OnRamp to OpenStack Workshop

Cloud User Hands-on Workflow

In this lab we are going to explore both the OpenStack Horizon interface and the command line utilities.

You will be give a login and password to access the lab from your moderators. Please use your login # for all exercises in this lab

*****Windows users- please follow the "NOTE" section for installing & using PUTTY tools to SSH and SCP from a Windows laptop**

Please do not change any user or root passwords in the TestFlight environment!

Section A - Getting to know the Horizon Interface

1. Log into TestFlight Dashboard with the Onramp Workshop credentials given to you

https://onramp.testflight.osc.redhat.com/

2. Explore the Dashboard UI (but don't create/change anything yet)

3. Go to the "Access & Security" Tab

- Create a new Security group titled Secgroup-tfuser**XX**
- Do not modify the existing security group titled *"default"*
- Add rules to your Security group to allow the following:
    - HTTP from CIDR 0.0.0.0/0 (any address)
    - SSH from CIDR 0.0.0.0/0
    - DNS from CIDR 0.0.0.0/0
    - UDP port 53 from CIDR 0.0.0.0/0
    - All ICMP from CIDR 0.0.0.0/0

4. Go back to the "Access & Security" Tab

- Create new keypair called kp-tfuser**XX**
- Download the private key .pem file to your laptop
- **Linux & Mac only** – set file permissions for private key file :

chmod go-rw kp-tfuser**XX**.pem

5. Go to the "Images" Tab

- Browse the provided Cloud Images but don't change anything.

Go onto step 6

NOTE to Windows Users: For ssh access here in the following steps, you will need to use Putty or similar ssh client. Putty requires conversion of the kp-tfuserXX.pem file to the Putty-specific .ppk format.

Please see Workshop USB drive for the Putty Software and instructions to convert your SSH Key into Putty and copy the Key to the instance

6. Now let's launch a RHEL 6.5 Instance

- Click on the Instances tab and then the Launch Instance button.
    - Name the instance *tfuser**XX**-inst1*
    - Pick the flavor m1.tiny
    - Instance count = 1
    - Select 'Boot from image' as the Boot Source and select the appropriate RHEL6.5 Image Name
- Click on the *"Access & Security"* tab *within* "Launch Instance" and:
    - Associate keypair just created
    - Select security group Secgroup-tfuser**XX**
    - De-select security group *default*
- Now Launch instance and observe the image being Built, Scheduled and becoming - - -
- Active Assign a Public Floating IP
    - Go to "Access & Security," and then go to "Floating IPs."
    - Choose an IP that is not currently associated with an instance, and click on Associate.
    - Select your instance in the drop-down.
    - Click on the Associate button.

**** If No Floating IPs are available, then follow this procedure

- Click on Allocate IP to Project

  Click Select Test Flight Pool and click Allocate IP

  Select IP address, click Associate

  Select your instance in the Instance To be Associated field and Click Associate

- NOTE: The default user name for RHEL 6.5 cloud images is *cloud-user* and you can run privileged commands via *sudo*

LINUX/MAC Laptop: SSH into the launched instance through it's floating IP address from your laptop

$ ssh -i ~/Downloads/kp-tfuser**XX**.pem cloud-user@209.132.185.xx

WINDOWS Laptop: SSH into the launched instance through it's floating IP address from your laptop

- Please see Workshop USB drive for the Putty Software and instructions to convert your SSH Key into Putty and copy the Key to the instance

Section B: Launch a Fedora Instance

- Click on the Instances tab and then the Launch Instance button
  - Name the instance tfuser**XX**-inst2
  - Select m1.tiny flavor
  - Instance count = 1
  - Select 'Boot from image' as the Boot Source
  - Select Fedora 20 Image
- Click on *"Access & Security"* tab *within* "Launch Instance" and:
  - Associate keypair just created
  - Select security group Secgroup-tfuser**XX**
  - De-select security group *default*
- Now launch the instance
- Assign a Public Floating IP
  - Go to "Access & Security," and then go to "Floating IPs."
  - Choose an IP that is not currently associated with an instance, and click on Associate.
  - Select your instance in the drop-down.
- Click on the Associate button.

- SSH into the instance via it's floating IP address. The default username for the Fedora cloud images is *fedora*.

$ ssh -i ~/Downloads/kp-tfuser**XX**.pem fedora@209.132.185.xx

Section C - Command Line Workflow

In addition to using the dashboard, it's also possible to access OpenStack via the API or via command line utilities that connect to the API. There are a number of existing command line utilities provided as part of an OpenStack distribution's Client Package set, namely *nova, glance, swift, cinder, neutron, heat,* etc.

On a RHEL OpenStack Platform node with valid subscription, or on a Fedora node, these can be installed by a "yum install python-novaclient python-glanceclient python-cinderclient " (etc.)

****** WINDOWS USERS: Please see Workshop USB drive for the Putty Software and instructions (Putty How To) to SSH into and copy your file from your laptop to the instance.**

Use Putty Tools for Lines 1 & 4

We will use the Fedora instance that you just created for the command line workflow by installing the OpenStack client packages..

1. $ ssh -i ~/Downloads/kp-tfuser**XX**.pem fedora@209.132.185.xx
2. [fedora@tfxxins2 ~]$ sudo yum install python-{nova,keystone,cinder,glance}client
3. In Horizon Dashboard, go to "Access and Security"
    1. Select API Access
    2. Select Download OpenStack RC File
4. Re-name the file downloaded in the previous step to 'keystonerc-tfuser**XX**', then transfer the file to the Fedora instance.

    $ scp -i ~/Downloads/kp-tfuserxx.pem ~/Downloads/keystonerc-tfuser**XX** fedora@209.132.185.xx:/home/fedora/
5. Source the keystonerc-tfuser**XX** file to set the environment variables (use the credentials provided for your OpenStack account for the Password)
    1. [fedora@tfxxins2 ~]$ source keystonerc-tfuser**XX**
    2. Please enter your OpenStack Password:
6. Now you can run the OpenStack cli commands to connect to the API directly
    1. Lets create a cinder volume and attach it to the running Fedora

[fedora@tfxxins2 ~]$ cinder create 1

```
+---------------------+--------------------------------------+
|      Property       |                Value                 |
+---------------------+--------------------------------------+
|     attachments     |                  []                  |
|  availability_zone  |                 nova                 |
|       bootable      |                false                 |
|      created_at     |      2014-03-10T10:59:57.735147      |
| display_description |                 None                 |
|     display_name    |                 None                 |
|          id         | 4e2e4e81-b4f5-42e4-800c-00eeb4eac1aa |
|       metadata      |                  {}                  |
|         size        |                  1                   |
|     snapshot_id     |                 None                 |
|     source_volid    |                 None                 |
|        status       |               creating               |
|     volume_type     |                 None                 |
+---------------------+--------------------------------------+
```

List the volume you just created and copy the id to Notepad

2. [fedora@tfxxins2 ~]$ cinder list

List all the instances and copy the id of your Fedora instance to Notepad

3. [fedora@tfxxins2 ~]$ nova list

```
+--------------------------------------+---------------+---+-----------+----
| ID                                   | Name          | Status | Task State | ...
+--------------------------------------+---------------+--------+-----------+----
| 567890ab-5678-1234-abcd-ddddeeeeffff | tfuserXX-inst1 | ACTIVE | None      | ...
| 12345678-90ab-cdef-1234-aaaabbbbcccc | tfuserXX-inst2 | ACTIVE | None      | ...
+--------------------------------------+---------------+--------
```

Using the <instance_id> & <volume_id> you copied above, attach the new Volume to your instance

Note that the first UUID in the "nova volume attach" command is the UUID of the instance (from the output of the "nova list" command). The second UUID is that of the volume (from the output of the "cinder create" command).

4. [fedora@tfxxins2 ~]$ nova volume-attach <instance_id> <volume_id> auto

- Example: nova volume-attach 12345678-90ab-cdef-1234-aaaabbbbcccc 4e2e4e81-b4f5-42e4-800c-00eeb4eac1aa auto

```
+----------+--------------------------------------+
| Property | Value                                |
+----------+--------------------------------------+
| device   | /dev/vdb                             |
| serverId | 12345678-90ab-cdef-1234-aaaabbbbcccc |
| id       | 4e2e4e81-b4f5-42e4-800c-00eeb4eac1aa |
| volumeId | 4e2e4e81-b4f5-42e4-800c-00eeb4eac1aa |
+----------+--------------------------------------+
```

Verify Volume is attached to your instance through Horizon DashBoard

1. Go to Volumes Tab

2. Look for ID of Volume created above and verify it is attached to your Fedora instance as /dev/vdb

Next Steps

Instances created in this lab will be automatically deleted by the lab administrator following the workshop. For longer term access to the TestFlight environment, contact your Red Hat account representative or Red Hat partner representative to request a permanent TestFlight account.

Evaluation subscriptions for on-premise use of Red Hat Linux OpenStack Platform can be requested at http://www.redhat.com/openstack/evaluation/

END OF LAB