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SUBJECT:IT8711-FOSS and cloud computing laboratory

Ex 8: Virtual Machine Creation in OpenStack Cloud Platform (Online)

Step 1: Switch to “root” user

```
user@vmub-hadoop1:~$ sudo su -  
root@vmub-hadoop1:~# sudo apt-get update
```

Step 2: Install “git” and logout from “root user”

```
root@vmub-hadoop1:~# sudo apt-get install git  
root@vmub-hadoop1:~# exit  
logout  
user@vmub-hadoop1:~$
```

Step 3: Create/Add a user “stack” with “no password”

```
user@vmub-hadoop1:~$ sudo useradd -s /bin/bash -d /opt/stack -m stack  
user@vmub-hadoop1:~$ echo "stack ALL=(ALL) NOPASSWD: ALL" | sudo tee  
/etc/sudoers.d/stack  
stack ALL=(ALL) NOPASSWD: ALL
```

Step 4: Move to “stack” user

```
user@vmub-hadoop1:~$ sudo su - stack
```

Step 5: Clone the “devstack” from the specified link

```
stack@vmub-hadoop1:~$ git clone https://github.com/openstack-dev/devstack
```

Cloning into 'devstack'...

remote: Enumerating objects: 49330, done.

remote: Counting objects: 100% (2556/2556), done.

remote: Compressing objects: 100% (836/836), done.

remote: Total 49330 (delta 1831), reused 2226 (delta 1709), pack-reused 46774

Receiving objects: 100% (49330/49330), 15.56 MiB | 2.33 MiB/s, done.

Resolving deltas: 100% (34462/34462), done.

Checking connectivity... done.

Step 6: Move to “/devstack/samples”

```
stack@vmub-hadoop1:~$ cd devstack
stack@vmub-hadoop1:~/devstack$ ls
clean.sh      doc      functions  gate    lib      openrc  roles    stackrc  tools
CONTRIBUTING.rst  extras.d  functions-common  HACKING.rst  LICENSE  playbooks
run_tests.sh  stack.sh  tox.ini
data          files    FUTURE.rst  inc     Makefile  README.rst  samples    tests
unstack.sh

stack@vmub-hadoop1:~/devstack$ cd samples
stack@vmub-hadoop1:~/devstack/samples$ ls
local.conf  local.sh
```

Step 7: Copy “local.conf” file to “devstack”

```
stack@vmub-hadoop1:~/devstack/samples$ cp local.conf ../
stack@vmub-hadoop1:~/devstack/samples$ cd ..
stack@vmub-hadoop1:~/devstack$ ls
clean.sh      doc      functions  gate    lib      Makefile  README.rst  samples  tests
unstack.sh

CONTRIBUTING.rst  extras.d  functions-common  HACKING.rst  LICENSE  openrc  roles
stackrc  tools
data          files    FUTURE.rst  inc     local.conf  playbooks  run_tests.sh  stack.sh  tox.ini
```

Step 8: Open “local.conf” and edit the lines

```
stack@vmub-hadoop1:~/devstack$ nano local.conf
```

ADMIN_PASSWORD=**p1**

DATABASE_PASSWORD=**p1**

RABBIT_PASSWORD=**p1**

SERVICE_PASSWORD=**p1**

HOST_IP=**10.0.2.4**

FLOATING_RANGE=**10.0.2.224/27**

Step 9: Remove the following files to Lock the error

```
stack@vmub-hadoop1:~/devstack$ sudo rm /var/lib/dpkg/lock
stack@vmub-hadoop1:~/devstack$ sudo rm /var/lib/apt/lists/lock
stack@vmub-hadoop1:~/devstack$ sudo rm /var/cache/apt/archives/lock
stack@vmub-hadoop1:~/devstack$ sudo rm -rf /var/lib/apt/lists/*
```

Step 10: To install stack

```
stack@vmub-hadoop1:~/devstack$ FORCE=yes ./stack.sh
```

```
        print a[2]
    }
    ' /opt/stack/devstack/local.conf
+./stack.sh:main:1489                                set to xtrace

=====
DevStack Component Timing
(times are in seconds)
=====
run_process           53
test_with_retry       2
apt-get-update        1
osc                   177
wait_for_service      21
dbsync                56
pip_install           149
apt-get               7
=====
Unaccounted time      418
=====
Total runtime         884

This is your host IP address: 10.128.0.8
This is your host IPv6 address: ::1
Horizon is now available at http://10.128.0.8/dashboard
Keystone is serving at http://10.128.0.8/identity/
The default users are: admin and demo
The password: StrongAdminSecret

WARNING:
Using lib/neutron-legacy is deprecated, and it will be removed in the future

Services are running under systemd unit files.
For more information see:
https://docs.openstack.org/devstack/latest/systemd.html

DevStack Version: train
Change: 16d11d27f375b8c027bbc3a1db1885e90ce6c604 Merge "Option "lock_path" from group "DEFAULT"
OS Version: Ubuntu 18.04 bionic

2019-06-04 12:19:19.207 | stack.sh completed in 884 seconds.
```

Accessing OpenStack on a web browser

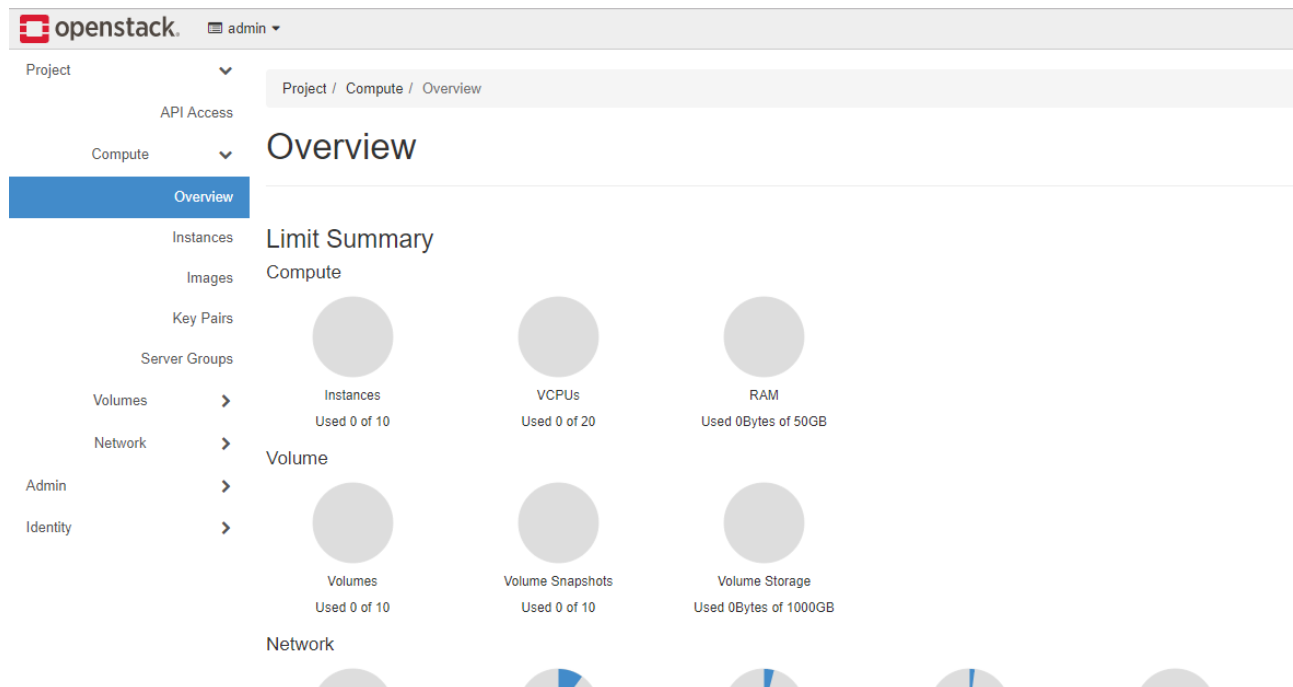
To access OpenStack via a web browser browse your Ubuntu's IP address as shown.

<https://server-ip/dashboard>

This directs you to a login page as shown.



The image shows the OpenStack login page. At the top is the OpenStack logo, which consists of a red square with a white 'O' inside, followed by the word 'openstack' in a black, lowercase, sans-serif font. Below the logo is the text 'Log in'. Underneath this are two input fields: 'User Name' and 'Password'. The 'User Name' field has a single character 'l' entered. The 'Password' field is empty and has a small eye icon to its right. At the bottom right of the form is a blue button with the text 'Sign In'.



The image shows the OpenStack dashboard interface. At the top is a header bar with the OpenStack logo and the text 'openstack.' followed by a dropdown menu showing 'admin'. Below the header is a sidebar on the left with a list of navigation items: Project, API Access, Compute, Overview (highlighted in blue), Instances, Images, Key Pairs, Server Groups, Volumes, Network, Admin, and Identity. The main content area is titled 'Overview' and contains a 'Limit Summary' section. This section is divided into two rows of circular progress indicators. The first row is for 'Compute' and includes 'Instances' (Used 0 of 10), 'VCPUs' (Used 0 of 20), and 'RAM' (Used 0Bytes of 50GB). The second row is for 'Volume' and includes 'Volumes' (Used 0 of 10), 'Volume Snapshots' (Used 0 of 10), and 'Volume Storage' (Used 0Bytes of 1000GB). Below these are several more circular progress indicators for 'Network'.