Practices: Create a Compute Instance

Try this hands-on lab with the Oracle Cloud Free Tier. If you do not have a free account, click here to get one.

Overview

You will perform the following tasks in this practice:

- Launch Cloud Shell
- Generate SSH Keys
- Create Compute Instance

Practice: Launching the Cloud Shell

Overview

In this practice you will launch the Cloud Shell session for the OCI user account assigned to you in preparation for the upcoming practices.

Cloud Shell

Oracle Cloud Infrastructure (OCI) Cloud Shell is a web browser-based terminal accessible from the Oracle Cloud Console. Cloud Shell is free to use (within monthly tenancy limits), and provides access to a Linux shell, with a pre-authenticated OCI CLI and other useful tools.

It provides:

- An ephemeral machine to use as a host for a Linux shell, preconfigured with the latest version of the OCI CLI and several useful tools
- 5GB of storage for your home directory
- A persistent frame of the Console which stays active as you navigate to different pages of the console

Note:

- The OCI CLI will execute commands against the region selected in the Console's Region selection menu when the Cloud Shell was started. Changing the region selection in the console will not change the region for existing Cloud Shell instances; you will need to open a new Cloud Shell instance to change regions.
- Cloud Shell sessions have a maximum length of 24 hours, and time out after 20 minutes of inactivity. However, this should not impact this practice.

Prerequisites

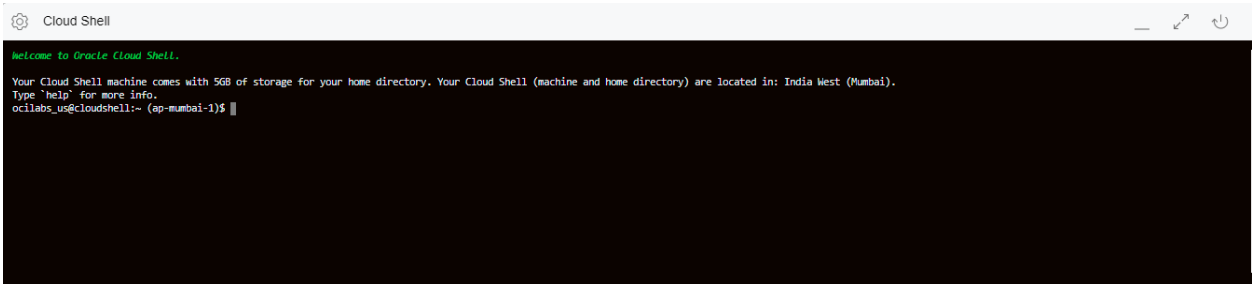
Login with your OCI username and password, create the below policy in root compartment:

```
allow group ocilabs-group to use cloud-shell in tenancy
```

Tasks

1. Log into your Oracle Cloud Free Tier Account
2. Login as ocilabs-user
3. Click the **Cloud Shell** icon in the OCI Console header, highlighted in the below screenshot.

4. This will launch the Cloud Shell in a “drawer” at the bottom of the console. Once it is ready you will see the terminal as show below:



5. You can use the icons in the upper-right corner of the Cloud Shell window to minimize, maximize, and close your Cloud Shell session.

   You can also use the menu icon in the upper-left corner of the cloud-shell window to upload or download files, restart console and different setting options.

6. For clipboard operations:

   - Windows users can use `Ctrl-C` or `Ctrl-Insert` to copy, and `Ctrl-V` or `Shift-Insert` to paste.
   - For Mac OS users, use `Cmd-C` to copy and `Cmd-V` to paste.

   To get started with Cloud Shell, you can run the below OCI CLI command. Your Cloud Shell comes with the OCI CLI pre-authenticated, so there is no setup to do before you can start using it.

7. This command will display the name space of your OCI Tenant.

```
ocilabs_us@cloudshell:~ (ap-mumbai-1)$ oci os ns get
{
  "data": "bm6rwnfgnfbj"
}
```

This completes the task of launching Cloud Shell. Keep this session active for the next practice.

Practice: Generating SSH Keys

Overview

Instances use an SSH key pair instead of a password to authenticate a remote user. A key pair file contains a private key and public key. You keep the private key on your computer and provide the public key every time you launch an instance. In this practice, you will generate SSH keys to be used later while launching an instance.

Tasks

1. Launch the Cloud Shell session as described in the previous practice.
2. Execute the below commands to generate ssh-keys, which will be used to create Compute instance. As long as an **`id_rsa`** and **`id_rsa.pub`** keypair is present, they can be reused. By default these are stored in **`~/.ssh/`** directly.

```
ocilabs_us@cloudshell:~ (ap-mumbai-1)$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key
(/home/ocilabs_us/.ssh/id_rsa):
Created directory '/home/ocilabs_us/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in
/home/ocilabs_us/.ssh/id_rsa.
Your public key has been saved in
/home/ocilabs_us/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:zxQogNbEvQJIAbJb+3x1r8QEJN8ZWlUYHHyZge5lZ10
ocilabs_us@804708cc8ef6
The key's randomart image is:
+---[RSA 2048]----+
|=+.=o.. . o++*o+ |
|o.+ o..+ = o= + E|
|....  ..= +. .  o|
| o .. .. . .. o +|
|. .  .  S +. o o |
|   o   . B ..    |
|    o .   = .    |
|     .   . .     |
|         .       |
+----[SHA256]-----+
```

3. Make sure permissions are restricted, as sometimes ssh fails if private keys have permissive file permissions.

```
ocilabs_us@cloudshell:~ (ap-mumbai-1)$ chmod 0700 ~/.ssh
ocilabs_us@cloudshell:~ (ap-mumbai-1)$ chmod 0600 ~/.ssh/id_rsa
ocilabs_us@cloudshell:~ (ap-mumbai-1)$ chmod 0644
~/.ssh/id_rsa.pub
ocilabs_us@cloudshell:~ (ap-mumbai-1)$ ls -l ~/.ssh
total 8
-rw-------. 1 ocilabs_us oci 1675 Jun 29 17:10 id_rsa
-rw-r--r--. 1 ocilabs_us oci  405 Jun 29 17:10 id_rsa.pub
```

4. Copy the contents of `~/.ssh/id_rsa.pub` on a Notepad. This is your ssh key to connect to the instances.

```
ocilabs_us@cloudshell:~ (ap-mumbai-1)$ cat ~/.ssh/id_rsa.pub
ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQDEUsgq5R/5PcdS1+Mws2Y6vli0HcCw9g3l
uI0x/yFDwE+stlnfyzv4c73+uS35VD6kgFMo5izZKx3fV0JpqhUPjwtwuyigP9jc
6cgJmWjYhkbCHD8r8bFvrdVv0KuUPi+oKQUI4Zr4EtuTao3kkLywWz6aEJgS6GY2
19JSXqBH27QjgGk4l4sdeb9VuTuQ07Z7VyzyAUfKK5oqlJfLC6a/JhdfTLYnv++W
y3lnVZUojEQK57bOD7jVDTTErs0PSWXzMedretrEXtsBU+Tm1DZBe7QWoqghMTkI
a3hegu1qIwVxujfy7xDNPE1FHR/LG0978CyJwAfRShjXAYQtSwMF
ocilabs_us@804708cc8ef6
```

This completes the task of creating the ssh key.

Practice: Creating a Compute Instance

Overview

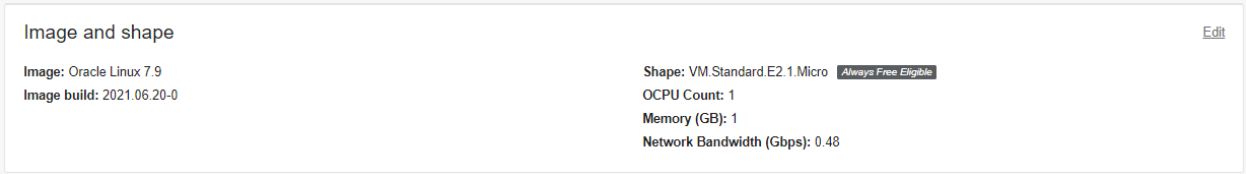
In this practice, you create Compute VM instances in each of the two subnets in your VCN.

An Oracle Cloud Infrastructure VM Compute instance runs on the same hardware as a Bare Metal instance, leveraging the same cloud-optimized hardware, firmware, software stack, and networking infrastructure.

Tasks

1. In the OCI Console, navigate to **Menu** > **Compute** > click **Instances**.
2. Click **Create Instance**.

   Note: You should select your compartment before creating an instance.
3. Fill in the following details for your Compute instance:
   - **Name**: `OCI_Compute`
   - **Compartment:** `ocilabs`
   - **Placement:** `Select default`
   - **Image or Operating System:** `Select the default Oracle Linux image`
   - **Availability Domain:** `Select any Availability Domain`
   - **Shape:** `VM.Standard.E2.1.Micro`



Note:

To change the Image, you can click Change Image; however, you cannot change the Shape in Always Free Account.

Click Show Shape, Network, and Storage Options and explore the details.

   - **Networking:** `OCI_VCN`
   - **Add SSH Keys: Select the Paste SSH keys option and** paste the content of your Public SSH key copied in the previous practice. (Also available in `~/.ssh/id_rsa.pub`)
   - **Boot Volume:** Select default

4. Finally, click **Create** to create the Compute instance.

5. Once the instance state changes to **Running**, you can SSH to the Public IP address of the instance. To do this, make a note of the Public IP address that gets assigned to the `OCI_Compute`.
6. You will use **Cloud Shell** to connect to the Compute instance. Bring up the minimized Cloud Shell terminal, or launch it again and enter the following command, and enter **Yes** when prompted to continue connecting.

```
$ ssh opc@<Public_IP_of_Compute>
```

Note: In general, for OCI Linux-based compute instances, the default username is **opc.**

Once successfully connected, you can see the change in the command prompt to ensure you are now logged in to your 'OCI_Compute' Compute instance.

This completes the task of creating a Compute instance.