**Practical No. 10**

**Title: Implementation of Openstack with user and private network creation.**

**Installation Steps: (**<https://docs.openstack.org/devstack/latest/guides/single-machine.html>**)**

Add user

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

apt-get install sudo -y

echo "stack ALL=(ALL) NOPASSWD: ALL" >> /etc/sudoers

**login** as stack user

Download DevStack

sudo apt-get install git -y || sudo yum install -y git

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

cd devstack

Run DevStack

Now to configure **stack.sh**. DevStack includes a sample in **devstack/samples/local.conf**. Create **local.conf** as shown below to do the following:

* Set **FLOATING\_RANGE** to a range not used on the local network, i.e. 192.168.1.224/27. This configures IP addresses ending in 225-254 to be used as floating IPs.
* Set **FIXED\_RANGE** and **FIXED\_NETWORK\_SIZE** to configure the internal address space used by the instances.
* Set **FLAT\_INTERFACE** to the Ethernet interface that connects the host to your local network. This is the interface that should be configured with the static IP address mentioned above.
* Set the administrative password. This password is used for the **admin** and **demo** accounts set up as OpenStack users.
* Set the MySQL administrative password. The default here is a random hex string which is inconvenient if you need to look at the database directly for anything.
* Set the RabbitMQ password.
* Set the service password. This is used by the OpenStack services (Nova, Glance, etc) to authenticate with Keystone.

**local.conf** should look something like this:

[[local|localrc]]

FLOATING\_RANGE=192.168.1.224/27

FIXED\_RANGE=10.11.12.0/24

FIXED\_NETWORK\_SIZE=256

FLAT\_INTERFACE=eth0

ADMIN\_PASSWORD=supersecret

DATABASE\_PASSWORD=iheartdatabases

RABBIT\_PASSWORD=flopsymopsy

SERVICE\_PASSWORD=iheartksl

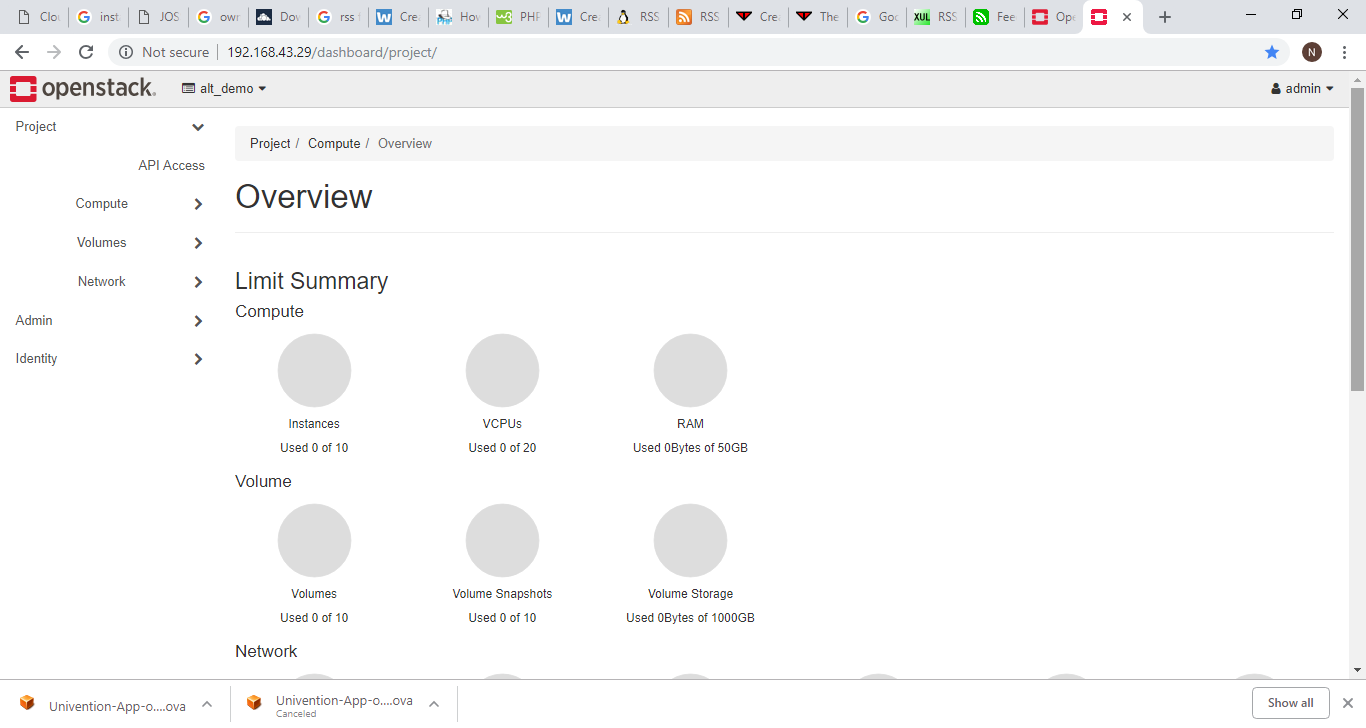
Run DevStack:

./stack.sh

A seemingly endless stream of activity ensues. When complete you will see a summary of **stack.sh**’s work, including the relevant URLs, accounts and passwords to poke at your shiny new OpenStack.

### Using OpenStack

At this point you should be able to access the dashboard from other computers on the local network. In this example that would be <http://192.168.43.29/> for the dashboard (aka Horizon). Launch VMs and if you give them floating IPs and security group access those VMs will be accessible from other machines on your network.



1. **Conclusion:**

We have installed Ubuntu/Xen as bare metal hypervisor and implemented it. It provides access to computing resources in a virtual environment. With the help of Infrastructure as a service we can build our own IT platform. We can install Windows Operating System on Ubuntu and vice versa.