Cloud Computing Lab

Experiment-7

Find a procedure to launch virtual machine using trystack (Online Openstack Demo Version)

TryStack was once an OpenStack-powered online demo platform for testing OpenStack's features, such as launching virtual machines (VMs). However, TryStack has been discontinued. Today, the best way to try OpenStack without a full installation is to use either **devstack** (for local installation on a single machine) or public cloud providers that offer OpenStack-based services.

OpenStack is an open-source software cloud computing platform. OpenStack is primarily

used for deploying an infrastructure as a service (IaaS) solution like Amazon Web Service (AWS).

TryStack is the easiest and free way to do it.

Minimum requirements for OpenStack is listed below:

4 GB Of Ram.

4 CPU Units.

30 GB Disk Space.

Step 1: Prepare the environment for installing OpenStack:

Run the following commands and you will be done with it to bring all your packages to

the latest version and install git so that we can clone OpenStack to our Linux machine.

Commands :

```
sudo apt-get update
sudo apt-get upgrade
sudo  apt-get  dist-
upgrade  sudo  apt-get
install git -y sudo reboot
```

Step 2: Download and Install OpenStack!

Note: If you already have a "stack" user on your virtual machine or laptop (with sudo privileges), then you do not need to create an additional user.

After your virtual machine is done with a reboot, you are now ready to install OpenStack.

Normally OpenStack runs under non-root user with sudo privileges. We can easily create one to start with using:

Create the user named as "stack"

```
Sudo useradd -s /bin/bash -d /opt/stack -m stack
```

Now let us give this user sudo privileges using:

```
echo"stack ALL=(ALL) NOPASSWD: ALL"|sudotee/etc/sudoers.d/stack
```

We now have to log in as user “stack” to proceed with our installation as

```
sudosu–stack
```

Start with the installation of openstack by downloading the required material.

git clone https://git.openstack.org/openstack-dev/devstack

```
# cd to the cloned directory
cd devstack
```

Normally during installing it will ask you to set various passwords, you can automate this process by creating a file in your current directory named “local.conf”. Save and exit the following file, this will automate the installation process.

```
# create the file
$nanolocal.conf
```

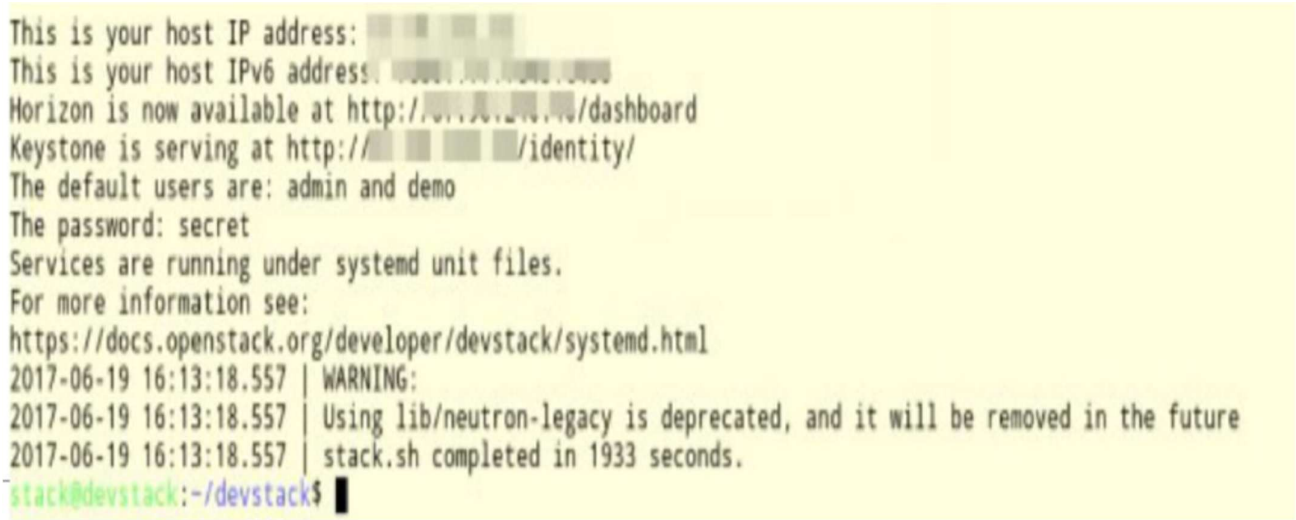
Now paste following contents in the file [[local|localrc]]

```
ADMIN_PASSWORD=secret
DATABASE_PASSWORD=$ADMIN_PASSWORD
RABBIT_PASSWORD=$ADMIN_PASSWORD
SERVICE_PASSWORD=$ADMIN_PASSWORD
```

We are now ready to run the installation script. Installation script can be launched using the command:

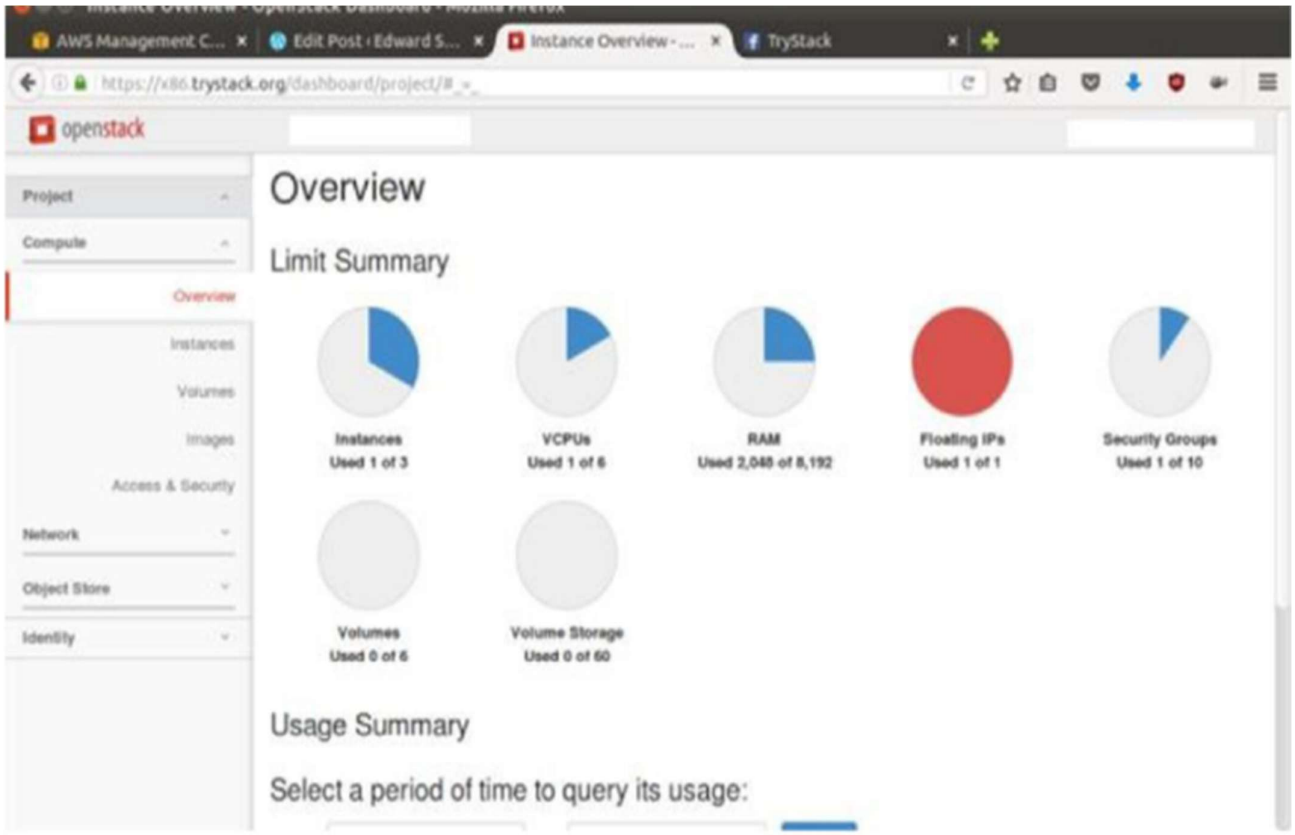
```
./stack.sh
```

Once installation is complete your screen should be :



OpenStack dashboard can now be accessed at :

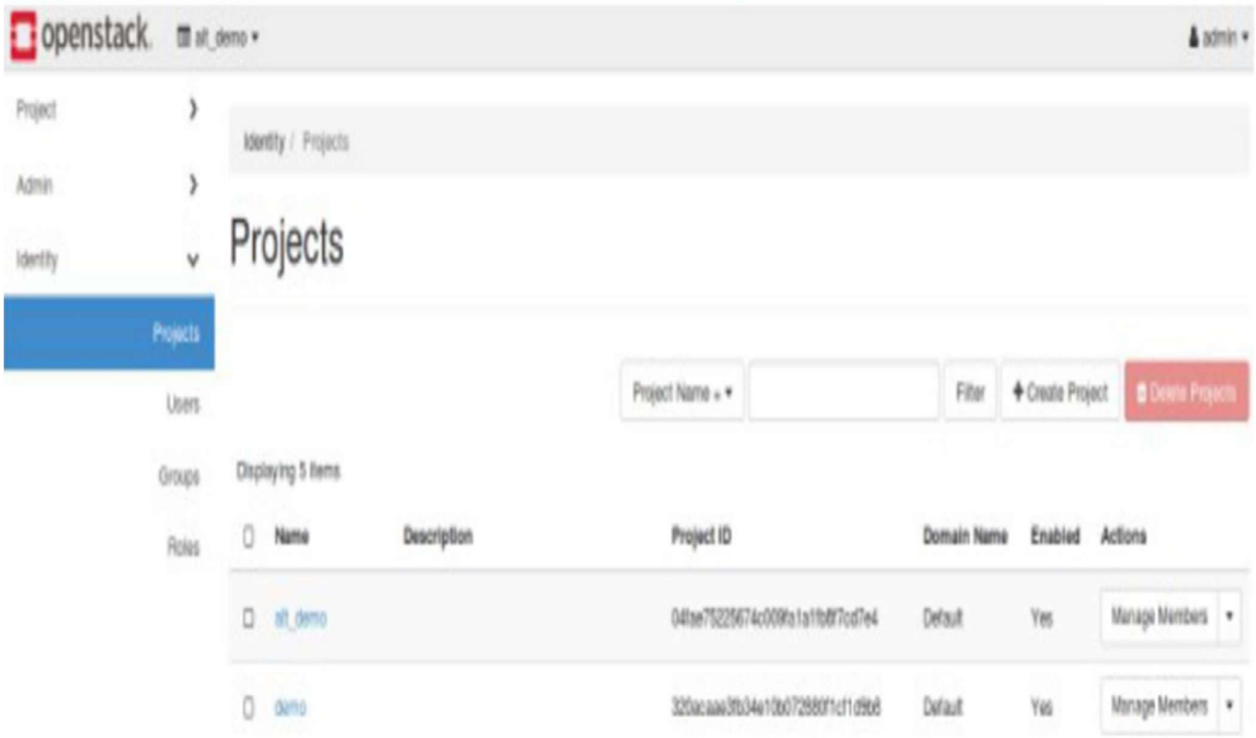
```
http://<IPAddress>/dashboard/
```



Step 3: Create Network!

Note: Please remember that without having a network, you can not launch an instance/virtual machine.

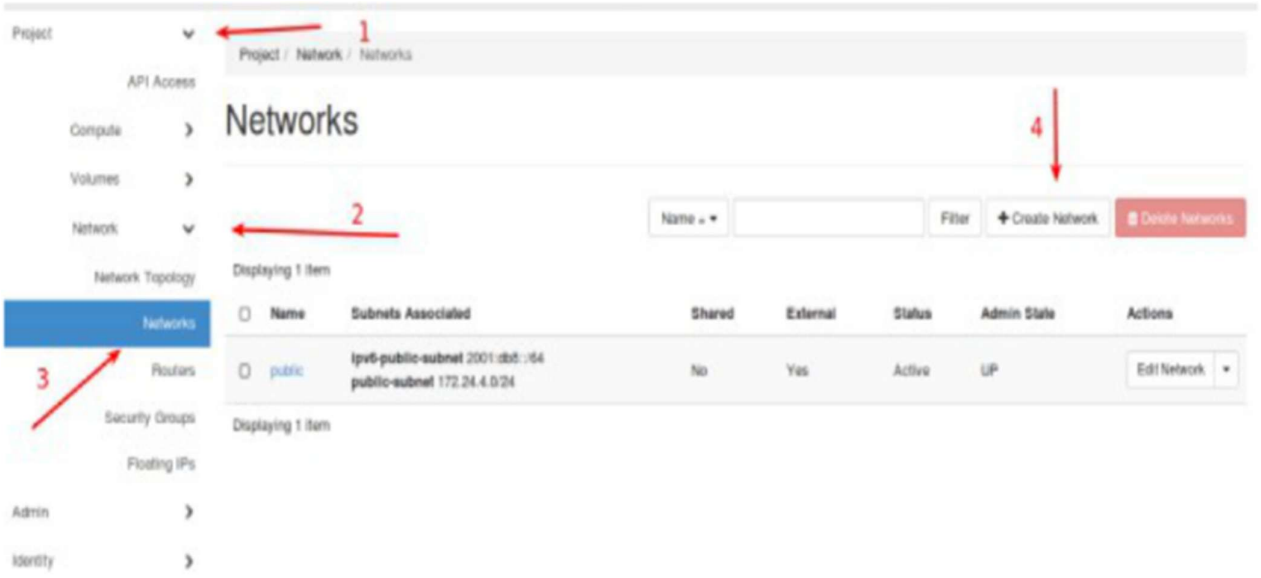
After you are logged into the OpenStack Dashboard it will look something like this:

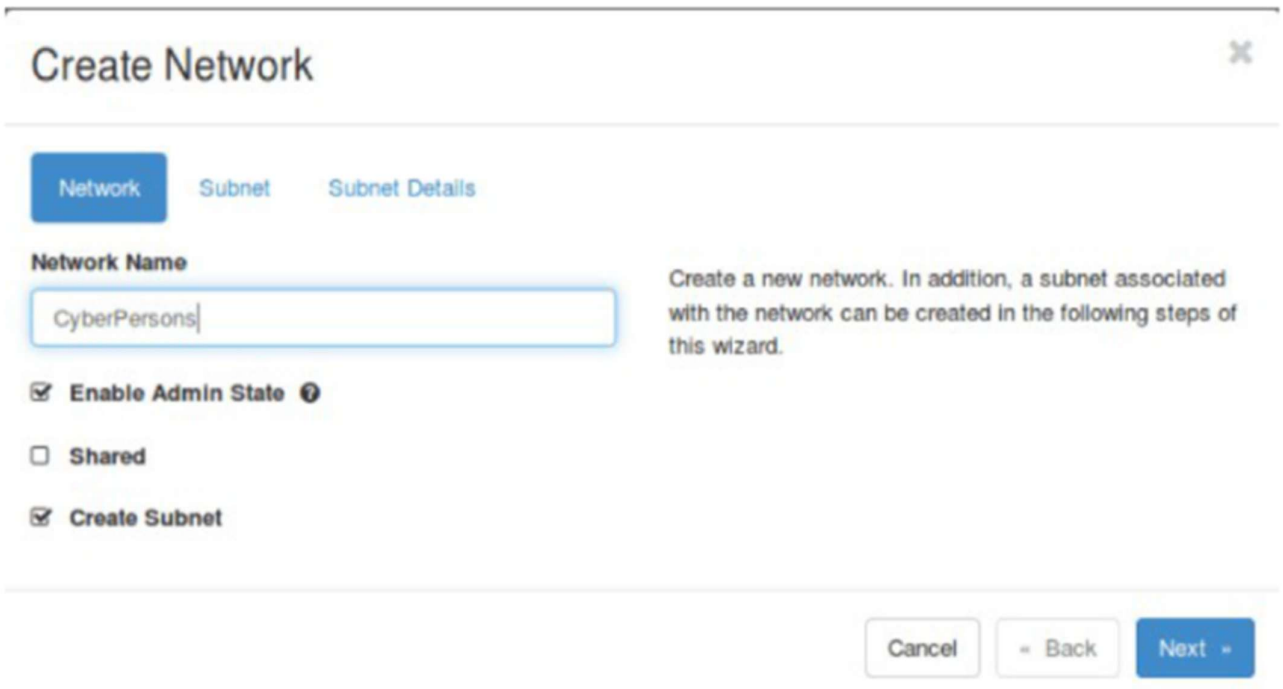


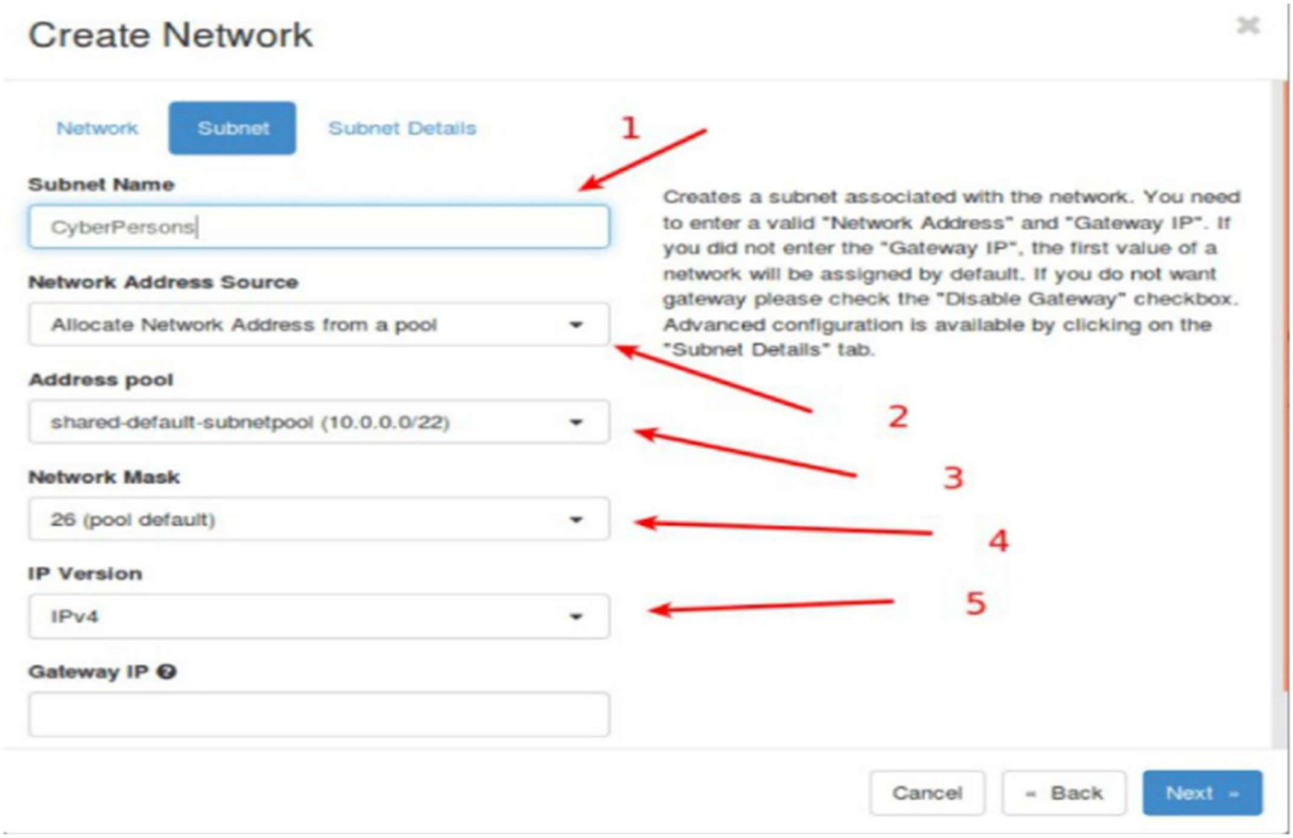
We need to create a network that virtual machine can use. For now, it will just be a dummy network:

Steps:

1. Click the Project Drop Down.
2. Click the Network Drop Down.
3. From network Drop Down select Networks, and this window will open that you see on the right side.
4. Finally, click Create Network

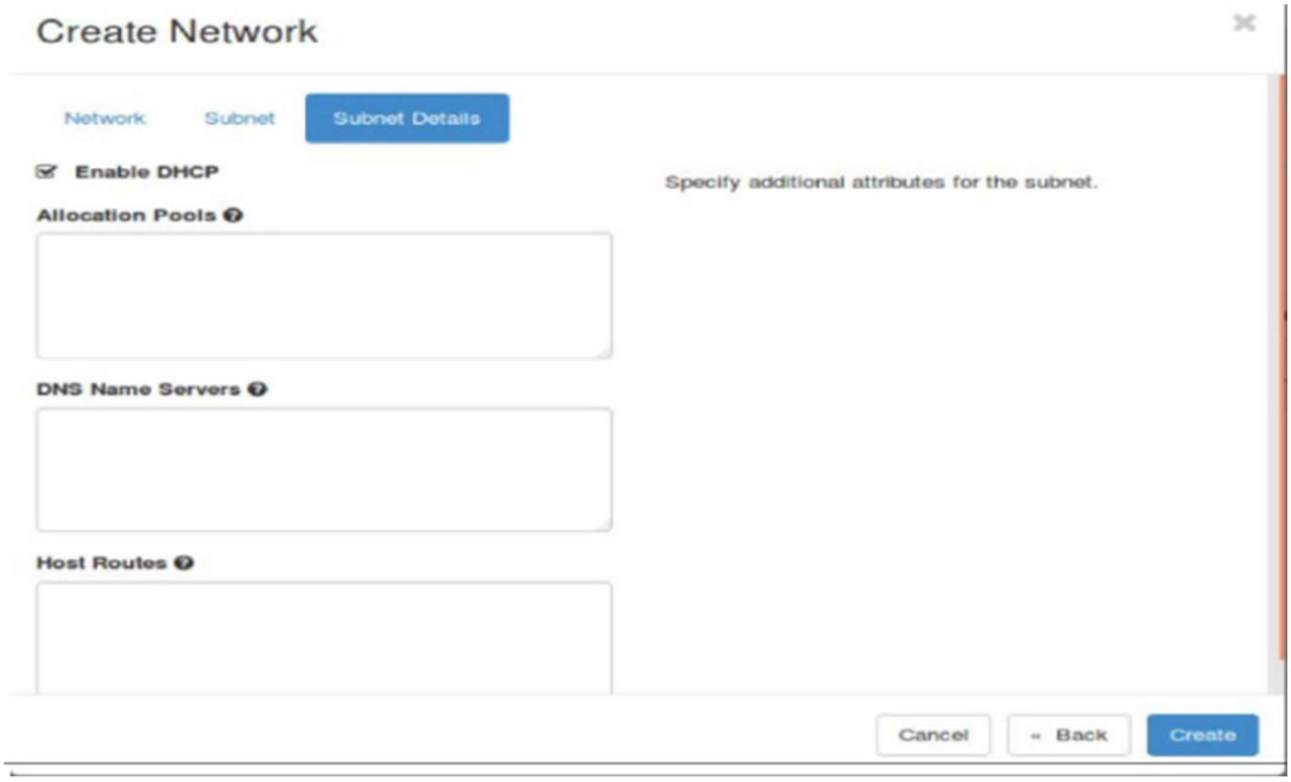






Once all these things are done, click “Next”.

Now everything is optional in this below window if you are interested in filling something up, you can. Otherwise, leave everything as it is and click “Create”. You now have a network that you can use to launch a virtual machine.

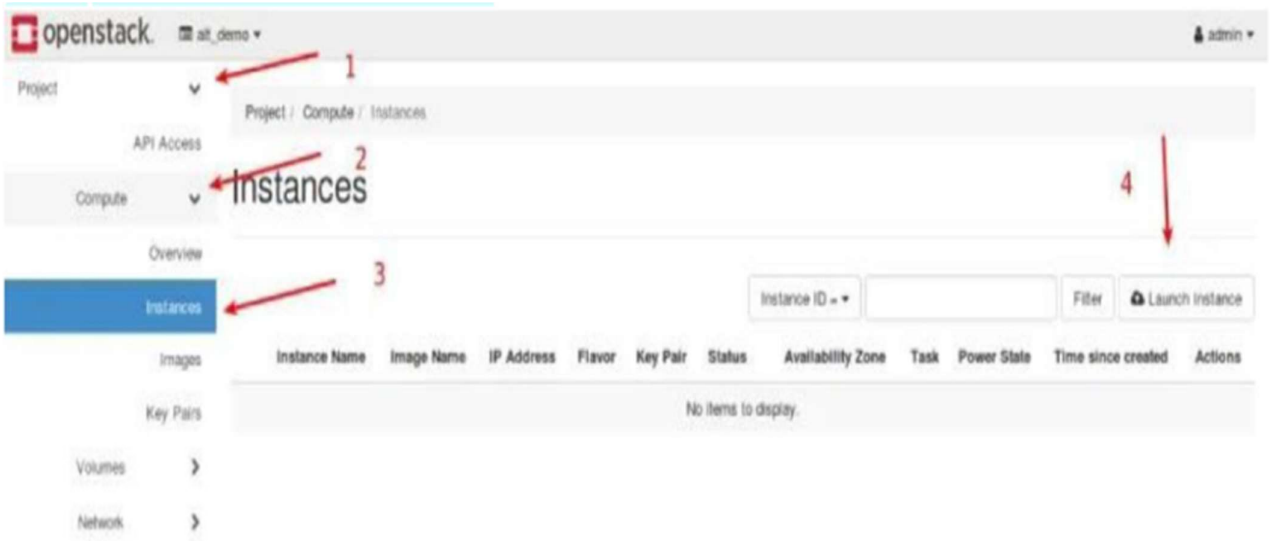


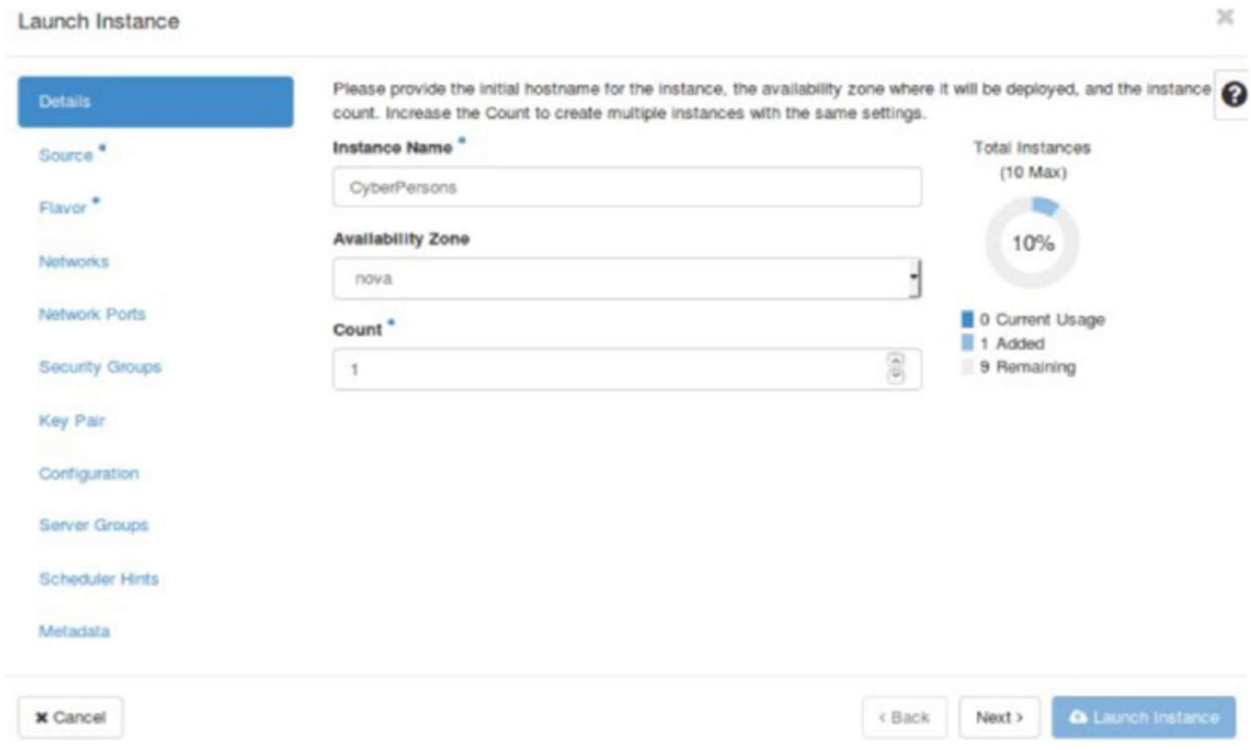
Step 4: Create Virtual Machine/Instance

After the network is created, we are now ready to create our very first virtual machine.

Steps:

1. Click on “Project” drop down.
2. Inside project click “Compute” drop down.
3. Under compute you have four options, since we are interested in creating an instance, you have to click on “Instance”.
4. Finally, click “Lunch Instance”.





Now, there are 11 tabs to create an instance, we will go through each tab one by one.

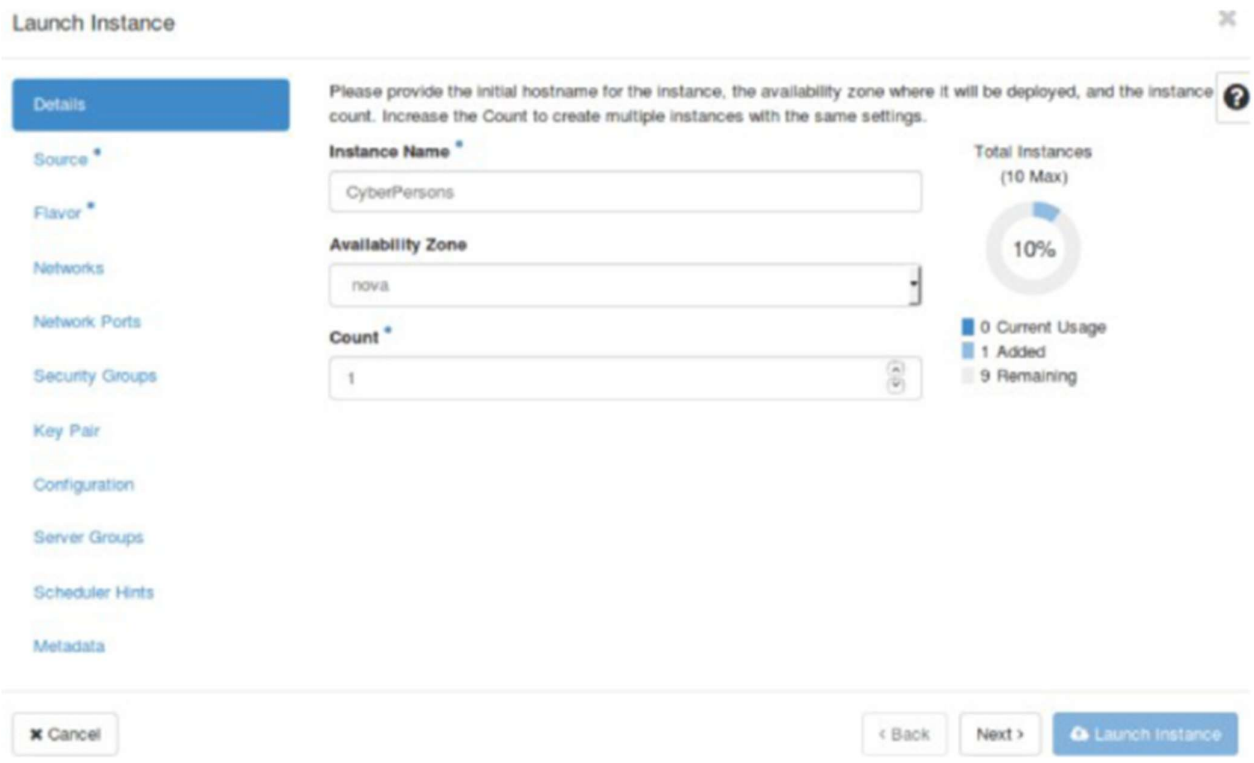
Details Tab :

This is a general information tab for creating an instance,

You will have to assign a name to your virtual machine on this tab.

Select zone to launch a virtual machine, and

Tell how many copies of virtual machine you want.



Source Tab

Normally when we create a virtual machine on Proxmox or VMWare we need to insert CD-ROM

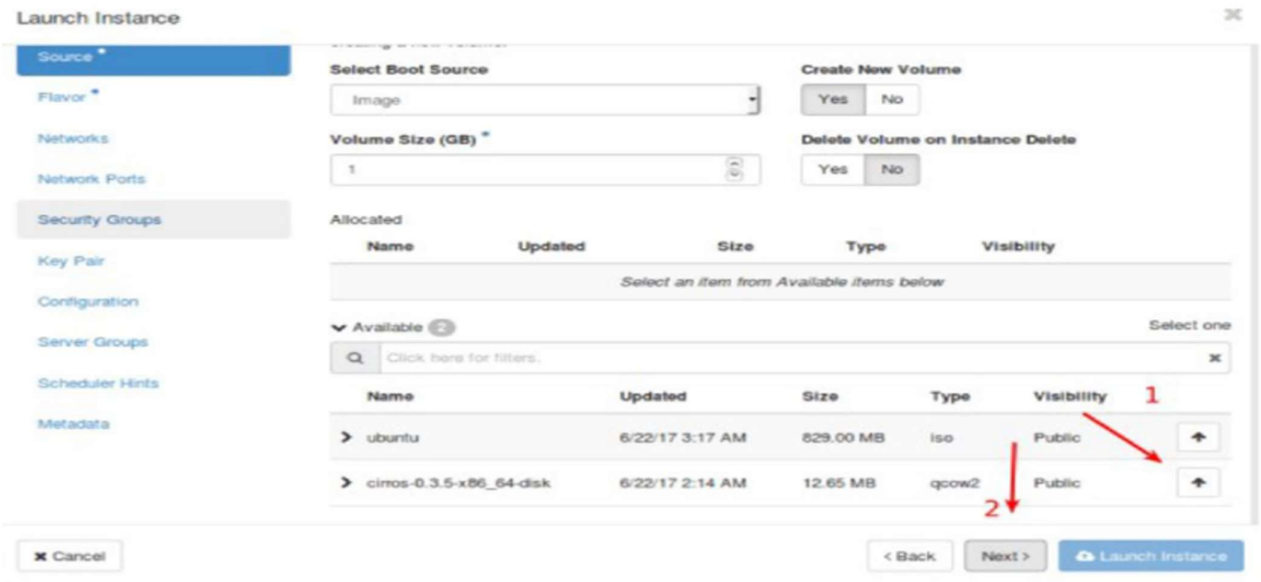
In OpenStack this is done by Source Tab, you can use various ways to launch a new virtual machine, OpenStack allows you to choose following as a source to create your instance.

Image

Snapshot of already created instance

Volume or a volume Snapshot

We are going to use “Cirros” image to create our instance.



1. Click on the icon where the first arrow is pointing, so that we can use “Cirros” to launch our virtual machine.
2. After the image is selected, just click “Next” so that we can move to “Flavor” tab.

Flavor Tab

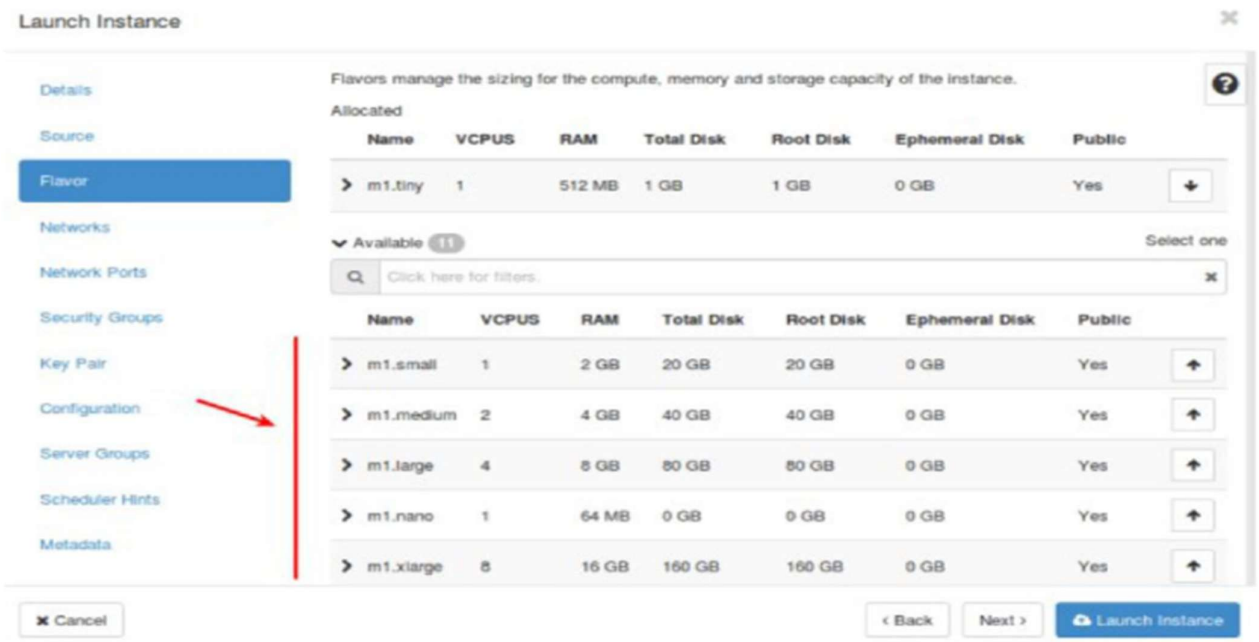
Flavor tab will allow you to allocate resource to your instance. Like:

Ram.

CPU.

Disk Space.

It is similar to giving virtual resources to the virtual machine, but OpenStack gives fancy names to everything



You can see that there are 11 available pre-configured templates to choose from. The one I choose gave following resources to the instance:

1 virtual CPU.

512 MB Ram.

1 GB Disk.

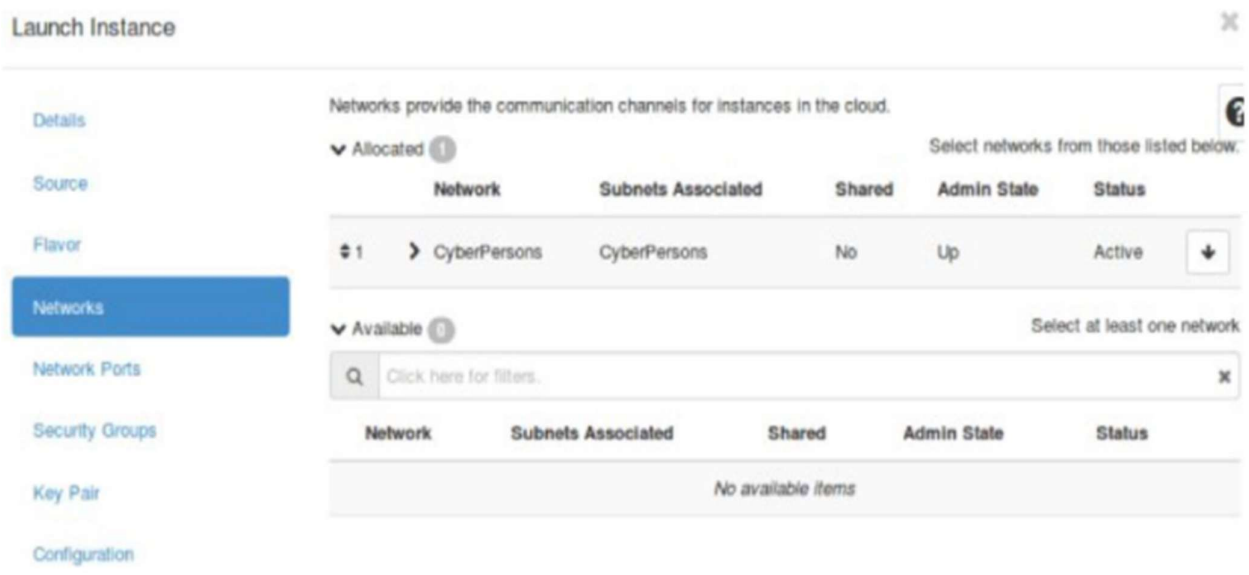
After flavor is selected, just press “Next”.

Network Tab

Network tab allows us to define a network for our virtual machine, you might have remembered that we’ve created a network above for this purpose.

Now by default, the network you have created above will be selected for this machine,

as seen in the image below:



Don’t change anything just click “Next”.

Network Ports Tab

For now, just leave the default settings on “Network Ports” tab and click next.

Security Groups Tab

Security groups define how a specific virtual machine is allowed to talk with the outer world. As for now, we are just trying to create our first virtual machine, you can leave all the defaults.

Key-Pair Tab

Leave defaults and click Next.

Configuration Tab

Leave defaults and click Next.

Server Groups Tab

Leave defaults and click Next.

Scheduler Hints Tab

Leave defaults and click Next.

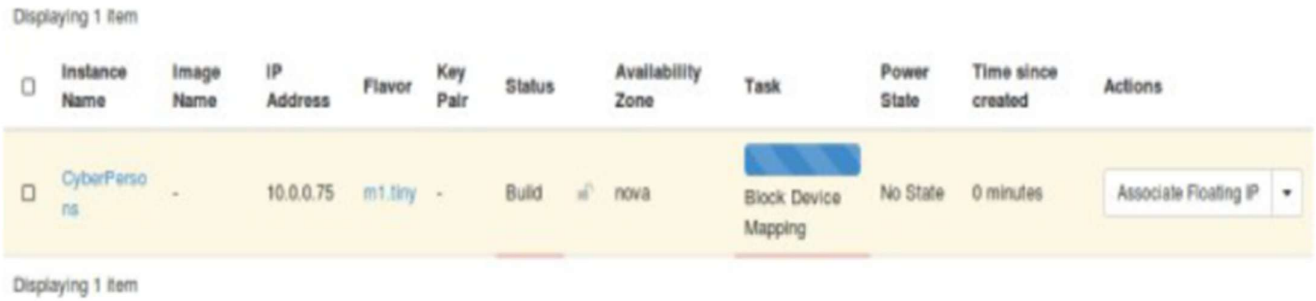
Metadata Tab

Leave defaults and click Next.

Launch Instance

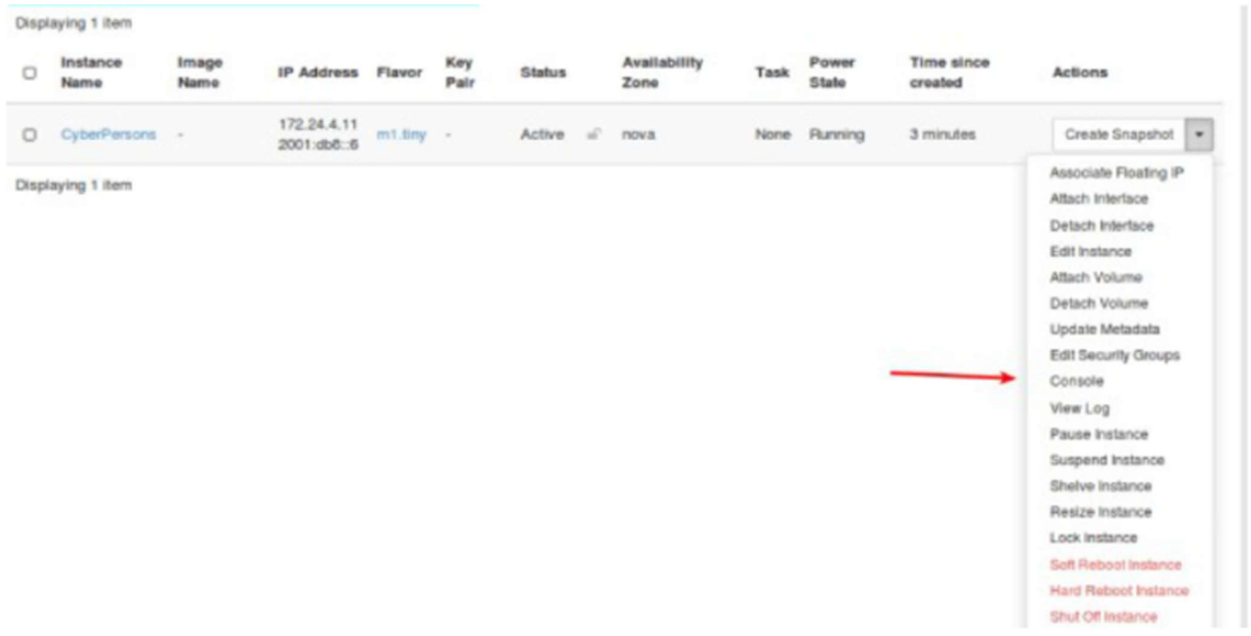
After going through all the tabs, you are now ready to press that magic “Launch Instance” button.

Once you click “Launch Instance” button, OpenStack will start creating our virtual machine, and it is going to look something like this:

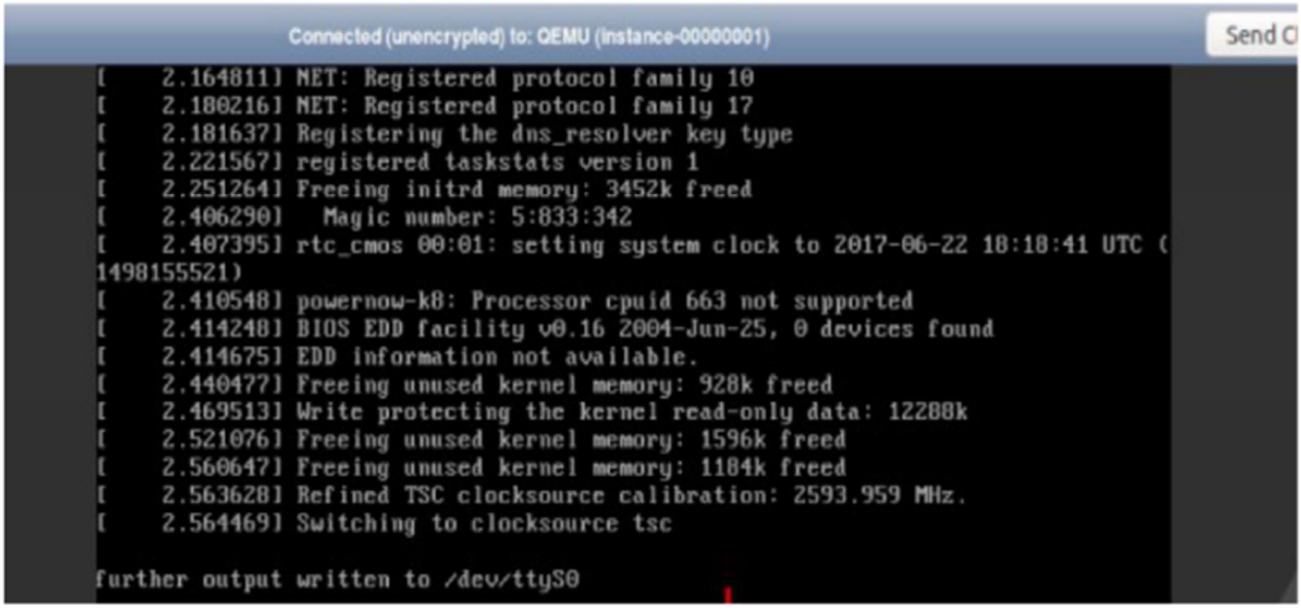


Step 5: Access Virtual Machine Console!

Once you click “Launch Instance” it will take OpenStack few seconds to create your virtual machine. Once ready you can access the console to see how the command line of your first virtual machine looks like.



Click on “Console” and OpenStack will take you to the console of the virtual machine. The console will look something like this:



RESULT:

The procedure for find a procedure to launch virtual machine using trystack(online openstack demo version) was learned and verified successfully