Hands On Labs

The OpenStack Lab's Existing Networks

Table of Contents

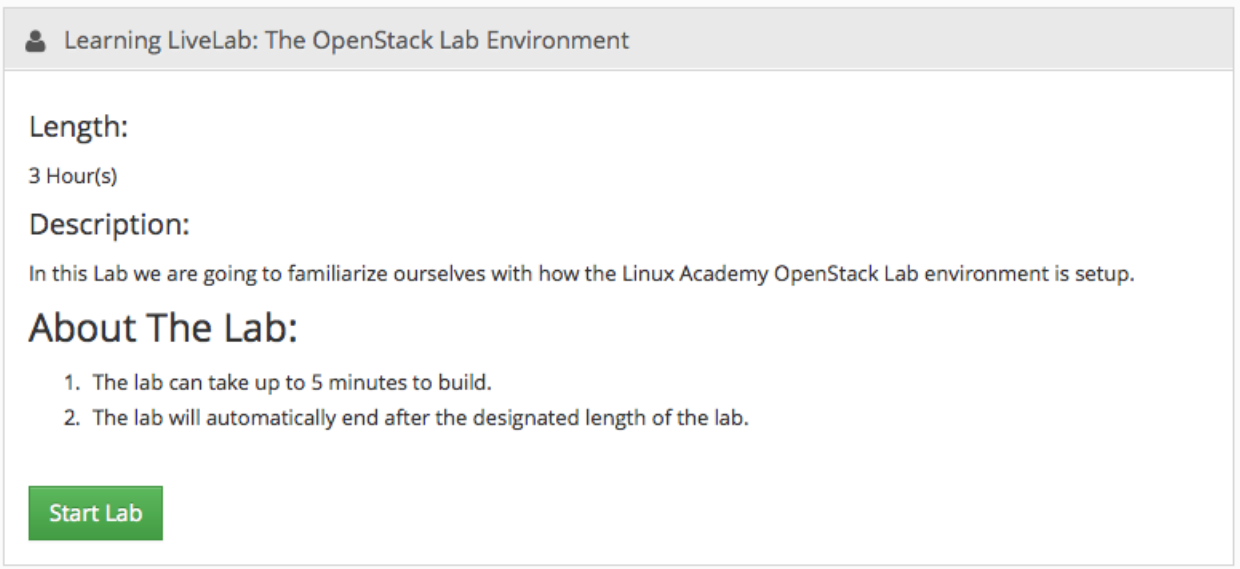
Introduction

In this Lab, we are going to familiarize ourselves with how to navigate an OpenStack's existing Network setup and familiarize ourselves with the Network Topology screens.

Environment

The OpenStack lab is an 'all-in-one" server host. This means that all of the services that we learn about throughout this course are all installed and running on a single host server.

To start an OpenStack lab, you do so by selecting an OpenStack Live Lab. The following should then look like:



Then, after you select 'Start Lab', a few moments later you will receive:

Horizon Login URL: IP ADDRESS AND URL FOR OPENSTACK HORIZON GUI

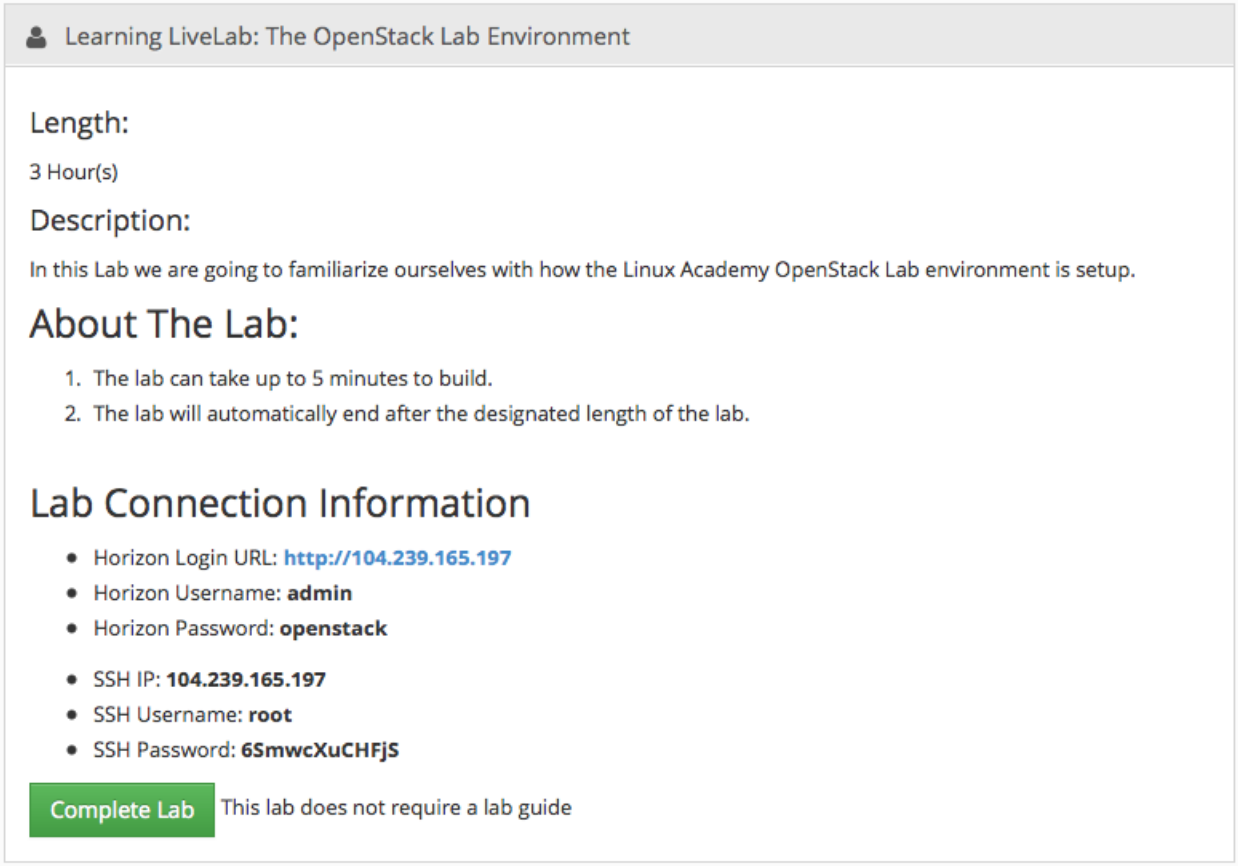
Horizon Username: admin

Horizon Password: openstack

SSH IP: This is the same IP address that you will use to access the host via ssh Terminal using the root user

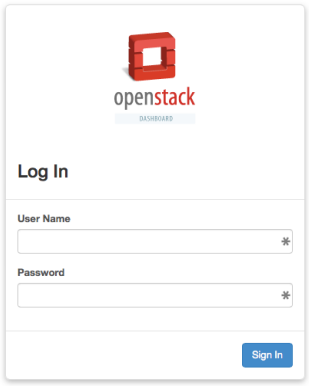
SSH Username: root

SSH Password: This is the password for the ssh user root and will be generated when you start this lab



Accessing the Horizon Web GUI

After you start the lab, you can click on the Horizon link on the Live! lab page and you will be given a page like follows:



You can login using the username **demo** and the password **openstack** again which is shown on the Live! Lab control panel page after you start the lab.

Viewing Network Settings with the Network Topology

In the default Linux Academy Live Lab, there are two Layer 2 networks, each with existing subnets.

Step 1: After logging in to the OpenStack Horizon as **demo,** you need to browse to Project → Compute → Instances.

Step 2: Now click on the 

button.

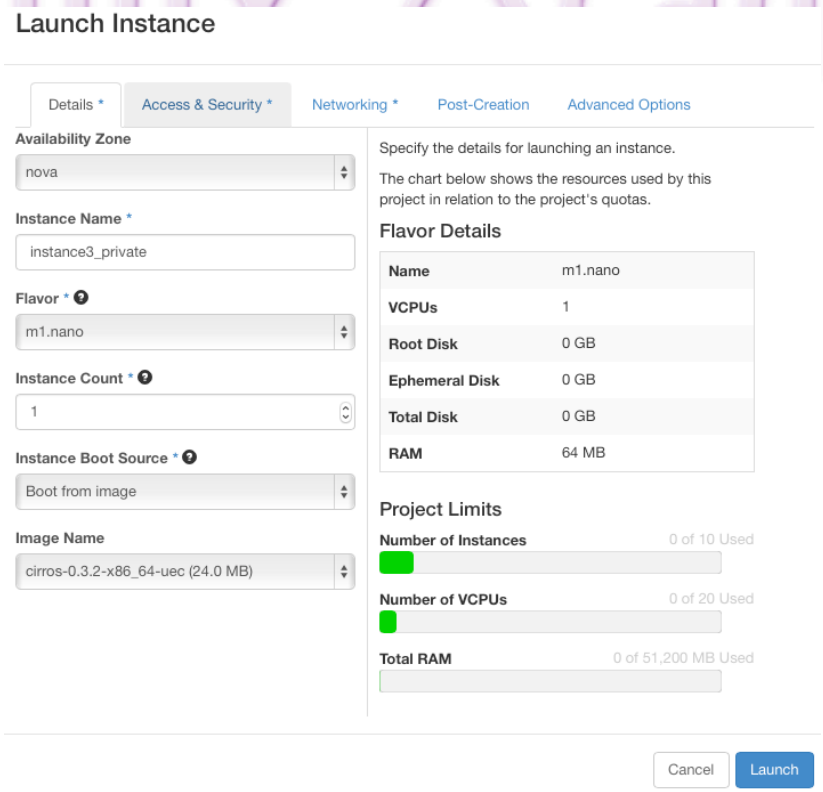
Step 3: Now we are going to create and launch an Instance using the following settings:

Instance Name: Instance3_private

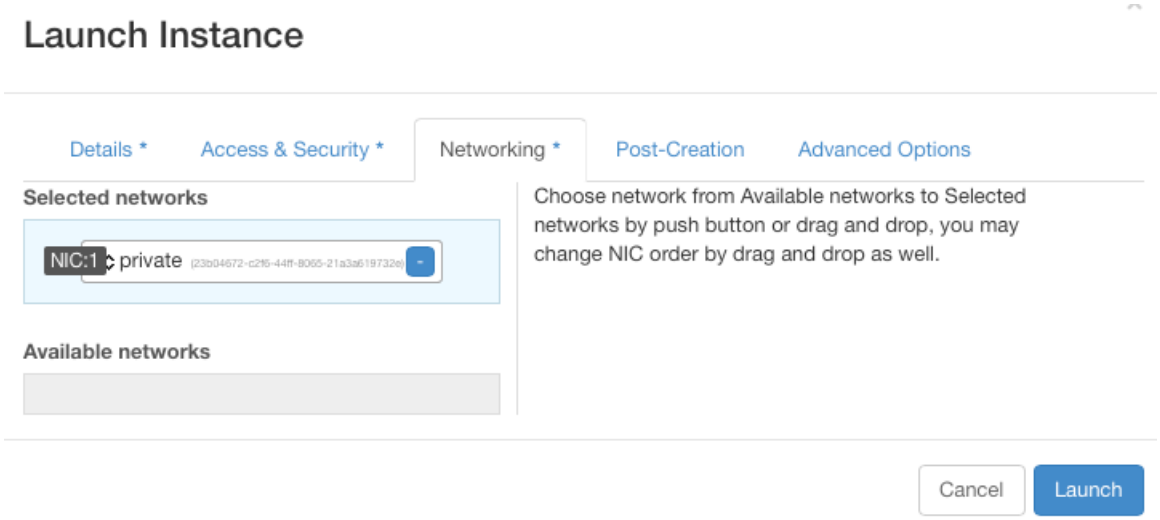
Flavor: m1.tiny

Instance Boot Source: Boot from image

Image name: cirros-0.3.*-x86_64-uec



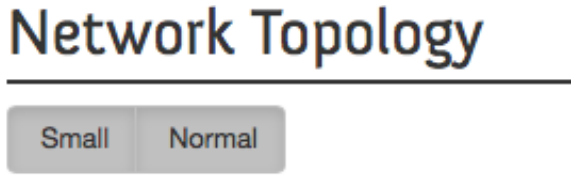
Step 4: While still on the Launch Instance screen, click to the Networking tab and be sure your Selected Network is set to the 'private' network and then select 'Launch'.



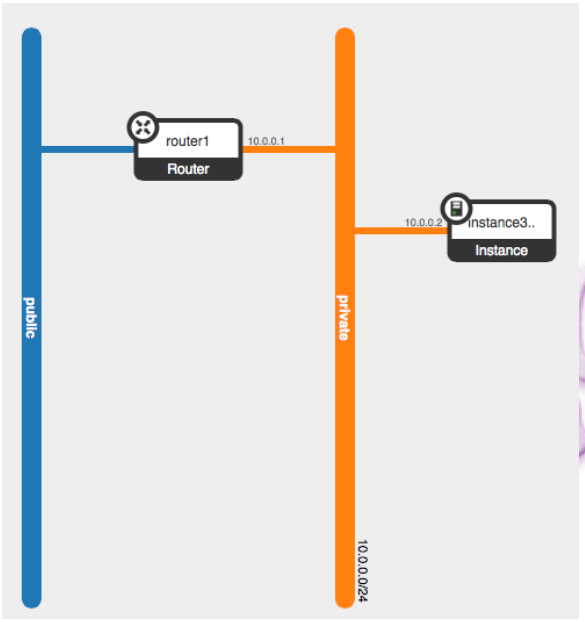
Step 5: Now let's browse to the Networking tab and take a look at the Network Topology screen.

Browse to Project → Network → Network Topology.

Then select 'Normal' at the top of the Network Topology screen to get a more detailed view of the Virtual Machine shown running on the 'private network'.



You should now see something similar to the below image:



On the Network Topology screen, we can see that we have two existing networks. We have a public network and we have a private network. Notice that because we launched instance3_private in to the private network it shows that it is associated to this network.

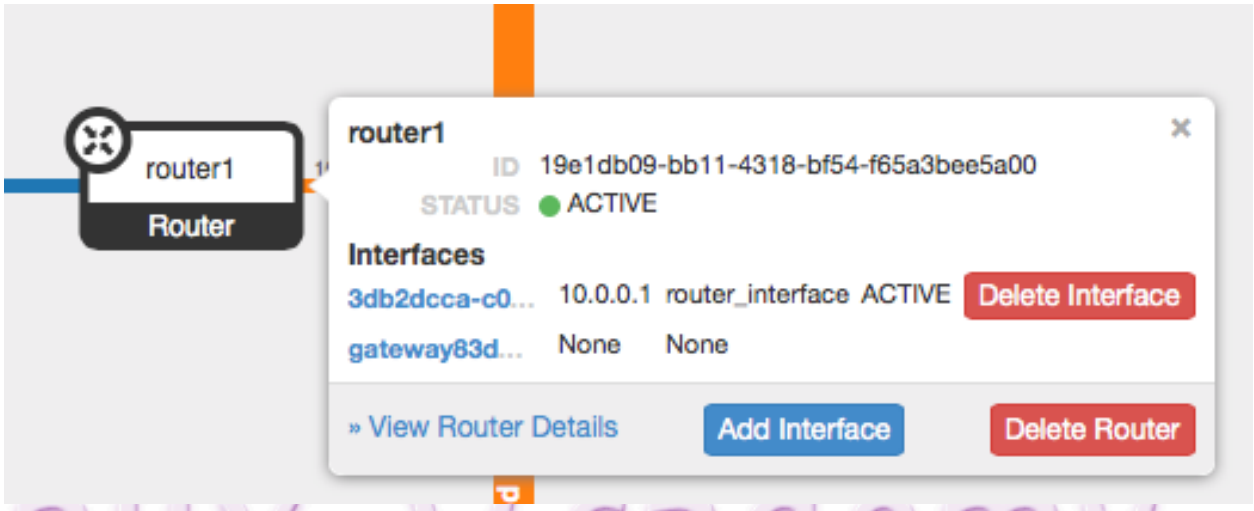
Again, going off of what we have learned in Neutron, the public network is a network that is created by an administrative cloud user. With the public network, Virtual Machine Instances can get out to the Internet as well as used to connect publicly into the instance. We are unable to see the public network details because, again, this is an administrated network from the cloud admin. If we were to login to Horizon as an administrator, we would be able to see the details of this public network and it's subnet.

The private network is the internal network that is used for instance-to-instance network traffic. This private network is the default network for our tenant demo.

Furthermore, we can see that we have router1. Router1 is how both the private and public subnets can communicate between the different networks. This is, as we have learned in the Neutron lessons, also the default gateway for the private subnet.

We can see these details by hovering our mouse over the router itself.

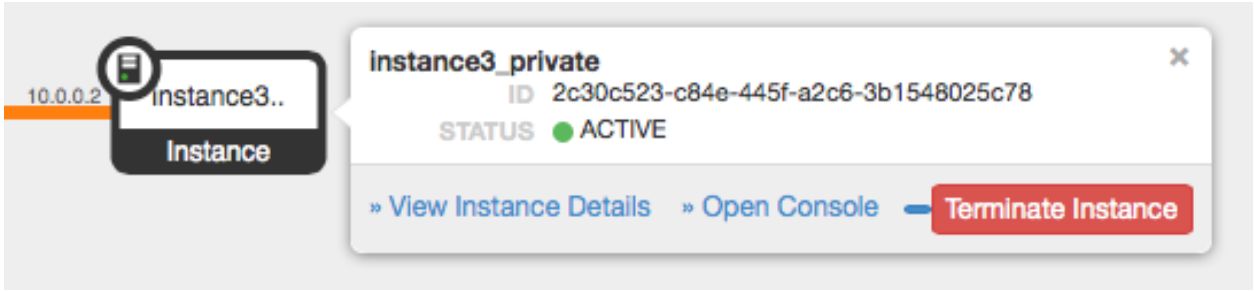
Step 6: Hover your mouse over router1



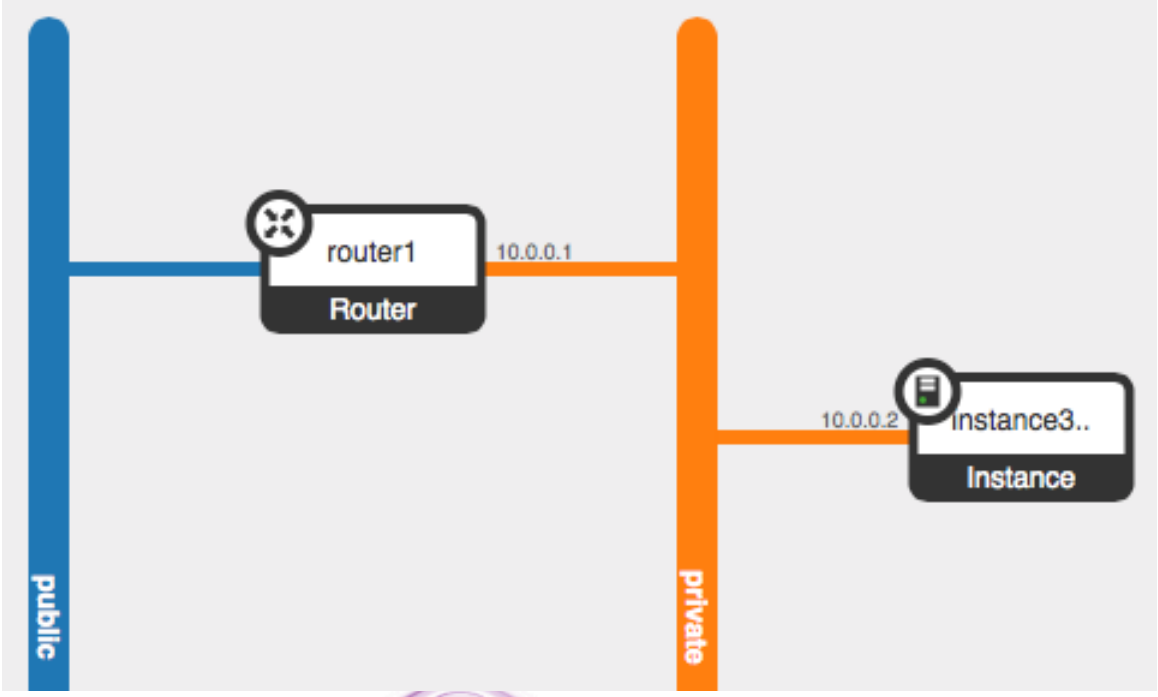
Notice the two interfaces that the router has associated with it.

We can also see an overview of instance3_private by placing our mouse over it.

Step 7: Hover over the instance3_private instance

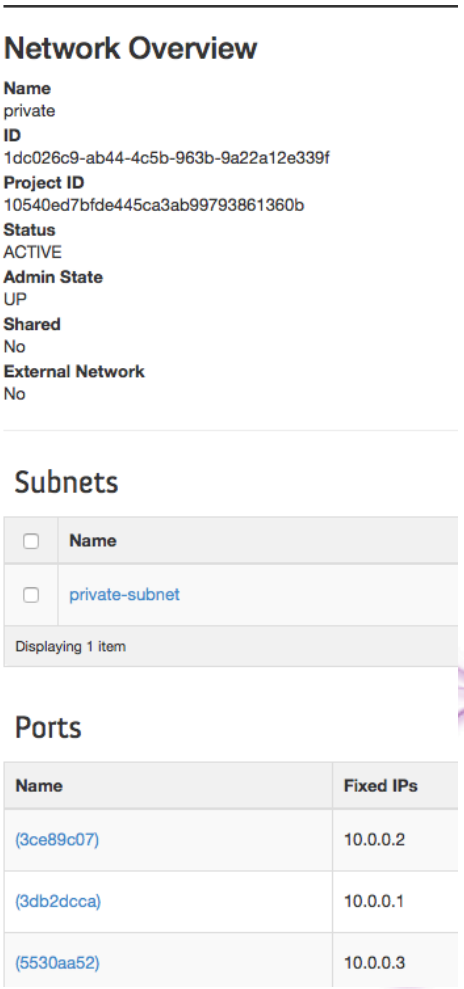


Step 8: Notice that the Network Topology window shows us great information on the flow of the Network as well as what IP the gateway is for the private network and what IP address is assigned to our instances.



Gateway: 10.0.0.1

IP for instance3_pricate: 10.0.0.2



Viewing Network Details

We can use Network Details of the private network by clicking on the private segment on the Network Topology. This will take us to the Network Overview screen that shows us several details like what subnets our network has and the Network Ports being used.

We can see that we have three VIF ports connected to this network.

We have **compute:nova** which is the port for our private network with the IP address of 10.0.0.2

We have the **network:router_interface** which is the port for the router1 router that has the IP of 10.0.0.1

Then we have **network:dhcp** which is the port for the DHCP Server with the IP address of 10.0.0.3

**Note: your IP addresses might be different

We also see that this network is not shared and it is not set as an External Network.

You are now finished looking at the default network setup.