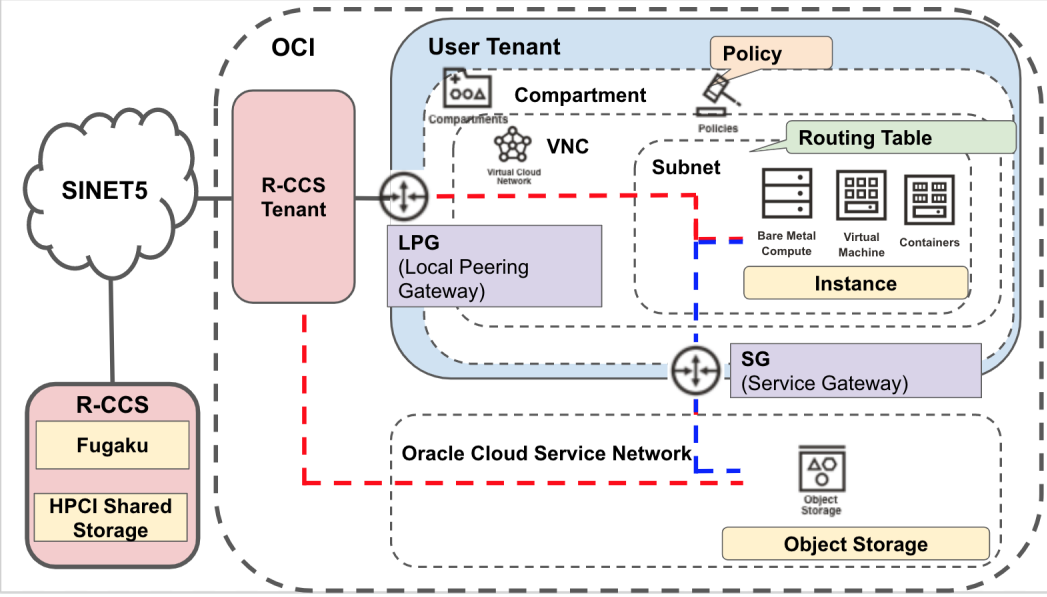
CHAPTER

SIX

HOW TO USE

If you are using instances (virtual machines, bare metal machines, etc.) with OCI, you will need to set up a cloud network. If you are using only object storage, you do not need to set up a network. Please refer to the following instructions to set up and apply for the network according to your usage.

6.1 For Instances and Object Storage



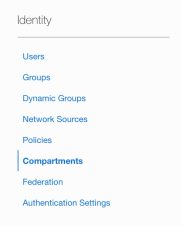
6.1.1 Preparation (what you need to do before applying)

Create a connection group (IAM group)

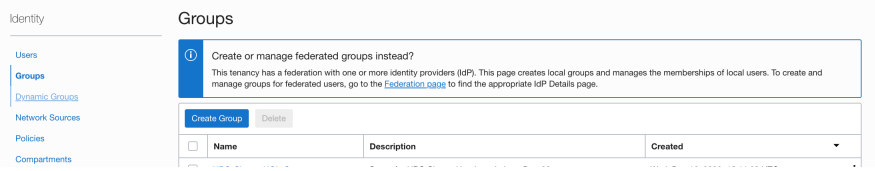
In order to connect your tenant to the R-CCS tenant, you need to create a connection group.
In this chapter, the name of the connection group is created as “RequestorGroup”
(If you have already prepared a group for connection, please replace it with the created group name)
The OCID of the group you have created in this procedure is required for the application, so please obtain the OCID and make a note of it.

```
What is OCID?

  The OCID is an ID that is tied to an Oracle Cloud resource.
  In order to link a tenant for R-CCS FastConnect to a user's tenant and allow them␣
↪to use FastConnect,
  OCID of the group and tenant created by the user must be tied to the R-CCS␣
↪FastConnect tenant.
```

(1) Select of Group in Menue

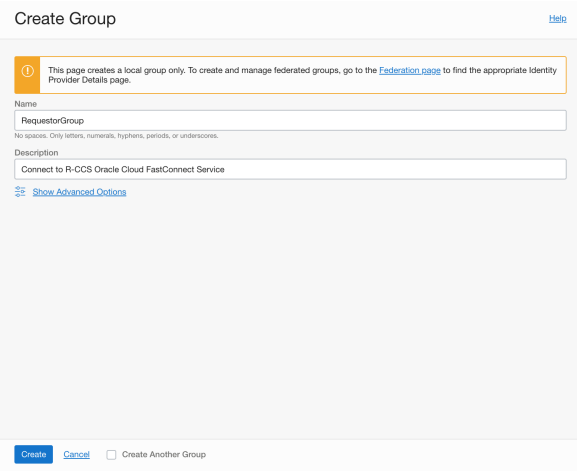


(2) Select of Make Group



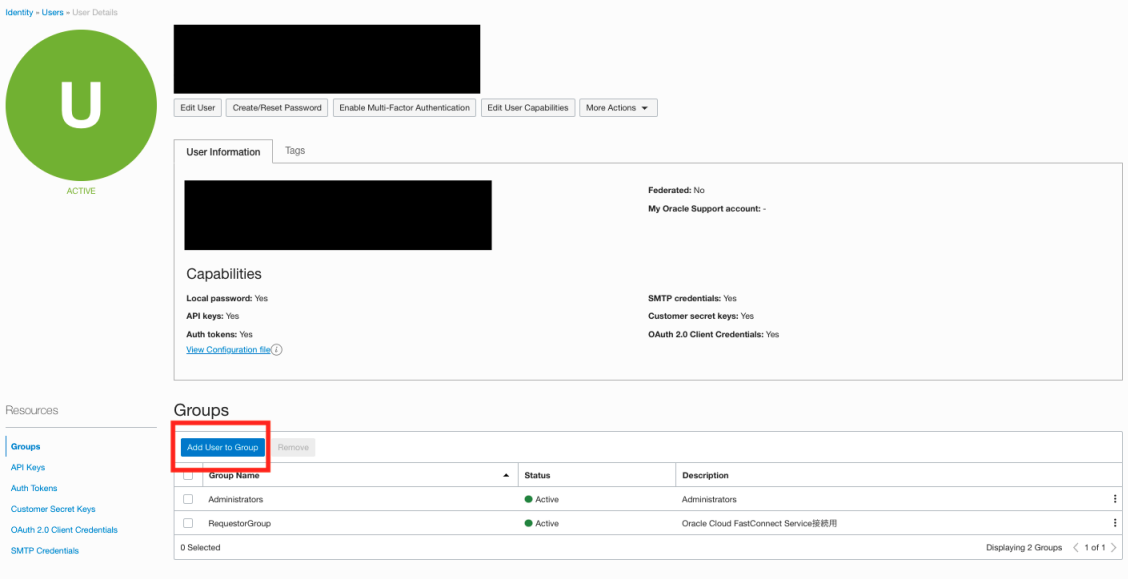
(3) Make Group

In this example, we will create a group called “RequestorGroup”.
After entering the name, click on the Create button.



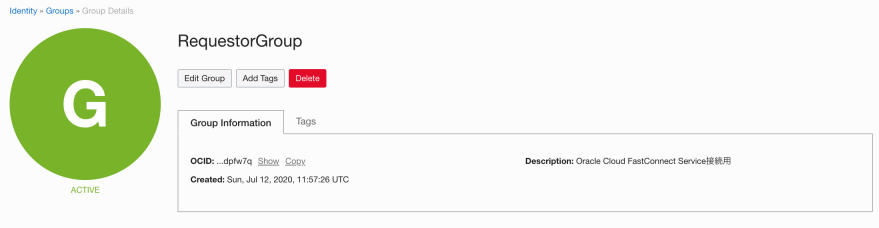
(4) Set a Group to your user-account

Create a group (ex: “RequestorGroup”) and set your user-account.
Select your user from the Menu, or select your user’s name from the top right to go to your user-settings page and set up the group.



(5) get OCID of Group

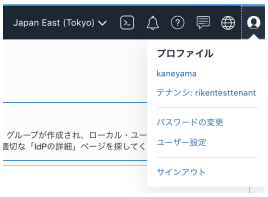
This OCID of Group is required at the time of application.



Get OCID of Tenant

This OCID of Tenant is required at the time of application.

(1) Select Tenant in Menu



(2) Get OCID of Tenant

This OCID of Tenant is required at the time of application.

6.1.2 Submit your application

Please complete and submit the application form.
R-CCS will then prepare and configure the FastConnect connection.
We will reply to you once the configuration and connection work is complete.

Formats

In order to use this service, you will need to fill in an application form or submit an application form.
Please note that we will not be able to reply to you if your email address is incorrect.

(1) Using the Web form

For details, please refer to the example in the section “Using the PDF form” below.

- https://docs.google.com/forms/d/1xifEL8fxnWHeCjm1WchWqSTn_zZ4fbL-Z7BNmF1wWIk/edit

(2) Using the PDF form

Please complete the application form and send it as a PDF attachment to an email to oci-rccs@ml.riken.jp.
If you have any questions, please contact us at the email address above.

- English * (WORD) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form_eng.docx * (PDF) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form_eng.pdf
- Japanese * (WORD) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form.docx * (PDF) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form.pdf

Example of Application form

(申請例) Date: 20XX 12 31

R-CCS Oracle FastConnect Application Form

Details	■ New	☐ Continuation	☐ Change	☐ Abolition

Name	Apply User
Riken ID(※ If you Riken member)	11111111
Organization	Riken
Division	Operations and Computer Technologies Division
Mail Address	apply-user@mail.jp
Phone numbers	070-XXXX-XXXX
Group ID of Fugaku or HPCI	hpXXXXXX
OCID of Tenants	<Your OCID of Tenants>
OCID of Group	<Your OCID of Group>
Use of instance	■Yes ☐ No

Purpose of use

We want to use the Oracle Cloud from Fugaku to back-up our data.

Remarks

Contact person's field

Date		Contact	
IP address		LPG name	

Notes:

```
* Example of mail

To: oci-rccs@ml.riken.jp
Subject: Apply for R-CCS Oracle Cloud FastConnect(<Your Tenant Name>)
--

I would like to apply for the R-CCS Oracle Cloud Fast Connect.
```

Example of email reporting completion of setup from R-CCS

The allocated IP address will only be provided if you have selected “yes” for the “use of instance” section.

```
From: oci-rccs@ml.riken.jp
Subject: You are ready to use R-CCS Orcale Fast Connect Service (<Your Tenant Name>␣
↪configuration complete contact)
--
For <Your Name>

We are pleased to announce that the R-CCS Oracle Cloud FastConnect Service is now␣
↪available.

* R-CCS Tenant OCID : ....
* R-CCS LPG OCID    : ....
* IP Address: 172.30.XX.XX - 172.30.XX.XX (172.30.XX.XX/XX)
```

(continues on next page)

(continued from previous page)

```
Document:
* https://hudtech.r-ccs.riken.jp/ocisf/html
* https://hudtech.r-ccs.riken.jp/ocisf/html_en

Thank you for your interest.
--
R-CCS Oracle Cloud FastConnect Service
oci-rccs@ml.riken.jp
```

6.1.3 Setting of Tenant - Compartments and policy settings

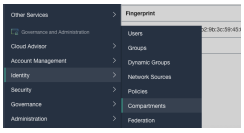
Create and Setting Compartments

Create a Compartment of OCI to be connected to the R-CCS tenant. After connecting the VCN (Virtual Cloud Network) to be created in the later chapter to the Compartment created in this section, and creating an instance (Virtual Machine or Bare Metal). You will be able to access from Fugaku or R-CCS HPCI shared storage login node etc... using the private IP address provided by R-CCS, In addtion, the data traffic will be free of charge. Please note that instances created outside this compartment (not tied to a VCN) and access from outside R-CCS will not be free of charge.

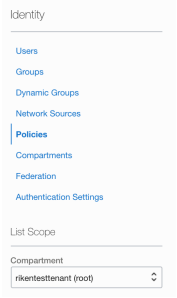
```
What is Compartment of OCI ?

  In the Oracle Cloud, resources can be divided into "compartments".
  Each compartment can be configured with its own policies, networks and access␣
↪rights.
  Compartments can have a parent-child relationship.
  The default compartment for a tenant is the root compartment and all other␣
↪compartments are children of the root compartment.
  The default compartment for a tenant is the root compartment.
  This document describes how to create a ReuestorComp compartment for the Oracle␣
↪Cloud FastConnct Service directly under the root compartment and connect it to the␣
↪R-CCS tenant.
  By creating a ReuestorComp compartment for Oracle Cloud FastConnct Service directly␣
↪under the root compartment and connecting it to the R-CCS tenant, it is possible to␣
↪use a dedicated line between Oracle Cloud and R-CCS.
```

```
What is Policy of OCI ?

  You can configure access rights to Oracle Cloud resources and other settings.
  The Oracle Cloud FastConnect Service requires a connection between the R-CCS␣
↪managed tenant and your tenant.
  To connect, you need to set access rights using policies.
  By setting the policy to a compartment, you can use the leased line communication␣
↪between Oracle Cloud and R-CCS (Oracle Cloud FastConnct Service) within the set␣
↪compartment.
```

(1) Select Policy in Menu

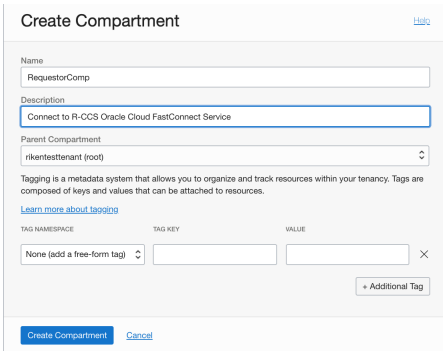


(2) Select root Compartment



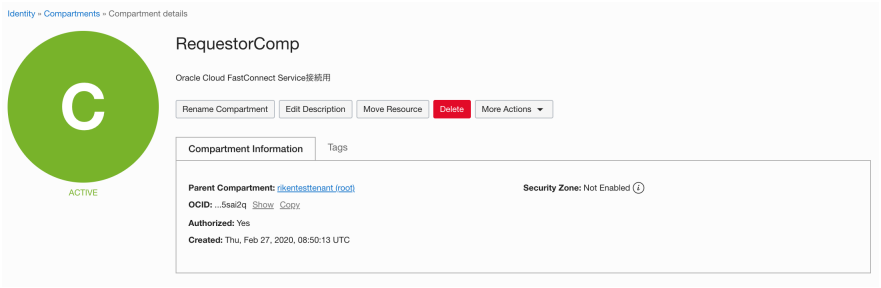
(3) Select Create Compartment

(4) Create Compartment



(5) Check Comartment

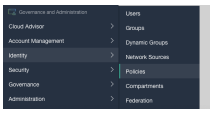
Please check that your Compartment has been created successfully.



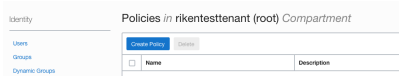
Create and Setting Policy

Configure the policy rules to connect with R-CCS tenant.
Configure the policy rules to allow communication between the compartment created in the previous section and the R-CCS tenant.
In the policy, you need to provide the compartment name of the compartment used in the previous section.

(1) Select Policy of Menue



(2) Select Create Policy



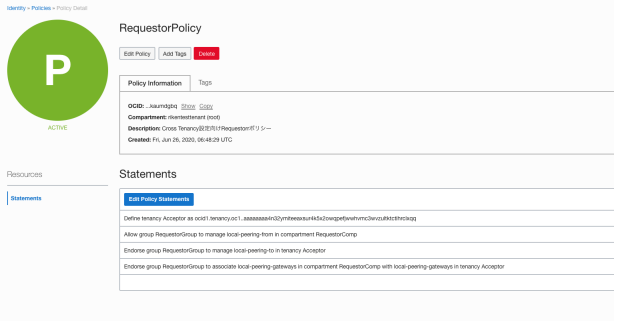
(3) Create Policy

Please enter the following in the Statement.
R-CCS Tenant OCID should be the value you received in your mail.
Compartment Name and Group Name should be entered as the names of the compartments and groups created in the previous section.

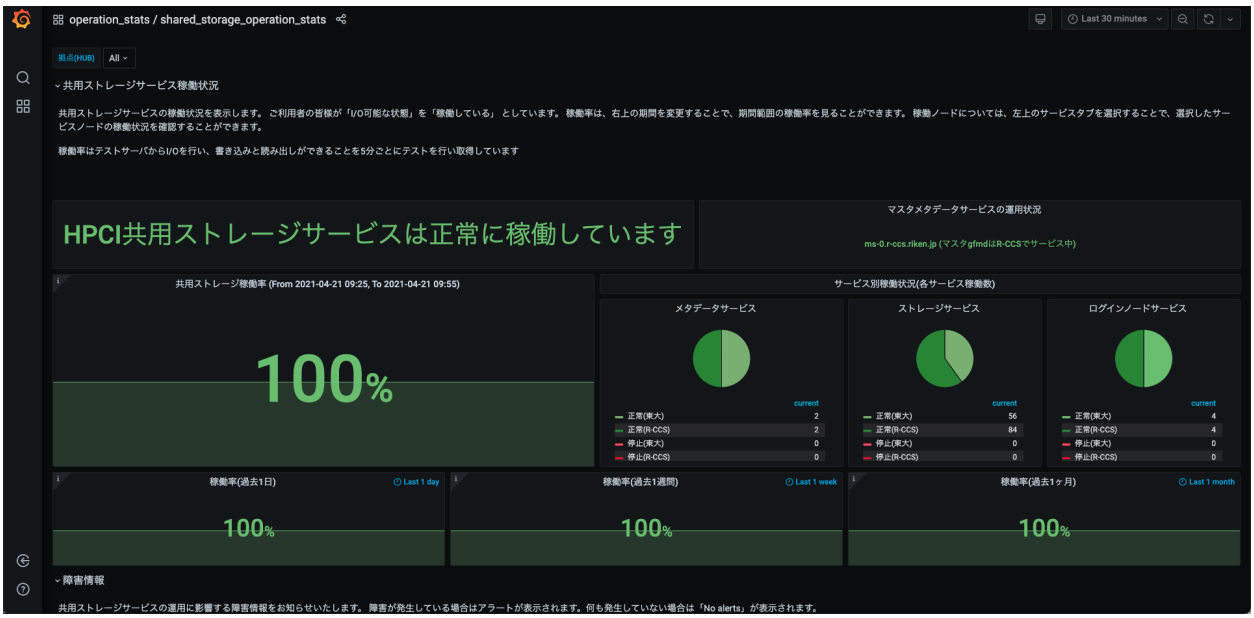
```
Statement1:
  Define tenancy Acceptor as <OCID of R-CCS Tenant>
Statement2:
  Allow group <Group Name> to manage local-peering-from in compartment <Compartment␣
↪Name>
Statement3:
  Endorse group <Group Name> to manage local-peering-to in tenancy Acceptor
Statement4:
  Endorse group <Group Name> to associate local-peering-gateways in compartment
↪<Compartment Name> with local-peering-gateways in tenancy Acceptor
```

If you follow the instructions in this manual, the Group Name and Compartment Name will be as follows.
* Group Name : RequestorGroup
* Compartment Name: RequestorComp

```
Statement1:
  Define tenancy Acceptor as <OCID of R-CCS Tenant>
Statement2:
  Allow group RecestorGroup to manage local-peering-from in compartment RequestorComp
Statement3:
  Endorse group RecestorGroup to manage local-peering-to in tenancy Acceptor
Statement4:
Endorse group RecestorGroup to associate local-peering-gateways in compartment␣
↪RequestorComp with local-peering-gateways in tenancy Acceptor
```



(4) Check setting



6.1.4 Setting of Tenant - VCN(Virtual Cloud Network) configuration

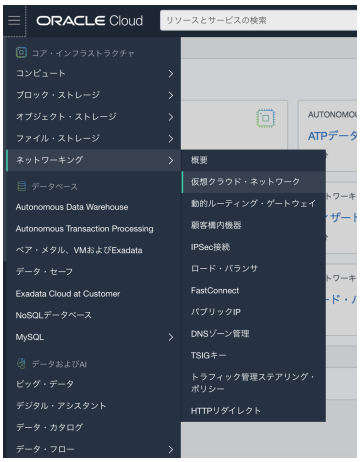
If you wish to use an instance such as a virtual machine, you will need to set up a virtual cloud network (VCN, subnet). The IP address range to be used for the configuration is indicated in the email sent by R-CCS when you apply to use an instance. In this chapter, you will create the Virtual Cloud Network (VCN), Subnets, Local Peering Gateway (LPG) and Service Gateway (SG) in your compartment.

Create VCN(Virtual Cloud Network)

A network environment (Virtual Cloud Network (VCN)) is set up in the compartment to connect to the R-CCS tenant.

```
What is VCN ?

  This virtual network environment is used to virtually manage the network within the␣
↪cloud tenant and including the data centre.
  By using the network environment with R-CCS subnet address assigned, it is possible␣
↪to use instances in the cloud from the Fugaku or HPCI environment in R-CCS using a␣
↪leased line.
  The R-CCS Subnet Address is assigned to the network environment.
```

(1) Choice VCN of Menue



(2) Choice Compartment for connection to R-CCS

In the example below, the compartment name is “RequesterComp”.

(3) Choice Create VCN

(4) Create VCN

In the CIDR block enter the allocated IP address range (administrative network address and subnet mask starting from 172) as specified by R-CCS.
In this example, the VCN name is “OracleCloudFastConnectServiceVCN”.
If you do not have enough private IP addresses to use, please contact us at “oci-rccs@ml.riken.jp”.
We will issue you with an additional IP address.

(4) Confirmation that the VCN has been created

Subnet configuration

In this section, we create a Subnet of OCI.
In this example used the same CIDR block (IP address range) set in the Subnet and VCN.
However, please set the IP address range in the VCN range according to your usage and environment(resources configured in the Oracle cloud such as security and routing).
Although it is not explained in this document, if you want to use the system from other than R-CCS (Fugaku or HPCI shared storage), please allow public access, and create InternetGateway in the compartment, and set routing rules to allow external access.

```
What is Subnet ?

  You can divide the network resources in a VCN by network ranges.
  You can allocate networks within a subnet and adjust security, routing, and whether␣
↪or not external addresses are assigned.
  If you do not plan to use the network within the network address range allocated by␣
↪R-CCS in any complex way, such as usage or security restrictions, you can
  It is recommended to set the same value as the allocated IP address (CIDR block)␣
↪set in the VCN.
```

(1) Select the VCN you created in the previous section

(2) Select Create Subnet of VCN page

Click on the Create Subnet button on the VCN page.
In this example, the VCN name is OracleCloudFastConnectServiceVCN.

(3) Create Subnet

The CIDR can be set within the range of the CIDR set for the VCN. (If you don't need to isolate the network you are using, please enter the same CIDR you entered for the VCN. In this example, the Subnet name is "OracleCloudFast-ConnectServiceSubnet". And the Subnet access is set to Private Subnet in this example, however if you want to access from outside (other than R-CCS), please select "Public Access".

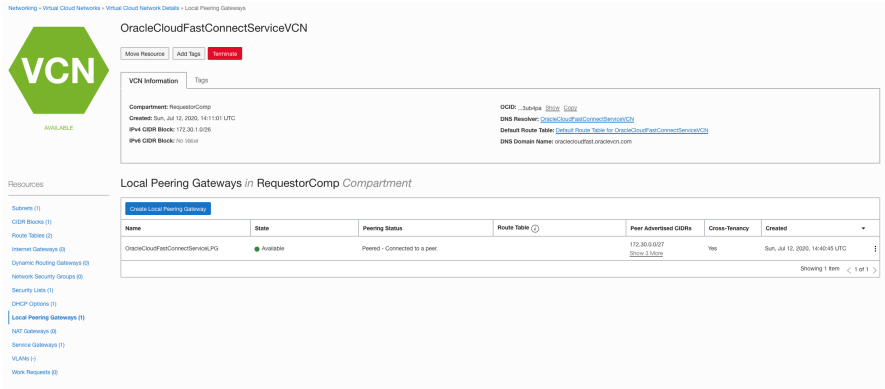
(4) Confirmation that the Subnet has been created

LPG(Local Peering Gateway) configuration

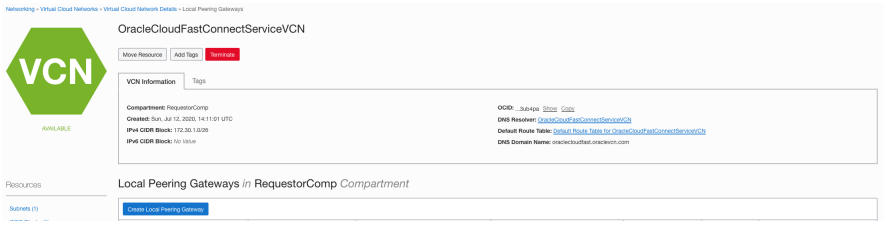
Create a virtual gateway Local Peering Gateway (LPG) to connect the R-CCS tenant and the compartment you have created. By configuring the route table to be created later and routing to the LPG, communication from the resource will be routed through the R-CCS tenant (i.e. from the R-CCS tenant to the Fugaku/R-CCS HPCI shared storage via a leased line). (R-CCS tenant to Fugaku/R-CCS HPCI shared storage via leased line).

```
What is Local Peering Gateway(LPG) ?

  This is a virtual gateway to connect between virtual networks within an Oracle data␣
↪centre or a virtual network within a VCN.
  R-CCS tenant also provides LPG, and when LPG is created by this setting,␣
↪communication between R-CCS tenant and R-CCS tenant via LPG (and to R-CCS) becomes␣
↪possible (*1).
    (*1) Communication also requires the routing settings described below.
```

(1) Select LPG of VCN page

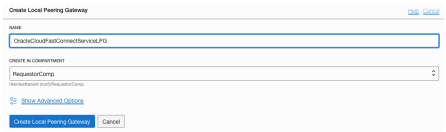


(2) Select Create LPG



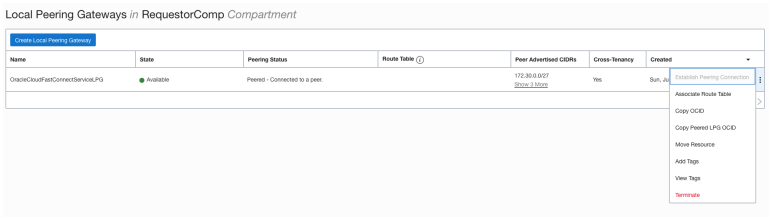
(2) Create LPG

In this example, the name of the LPG is “OracleCloudFastConnectServiceLPG”.

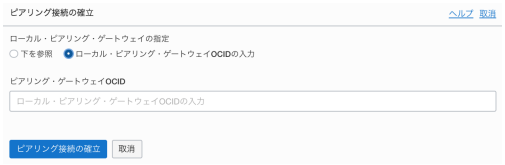


(3) Peering setup

On the right of the created LPG "…", select "Establish a peering connection" from the section.



Then select "Enter OCID for Local Peering Gateway".
Please enter the R-CCS LPG OCID provided in the email.
Then press "Establish Peering Connection" to complete the configuration.



(4) Confirmation of peering

Please make sure that the status is "Available" and the peering status is "Peered".
If this is not the case after a while, please contact oci-rccs@ml.riken.jp.

SG(Service Gateway) configuration

Please make sure that the status is “Available” and the peering status is “Peered”.
If this is not the case after a while, please contact oci-rccs@ml.riken.jp.

(1) Selcet “Service Gateway” and “Create Service Gateway” in VCN Page

(2) Create SG

In this example, the SG name is OracleCloudFastConnectServiceSG.
For the Service item, please select “All NRT Services In Oracle Services Network”.

(3) Confirmation that the state is available

6.1.5 Setting of Tenant - Routing Rule configuration

In order to perform routing for the VNC configured in the previous chapter, we will create a Route Table. In this document, we mainly describe the following three routing configuration examples.

(1) Communication from the instance to R-CCS (Fugaku)

(2) Communication from the instance to R-CCS (HPCI shared storage)

(3) Communication between instance and Object Storage

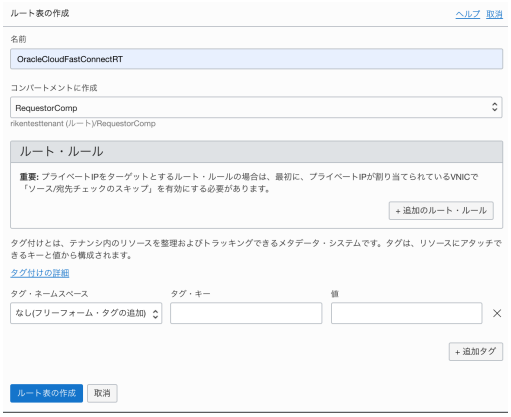
```
What is Routing Table ?

  This section describes the rules for setting up communication routes to and from␣
↪inside and outside of VCN.
  In this document, we will set up the routing rules to pass the communication from␣
↪Fugaku and HPCI shared storage to the resource via LPG and the routing of␣
↪communication with object storage.
  If you want to communicate to the outside or between different tenants, please␣
↪create routing table and rules separately.
```

Create Routing Rule

Create a Route Table of communication permissions between LPG and SG and Subnets.
The Routing Rule name is RCCS-FC-LPG-SN.

(1) Select “Create Route Table” from Route Table item in VCN Page.

(2) Enter a name and select “Add”



(3) Crate Rute Table

There are 3 rules to set to the Route Table.

(1) Communication from the instance to R-CCS (Fugaku)

```
Target Type: Local Peering Gateway (LPG)
CIDR: 134.160.188.0/24
Compartment: Select Compart name(ex: RequestorComp)
Target(Local Peering Gateway): Select LPG(ex:␣
↪OracleCloudFastConnectServiceLPG)
```

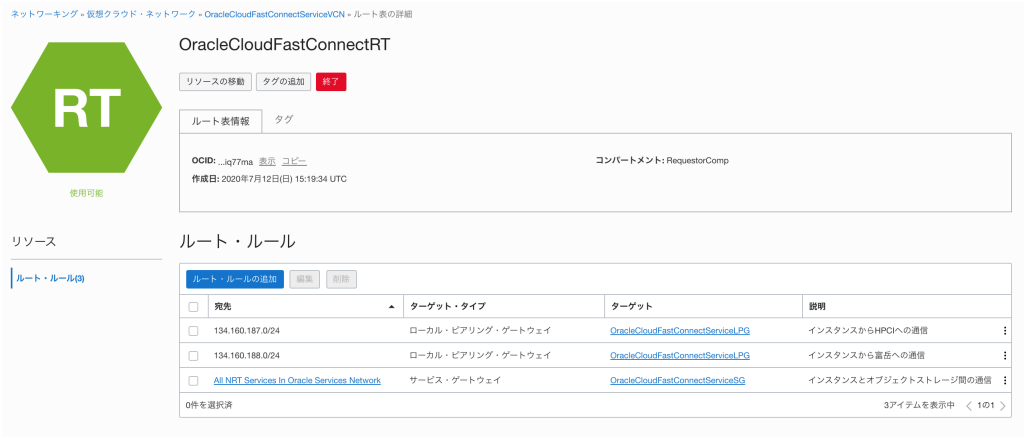
(2) Communication from the instance to R-CCS (HPCI shared storage)

```
Target Type: Local Peering Gateway (LPG)
CIDR: 134.160.187.0/24
Compartment: Select Compart name(ex: RequestorComp)
Target(Local Peering Gateway): Select LPG(ex:␣
↪OracleCloudFastConnectServiceLPG)
```

(3) Communication between instance and Object Storage

```
Target Type: Service Gateway(SG)
Service: All NRT Services In Oracle Services Network
Compartment: Select Compart name(ex: RequestorComp)
Target(SG): Select SG(ex: OracleCloudFastConnectServiceSG)
```

(4) Confirm Route Table

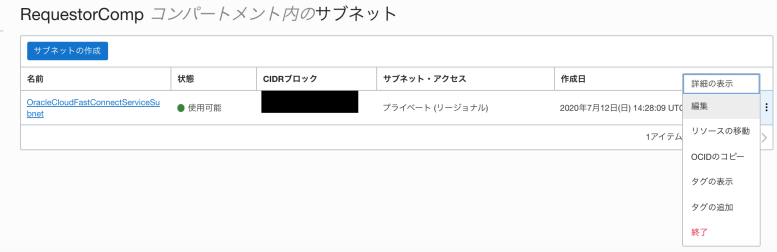


Linking of route tables

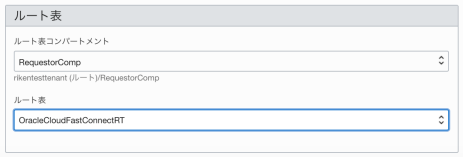
When the route table created in the previous section is connected to the subnet, the network address set in the subnet and R-CCS (Fugaku and HPCI) will be connected, and communication between the compartment and R-CCS will become possible.
You will also have access to the instance and the object storage.

(1) Select Subnet in VCN Page

(2) Select “Edit Subnet”



(3) Slect “Route Table” and set to Route Table



(4) Confirm

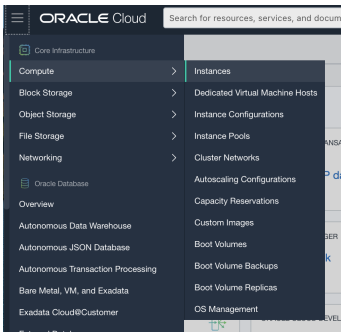
6.1.6 Confirm - Instance

Check that the instance is connected to FastConnect and can be accessed by Fugaku and HPCI.

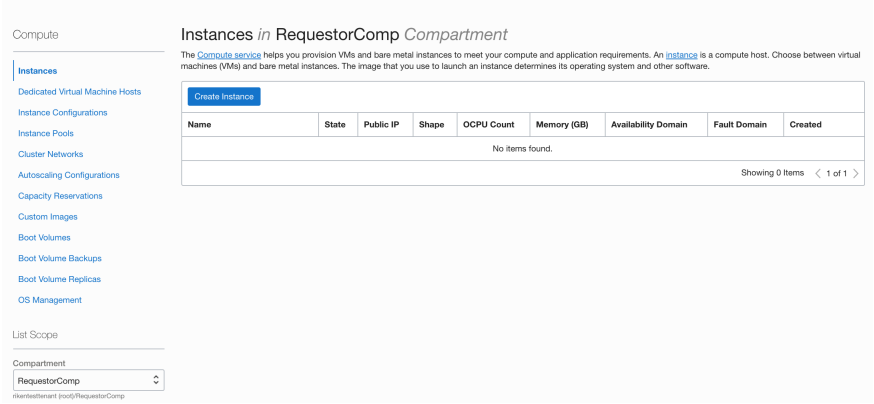
Create Instance

Below is an example of how to create an instance.
This is an instance that can be accessed from the Fugaku login node using the Private IP address.

(1) Select “Instance” for the Menue

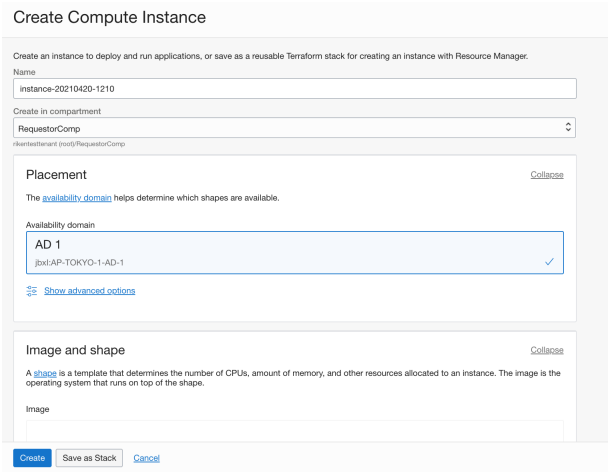


(2) Select “Compartment Name(Ex: RequestorComp)

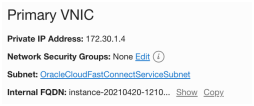


(3) Select “Create Instance”

Note: You must register your SSH public key.



(4) Wait for the completion of the provisioning and confirm that the Private IP address is set



Access check of Instance

(1) Login for Fugaku Login Node

If you want to log in to the instance via SSH, please use SSH forwarding such as “ssh -A”.

(2) SSH Login for Instance

```
$ ssh 172.30.XX.XX
```

Create and check access to instants using OCI commands

The OCI commands provided by Oracle Cloud Infrastructer allow you to create and access instances and Object Storage buckets with commands.
The OCI command can be easily installed locally using the curl command.
This section describes how to install the OCI command and how to create, access and delete instances with the OCI command.

(1) Login for Fugaku Login Node or R-CCS Login Node

- Fugaku Login nodes * login.fugaku.r-ccs.riken.jp
  - login1.fugaku.riken.jp
  - login2.fugaku.riken.jp
  - login3.fugaku.riken.jp
  - login4.fugaku.riken.jp
  - login5.fugaku.riken.jp
  - login6.fugaku.riken.jp
  - csgw.fugaku.r-ccs.riken.jp * csgw1.fugaku.riken.jp * csgw2.fugaku.riken.jp

By using csgw.fugaku.r-ccs.riken.jp, one of the above Fugaku login nodes, you can transfer data between Fugaku Storage and the Cloud without any restrictions on the transfer.
In addition, csgw.fugaku.r-ccs.riken.jp also has the client environment of Shared Storage installed. This makes it possible to transfer data between Shared Storage, Fugaku Storege and OCI respectively.

```
$ ssh csgw.fugaku.r-ccs.riken.jp
```

Shared storage users can also use the R-CCS Shared Storage Login Node.
As of March 09, 2021, the following shared storage login nodes are available.

- hpciss04.r-ccs.riken.jp (General Login Node)
- hpciss05.r-ccs.riken.jp (General Login Node)
- hpciss06.r-ccs.riken.jp (General Login Node)
- das.r-ccs.riken.jp (Gfarm clients with large memory and GPGPU)

You can login to the login node by using GSI-SSH.
You can also login with SSH public key authentication by applying for a local account and SSH public key login.
Please refer to the following for the application procedure.

https://www.hpci-office.jp/info/pages/viewpage.action?pageId=201525760

The following computation nodes are connected to das.r-ccs.riken.jp (Gfarm clients with large memory and GPGPU).
These can be used by any shared storage user.

In particular, das{01..04} is equipped with an NVIDIA T100 GPU, which can be used for visualization and computation.
Each compute node also has a shared storage client installed, which allows you to use shared storage directly from the compute node.
(Of course, the OCI client can be installed for fast data transfer to the OCI).

- Compute Node * das01.r-ccs.riken.jp * das02.r-ccs.riken.jp * das03.r-ccs.riken.jp * das04.r-ccs.riken.jp * hpciss02.r-ccs.riken.jp * hpciss03.r-ccs.riken.jp

(2) Install OCI Command

The OCI command can be installed locally by executing the following
On the shared storage login node, the installation will take a little longer due to pip and package installation.
The installation will take some time.
The installation adds a setting to the shell configuration file to pass the PATH for the OCI command.
For this reason, you should run "exec -l $SHELL" to reload the shell configuration file after the installation, as described in the execution results.

```
$ bash -c "$(curl -L https://raw.githubusercontent.com/oracle/oci-cli/master/
↪scripts/install/install.sh)"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 17208  100 17208    0     0   102k      0 --:--:-- --:--:-- --:--:-- ␣
↪103k
================================================================================
You have started the OCI CLI Installer in interactive mode. If you do not␣
↪wish
to run this in interactive mode, please include the --accept-all-defaults␣
↪option.
If you have the script locally and would like to know more about
input options for this script, then you can run:
./install.sh -h
If you would like to know more about input options for this script, refer to:
https://github.com/oracle/oci-cli/blob/master/scripts/install/README.rst
================================================================================
Downloading Oracle Cloud Infrastructure CLI install script from https://raw.
↪githubusercontent.com/oracle/oci-cli/v2.14.4/scripts/install/install.py to␣
↪/tmp/oci_cli_install_tmp_B5uW.
######################################################################## 100.
↪0%
<snip>
-- ** Run `exec -l $SHELL` to restart your shell. **
--
-- Installation successful.
-- Run the CLI with /home/<user>/bin/oci --help
$
$ exec -l $SHELL
$
```

(3) Configuration OCI Command

You can create a configuration file for the OCI command with the following command
Please login to the WebUI to get the OCID of the user or tenant.

```
$ oci setup config
Enter a location for your config [/home/<user>/.oci/config]:
   - Specify the path to the config file. If you do not enter anything, ~/.
↪oci/config will be created.

Enter a user OCID: ocid1.user.oc1....
   - Please enter the OCID of your own OCI user account, you will need to␣
↪obtain this by logging into the WebUI.

Enter a tenancy OCID: ocid1.tenancy.oc1..
↪aaaaaaaalycfhttkn5rxeu44yxkrmmhwfsj3siqyxjv1d336inu5grvy7kka
   - Please provide the OCID of your tenant, you will need to obtain this by␣
↪logging into the WebUI.

Enter a region by index or name(e.g.
1: ap-chiyoda-1, 2: ap-chuncheon-1, 3: ap-hyderabad-1, 4: ap-melbourne-1, 5:␣
↪ap-mumbai-1,
6: ap-osaka-1, 7: ap-seoul-1, 8: ap-sydney-1, 9: ap-tokyo-1, 10: ca-montreal-
↪1,
<snip>
26: us-gov-phoenix-1, 27: us-langley-1, 28: us-luke-1, 29: us-phoenix-1, 30:␣
↪us-sanjose-1): 9
   - Specify the region; if you are using FastConnect, specify the Tokyo␣
↪region (ap-tokyo-1).

Do you want to generate a new API Signing RSA key pair? (If you decline you␣
↪will be asked to supply the path to an existing key.) [Y/n]: Y
   - Automatically generate an RSA key for tenant access. In this case we␣
↪have specified "Y" to create it.

Enter a directory for your keys to be created [/home/<user>/.oci]:
   - Enter a directory for your keys to be created[/home/<user>/.oci]


Enter a name for your key [oci_api_key]:
   - Enter the directory path where you want to store your RSA keys. If you␣
↪do not enter anything, ~/.oci/config will be selected.

Public key written to: /home/<user>/.oci/oci_api_key_public.pem
   - Enter the name of your RSA key. In this example, the default (no entry)␣
↪is oci_api_key.

Enter a passphrase for your private key (empty for no passphrase):
Repeat for confirmation:
   - Please enter the password for your RSA key.

Private key written to: /home/<user>/.oci/oci_api_key.pem
Fingerprint: a0:02:18:ad:5d:a5:67:40:b5:1a:a0:85:b0:b6:fd:60
Do you want to write your passphrase to the config file? (if not, you will␣
↪need to supply it as an argument to the CLI) [y/N]: y
   - If you specify "y", the passphrase of the RSA key will be included in␣
↪the configuration file.
     * Please note that the configuration file will contain the password in␣
↪plain text.

Config written to /home/<user>/.oci/config
```

The setup config will create a configuration file that looks like this.

```
$ cat .oci/config
[DEFAULT]
user=ocid1.user.oc1..
fingerprint=a0:02:18:ad:XX:XX:XX:XX:XX:XX:XX:85:b0:b6:fd:60
key_file=/home/<user>/.oci/oci_api_key.pem
tenancy=ocid1.tenancy.oc1..
region=ap-tokyo-1
pass_phrase=<pass>
```

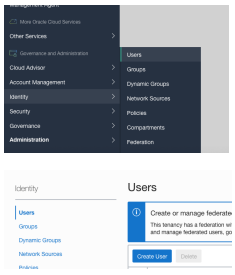
You can also create a configuration file such as oci_cli_rc in .oci/config.
This file contains the OCID of the compartment to be used as an option for the oci command, and can be omitted when executing the
This can be omitted at command execution time.
Here is an example of setting the OCID of a compartment

```
$ vim .oci/oci_cli_rc
[DEFAULT]
compartment-id=ocid1.compartment.oc1......
```

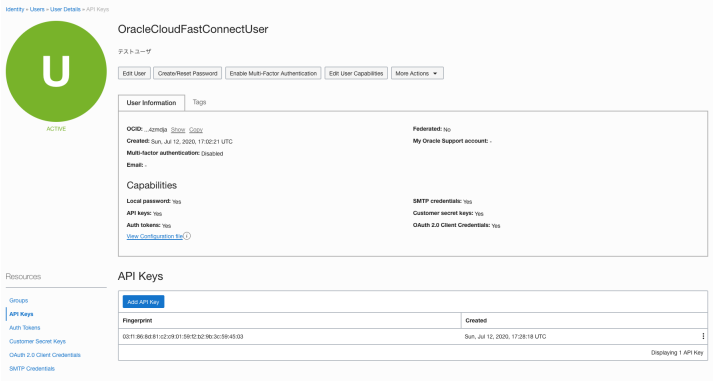
Once the configuration is complete, you will need to link the key file(OCI API Key) you have created to the user via the WebUI.
The public key for the OCI API Key has been created below if you have created it with the default path.

```
$ cat ~/.oci/oci_api_key_public.pem
```

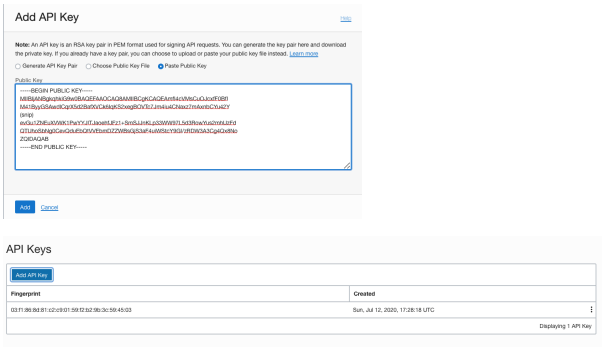
Set to your OCI API Key for access with OCI commands.
Please login to WebUI and select User -> Your account.
In this example, the user name is OracleCloudFastConnectUser. Please replace it as appropriat



Select “API Key”



Please add the OCI API Public Key (oci_api_key_public.pem) that you created from Add Public Key. You can also add it by copy and paste.



Once you have completed the configuration and linking process, please run the following command to check that you can retrieve your user information.

In the <oci_user> field, enter your OCI user name.

```
$ oci iam user list --name <oci_user>
{
  "data": [
    {
      "capabilities": {
        "can-use-api-keys": true,
        "can-use-auth-tokens": true,
        "can-use-console-password": true,
        "can-use-customer-secret-keys": true,
        "can-use-o-auth2-client-credentials": true,
        "can-use-smtp-credentials": true
      },
      "compartment-id": "ocid1.tenancy.oc1......
      "defined-tags": {
        "Oracle-Tags": {
          "CreatedBy": "ocid1.saml2idp.oc1.....
          "CreatedOn": "2020-02-12T01:16:43.685Z"
        }
      },
```

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```
      "description": ""
      "email": "XXXX@riken.jp",
      "email-verified": true,
      "external-identifier": null,
      "freeform-tags": {},
      "id": "ocid1.user.oc1.......
      "identity-provider-id": null,
      "inactive-status": null,
      "is-mfa-activated": false,
      "last-successful-login-time": "2021-03-16T00:07:01.567000+00:00",
      "lifecycle-state": "ACTIVE",
      "name": "<oci_user>",
      "previous-successful-login-time": null,
      "time-created": "2020-02-12T01:16:43.808000+00:00"
    }
  ]
}
$
```

(4) Create Instance and login with OCI Command

Get the OCID of the compartment with OCI Command.
Please get the OCID of the compartment connected to FastConnect.
If you have included the OCID of the compartment in the configuration file, you can skip this step.

```
$ oci iam compartment list
{
  "data": [
    {
      "compartment-id": "ocid1.tenancy.oc1.....
      <snip>
    },
{
  "compartment-id": "ocid1.tenancy.oc1.....
  "defined-tags": {
            <snip>
  },
  "description": ""
  "freeform-tags": {},
  "id": "ocid1.compartment.oc1....           <- Compartment OCID
  <snip>
  "name": "<COMPARTMENT_NAME>",              <- Compartment Name
  <snip>
},
```

The following example uses the OCI command to create an instance in the compartment.
The first step is to get a list of available images(OS).

```
$ oci compute image list -c <compartment-id>
 <snip>
    {
```

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```
      "agent-features": null,
      "base-image-id": null,
      "compartment-id": null,
      "create-image-allowed": true,
      "defined-tags": {},
      "display-name": "Oracle-Linux-8.3-2020.12.17-0",
      "freeform-tags": {},
      "id": "ocid1.image.oc1.ap-tokyo-1.
↪aaaaaaaakpfqgimyvpzw6xbdvtqd2cp7sxianqx5azyaqfsmjxdjy6pudloq",
      "launch-mode": "NATIVE",
      "launch-options": {
        "boot-volume-type": "PARAVIRTUALIZED",
        "firmware": "UEFI_64",
        "is-consistent-volume-naming-enabled": true,
        "is-pv-encryption-in-transit-enabled": true,
        "network-type": "PARAVIRTUALIZED",
        "remote-data-volume-type": "PARAVIRTUALIZED"
      },
      "lifecycle-state": "AVAILABLE",
      "operating-system": "Oracle Linux",
      "operating-system-version": "8",
      "size-in-mbs": 47694,
      "time-created": "2020-12-20T20:29:22.687000+00:00"
    },
```


Next, you will get a list of available shapes (virtual machines and bare metal).
If you don't see the shape you want, you can request the shape you want to use from Oracle via the WebUI.


```
$  oci compute shape list -c <compartment-id>
<snip>
    {
      "gpu-description": null,
      "gpus": 0,
      "local-disk-description": null,
      "local-disks": 0,
      "local-disks-total-size-in-gbs": null,
      "max-vnic-attachment-options": null,
      "max-vnic-attachments": 2,
      "memory-in-gbs": 15.0,
      "memory-options": null,
      "networking-bandwidth-in-gbps": 1.0,
      "networking-bandwidth-options": null,
      "ocpu-options": null,
      "ocpus": 1.0,
      "processor-description": "2.0 GHz Intel...",
      "shape": "VM.Standard2.1"
    },
```


Get the subnet-id and availability name needed to create the instance.

```
$ oci network subnet list -c <compartment-id>
{
  "data": [
    {
      <snip>
      "cidr-block": "172.30.1.0/26",              <- CIDR Block
      "compartment-id": "ocid1.compartment.oc1....
      <snip>
      },
      "display-name": "OracleCloudFastConnectServiceSubnet", <- Subnet
      <snip>
      "id": "ocid1.subnet.oc1.ap-tokyo-1..... <- OCID
      <snip>
    }
  ]
}
$ oci iam availability-domain list
{
  "data": [
    {
      "compartment-id": "ocid1.tenancy.oc1....
      "id": "ocid1.availabilitydomain.oc1. .....
      "name": "jbxI:AP-TOKYO-1-AD-1"
    }
  ]
}
```

Create an instantiation based on the information retrieved. Once the instance has been successfully created, you will get the following information about the created instance

```
$ ssh-keygen
$ oci compute instance launch  \
  --availability-domain "<availability_domain_name ex: jbxI:AP-TOKYO-1-AD-1>
↪"  \
  -c <compartment_id>                                          \
  --shape "<shape name ex:VM.Standard2.1>"                     \
  --display-name "<instance_display_name ex: test-instance>"  \
  --image-id <image_id ex: ocid1.image.oc1.ap-tokyo-1.
↪aaaaaaaakpfqgimyvpzw6xbdvtqd2cp7sxianqx5azyaqfsmjxdjy6pudloq>  \
  --ssh-authorized-keys-file ~/.ssh/id_rsa.pub                 \
  --subnet-id  <subnet_id>
{
     "data": {
       "agent-config": {
         "are-all-plugins-disabled": false,
         "is-management-disabled": false,
         "is-monitoring-disabled": false,
         "plugins-config": null
       },
       "availability-config": {
         "recovery-action": "RESTORE_INSTANCE"
       },
       "availability-domain": "jbxI:AP-TOKYO-1-AD-1",
 <snip>
```

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```
    "display-name": "test_instance",
    "extended-metadata": {},
    "freeform-tags": {},
    "id": "ocid1.instance.oc1.ap-tokyo-1....."
    "image-id": "ocid1.image.oc1.ap-tokyo-1.
↪aaaaaaaakpfqgimyvpzw6xbdvtqd2cp7sxianqx5azyaqfsmjxdjy6pudloq",
    "instance-options": {
      "are-legacy-imds-endpoints-disabled": false
    },
 <snip>
```

(6) Access for instance

Please get the OCID of your created instance.

```
$ oci compute instance list -c <compartment-id>
<snip>
      "display-name": "test_instance",
      "extended-metadata": {},
      "freeform-tags": {},
      "id": "ocid1.instance.oc1.ap-tokyo-1.,,,,,"  <- OCID of Instance
      "image-id": "ocid1.image.oc1.ap-tokyo-1.
↪aaaaaaaakpfqgimyvpzw6xbdvtqd2cp7sxianqx5azyaqfsmjxdjy6pudloq",
      "instance-options": {
        "are-legacy-imds-endpoints-disabled": false
      },
<snip>
```

You can get the startup status of an instance with instance get.
Please specify the instance id as an option.
If lifecycle-state is “RUNNING”, then the instance is running.

```
$ oci compute instance get --instance-id ocid1.instance.oc1.ap-tokyo-1..., 2>
↪/dev/null | grep life
"lifecycle-state": "RUNNING",
```

The next step is to get an IP address for the connection.
In the example below, 172.30.1.4 has been assigned.

```
$ oci compute instance list-vnics --instance-id ocid1.instance.oc1.ap-tokyo-
↪1.... 2>/dev/null | grep ip
  "private-ip": "172.30.1.4",
  "public-ip": null,
  "skip-source-dest-check": false,
```

Try to login using ssh command. The default user is “opc”.

```
$ ssh -i ~/.ssh/key opc@172.30.1.4
```

(7) Delete to instance with OCI Command

You can use “instance terminate” command to remove a tenant you have created.

```
$ oci compute instance terminate  --instance-id ocid1.instance.oc1.ap-tokyo-
↪1....
```

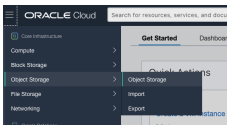
6.1.7 Confirm - Object Storage

Create a bucket of Object Stoage and check if you can access the object storage from Fugaku and HPCI.

Create bucket

This is the procedure for creating buckets that can be accessed from Fugaku and HPCI via FastConnect.
This procedure uses the normal default object storage, but if you want to use archive storage, etc., please change the settings accordingly.

(1) Select Object Storage from the Menue

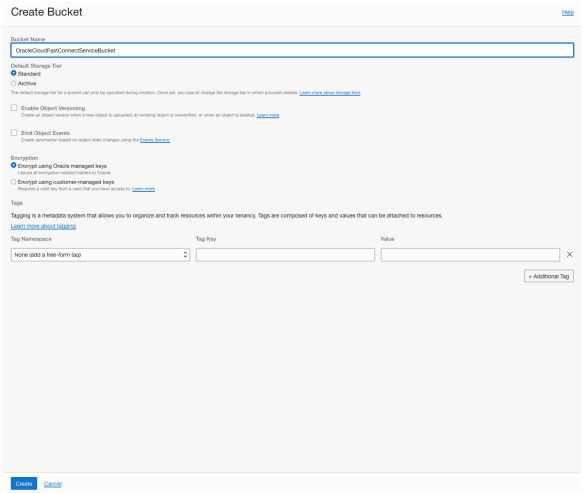


(2) Select “Bucket Create”

In this example, the compartment name is “RequestorComp”.

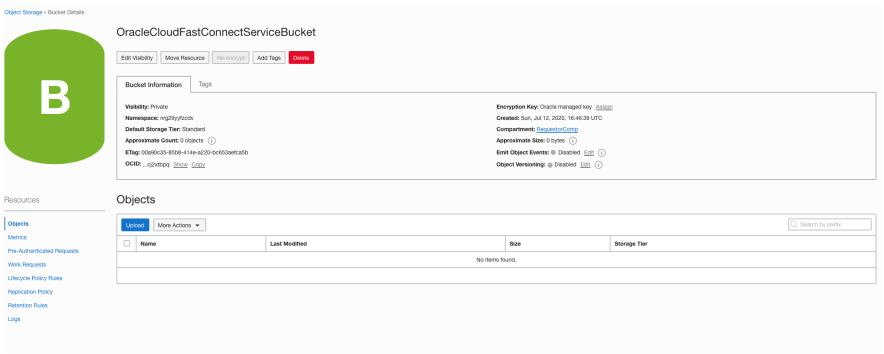
(4) Create Bucket

In this example, the Bucket name is “OracleCloudFastConnectServiceBucket”/
This document uses the storage tier as standard. If you want to use archive storage, please select archive. Please also enable any necessary features, such as encryption or event output.



(5) Confirm Bucket created

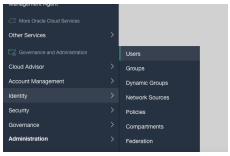
(5) Get the OCID of Bucket



Check I/O to bucket with OCI Command

(1) Get the OCID of User

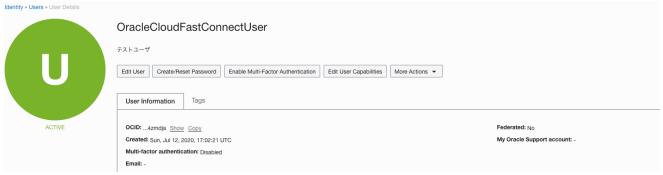
(1) Select “User” from the Menu



(2) Select username for data transfer

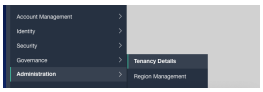
In this example, username is “OracleCloudFastConnectUser”.

(3) Get the OCID of User



(2) Get the OCID of Tenant

(1) Select “Tenant details” from the Menu



(2) Get the OCID of Tenant

(3) OCI Commnand configuration

The OCI commands can be downloaded from
* https://github.com/oracle/oci-cli
The detailed use of OCI commands is beyond the scope of this document. See, for example, the following
* https://docs.cloud.oracle.com/en-us/iaas/tools/oci-cli/2.12.2/oci_cli_docs/

(1) Login for Fugaku Login Node or R-CCS Login Node

```
$ ssh <hostname>
```

(2) Configuration OCI Command

You can create a configuration file for the OCI command with the following command
Please login to the WebUI to get the OCID of the user or tenant.

```
$ oci setup config
Enter a location for your config [/home/<user>/.oci/config]:
   - Specify the path to the config file. If you do not enter␣
↪anything, ~/.oci/config will be created.

Enter a user OCID: ocid1.user.oc1....
   - Please enter the OCID of your own OCI user account, you␣
↪will need to obtain this by logging into the WebUI.

Enter a tenancy OCID: ocid1.tenancy.oc1..
↪aaaaaaaalycfhttkn5rxeu44yxkrmmhwfsj3siqyxjvld336inu5grvy7kka
```

(continues on next page)

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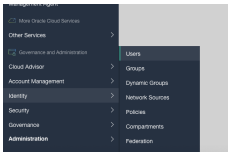
```
   - Please provide the OCID of your tenant, you will need to␣
↪obtain this by logging into the WebUI.

Enter a region by index or name(e.g.
1: ap-chiyoda-1, 2: ap-chuncheon-1, 3: ap-hyderabad-1, 4: ap-
↪melbourne-1, 5: ap-mumbai-1,
6: ap-osaka-1, 7: ap-seoul-1, 8: ap-sydney-1, 9: ap-tokyo-1,␣
↪10: ca-montreal-1,
<snip>
26: us-gov-phoenix-1, 27: us-langley-1, 28: us-luke-1, 29: us-
↪phoenix-1, 30: us-sanjose-1): 9
   - Specify the region; if you are using FastConnect,␣
↪specify the Tokyo region (ap-tokyo-1).

Do you want to generate a new API Signing RSA key pair? (If␣
↪you decline you will be asked to supply the path to an␣
↪existing key.) [Y/n]: Y
   - Automatically generate an RSA key for tenant access. In␣
↪this case we have specified "Y" to create it.

Enter a directory for your keys to be created [/home/<user>/.
↪oci]:
   - Enter a directory for your keys to be created[/home/
↪<user>/.oci]


Enter a name for your key [oci_api_key]:
   - Enter the directory path where you want to store your␣
↪RSA keys. If you do not enter anything, ~/.oci/config will␣
↪be selected.

Public key written to: /home/<user>/.oci/oci_api_key_public.
↪pem
   - Enter the name of your RSA key. In this example, the␣
↪default (no entry) is oci_api_key.

Enter a passphrase for your private key (empty for no␣
↪passphrase):
Repeat for confirmation:
   - Please enter the password for your RSA key.

Private key written to: /home/<user>/.oci/oci_api_key.pem
Fingerprint: a0:02:18:ad:5d:a5:67:40:b5:1a:a0:85:b0:b6:fd:60
Do you want to write your passphrase to the config file? (if␣
↪not, you will need to supply it as an argument to the CLI)␣
↪[y/N]: y
   - If you specify "y", the passphrase of the RSA key will␣
↪be included in the configuration file.
     * Please note that the configuration file will contain␣
↪the password in plain text.

Config written to /home/<user>/.oci/config
```

(3) Confirm OCI API Public Key

```
$ cat ~/.oci/oci_api_key_public.pem
```

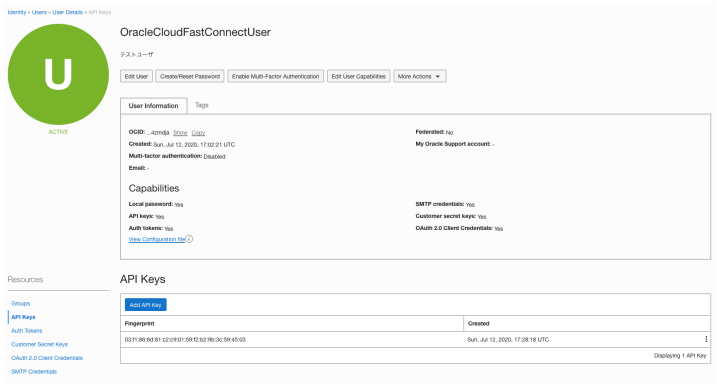
(3) Linking an OCI API Key to the User

(1) Select “User” from the Menu

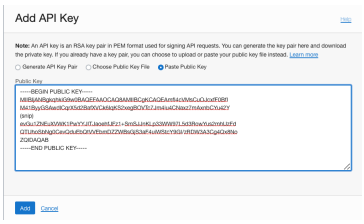


(2) Select username for data transfer

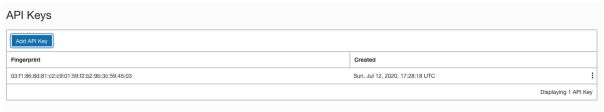
(3) Select “API Key” in User Page



(4) Linking an OCI API Key



(5) Confirm



(4) Write data to the Bucket

```
Write Command

  $ oci os object bulk-upload -bn  <Bucket Name>  --src-dir <Source Directory>
```

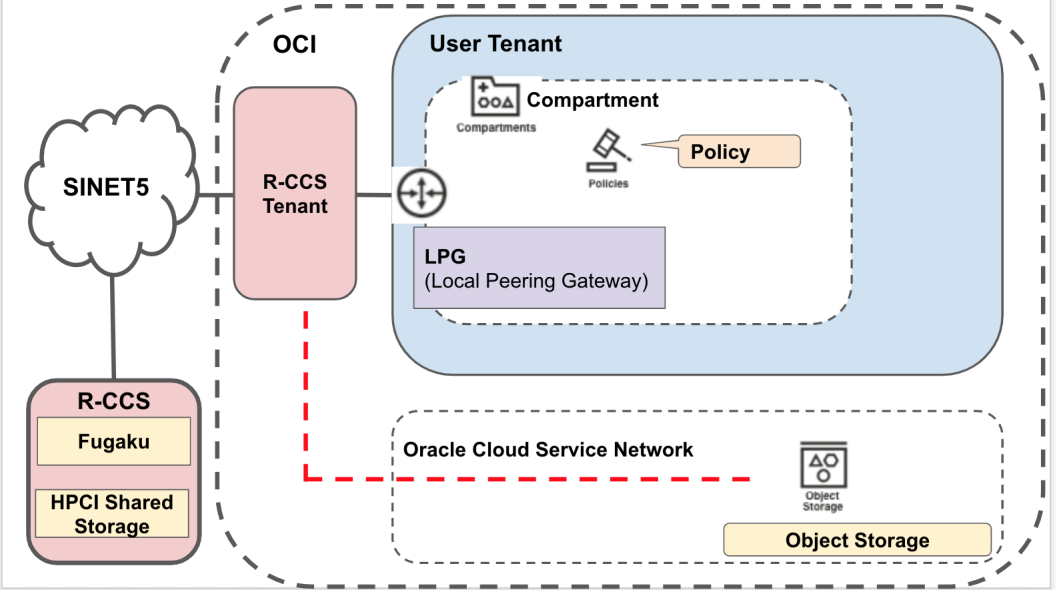
```
Example: Write "~/src_testdir" directory and files to
↪"OracleCloudFastConnectServiceBucket" Bucket.

  $ oci os object bulk-upload -bn OracleCloudFastConnectServiceBucket --src-dir ~/
↪src_testdir
```

(4) Read data from the Bucket

```
Read Command

  $ oci os object bulk-download -bn <Bucket Name> --download-dir <Dest Directory>
```

```
Example: Read data from the "OracleCloudFastConnectServiceBucket" Bucket for "~/
↪dest_testdir" direcrory.

  $ oci os object bulk-upload -bn OracleCloudFastConnectServiceBucket --src-dir ~/
↪dest_testdir
```

6.2 Only use Object Storage



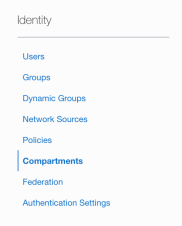
6.2.1 Preparation (what you need to do before applying)

Create a connection group (IAM group)

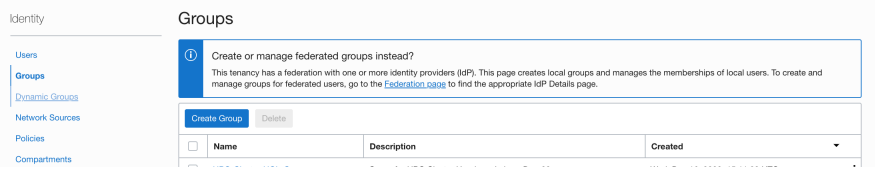
In order to connect your tenant to the R-CCS tenant, you need to create a connection group.
In this chapter, the name of the connection group is created as “RequestorGroup”
(If you have already prepared a group for connection, please replace it with the created group name)
The OCID of the group you have created in this procedure is required for the application, so please obtain the OCID and make a note of it.

```
What is OCID?

  The OCID is an ID that is tied to an Oracle Cloud resource.
  In order to link a tenant for R-CCS FastConnect to a user's tenant and allow them␣
↪to use FastConnect,
  OCID of the group and tenant created by the user must be tied to the R-CCS␣
↪FastConnect tenant.
```

(1) Select of Group in Menue

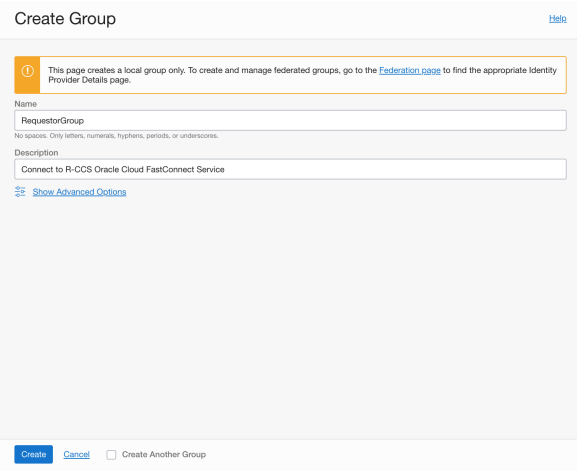


(2) Select of Make Group



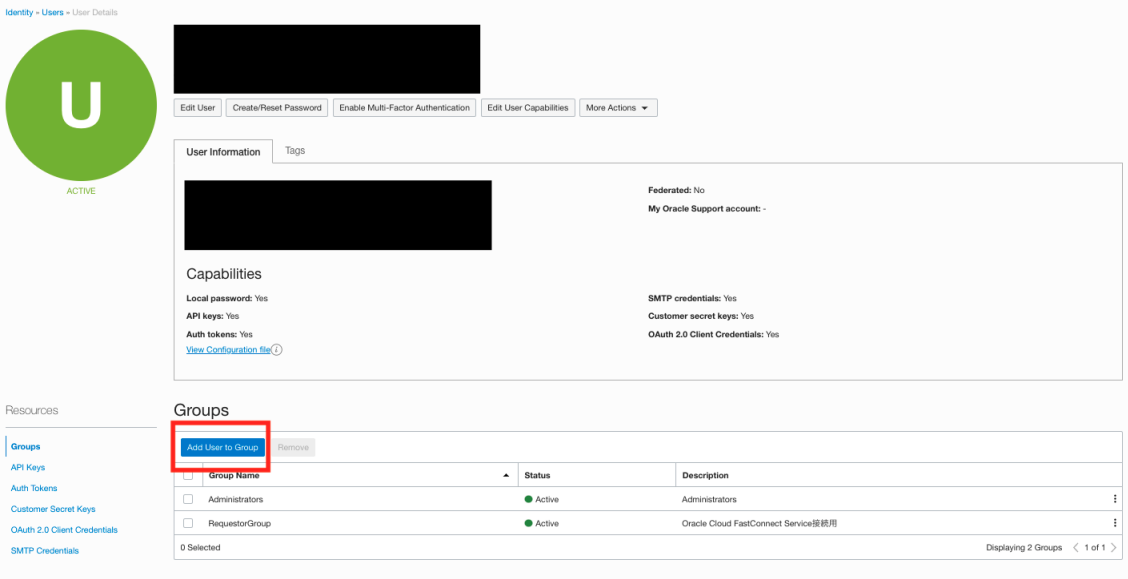
(3) Make Group

In this example, we will create a group called “RequestorGroup”.
After entering the name, click on the Create button.



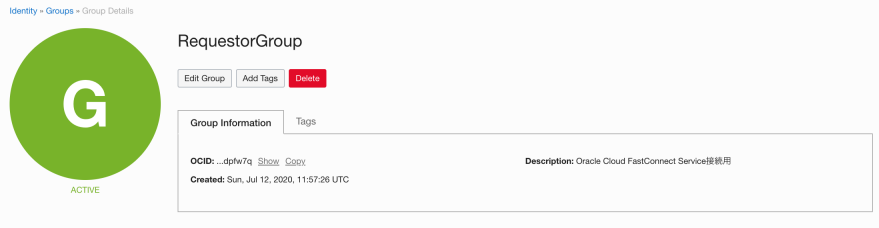
(4) Set a Group to your user-account

Create a group (ex: “RequestorGroup”) and set your user-account.
Select your user from the Menu, or select your user’s name from the top right to go to your user-settings page and set up the group.



(5) get OCID of Group

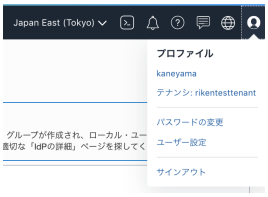
This OCID of Group is required at the time of application.



Get OCID of Tenant

This OCID of Tenant is required at the time of application.

(1) Select Tenant in Menu



(2) Get OCID of Tenant

This OCID of Tenant is required at the time of application.

6.2.2 Submit your application

Please complete and submit the application form.
R-CCS will then prepare and configure the FastConnect connection.
We will reply to you once the configuration and connection work is complete.

Formats

In order to use this service, you will need to fill in an application form or submit an application form.
Please note that we will not be able to reply to you if your email address is incorrect.

(1) Using the Web form

For details, please refer to the example in the section “Using the PDF form” below.

- https://docs.google.com/forms/d/1xifEL8fxnWHeCjm1WchWqSTn_zZ4fbL-Z7BNmF1wWIk/edit

(2) Using the PDF form

Please complete the application form and send it as a PDF attachment to an email to oci-rccs@ml.riken.jp.
If you have any questions, please contact us at the email address above.

- English * (WORD) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form_eng.docx * (PDF) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form_eng.pdf
- Japanese * (WORD) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form.docx * (PDF) https://hudtech.r-ccs.riken.jp/ocisf/ocisf-application-form.pdf

Example of Application form

(申請例) Date: 20XX 12 31

R-CCS Oracle FastConnect Application Form

Details	■ New	□ Continuation	□ Change	□ Abolition

Name	Apply User
Riken ID(※ If you Riken member)	11111111
Organization	Riken
Division	Operations and Computer Technologies Division
Mail Address	apply-user@mail.jp
Phone numbers	070-XXXX-XXXX
Group ID of Fugaku or HPCI	hpXXXXXX
OCID of Tenants	<Your OCID of Tenants>
OCID of Group	<Your OCID of Group>
Use of instance	■Yes □ No

Purpose of use

We want to use the Oracle Cloud from Fugaku to back-up our data.

Remarks

Contact person's field

Date		Contact	
IP address		LPG name	

Notes:

```
* Example of mail

To: oci-rccs@ml.riken.jp
Subject: Apply for R-CCS Oracle Cloud FastConnect(<Your Tenant Name>)
--

I would like to apply for the R-CCS Oracle Cloud Fast Connect.
```

Example of email reporting completion of setup from R-CCS

The allocated IP address will only be provided if you have selected “yes” for the “use of instance” section.

```
From: oci-rccs@ml.riken.jp
Subject: You are ready to use R-CCS Orcale Fast Connect Service (<Your Tenant Name>␣
↪configuration complete contact)
--
For <Your Name>

We are pleased to announce that the R-CCS Oracle Cloud FastConnect Service is now␣
↪available.

* R-CCS Tenant OCID : ....
* R-CCS LPG OCID    : ....
* IP Address: 172.30.XX.XX - 172.30.XX.XX (172.30.XX.XX/XX)
```

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```
Document:
* https://hudtech.r-ccs.riken.jp/ocisf/html
* https://hudtech.r-ccs.riken.jp/ocisf/html_en

Thank you for your interest.
--
R-CCS Oracle Cloud FastConnect Service
oci-rccs@ml.riken.jp
```

6.2.3 Setting of Tenant - Compartments and policy settings

Create and Setting Compartments

Create a Compartment of OCI to be connected to the R-CCS tenant. After connecting the VCN (Virtual Cloud Network) to be created in the later chapter to the Compartment created in this section, and creating an instance (Virtual Machine or Bare Metal). You will be able to access from Fugaku or R-CCS HPCI shared storage login node etc... using the private IP address provided by R-CCS, In addtion, the data traffic will be free of charge. Please note that instances created outside this compartment (not tied to a VCN) and access from outside R-CCS will not be free of charge.

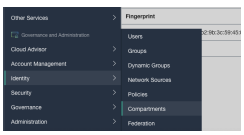
```
What is Compartment of OCI ?

  In the Oracle Cloud, resources can be divided into "compartments".
  Each compartment can be configured with its own policies, networks and access␣
↪rights.
  Compartments can have a parent-child relationship.
  The default compartment for a tenant is the root compartment and all other␣
↪compartments are children of the root compartment.
  The default compartment for a tenant is the root compartment.
  This document describes how to create a ReuestorComp compartment for the Oracle␣
↪Cloud FastConnct Service directly under the root compartment and connect it to the␣
↪R-CCS tenant.
  By creating a ReuestorComp compartment for Oracle Cloud FastConnct Service directly␣
↪under the root compartment and connecting it to the R-CCS tenant, it is possible to␣
↪use a dedicated line between Oracle Cloud and R-CCS.
```

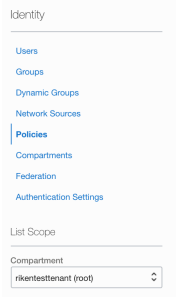
```
What is Policy of OCI ?

  You can configure access rights to Oracle Cloud resources and other settings.
  The Oracle Cloud FastConnect Service requires a connection between the R-CCS␣
↪managed tenant and your tenant.
  To connect, you need to set access rights using policies.
  By setting the policy to a compartment, you can use the leased line communication␣
↪between Oracle Cloud and R-CCS (Oracle Cloud FastConnct Service) within the set␣
↪compartment.
```

(1) Select Policy in Menu

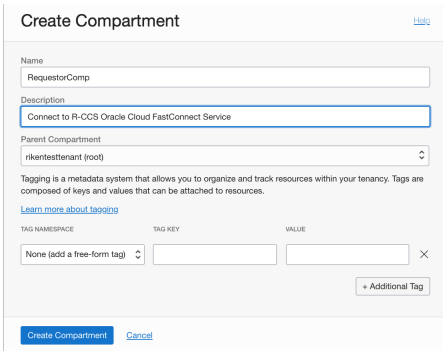


(2) Select root Compartment



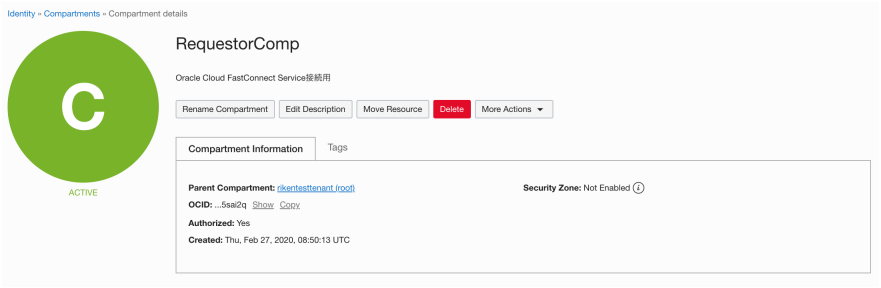
(3) Select Create Compartment

(4) Create Compartment



(5) Check Comartment

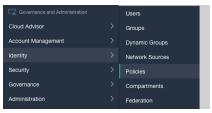
Please check that your Compartment has been created successfully.



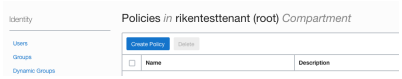
Create and Setting Policy

Configure the policy rules to connect with R-CCS tenant.
Configure the policy rules to allow communication between the compartment created in the previous section and the R-CCS tenant.
In the policy, you need to provide the compartment name of the compartment used in the previous section.

(1) Select Policy of Menue



(2) Select Create Policy



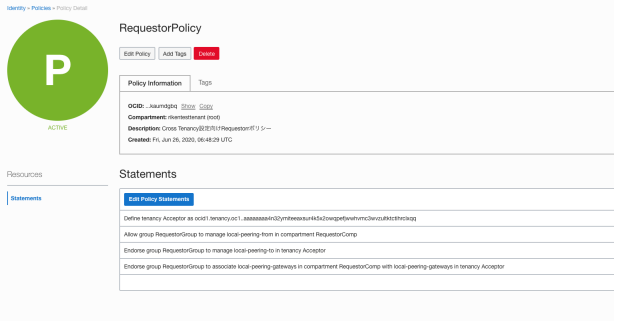
(3) Create Policy

Please enter the following in the Statement.
R-CCS Tenant OCID should be the value you received in your mail.
Compartment Name and Group Name should be entered as the names of the compartments and groups created in the previous section.

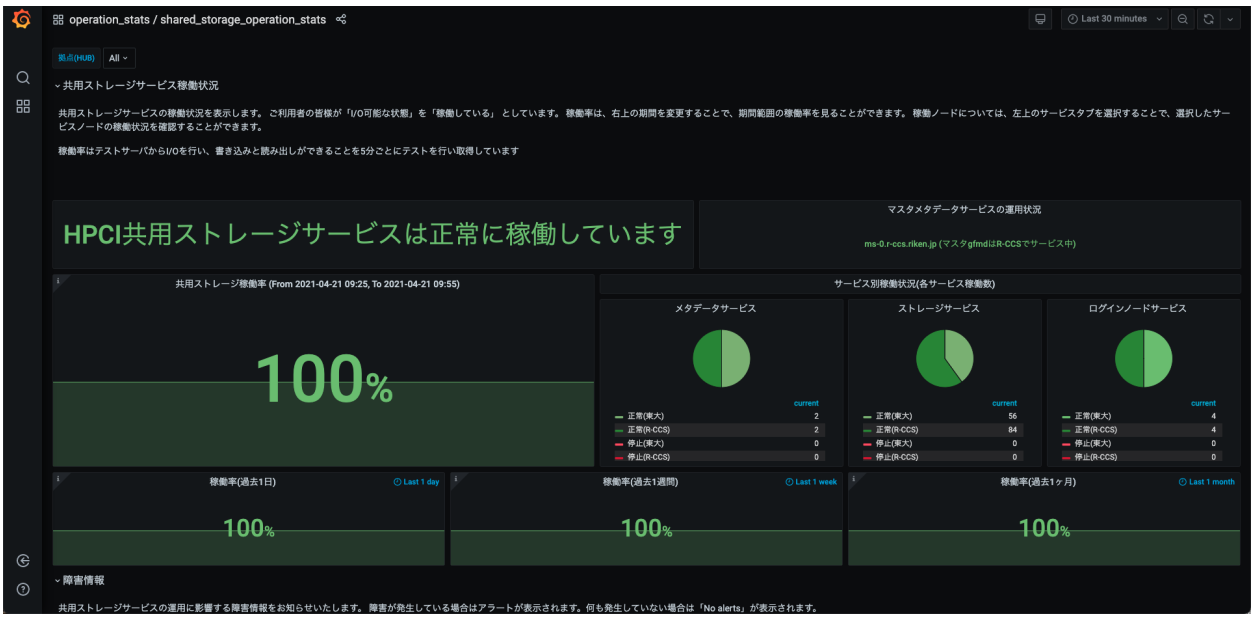
```
Statement1:
  Define tenancy Acceptor as <OCID of R-CCS Tenant>
Statement2:
  Allow group <Group Name> to manage local-peering-from in compartment <Compartment␣
↪Name>
Statement3:
  Endorse group <Group Name> to manage local-peering-to in tenancy Acceptor
Statement4:
  Endorse group <Group Name> to associate local-peering-gateways in compartment
↪<Compartment Name> with local-peering-gateways in tenancy Acceptor
```

If you follow the instructions in this manual, the Group Name and Compartment Name will be as follows.
* Group Name : RequestorGroup
* Compartment Name: RequestorComp

```
Statement1:
  Define tenancy Acceptor as <OCID of R-CCS Tenant>
Statement2:
  Allow group RecestorGroup to manage local-peering-from in compartment RequestorComp
Statement3:
  Endorse group RecestorGroup to manage local-peering-to in tenancy Acceptor
Statement4:
Endorse group RecestorGroup to associate local-peering-gateways in compartment␣
↪RequestorComp with local-peering-gateways in tenancy Acceptor
```



(4) Check setting



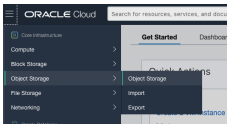
6.2.4 Confirm - Object Storage

Create a bucket of Object Stoage and check if you can access the object storage from Fugaku and HPCI.

Create bucket

This is the procedure for creating buckets that can be accessed from Fugaku and HPCI via FastConnect.
This procedure uses the normal default object storage, but if you want to use archive storage, etc., please change the settings accordingly.

(1) Select Object Storage from the Menue

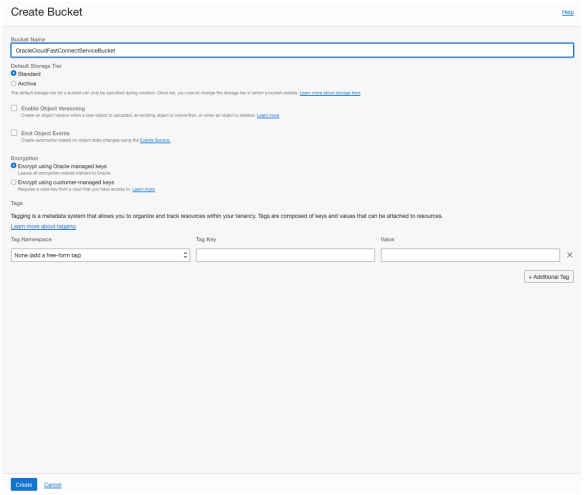


(2) Select “Bucket Create”

In this example, the compartment name is “RequestorComp”.

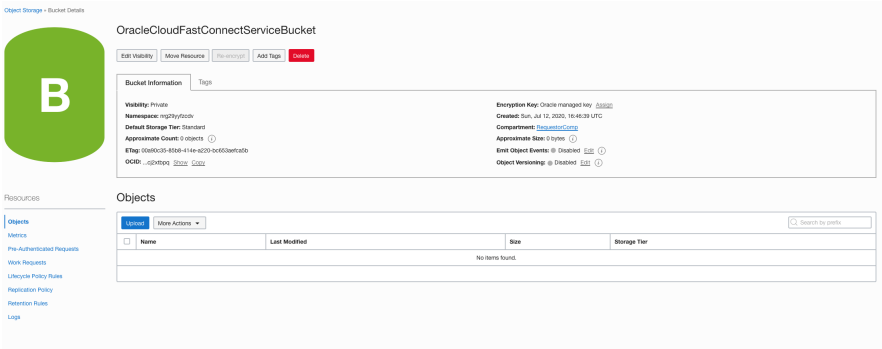
(4) Create Bucket

In this example, the Bucket name is “OracleCloudFastConnectServiceBucket”/
This document uses the storage tier as standard. If you want to use archive storage, please select archive. Please also enable any necessary features, such as encryption or event output.



(5) Confirm Bucket created

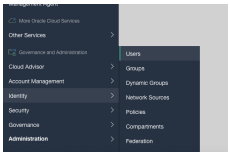
(5) Get the OCID of Bucket



Check I/O to bucket with OCI Command

(1) Get the OCID of User

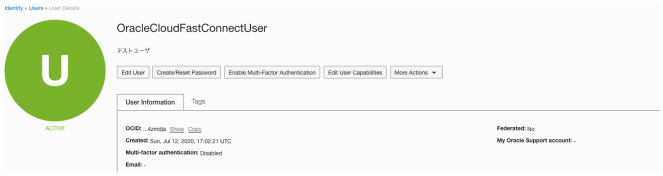
(1) Select “User” from the Menu



(2) Select username for data transfer

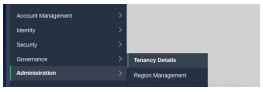
In this example, username is “OracleCloudFastConnectUser”.

(3) Get the OCID of User



(2) Get the OCID of Tenant

(1) Select “Tenant details” from the Menu



(2) Get the OCID of Tenant

(3) OCI Commnand configuration

The OCI commands can be downloaded from
* https://github.com/oracle/oci-cli
The detailed use of OCI commands is beyond the scope of this document. See, for example, the following
* https://docs.cloud.oracle.com/en-us/iaas/tools/oci-cli/2.12.2/oci_cli_docs/

(1) Login for Fugaku Login Node or R-CCS Login Node

```
$ ssh <hostname>
```

(2) Configuration OCI Command

You can create a configuration file for the OCI command with the following command
Please login to the WebUI to get the OCID of the user or tenant.

```
$ oci setup config
Enter a location for your config [/home/<user>/.oci/config]:
   - Specify the path to the config file. If you do not enter␣
↪anything, ~/.oci/config will be created.

Enter a user OCID: ocid1.user.oc1....
   - Please enter the OCID of your own OCI user account, you␣
↪will need to obtain this by logging into the WebUI.

Enter a tenancy OCID: ocid1.tenancy.oc1..
↪aaaaaaaaalycfhttkn5rxeu44yxkrmmhwfsj3siqyxjvld336inu5grvy7kka
   - Please provide the OCID of your tenant, you will need to␣
↪obtain this by logging into the WebUI.

Enter a region by index or name(e.g.
1: ap-chiyoda-1, 2: ap-chuncheon-1, 3: ap-hyderabad-1, 4: ap-
↪melbourne-1, 5: ap-mumbai-1,
6: ap-osaka-1, 7: ap-seoul-1, 8: ap-sydney-1, 9: ap-tokyo-1,␣
↪10: ca-montreal-1,
<snip>
26: us-gov-phoenix-1, 27: us-langley-1, 28: us-luke-1, 29: us-
↪phoenix-1, 30: us-sanjose-1): 9
   - Specify the region; if you are using FastConnect,␣
↪specify the Tokyo region (ap-tokyo-1).

Do you want to generate a new API Signing RSA key pair? (If␣
↪you decline you will be asked to supply the path to an␣
↪existing key.) [Y/n]: Y
   - Automatically generate an RSA key for tenant access. In␣
↪this case we have specified "Y" to create it.

Enter a directory for your keys to be created [/home/<user>/.
↪oci]:
   - Enter a directory for your keys to be created[/home/
↪<user>/.oci]


Enter a name for your key [oci_api_key]:
   - Enter the directory path where you want to store your␣
↪RSA keys. If you do not enter anything, ~/.oci/config will␣
↪be selected.

Public key written to: /home/<user>/.oci/oci_api_key_public.
↪pem
   - Enter the name of your RSA key. In this example, the␣
↪default (no entry) is oci_api_key.

Enter a passphrase for your private key (empty for no␣
↪passphrase):
```

(continues on next page)

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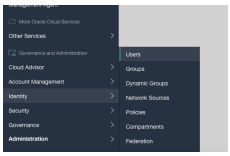
```
Repeat for confirmation:
   - Please enter the password for your RSA key.

Private key written to: /home/<user>/.oci/oci_api_key.pem
Fingerprint: a0:02:18:ad:5d:a5:67:40:b5:1a:a0:85:b0:b6:fd:60
Do you want to write your passphrase to the config file? (if␣
↪not, you will need to supply it as an argument to the CLI)␣
↪[y/N]: y
   - If you specify "y", the passphrase of the RSA key will␣
↪be included in the configuration file.
     * Please note that the configuration file will contain␣
↪the password in plain text.

Config written to /home/<user>/.oci/config
```

(3) Confirm OCI API Public Key

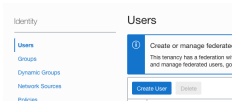
```
$ cat ~/.oci/oci_api_key_public.pem
```

(3) Linking an OCI API Key to the User

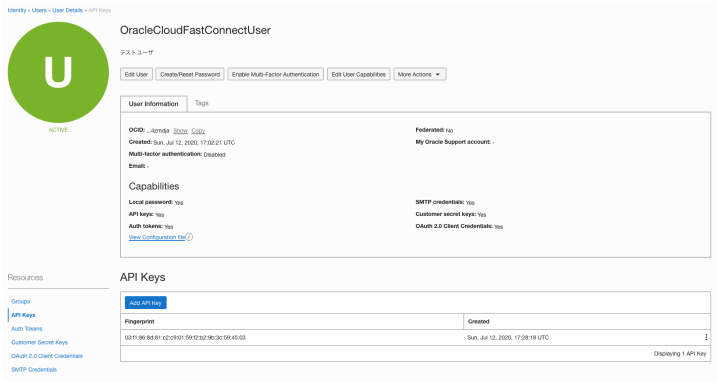
(1) Select “User” from the Menu



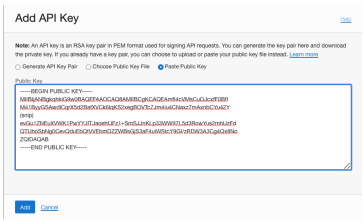
(2) Select username for data transfer



(3) Select “API Key” in User Page



(4) Linking an OCI API Key



(5) Confirm

(4) Write data to the Bucket

```
Write Command

  $ oci os object bulk-upload -bn  <Bucket Name>  --src-dir <Source Directory>
```

```
Example: Write "~/src_testdir" directory and files to
↪"OracleCloudFastConnectServiceBucket" Bucket.

  $ oci os object bulk-upload -bn OracleCloudFastConnectServiceBucket --src-dir ~/
↪src_testdir
```

(4) Read data from the Bucket

```
Read Command

  $ oci os object bulk-download -bn <Bucket Name> --download-dir <Dest Directory>
```

```
Example: Read data from the "OracleCloudFastConnectServiceBucket" Bucket for "~/
↪dest_testdir" direcrory.

  $ oci os object bulk-upload -bn OracleCloudFastConnectServiceBucket --src-dir ~/
↪dest_testdir
```

CHAPTER

SEVEN

R-CCS FASTCONNECT SERVICE DOCUMENTS

7.1 Overviews

- https://hudtech.r-ccs.riken.jp/ocisf/briefing/20200729/02-Inreoduction_OracleCloudFastConnectService.pdf (JA)

7.2 Hands On

- Jul, 29th, 2020
- https://hudtech.r-ccs.riken.jp/ocisf/briefing/20200729/Hands-On-01-Compute_100_jp_master.pdf (JA)
- https://hudtech.r-ccs.riken.jp/ocisf/briefing/20200729/Hands-On-02-Virtual_Cloud_Network_100_jp_master.pdf (JA)
- https://hudtech.r-ccs.riken.jp/ocisf/briefing/20200729/Hands-On-03-Object_Storage_100_jp_master.pdf (JA)
- Dec, 23th, 2020
- https://hudtech.r-ccs.riken.jp/ocisf/briefing/20201223/00_program.pdf (JA)
- https://hudtech.r-ccs.riken.jp/ocisf/briefing/20201223/01_OracleCloudInfrastructure_OCI.pdf (JA)
- https://hudtech.r-ccs.riken.jp/ocisf/briefing/20201223/02_OracleCloudFastConnectService_Briefing02.pptx (JA)

CHAPTER

EIGHT

OCI DOCUMENTS

8.1 OCI Startup and Tutorial Documents

- OCI Document
- OC Tutorial
- OCI API
- OCI CLI
- OCI Portal

8.2 OCI OverViews

- OCI OverViews

8.2.1 OCI Japanese Documents

- OCI Japanese Blog(ja)
- **`OCI Information on use(ja)<https://oracle-japan.github.io/ocidocs/>`_**

CHAPTER

NINE

CONTACT US

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