CSE 360: Presentation: OpenStack Installation Guide

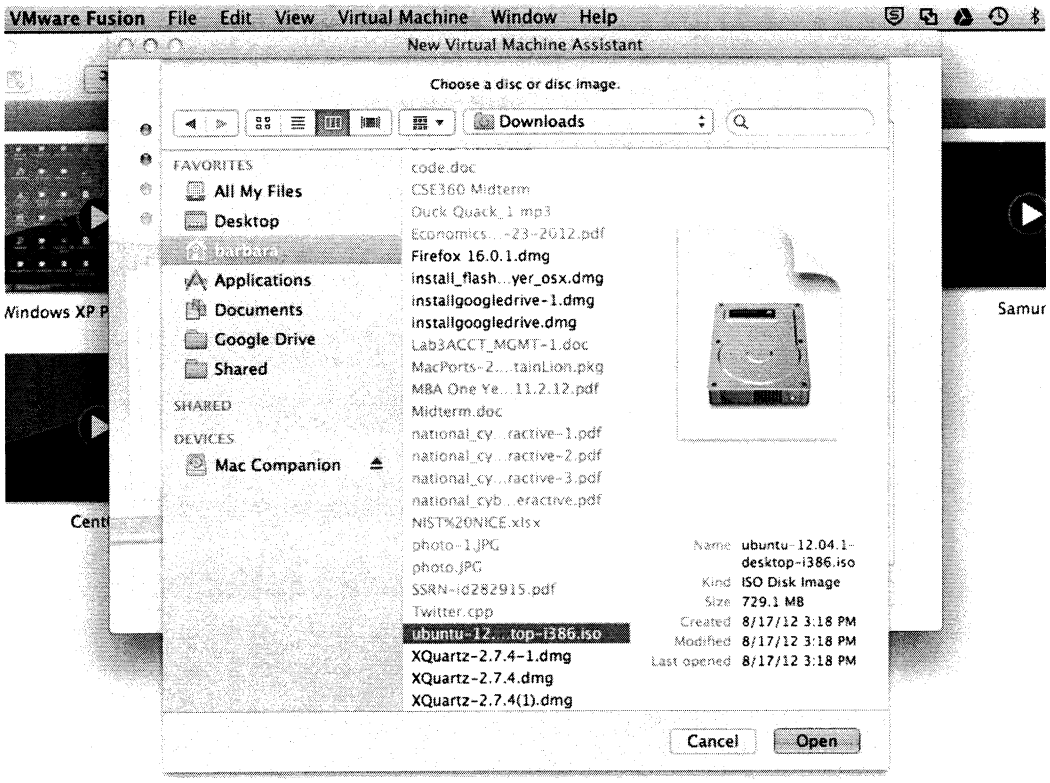
Virtual Machine Installation(single Machine): Development Version of OpenStack

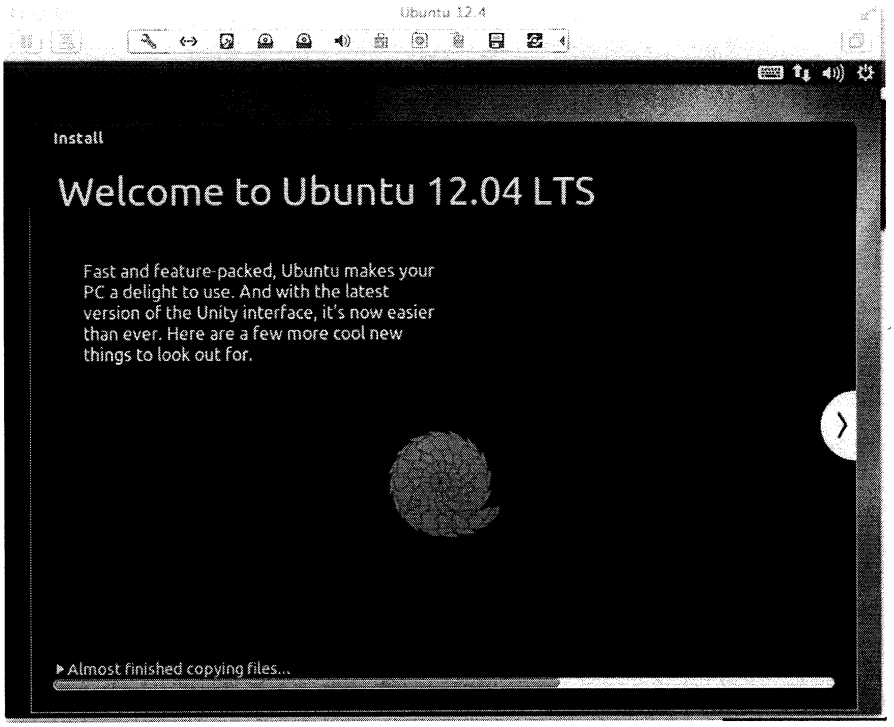
Virtual Machine: examples using VMWare Fusion 4, Ubuntu version 12.4
Hardware Requirements: min 2GB Ram, 20GB HD space, Intel Processor i3 or higher

Step 1. Download Ubuntu version 12.4 Linux software
Source: http://www.ubuntu.com/download

Step 2. Select type of download required (i.e. desktop or server edition)

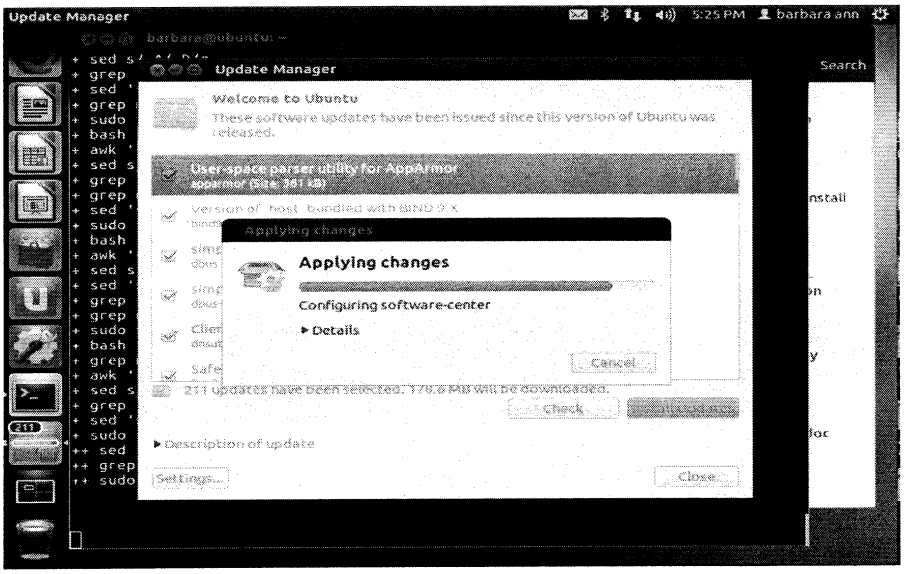
Step 3. After downloading Ubuntu 12.4 ISO, create new Virtual Machine in your VM software (recommend using VMWare fusion 4 or higher).





Step 4: After your new Ubuntu virtual machine has loaded, begin installing some missing programs to prepare to load OpenStack Developer software.

Step 4a: Got to System → update manager and check for updates



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Step 4b: After the update finishes, type in terminal:
Sudo apt-get install vim

Step 5: Create a bash script:

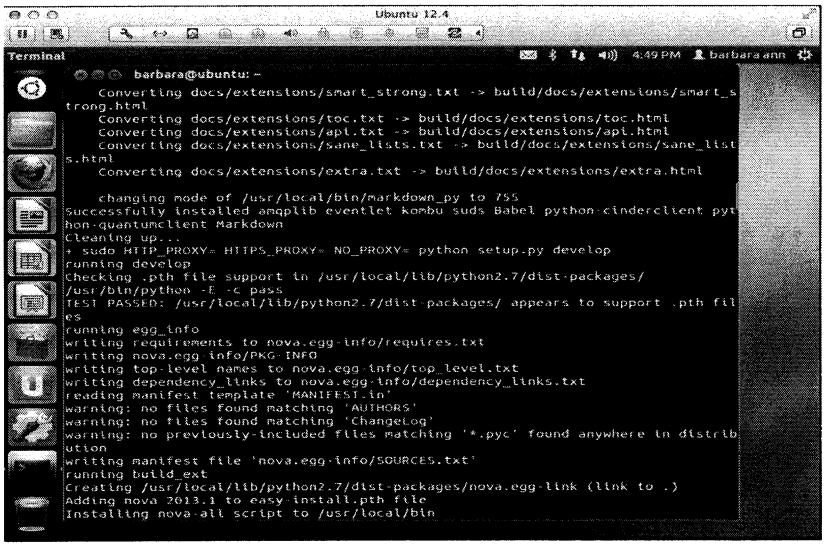
Step 5a: Make a vim file:
vim stack.sh

Step 5b: Insert the following script into the vim file:

```
#!/bin/sh
apt-get update
apt-get install -qqy git
git clone https://github.com/openstack-dev/devstack.git
cd devstack
echo ADMIN_PASSWORD=password > localrc
echo MYSQL_PASSWORD=password >> localrc
echo RABBIT_PASSWORD=password >> localrc
echo SERVICE_PASSWORD=password >> localrc
echo SERVICE_TOKEN=tokentoken >> localrc
echo FLAT_INTERFACE=br100 >> localrc
./stack.sh
```

Step 6: Run the script by typing in the terminal: The install will take several minutes...

sudo bash stack.sh



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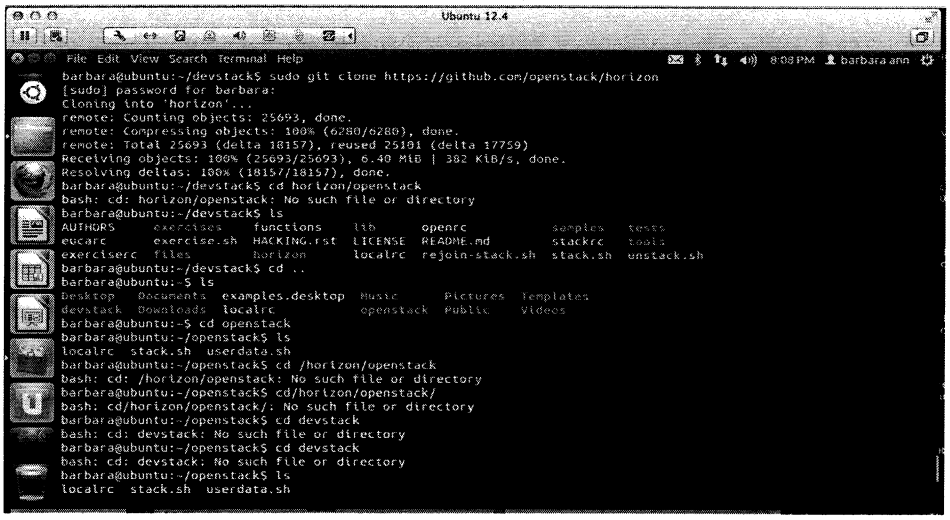
Step 7: Configure Swift, which is the user interface: make sure you are in the devstack folder and tpe into the terminal the following:

sudo git clone https://github.com/openstack/horizon

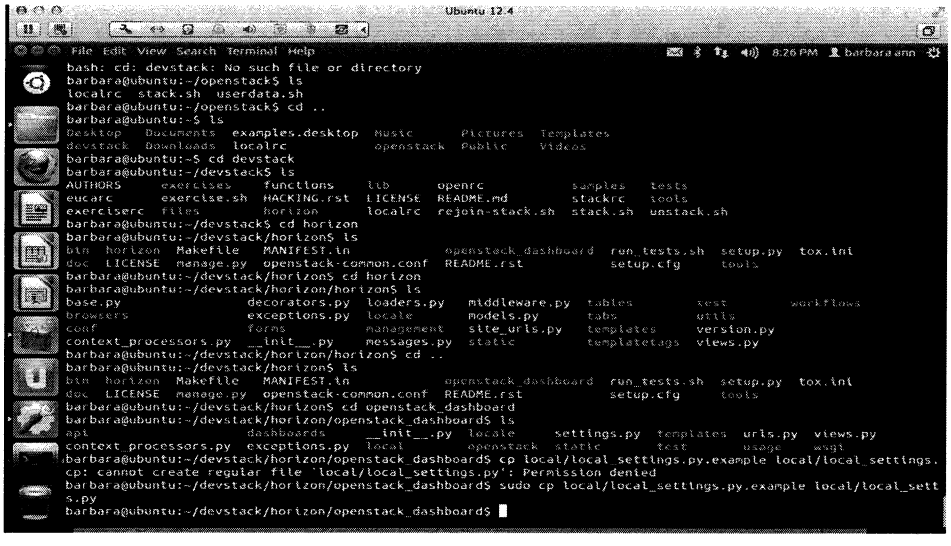


once it has cloned horizon, type into the terminal:

cd openstack/horizon/openstack_dashboard

then configure the settings by typing:

sudo cp local/local_settings.py.example local/local_settings.py



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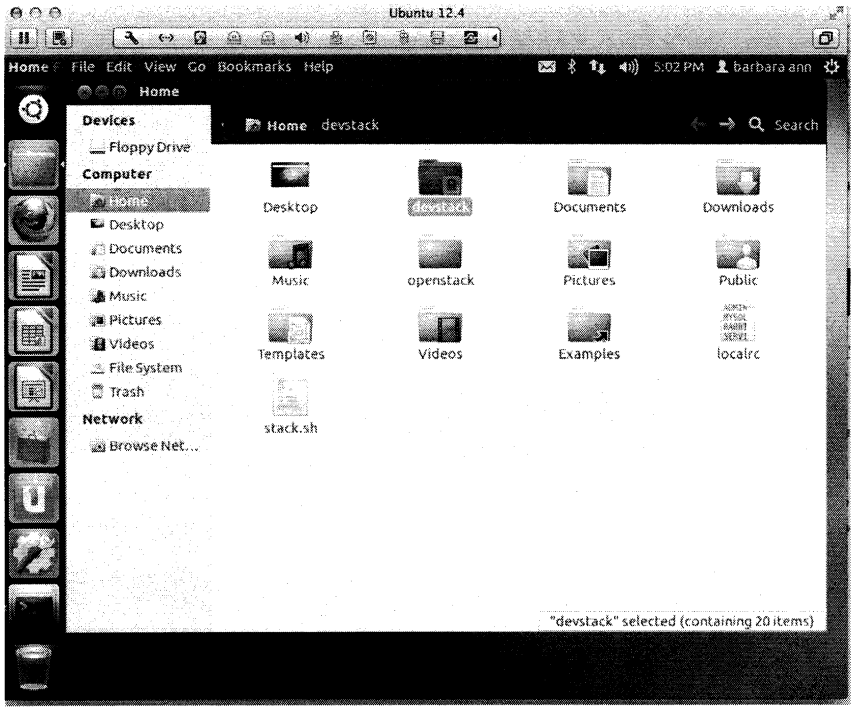
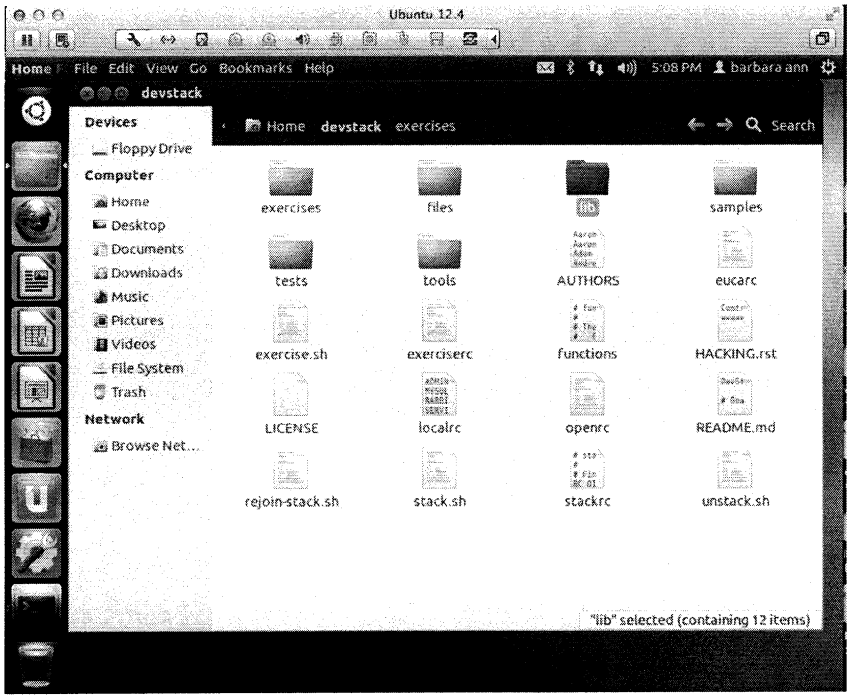
Step 8: Once the install is complete, users can begin using the development tools.





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Installation Guide for completing a hardware install of Rackspace Openstack Software:

The hardware on which Rackspace Private Cloud Software is installed should support VT-x and meet the following recommended minimum hardware specifications:

Controller Node:
16 GB RAM
144 GB disk space
Dual socket CPU with dual core, or single socket quad core

Compute Node:
32 GB RAM
144 GB disk space
Dual socket CPU with dual core, or single socket quad core
CPU overcommit is set at 16:1 VCPUs to cores, and memory overcommit is set to 1.5:1. Each physical core can support up to 16 virtual cores; for example, one dual-core processor can support up to 32 virtual cores. If you require more virtual cores, adjust your sizing appropriately.

Step 1. Apply to download the ISO, you will receive and email after you submit your registration for the download. You have 24 hours to download the ISO, otherwise you will have to re-register.
Source: http://www.rackspace.com/cloud/private/openstack_software/

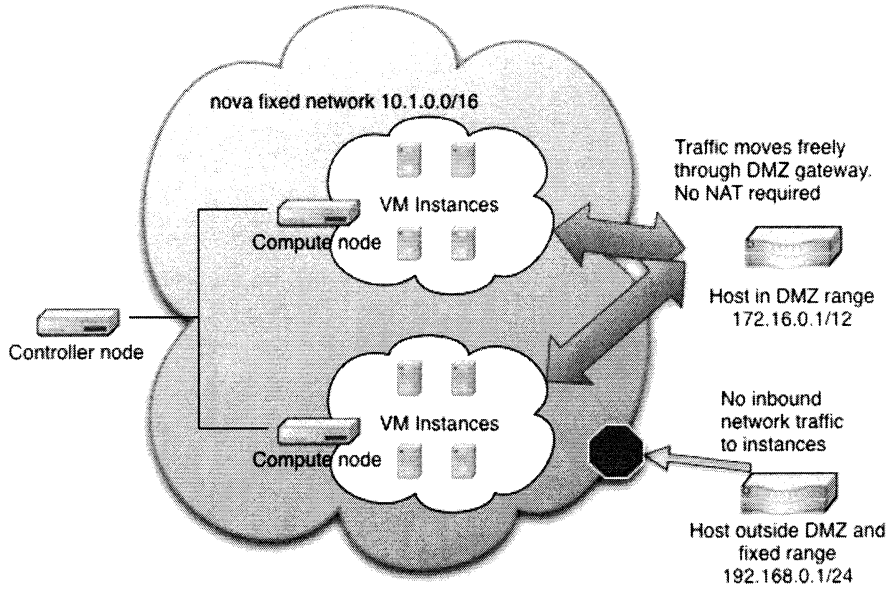
Step 2: Prepare to install the controller node: Verify your network configuration:

a. This software supports only single and dual NIC installations (Public (eth1)and Private (eth0)). If more than one NIC, Openstack requires that the NIC ordering to be the same on all hosts in the network. You cannot mix single NIC with multiple NIC configuration.

b. The address for the NIC cards must use the IPV4 format and one car must have access to the internet to access and download the installation files.

c. To use DMZ you must have at least 2 NICs on the deployment servers with 1 NIC dedicated to the instances. You can make the instances available to other hosts in the network by default by configuring the cloud with a network DMZ. This network DMZ IP range cannot be the same as the nova network range. This enables NAT free network traffic between virtual machine instances and resources outside the nova fixed network.

See example below:



Step 3: Install the controller node: you must install the controller node before installing the compute node.

a. Boot the ISO on the controller node.
b. After it has launched accept the EULA statement.
c. Select Controller the node IP address.
d. Enter the NIC IP address.
e. as prompted, enter the node IP address, subnet mask, gateway,name server, and host name. Also make sure you have entered a fully qualified domain name for the hostname, otherwise you will be prompted to do so.
f. Enter the IP address for the nova fixed network.
g. If there is a DMZ, enter the DMZ address (make sure you have 2 NICs (one public and one Private).
h. Enter the password for the admin user and accept the demo, giving additional passwords for other non-admin users. Creating the users will automatically create a project.
i. Enter the real name, username, and password for the operating system user account. After this point the installation will run for approximately 30 minutes.

Step 4: Install the Compute node:

a. Boot the ISO for the compute node.
b. After the ISO is launched, accept the EULA statement.
c. Select compute.
d. Enter the NIC IP address.
e. as prompted, enter the node IP address, subnet mask, gateway,name server, and host name. Also make sure you have entered a fully qualified domain name for the hostname, otherwise you will be prompted to do so.
f. Enter the IP address for the nova fixed network.
g. If there is a DMZ, enter the DMZ address (make sure you have 2 NICs (one public and one Private).
h. Enter the password for the admin user and accept the demo, giving additional passwords for other non-admin users. Creating the users will automatically create a project.
i. Enter the real name, username, and password for the operating system user account. After this point the installation will run for approximately 30 minutes.
j. Enter the IP address for the controller node. This will add the new compute node to the cluster. At this point the installation will run for approximately for 20 minutes, and will reboot during the installation process. Once complete, you can view the install log by going to /var/log/post-install.log using the username and password you configured during the controller installation.

You will see a screen with the Rackspace Private Cloud logo, followed by a screen that displays a progress bar; you can use Ctrl+Alt+F2 to toggle between the progress bar screen and a Linux TTY screen (Ctrl+Alt+Fn+F2 on a Mac).

Step 5: Operating system updates.

After the installation is complete, you may receive notifications that your OS has updates, however before uploading ANY updates it is strongly recommended that you backup or mirror you install so that you can test the updates before permanently installing them.

Troubleshooting: Any issues with installing Openstack successfully can be addressed on the Rackspace cloud forums at:

https://privatecloudforums.rackspace.com/