Name: Andreu John L. Salvador	**Date Performed: 10/12/2023**
Course/Section: CPE31S5	**Date Submitted: 10/12/2023**
Instructor: Engr. Roman Richard	**Semester and SY: 1st 2023-2024**

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)

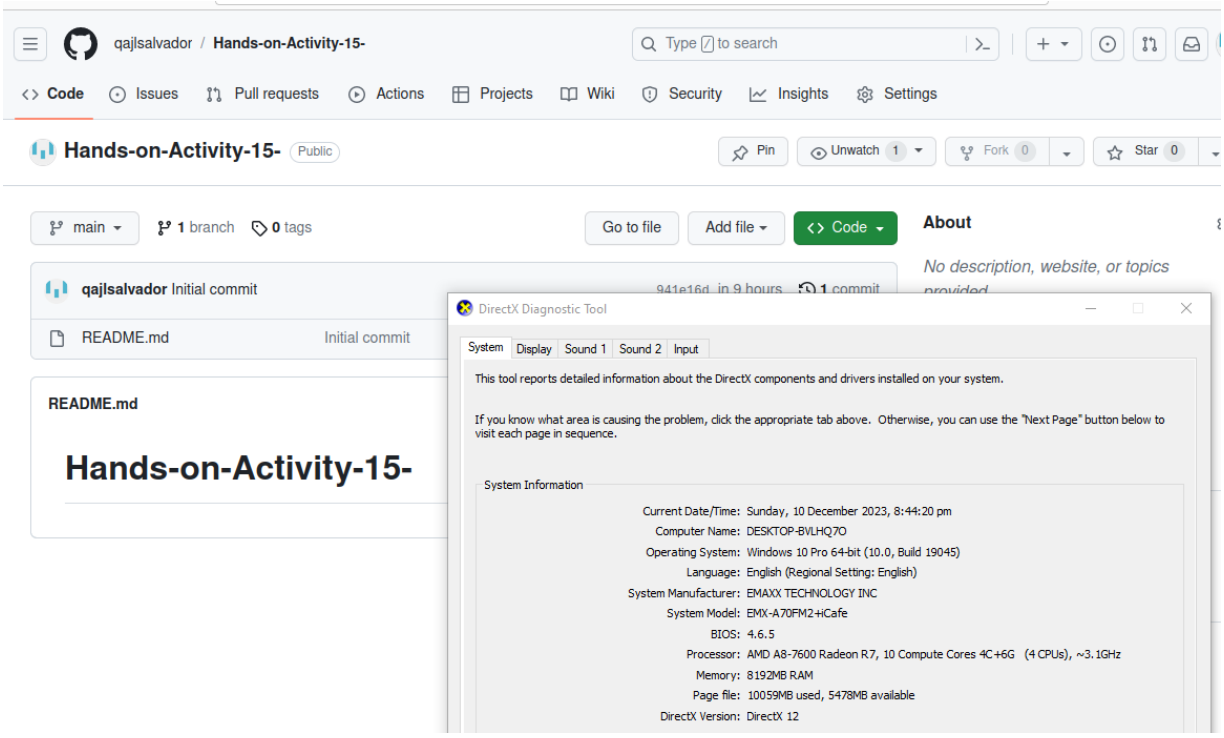
1x Ubuntu VM or Centos VM

4. Tasks

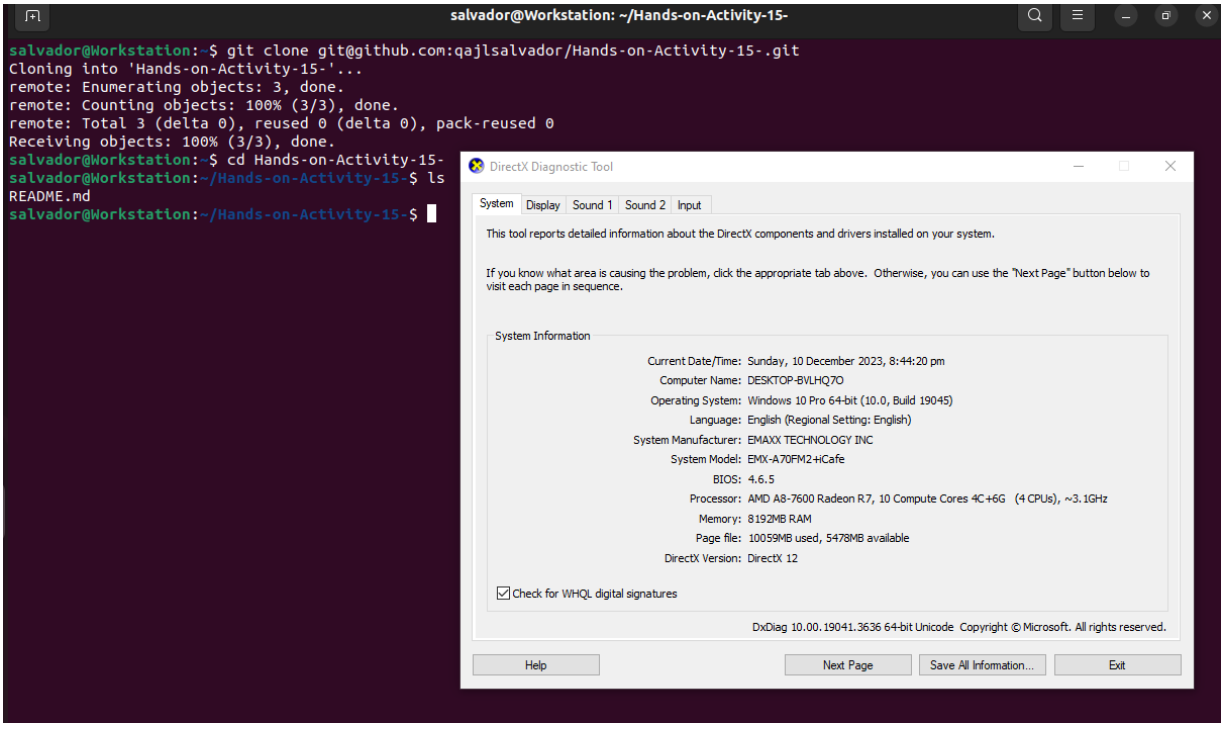
1. Create a new repository for this activity.
2. Create a playbook that converts the steps in the following items in https://docs.openstack.org/install-guide/
   a. Neutron
   b. Horizon
   c. Cinder
   d. Create different plays in installing per server type (controller, compute etc.) and identify it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

5. Output (screenshots and explanations)

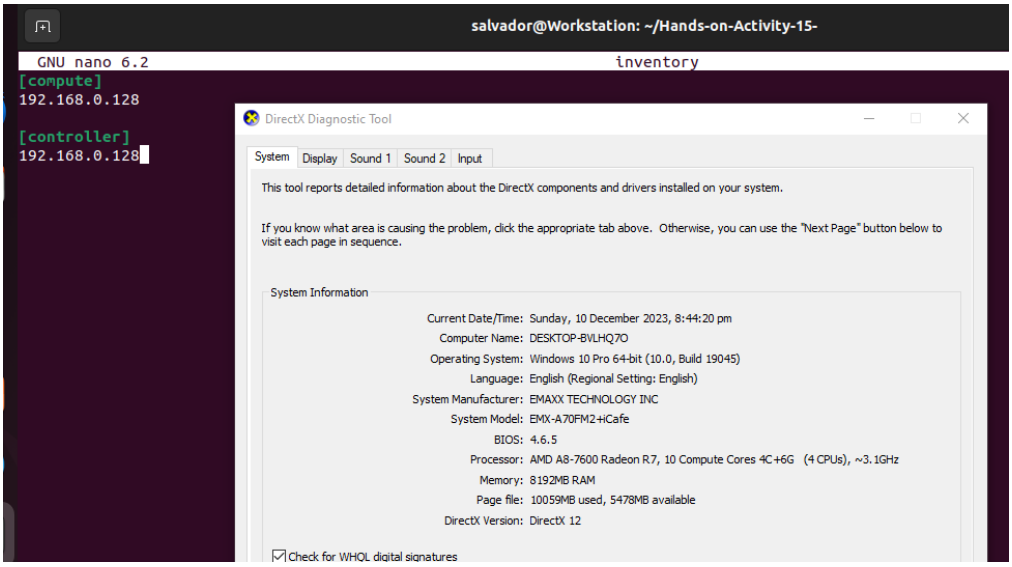
1. Creating The repository in github



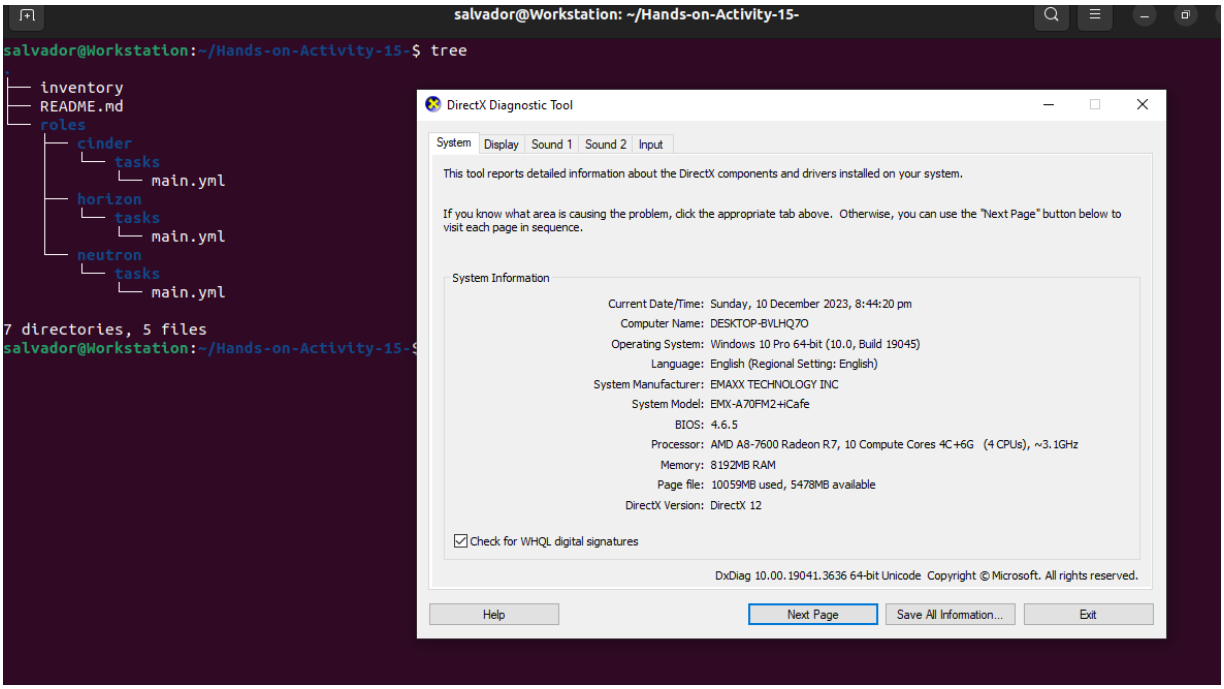
2. Cloning the github repository to the workstation



3. Create the inventory to store the ip address of the Virtual Machines you want to install the applications to

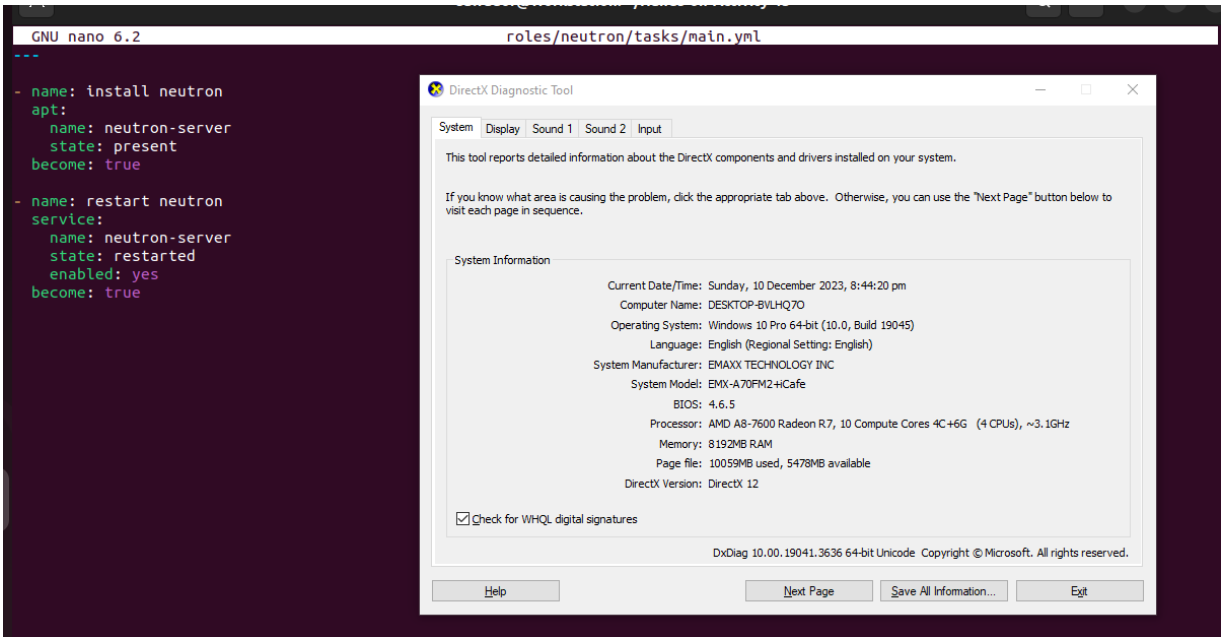


4. Creating the roles directory and creating the appropriate directory for each application inside the roles directory.

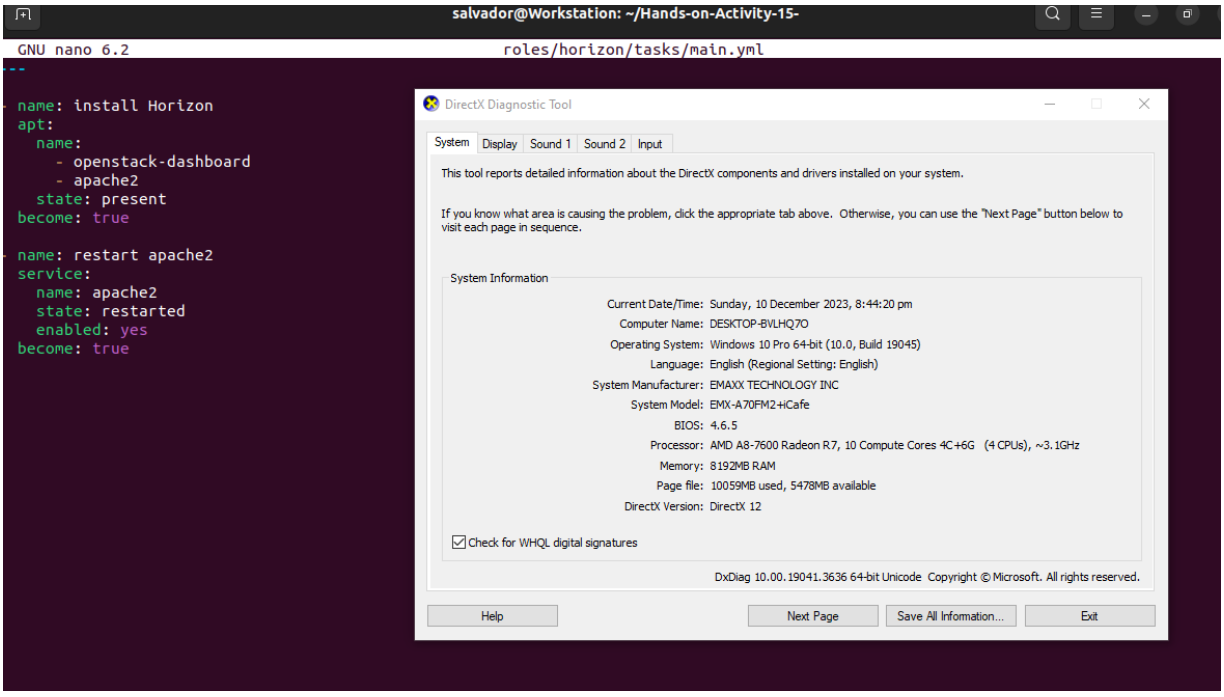


5. Naming main.yml the yaml file that will contain the codes that is needed in automating the installation of the said items

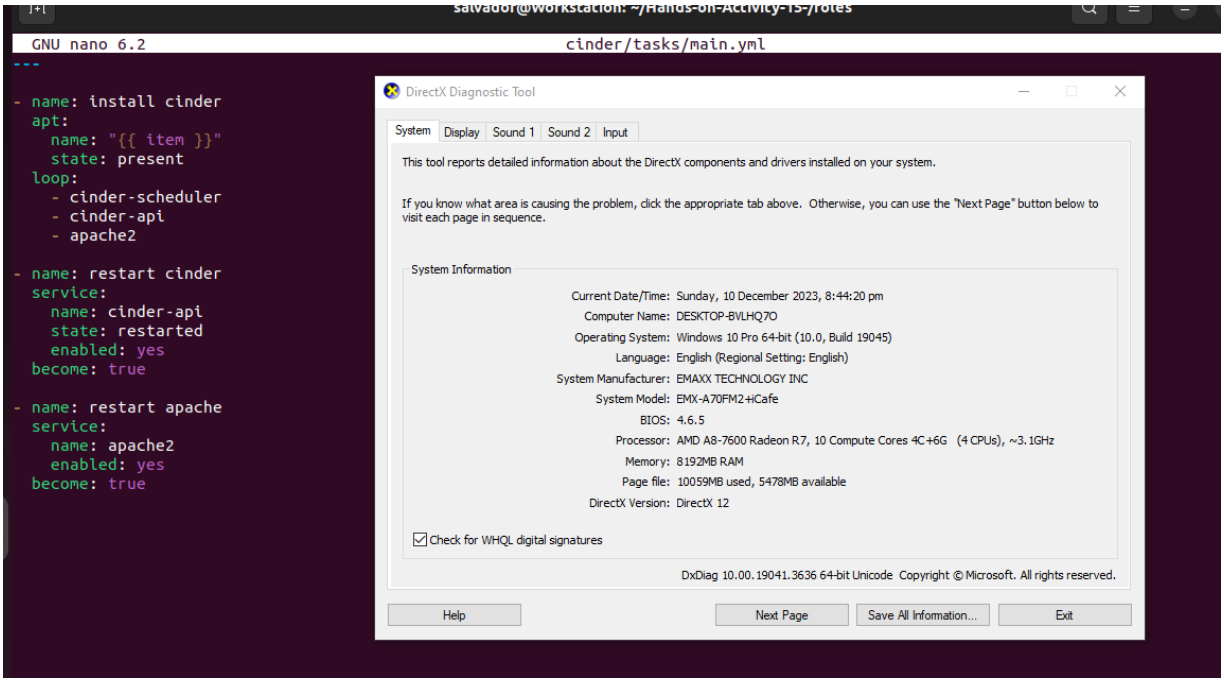
Neutron:



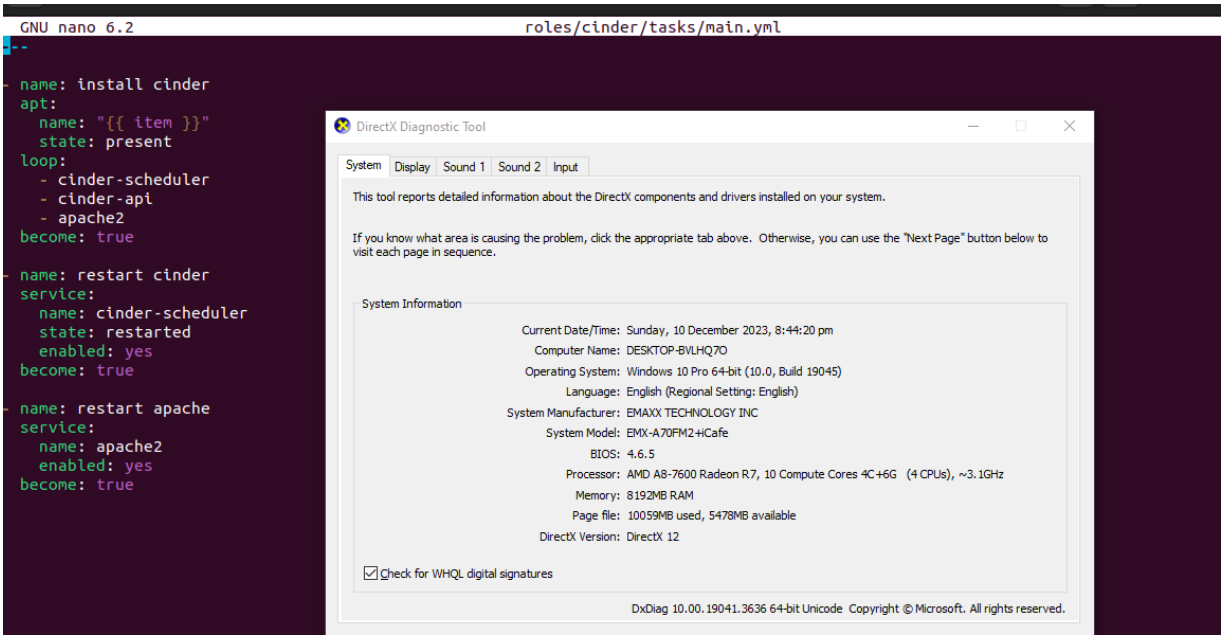
Horizon:



Cinder:



6. Creating the playbook to play the roles



7. Running the playbook

```
TASK [cinder : restart cinder] ************************************************************************************************************
changed: [192.168.0.128]

TASK [cinder : restart apache] ************************************************************************************************************
ok: [192.168.0.128]

PLAY [compute] ****************************************************************************************************************************

TASK [Gathering Facts] ********************************************************************************************************************
ok: [192.168.0.128]

TASK [neutron : install neutron] **********************************************************************************************************
ok: [192.168.0.128]

TASK [neutron : restart neutron] **********************************************************************************************************
changed: [192.168.0.128]

TASK [horizon : install Horizon] **********************************************************************************************************
ok: [192.168.0.128]

TASK [horizon : restart apache2] **********************************************************************************************************
changed: [192.168.0.128]

TASK [cinder : install cinder] ************************************************************************************************************
ok: [192.168.0.128] => (item=cinder-scheduler
ok: [192.168.0.128] => (item=cinder-api)
ok: [192.168.0.128] => (item=apache2)

TASK [cinder : restart cinder] ************************************************************************************************************
changed: [192.168.0.128]

TASK [cinder : restart apache] ************************************************************************************************************
ok: [192.168.0.128]

PLAY RECAP ********************************************************************************************************************************
192.168.0.128              : ok=18   changed=7    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

salvador@Workstation:~/Hands-on-Activity-15-$
```

DirectX Diagnostic Tool

System | Display | Sound 1 | Sound 2 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button below to visit each page in sequence.

System Information

Current Date/Time:	Sunday, 10 December 2023, 8:44:20 pm
Computer Name:	DESKTOP-BVLHQ7O
Operating System:	Windows 10 Pro 64-bit (10.0, Build 19045)
Language:	English (Regional Setting: English)
System Manufacturer:	EMAXX TECHNOLOGY INC
System Model:	EMX-A70FM2+iCafe
BIOS:	4.6.5
Processor:	AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz
Memory:	8192MB RAM
Page file:	10059MB used, 5478MB available
DirectX Version:	DirectX 12

Check for WHQL digital signatures

DxDiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft. All rights reserved.

Help | Next Page | Save All Information... | Exit

8.Checking Neutron:

```
salvador@Server2:~$ systemctl status neutron-server
● neutron-server.service - OpenStack Neutron Server
     Loaded: loaded (/lib/systemd/system/neutron-server.service; enabled; vendor preset: enabled)
     Active: active (running) since Sun 2023-12-10 13:50:19 UTC; 33s ago
       Docs: man:neutron-server(1)
   Main PID: 18296 (neutron-server)
      Tasks: 1 (limit: 2966)
     Memory: 125.1M
        CPU: 6.354s
     CGroup: /system.slice/neutron-server.service
             └─18296 /usr/bin/python3 /usr/bin/neutron-server --config-file=/etc/neutron/neutron.conf --config-file=/etc/

Dec 10 13:50:19 Server2 systemd[1]: Started OpenStack Neutron Server.
lines 1-12/12 (END)
```

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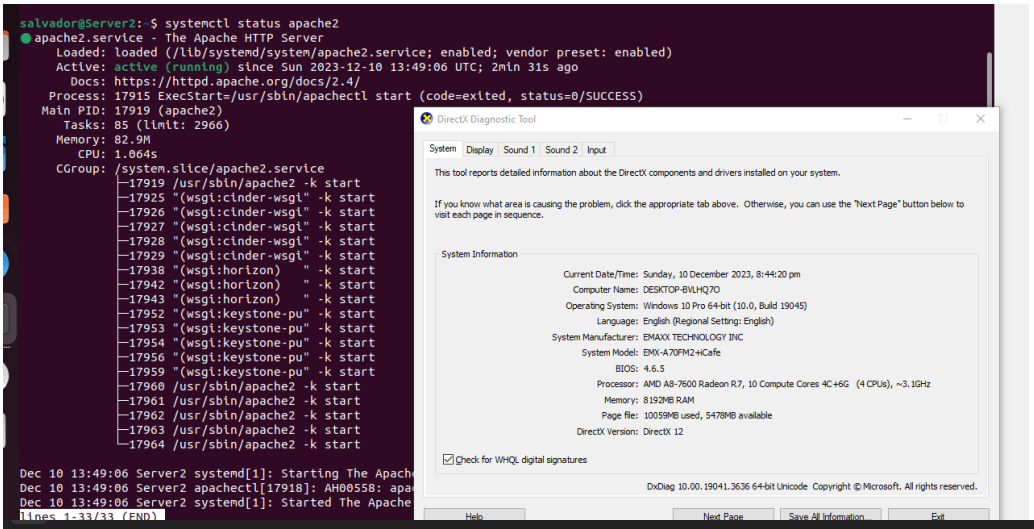
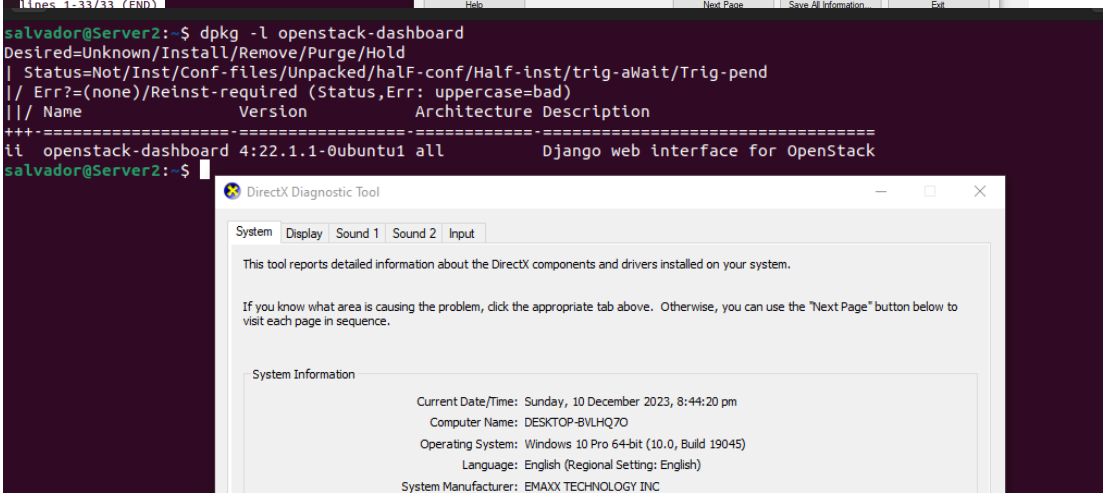
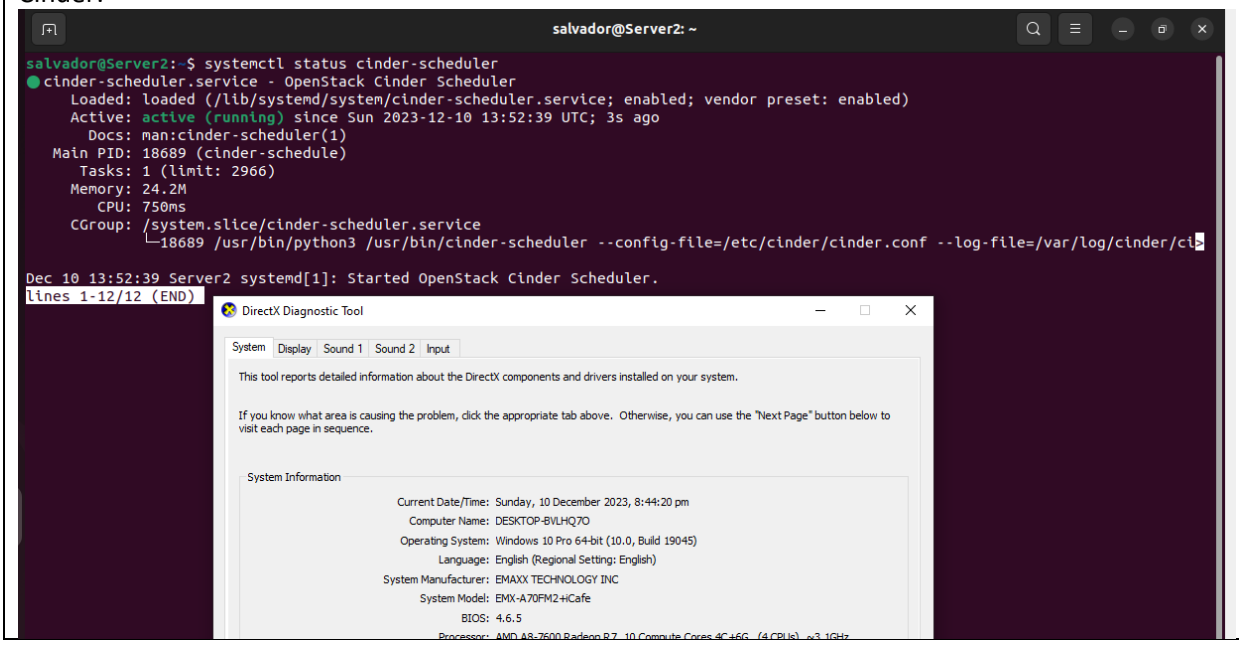
Horizon:

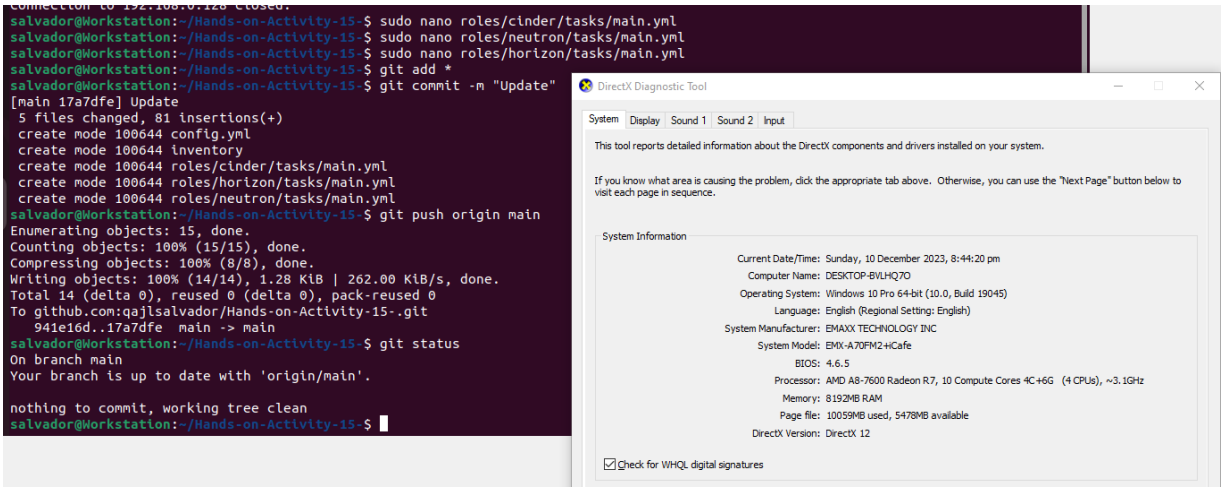


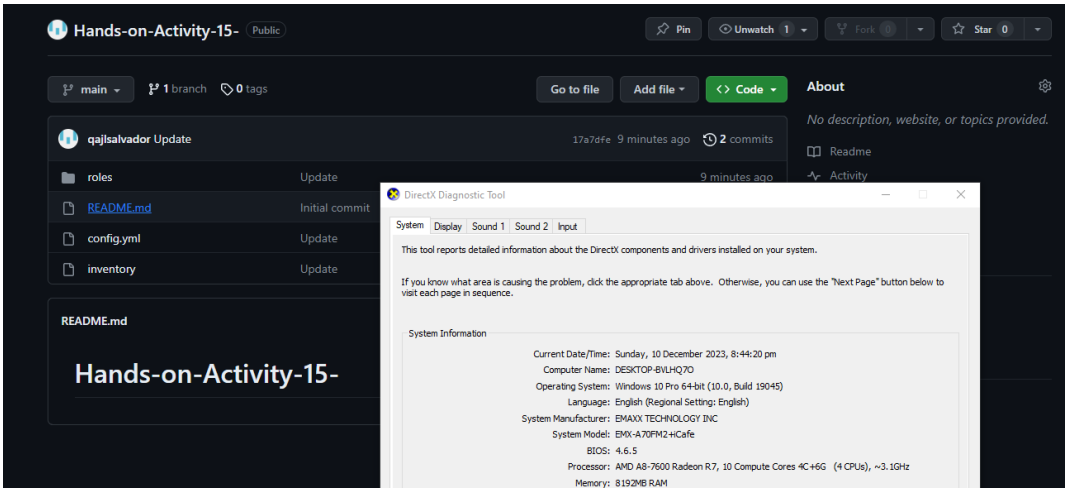


Cinder:



9. Pushing everything in the github repository





Github link: https://github.com/qajlsalvador/Hands-on-Activity-15-.git

Reflections:

Answer the following:

1. Describe Neutron, Horizon and Cinder services

These are openstack services that can be used to support a user when working with networks. An example is Neutron which provides the network connectivity in virtual environment in the cloud. Horizon provides a web-based interface for the user just like how nova and keystone does, and lastly Cinder is also an open-source software that is to help a user to create and manage services using data storage to the cloud or cloud computing applications. It is also known as OpenStack Block Storage project.

Conclusions:

Throughout making this activity, we are able to successfully install the necessary applications for our openstack application. Neutron, Horizon, and Cinder are the services that is needed to be installed using the ansible playbook. With the use

of the ansible playbook the installation was made simple and quick, with just a single run of a play, the installation of the 3 services was achieved. In the end the services was checked to confirm the installation. The state of the services upon checking was active therefore the goal finished and the services can now be use by the user.