Name:Tracey Dee Bringuela	**Date Performed:**
Course/Section:CPE31S2	**Date Submitted:**
Instructor: Robin Valenzuela	**Semester and SY:**

Activity 15: OpenStack Installation (Neutron, Horizon, Cinder)

1. Objectives

Create a workflow to install OpenStack using Ansible as your Infrastructure as Code (IaC).

2. Intended Learning Outcomes

1. Analyze the advantages and disadvantages of cloud services
2. Evaluate different Cloud deployment and service models
3. Create a workflow to install and configure OpenStack base services using Ansible as documentation and execution.

3. Resources

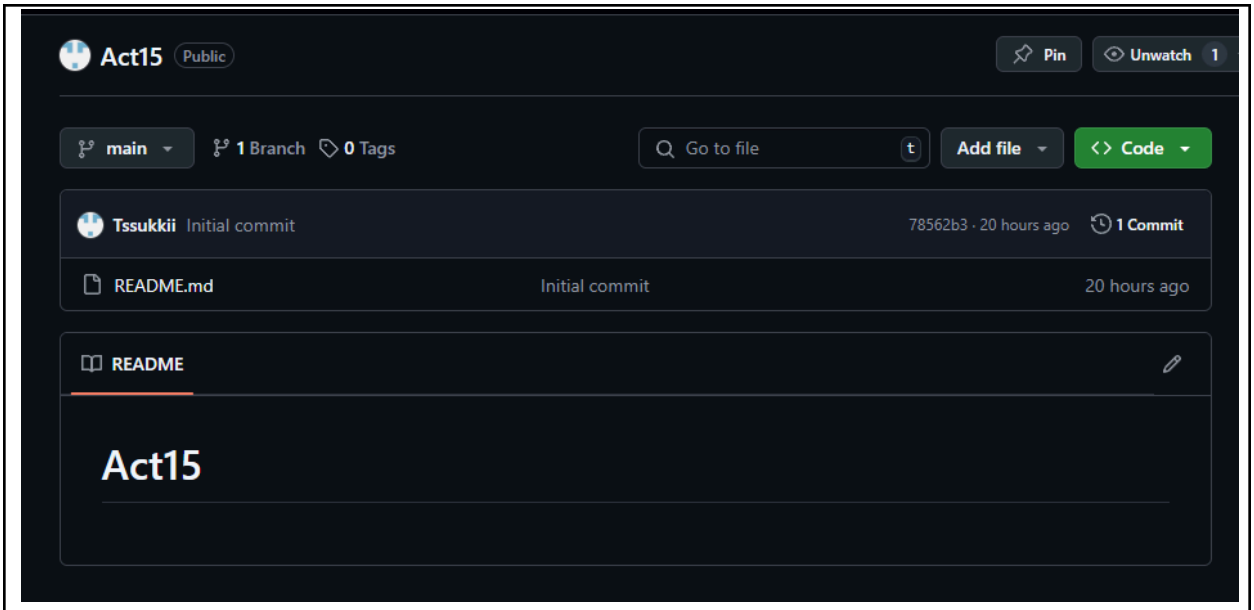
Oracle VirtualBox (Hypervisor)

1x Ubuntu VM or Centos VM

4. Tasks

1. Create a new repository for this activity.
2. Create a playbook that converts the steps in the following items in https://docs.openstack.org/install-guide/
   a. Neutron
   b. Horizon
   c. Cinder
   d. Create different plays in installing per server type (controller, compute etc.) and identify it as a group in the Inventory file.
   e. Add, commit and push it to your GitHub repo.

5. Output (screenshots and explanations)



created a repo for the Activity 15

this is the inside of the cinder tasks

and this is for horizon

Open main.yaml [Read-Only] ~/Act15/roles/horizon/tasks Save

```
- name: installing horizon
  tags: horizon
  apt:
     name:
          - openstack-dashboard
     state: latest
     update_cache: yes
  when: ansible_distribution == "Ubuntu"
```

and this is for the neutron

Open main.yaml [Read-Only] ~/Act15/roles/neutron/tasks Save

```
- name: installing neutron
  tags: neutron
  apt:
     name:
        - neutron-server
        - neutron-l3-agent
        - neutron-plugin-ml2
        - neutron-dhcp-agent
        - neutron-linuxbridge-agent
        - python3-neutronclient
     state: latest
     update_cache: yes
  when: ansible_distribution == "Ubuntu"
```

and this shows that the playbook works

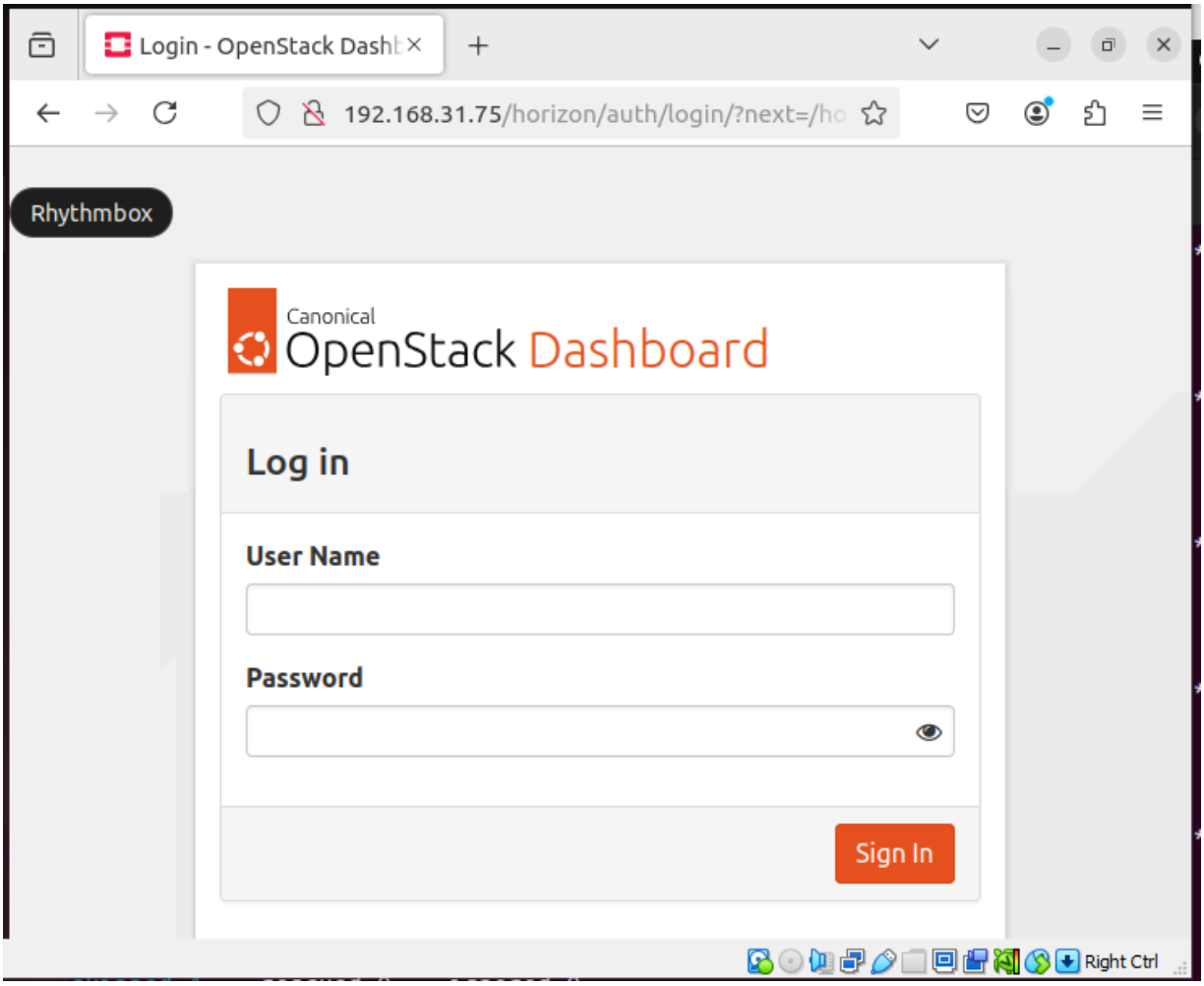
```
TASK [Gathering Facts] *********************************************************
*
ok: [controller1]
ok: [compute1]

TASK [cinder : installing cinder] **********************************************
*
skipping: [controller1]
changed: [compute1]

TASK [horizon : installing horizon] ********************************************
*
skipping: [controller1]
changed: [compute1]

TASK [neutron : installing neutron] ********************************************
*
skipping: [controller1]
changed: [compute1]

PLAY RECAP *********************************************************************
*
compute1                   : ok=6    changed=3    unreachable=0    failed=0
skipped=0    rescued=0    ignored=0
                           : ok=2    changed=0    unreachable=0    failed=0
skipped=4    rescued=0    ignored=0
```

Show Applications

and this shows the cinder and the neutron works

```
vboxuser@server1:~$ systemctl status neutron-server
● neutron-server.service - OpenStack Neutron Server
     Loaded: loaded (/lib/systemd/system/neutron-server.service; enabled; vend>
     Active: active (running) since Mon 2024-12-09 18:04:51 CST; 106ms ago
       Docs: man:neutron-server(1)
   Main PID: 23855 ((n-server))
      Tasks: 1 (limit: 2270)
     Memory: 76.0K
        CPU: 1ms
     CGroup: /system.slice/neutron-server.service
             └─23855 "[(n-server)]"
vboxuser@server1:~$ systemctl status cinder-volume
● cinder-volume.service - OpenStack Cinder Volume
     Loaded: loaded (/lib/systemd/system/cinder-volume.service; enabled; vendo>
    Drop-In: /usr/lib/systemd/system/cinder-volume.service.d
             └─cinder-volume.service.conf
     Active: active (running) since Mon 2024-12-09 18:06:01 CST; 1s ago
       Docs: man:cinder-volume(1)
   Main PID: 24237 (cinder-volume)
      Tasks: 1 (limit: 2270)
     Memory: 66.6M
        CPU: 1.006s
     CGroup: /system.slice/cinder-volume.service
             └─24237 /usr/bin/python3 /usr/bin/cinder-volume --config-file=/et>
vboxuser@server1:~$
```

Rubbish Bin



and this shows the horizon is working

Reflections:

Answer the following:

1. Describe Neutron, Horizon and Cinder services

   Neutron is the networking service in OpenStack, providing flexible and scalable networking for virtual machines and other resources through features like virtual networks, routers, and floating IPs. Horizon is the OpenStack web dashboard, offering a user-friendly interface to interact with OpenStack services and manage

resources like instances, networks, and volumes. Cinder is the block storage service, allowing users to provision and manage persistent storage volumes for instances.

Conclusions:

Together, Neutron, Horizon, and Cinder form essential components of OpenStack's cloud infrastructure, enabling network management, an intuitive user interface, and scalable storage solutions. Their seamless integration ensures that users can effectively manage their cloud environment with ease and flexibility.