

---

# Oracle Cloud Infrastructure Labs

## Oracle OCI Function Lab

V2.0

ORACLE LAB BOOK | MAY 2018

---



By  
Oracle Sales Consulting Norway

ORACLE®



## 1. Disclaimer

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

# Overview

## Lab Overview

The lab exercises are designed to complement your training, reinforcing the key concepts by applying and demonstrating what you learned in the presentation sessions. This lab book is comprised of individual exercises. These exercises allow you to get first hands-on exposure working with the Oracle Cloud Infrastructure, Oracle OCI, using a demo environment, where you will see how key features and functionality are deployed in the software. The lab specifically builds the initial demo environment for Oracle Functions workshop

## Start with Oracle Cloud Infrastructure Services

A complete set of training labs for Oracle OCI is available at

<https://github.com/bios62/Oracle-OCI-Labs>

In this Lab the purpose is to:

- Creating a network
- Configuring network primitives
- Launching an instance VM, based on custom image with function installed

For this lab we will go through the allocation of OCI resources, proper configuration of Database Cloud Service, proper configuration of Linux environment to be prepared to install software. We will then install both open source and commercial software. Finally we will use Terraforms to create an infrastructure as a script.

## Sign into the Console

User your cloud account or the oracle provided LAB account.

In order to sign on to the environment a tenant, username and password is required

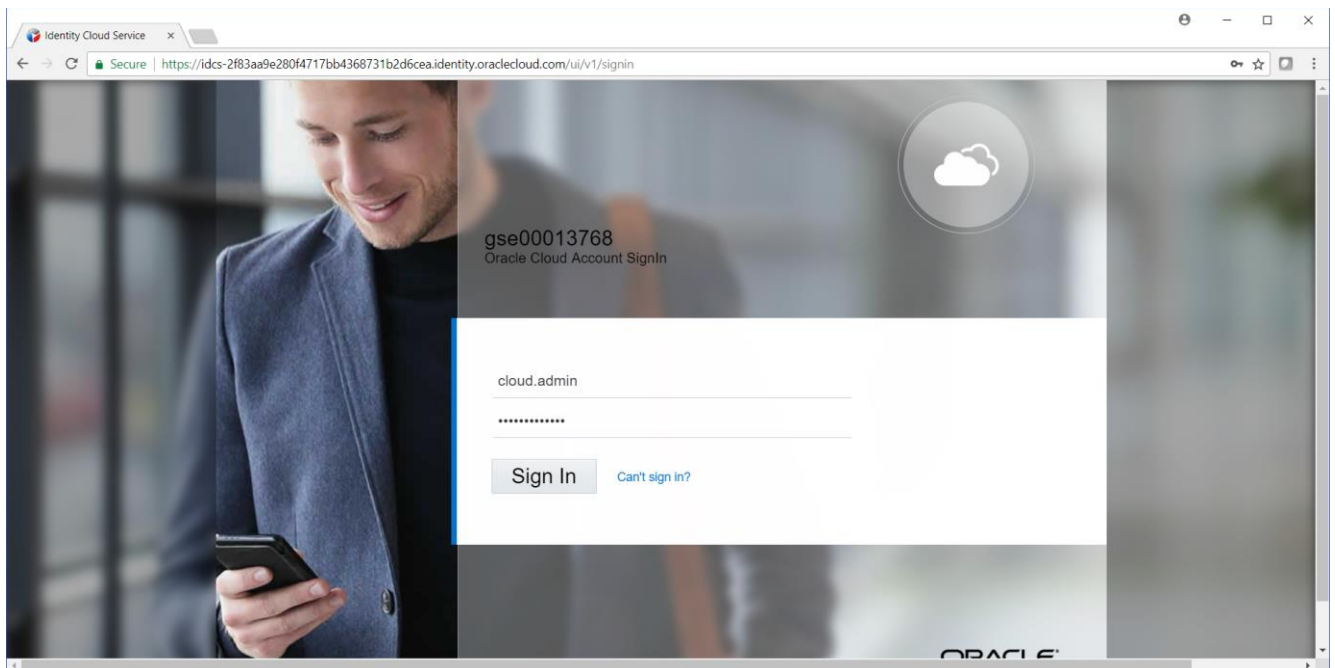
1) Use the SSO URL given by the instructor (Example: <https://console.us-ashburn-1.oraclecloud.com/>)

2) Enter your credentials to sign-in:

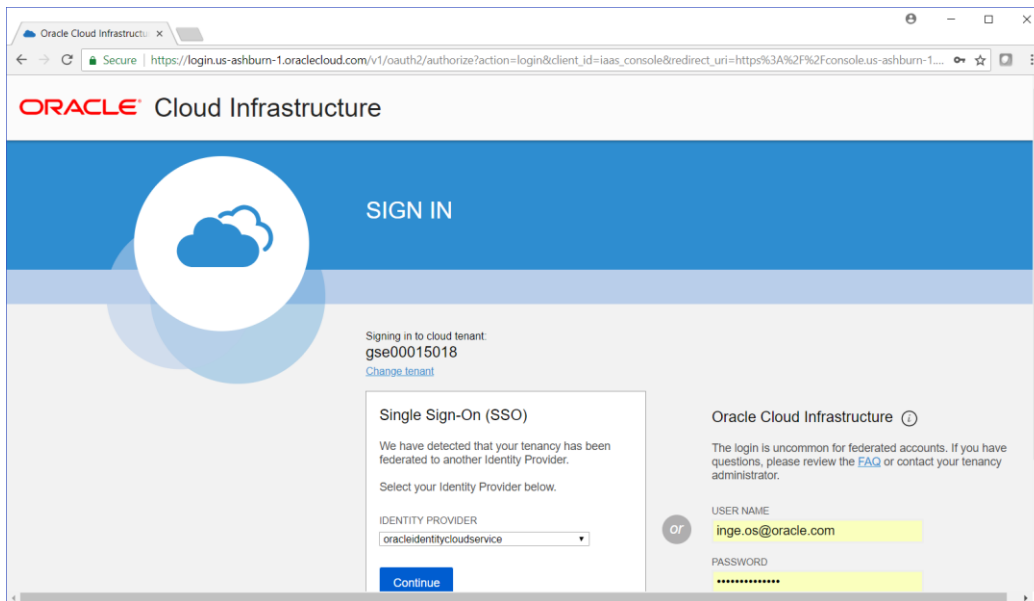
User: cloud.admin

Password: provided by instructor

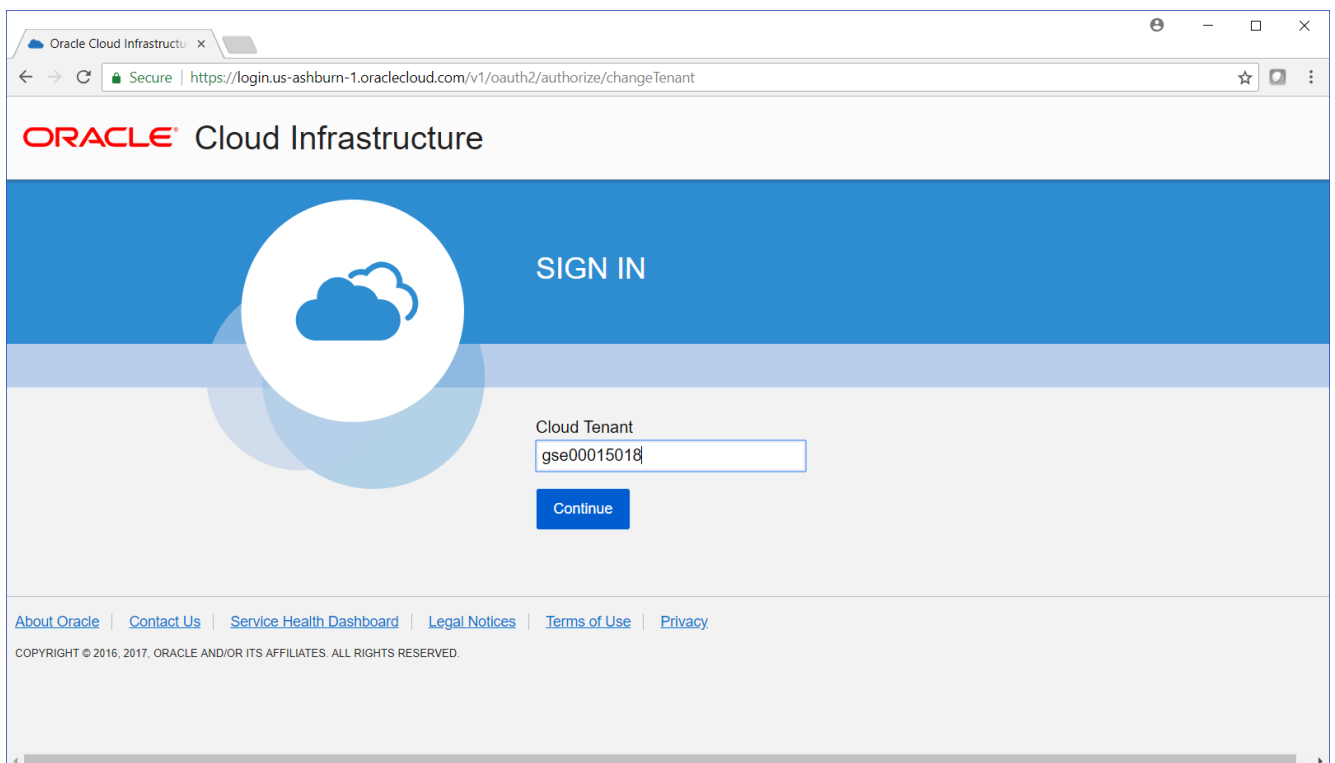
Reach out to your oracle Representative if you have any questions on account access. Oracle Cloud uses Oracle IDCS for authentication.



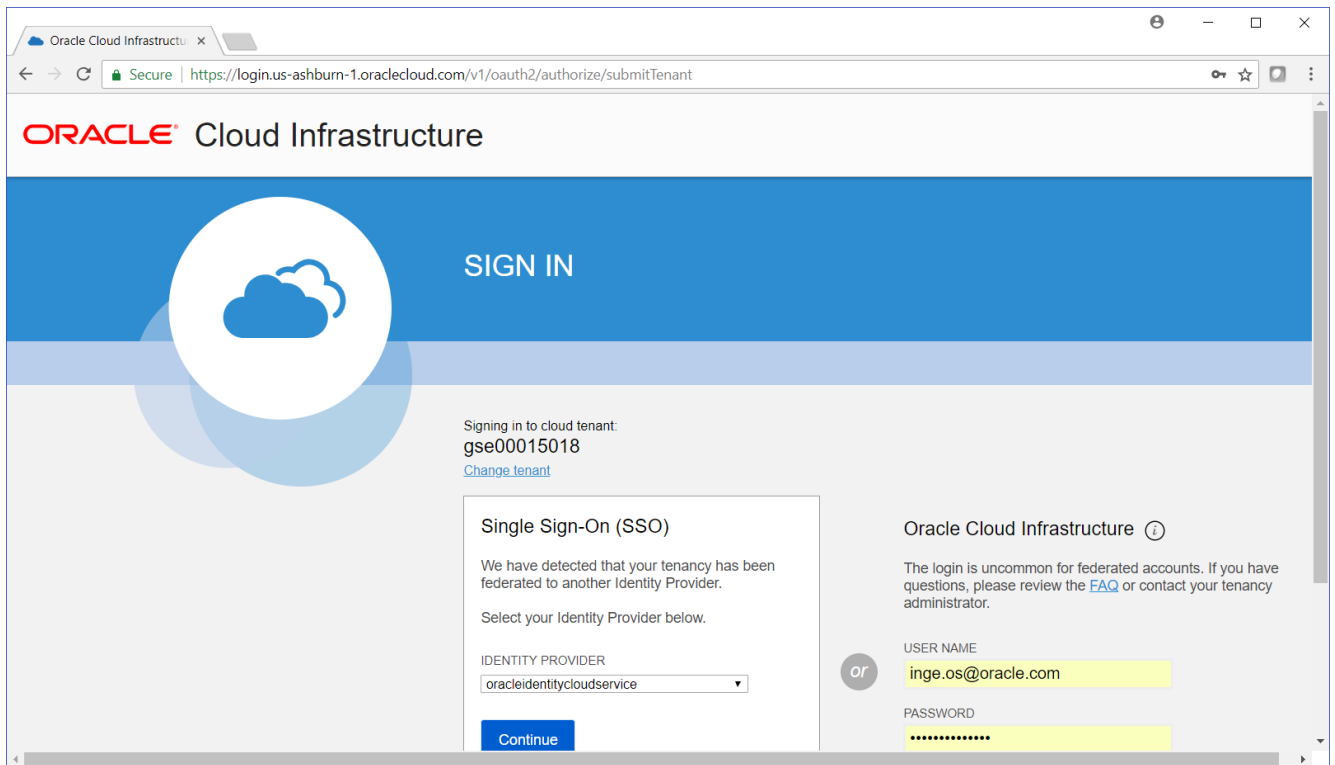
If you get this login screen, you need to go back to the IDCS login screen:



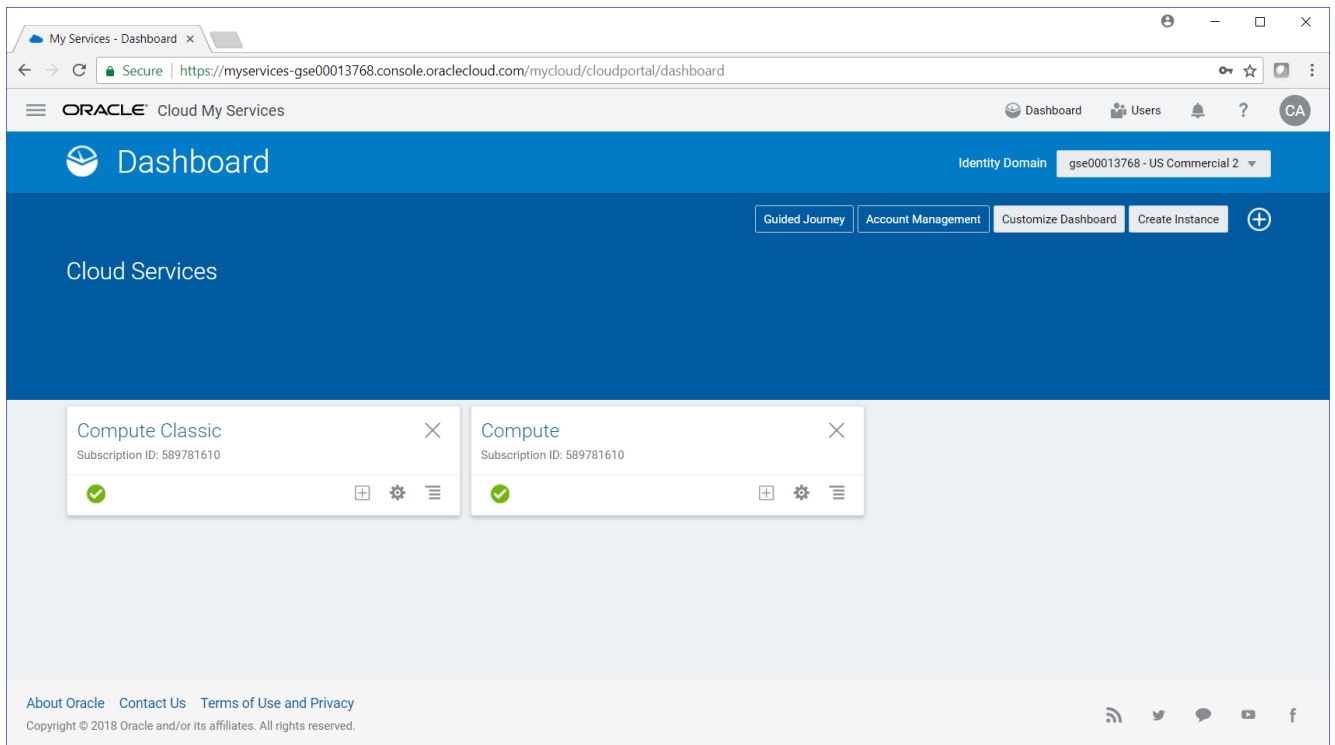
Select change tenant to select the correct tenant



Logon with Single Sign-On (IDCS)

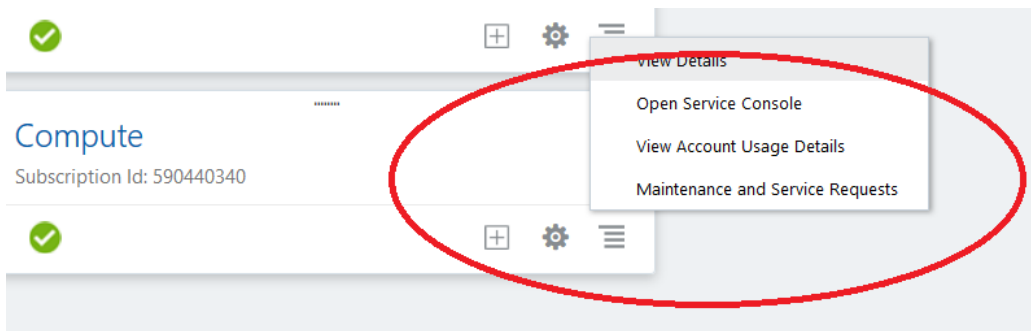


After login, dependent on your browser history you may either get the generic Cloud dashboard as shown below. Select Compute and open service console.

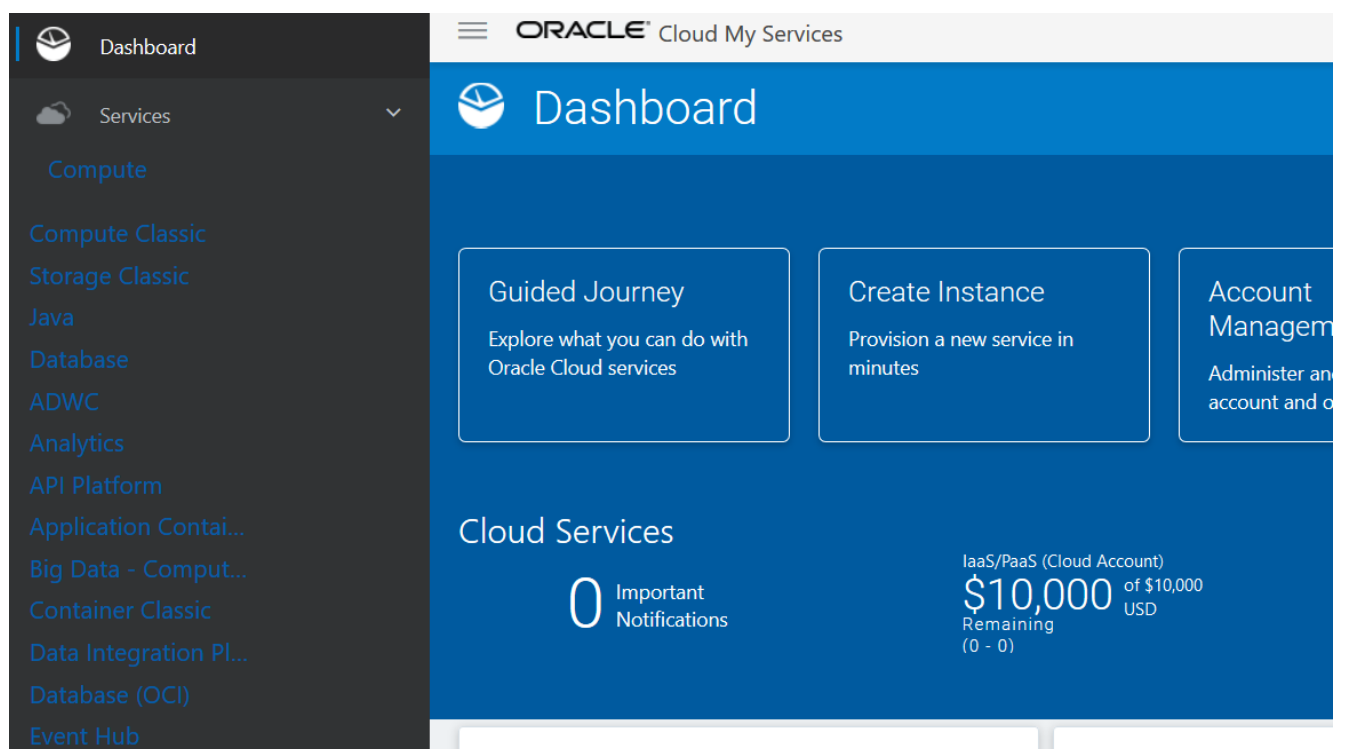
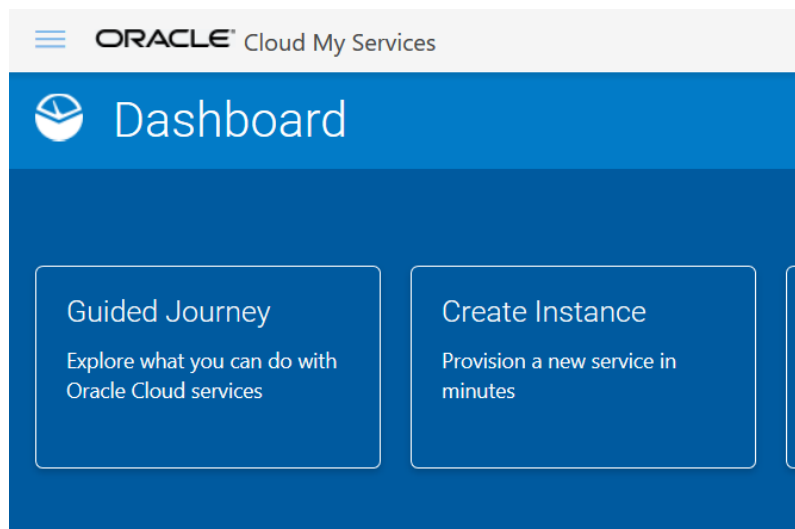


If the compute dashboard is not visible, navigate directly to the OCI service dashboard or customize your dashboard.

Select the menu bar in upper right corner of the compute tile and select service console.



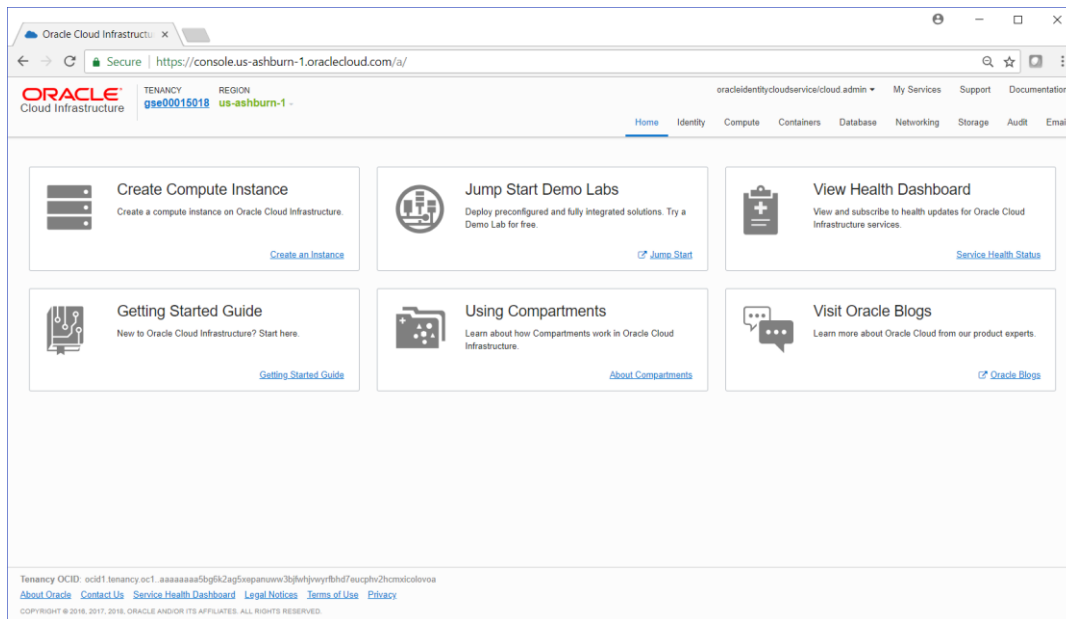
You may also use the menu in the upper left corner, and scroll down to compute. Do not use compute classic or database cloud service, this is the non OCI cloud services.



Select the compute service.

After selecting compute service console you will have the following screen:

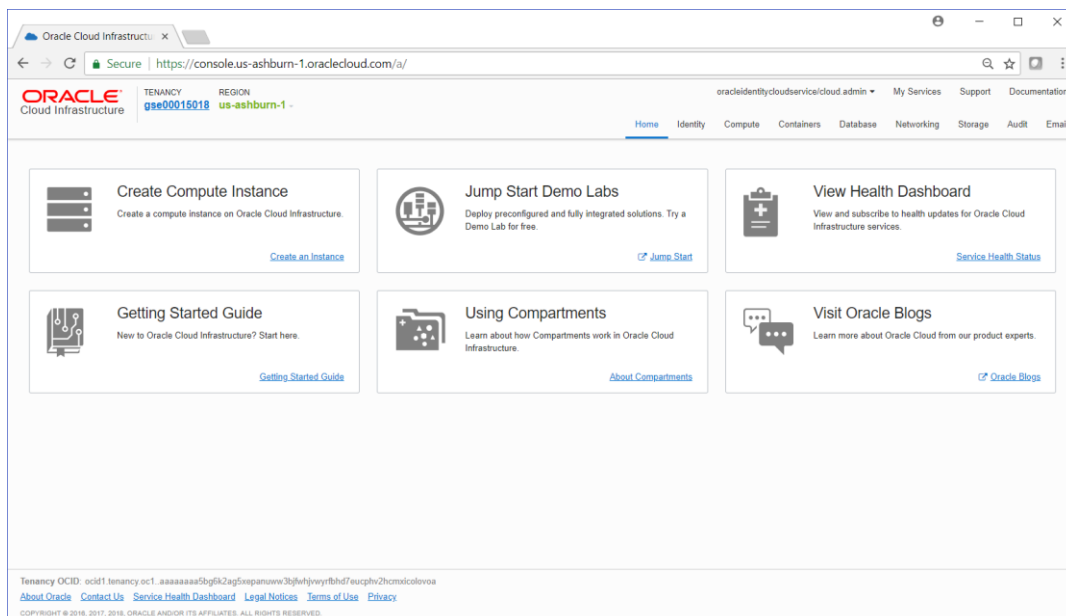




The creation of the funtions lab require the following steps:

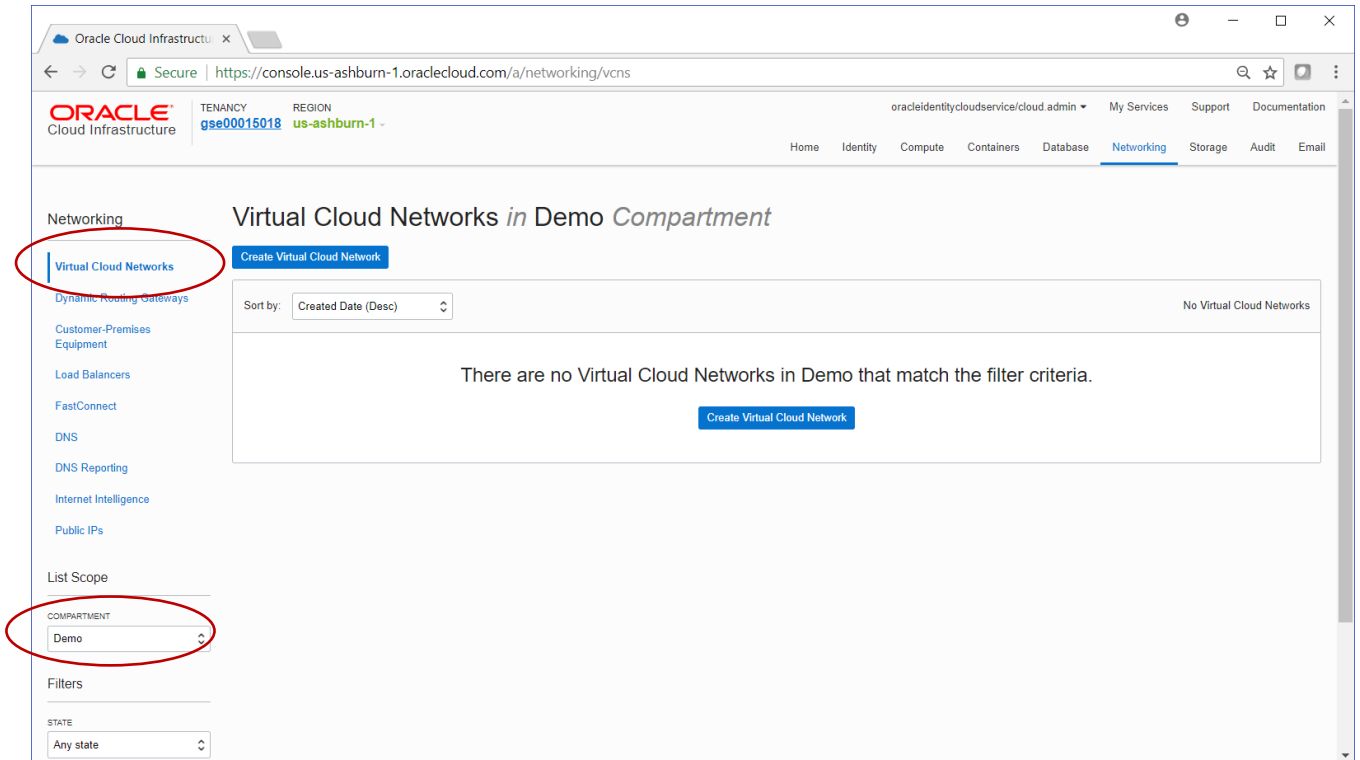
- Create Virtual cloud Network
- Create an image based on prebuilt custom image

After selecting compute service console you will have the following screen:

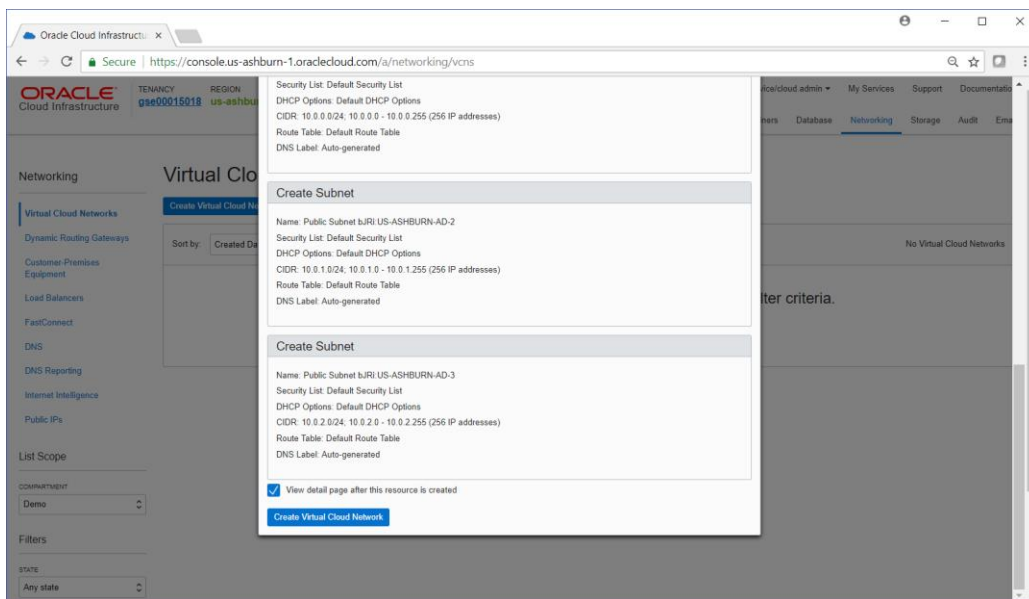
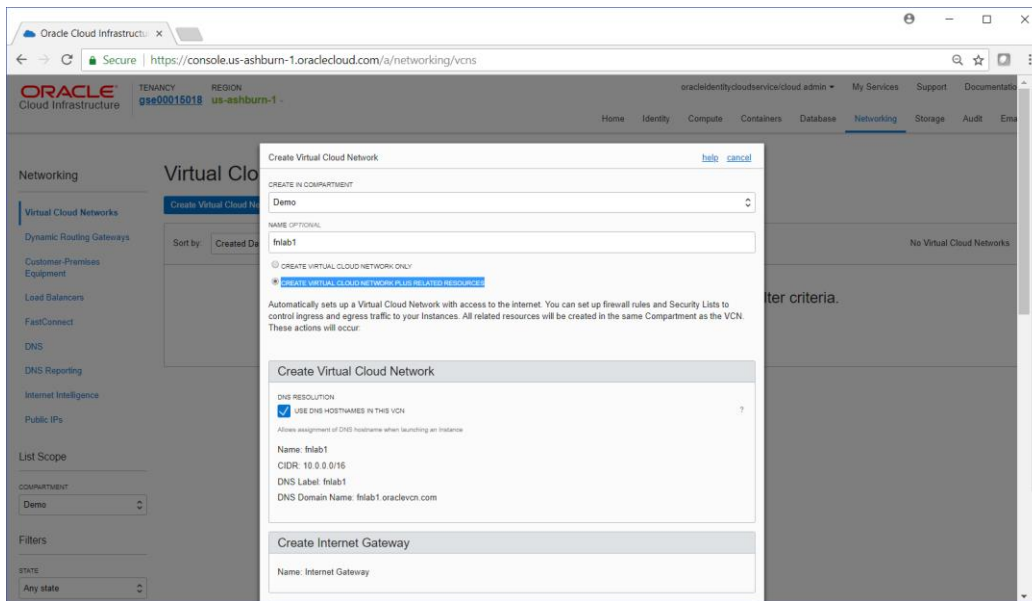


One key concept of Oracle OCI is a compartment, a logical distinction between users. For this all, all use the “Demo” Compartment.


Select network, and select correct compartment.



Create Virtual Cloud Network, select CREATE VIRTUAL CLOUD NETWORK PLUS RELATED RESOURCES.



The screenshot shows the Oracle Cloud Infrastructure console interface. The top navigation bar includes the Oracle logo, tenancy ID (gse00015018), region (us-ashburn-1), and various service links. The main content area is titled "Virtual Cloud Networks in Demo Compartment". A sidebar on the left lists networking services, with "Virtual Cloud Networks" selected. A "Create Virtual Cloud Network" button is visible. Below it, a table displays one VCN with the following details:

VCN	Sort by: Created Date (Desc)	Displaying 1 Virtual Cloud Networks
 <b>fnlab1</b> OCID: ...nit75a <a href="#">Show</a> <a href="#">Copy</a>	CIDR Block: 10.0.0.0/16 Default Route Table: <a href="#">Default Route Table for fnlab1</a>	DNS Domain Name: fnlab1... <a href="#">Show</a> <a href="#">Copy</a> Created: Tue, 15 May 2018 04:52:21 GMT

Below the table, there are filters for "List Scope" (COMPARTMENT: Demo) and "Filters" (STATE: Any state).

You have now create a virtual network with 3 subnets, one for each availability domain.

With the instructor supplied ssh public key, create a compute node, based on the prebaked custom image, with the prebuilt ssh key.

Navigate to compute and browse custom images

Oracle Cloud Infrastructure

TENANCY: gse00015018 REGION: us-ashburn-1

oracleidentitycloudservice/cloud.admin My Services Support Documentation

Home Identity **Compute** Containers Database Networking Storage Audit Email

### Compute

Instances **Custom Images**

**Import Image**

Sort by: Created Date (Desc) Displaying 1 Images

Image	Original Image	Created
<b>fnclean</b> OCID: ..jvwmca <a href="#">Show</a> <a href="#">Copy</a>	–	Created: Mon, 14 May 2018 14:03:43 GMT

Filters

STATE: Any state

Tag Filters: [add](#) | [clear](#)

no tag filters applied

Tenancy OCID: oci1.tenancy.oci1...aaaaaaa5bg6k2ag5xepanuwv3bjfwhjvwyrtbhd7eucphv2hcmxcolovoa

[About Oracle](#) [Contact Us](#) [Service Health Dashboard](#) [Legal Notices](#) [Terms of Use](#) [Privacy](#)

COPYRIGHT © 2016, 2017, 2018, ORACLE AND/OR ITS AFFILIATES. ALL RIGHTS RESERVED.

Navigate to instances and select create:

Oracle Cloud Infrastructure

TENANCY: gse00015018 REGION: us-ashburn-1

oracleidentitycloudservice/cloud.admin My Services Support Documentation

Home Identity **Compute** Containers Database Networking Storage Audit Email

### Compute

**Instances** Custom Images

**Create Instance**

Sort by: Created Date (Desc) No Instances

There are no Instances in Demo that match the filter criteria.

**Create Instance**

Filters

STATE: Any state

Tag Filters: [add](#) | [clear](#)

no tag filters applied

AVAILABILITY DOMAIN

- ☒ BJRI:US-ASHBURN-AD-1
- ☒ BJRI:US-ASHBURN-AD-2
- ☒ BJRI:US-ASHBURN-AD-3

Tenancy OCID: oci1.tenancy.oci1...aaaaaaa5bg6k2ag5xepanuwv3bjfwhjvwyrtbhd7eucphv2hcmxcolovoa

[About Oracle](#) [Contact Us](#) [Service Health Dashboard](#) [Legal Notices](#) [Terms of Use](#) [Privacy](#)

COPYRIGHT © 2016, 2017, 2018, ORACLE AND/OR ITS AFFILIATES. ALL RIGHTS RESERVED.

Give the instance a name, and select custom image:

The screenshot shows the Oracle Cloud Infrastructure console with the 'Create Instance' dialog open. The dialog has the following fields and options:

- NAME:** student01
- AVAILABILITY DOMAIN:** bJRI-US-ASHBURN-AD-1
- BOOT VOLUME:** ☒ ORACLE-PROVIDED OS IMAGE ☒ CUSTOM IMAGE ☐ BOOT VOLUME ☐ IMAGE OCID
- IMAGE:** fnclean
- BOOT VOLUME SIZE (IN GB):** Selected image's default boot volume size: 46.6 GB
- SHAPE TYPE:** ☒ VIRTUAL MACHINE ☐ BARE METAL MACHINE
- SHAPE:** VM.Standard2.1 (1 OCPU, 15GB RAM)
- SSH KEYS:** ☒ CHOOSE SSH KEY FILES ☐ PASTE SSH KEYS

Select shape and paste ssh key (key air from instructor)

The screenshot shows the Oracle Cloud Infrastructure console with the 'Create Instance' dialog open. The dialog has the following fields and options:

- SSH KEYS:** ☒ CHOOSE SSH KEY FILES ☒ PASTE SSH KEYS
- SSH KEY:** ssh-rsa AAAAB3NzaC1yc2EAAAABJQAAQEA... (Add SSH Key button)
- Networking:**
  - VIRTUAL CLOUD NETWORK:** fnclean
  - SUBNET:** Public Subnet bJRI-US-ASHBURN-AD-1
  - ☒ ASSIGN PUBLIC IP ADDRESS
- TAGS:**
  - TAG NAMESPACE:** None (apply a free-form tag)
  - TAG KEY:** (empty field)
  - VALUE:** (empty field)
  - ☒ View detail page after this instance is launched

Select create Instance.

When the instance is created, grab a coffee and wait 2 more minutes....

The screenshot shows the Oracle Cloud Infrastructure console for the 'us-ashburn-1' region. The instance 'student01' is in the 'RUNNING' state. The 'Instance Information' tab is selected, displaying the following details:

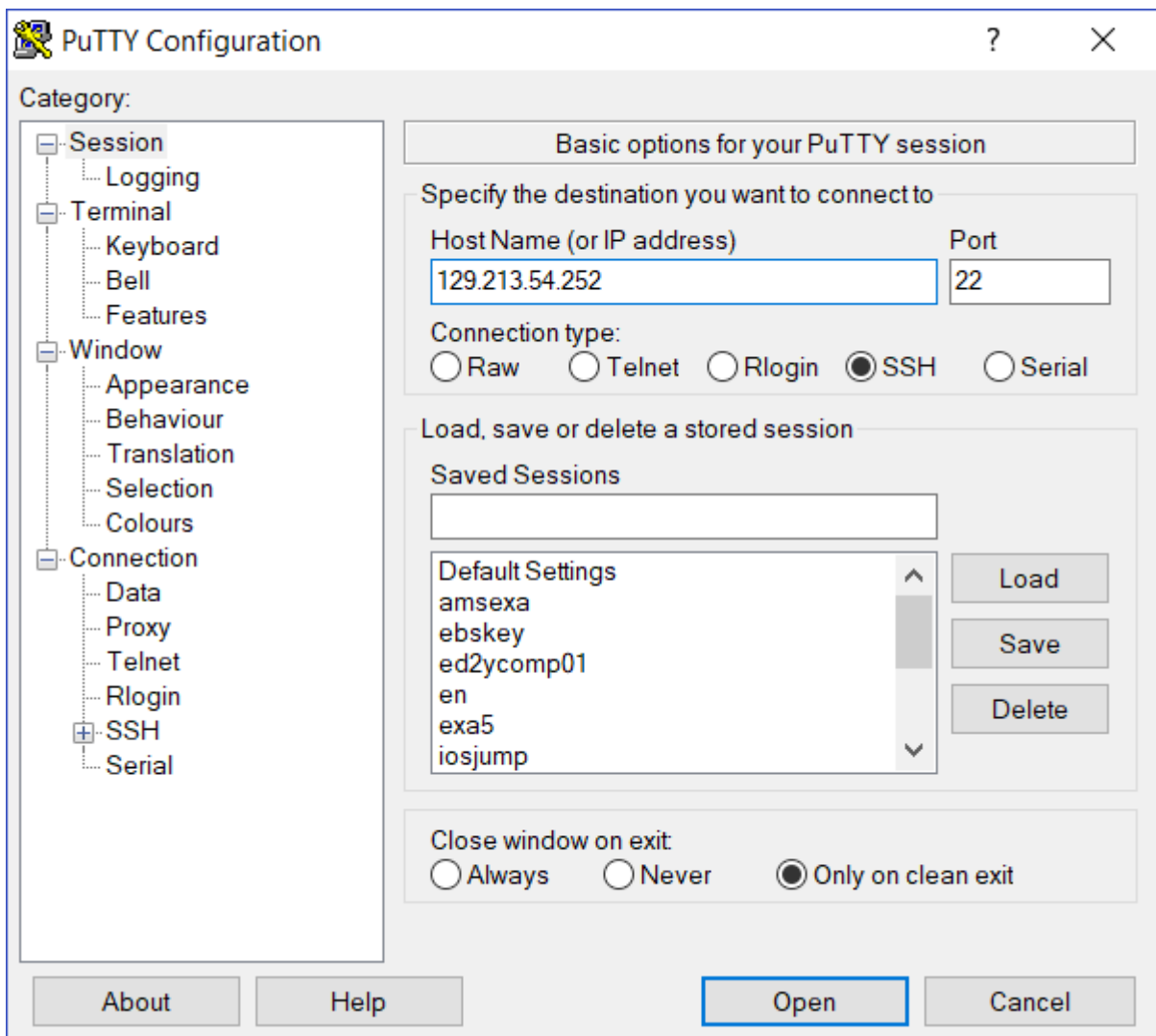
- Instance Information**
  - Availability Domain: bJRI-US-ASHBURN-AD-1
  - OCID: ...kjr1aa [Show Copy](#)
  - Launched: Tue, 15 May 2018 04:57:38 GMT
  - Compartment: Demo
  - Launch Mode: NATIVE
- Primary VNIC Information**
  - Private IP Address: 10.0.0.2
  - Public IP Address: 129.213.54.252** (circled in red)
- Image:** [fnclean](#)
- Region:** iad
- Shape:** VM.Standard2.1
- Virtual Cloud Network:** [fnc1ab1](#)
- Internal FQDN:** student01... [Show Copy](#)
- Subnet:** [Public Subnet bJRI-US-ASHBURN-AD-1](#)

A note at the bottom states: "This Instance's traffic is controlled by its firewall rules in addition to the associated [Subnet's](#) Security Lists."

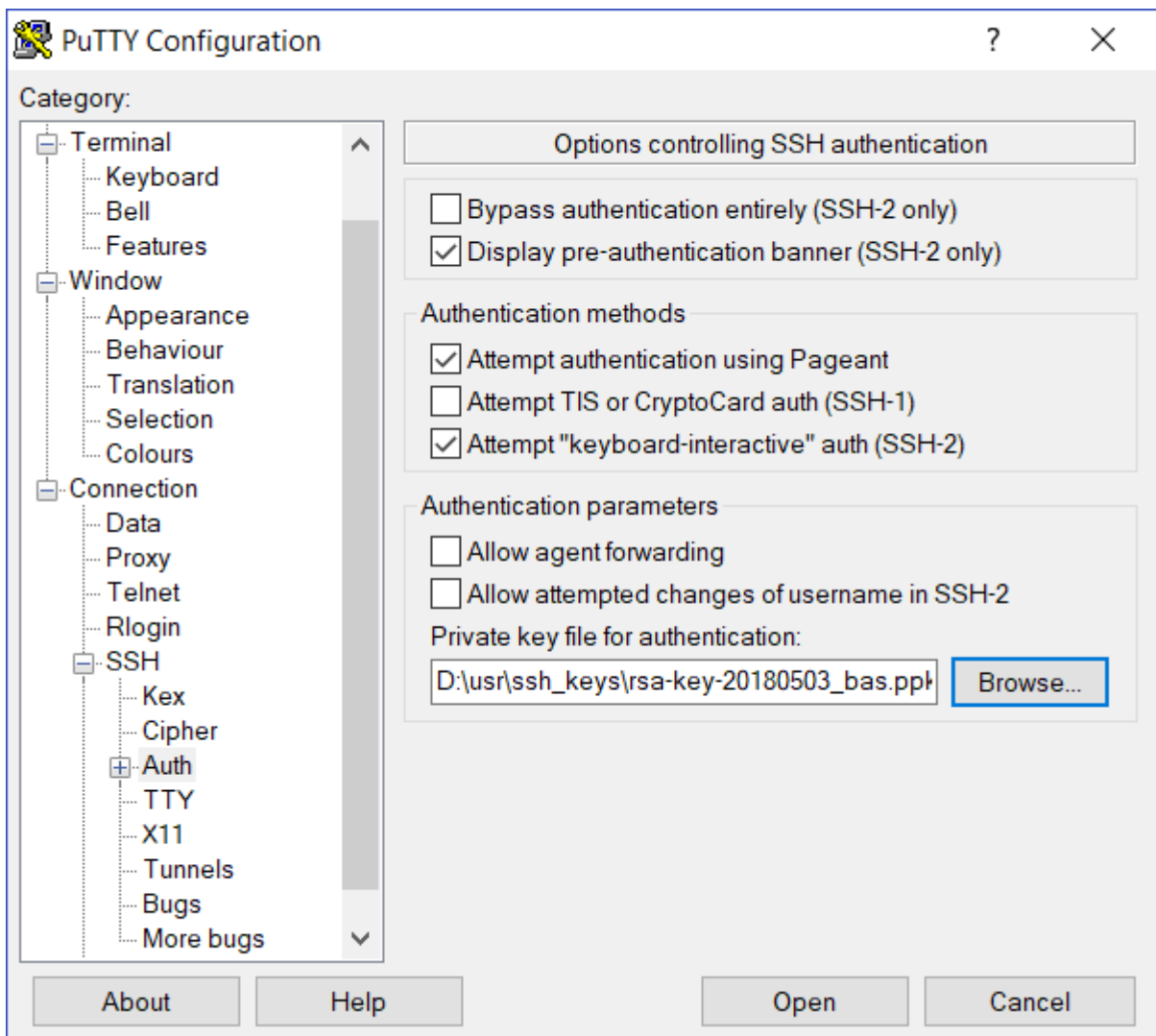
Resources: Attached Block Volumes (0) [Attach Block Volume](#)

Logon with your favorite SSH client to the Instance. Note the public IP address. Userid is OPC, passphrase is given by instructor. Use the private ssh key provided for authentication.

Example with putty:

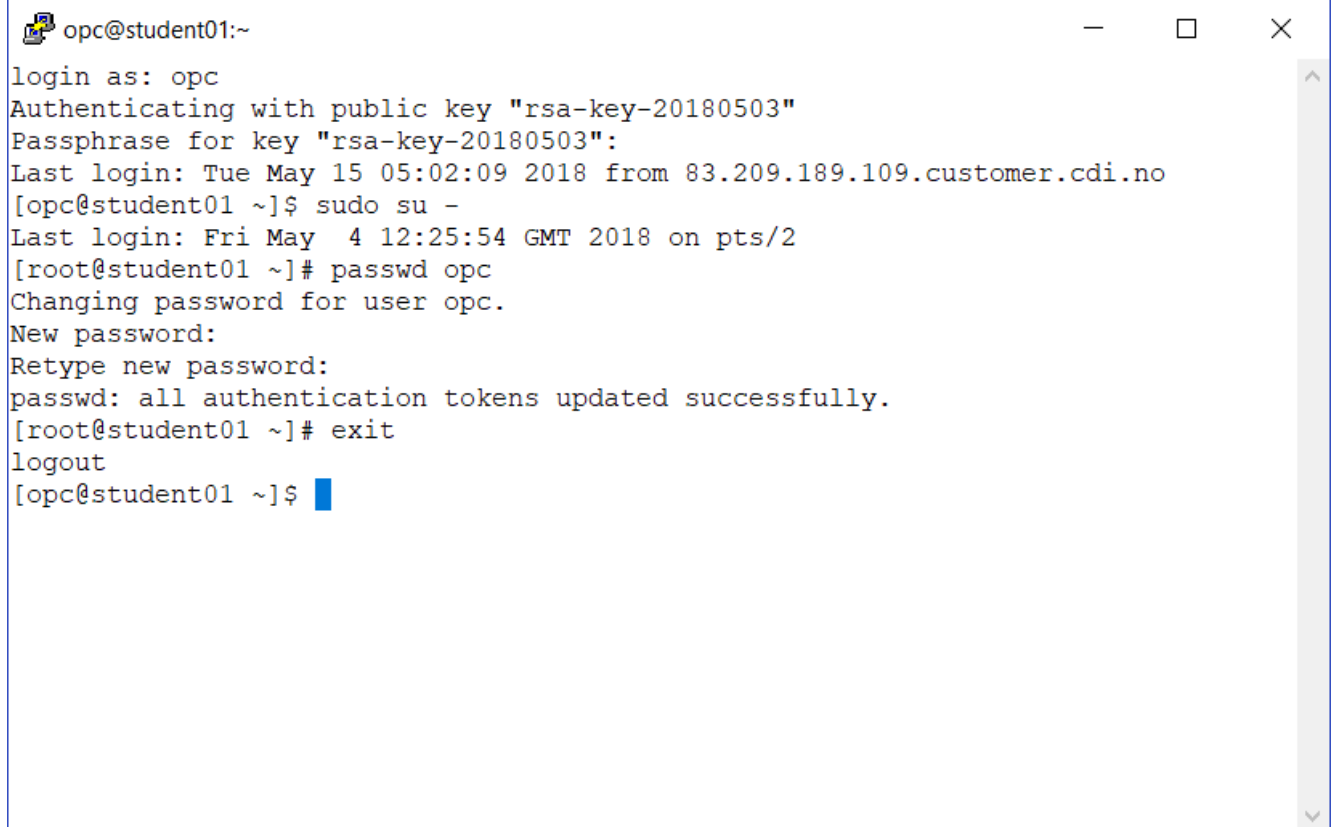








Oracle OCI provides image with password rotation. Even if the OPC password is not known, it is recommended to set it to a known value, for later password reset due to the password rotation. Sudo to root and change the opc password as first action after login on.



```
opc@student01:~  
login as: opc  
Authenticating with public key "rsa-key-20180503"  
Passphrase for key "rsa-key-20180503":  
Last login: Tue May 15 05:02:09 2018 from 83.209.189.109.customer.cdi.no  
[opc@student01 ~]$ sudo su -  
Last login: Fri May  4 12:25:54 GMT 2018 on pts/2  
[root@student01 ~]# passwd opc  
Changing password for user opc.  
New password:  
Retype new password:  
passwd: all authentication tokens updated successfully.  
[root@student01 ~]# exit  
logout  
[opc@student01 ~]$
```