Name: Mark Andrei Ponayo	**Date Performed:** Dec 9, 2023
Course/Section: BSCPE31S5	**Date Submitted:** Dec 10, 2023
Instructor: Engr. Roman Richard	**Semester and SY:** 1st sem 2022 - 2023

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)

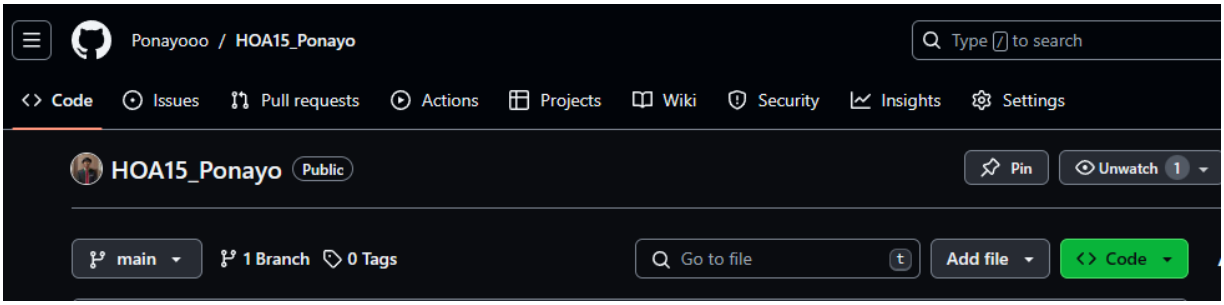
1x Ubuntu VM or Centos VM

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.

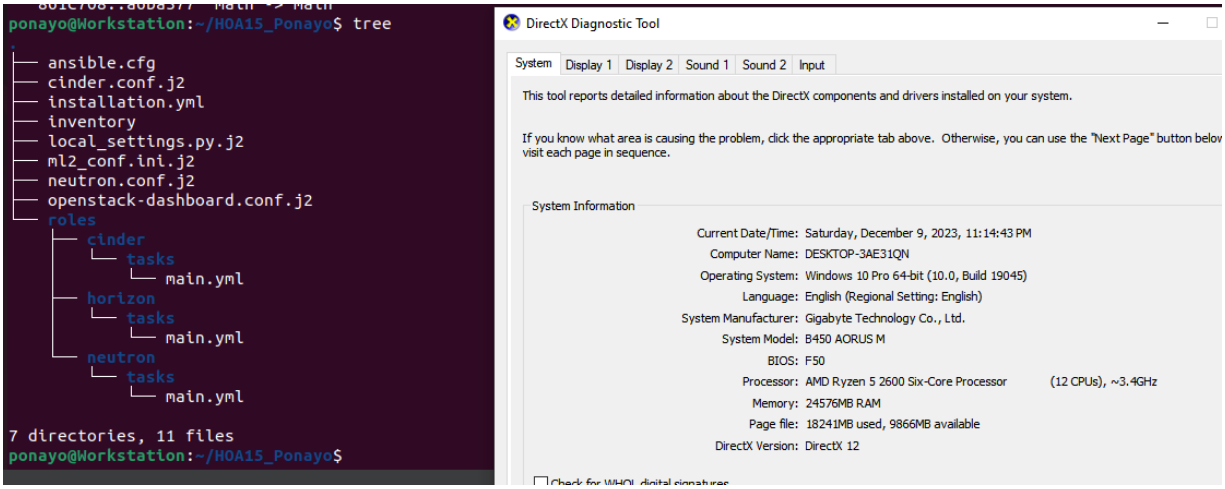
5. Output (screenshots and explanations)

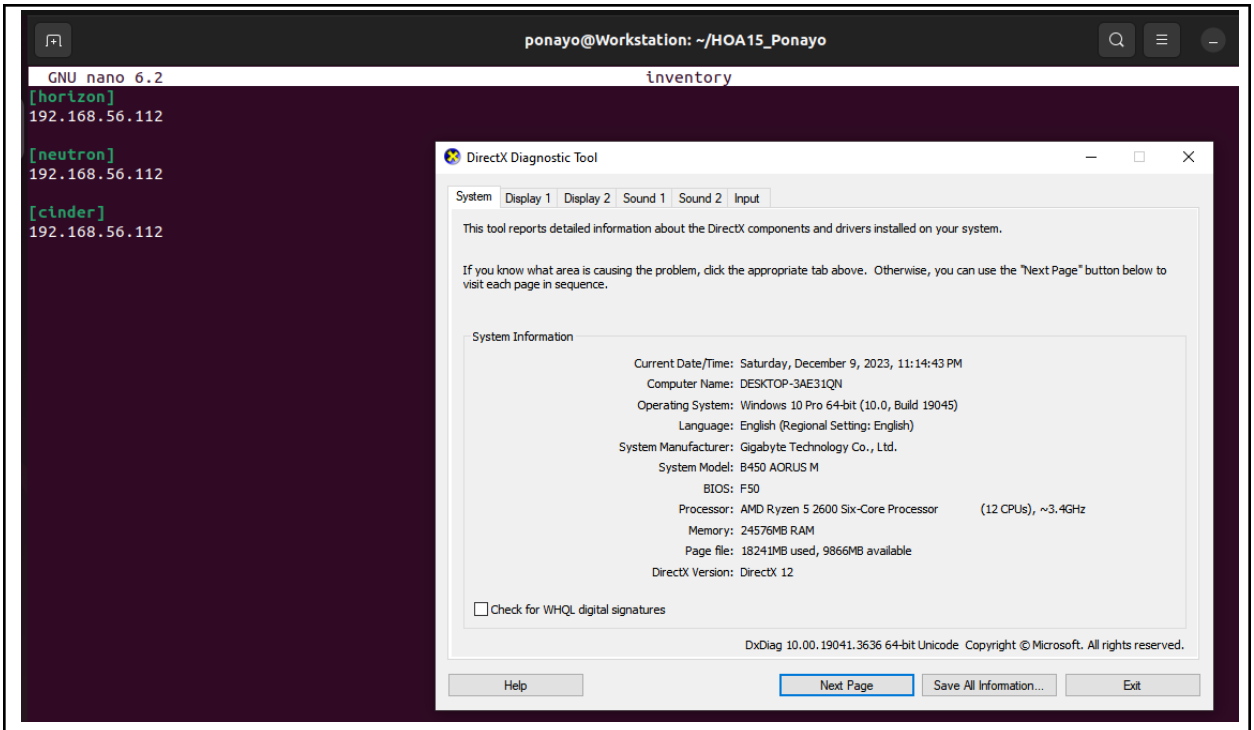
1. Creating a new Repository

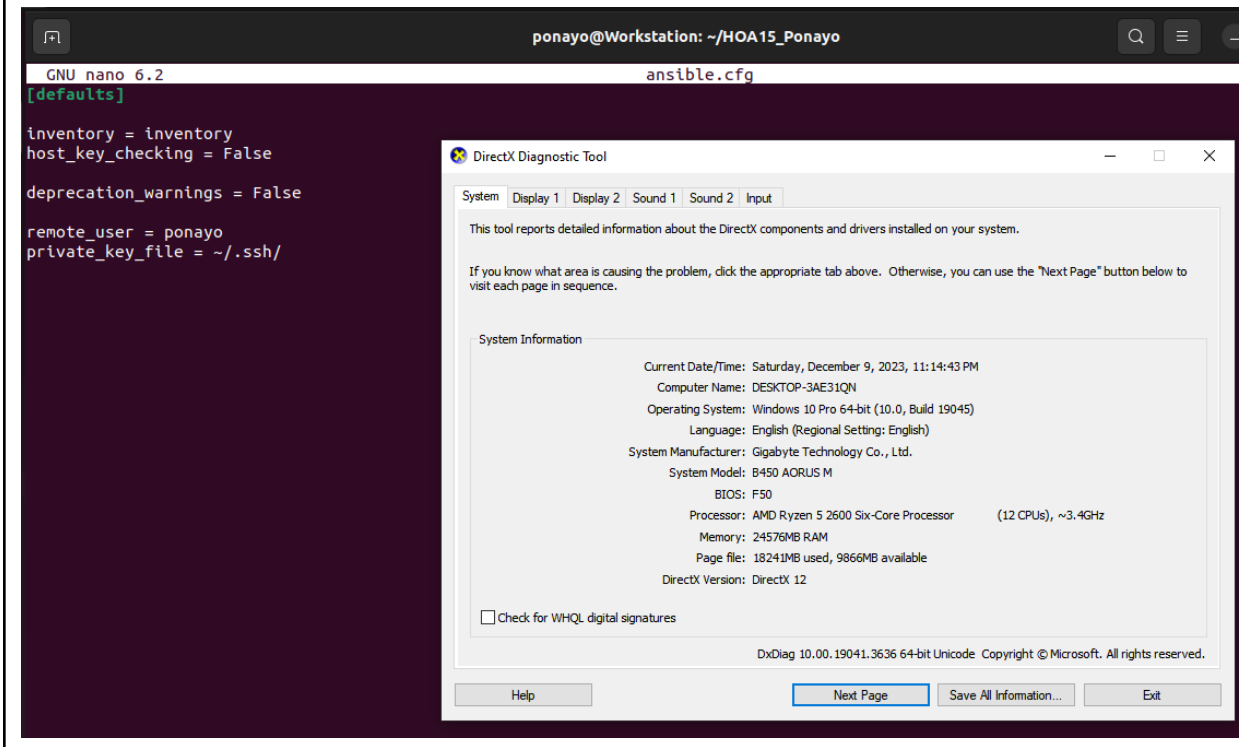


Creating the following files for basic configuration.

I created the following files named inventory, installation.yml, and ansible.cfg to create the basic configuration of ansible. I also created the following file cinder.conf.j2, local_settings.py.j2, ml2_conf.ini.j2, neutron.conf.j2, and openstack-dashboard.conf.j2 since it was needed as remote source for installation of the horizon, cinder, and neutron.




ponayo@Workstation: ~/HOA15_Ponayo
GNU nano 6.2 inventory
[horizon]
192.168.56.112
[neutron]
192.168.56.112
[cinder]
192.168.56.112
DirectX Diagnostic Tool
System Display 1 Display 2 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: Saturday, December 9, 2023, 11:14:43 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 18241MB used, 9866MB 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


ponayo@Workstation: ~/HOA15_Ponayo
GNU nano 6.2 ansible.cfg
[defaults]
inventory = inventory
host_key_checking = False
deprecation_warnings = False
remote_user = ponayo
private_key_file = ~/.ssh/
DirectX Diagnostic Tool
System Display 1 Display 2 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.
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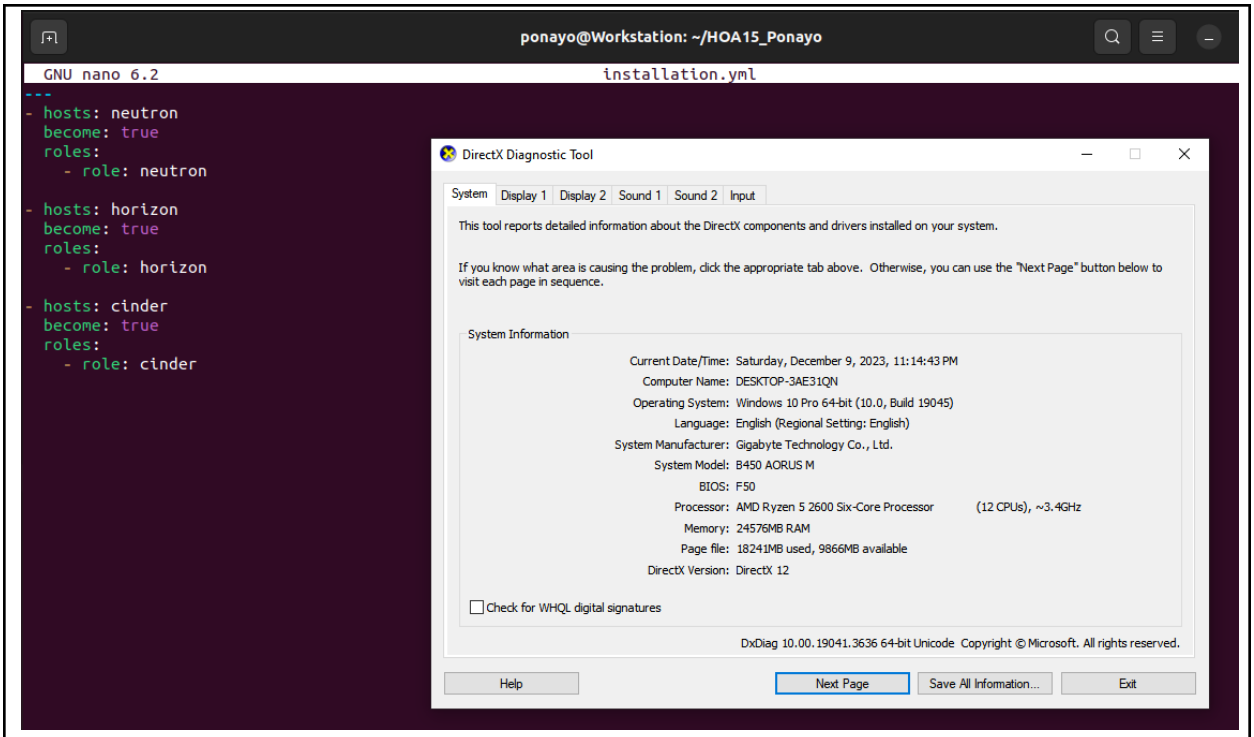
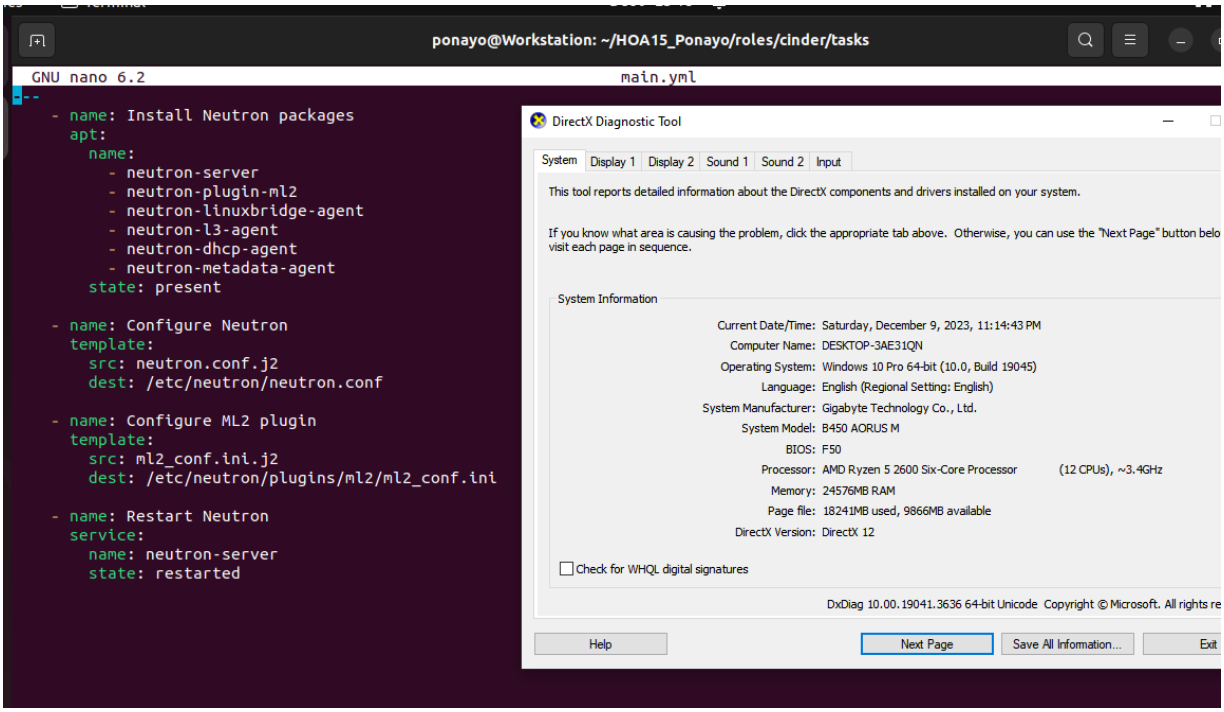
Check for WHQL digital signatures
DxDiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft. All rights reserved.
Help
Next Page
Save All Information...
Exit



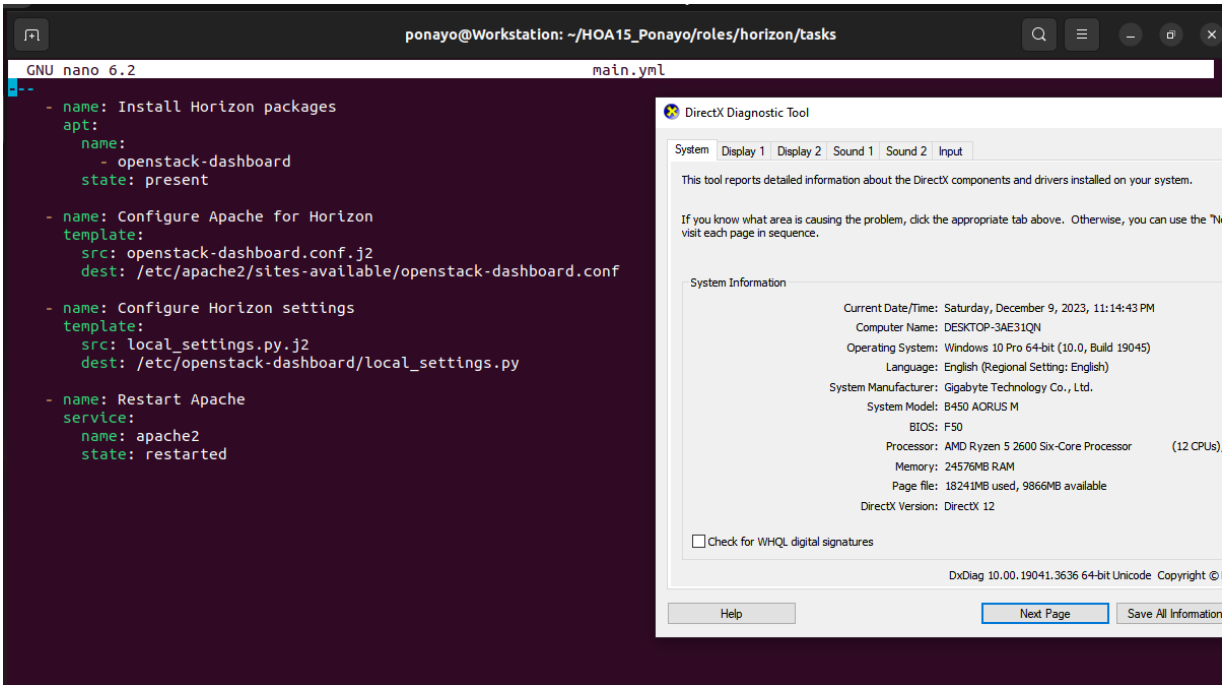
Cinder

This is the following code for installation of cinder.



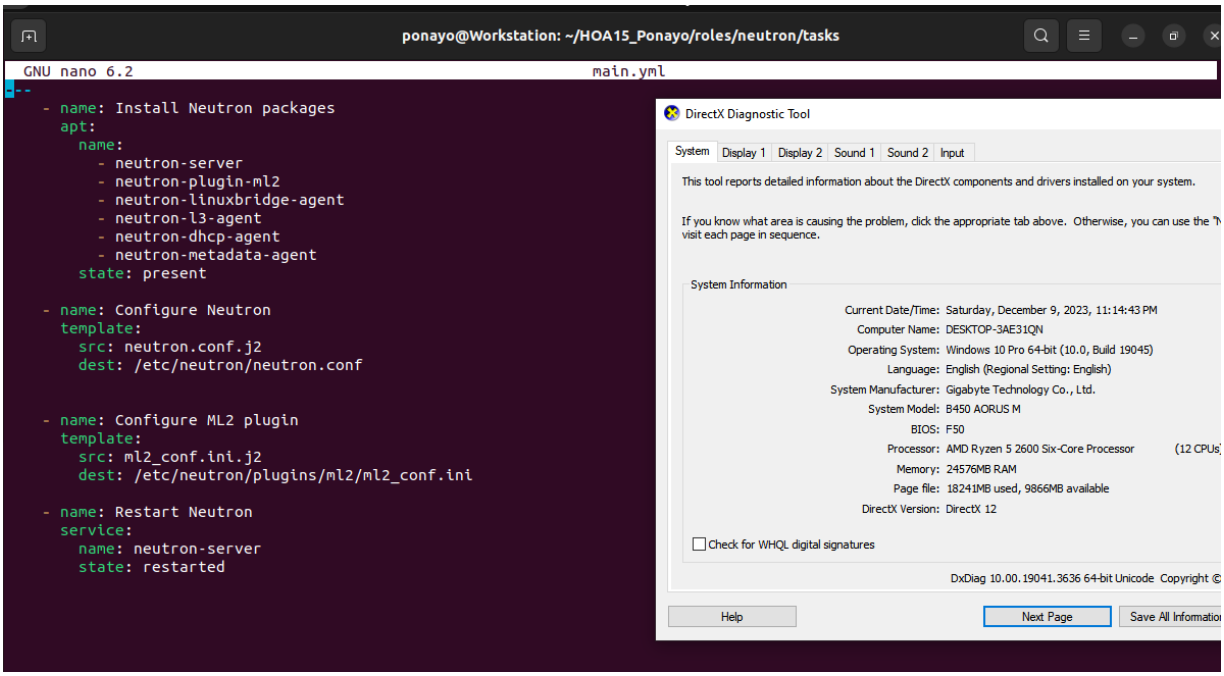
Horizon

This is the following code for the installation of horizon.



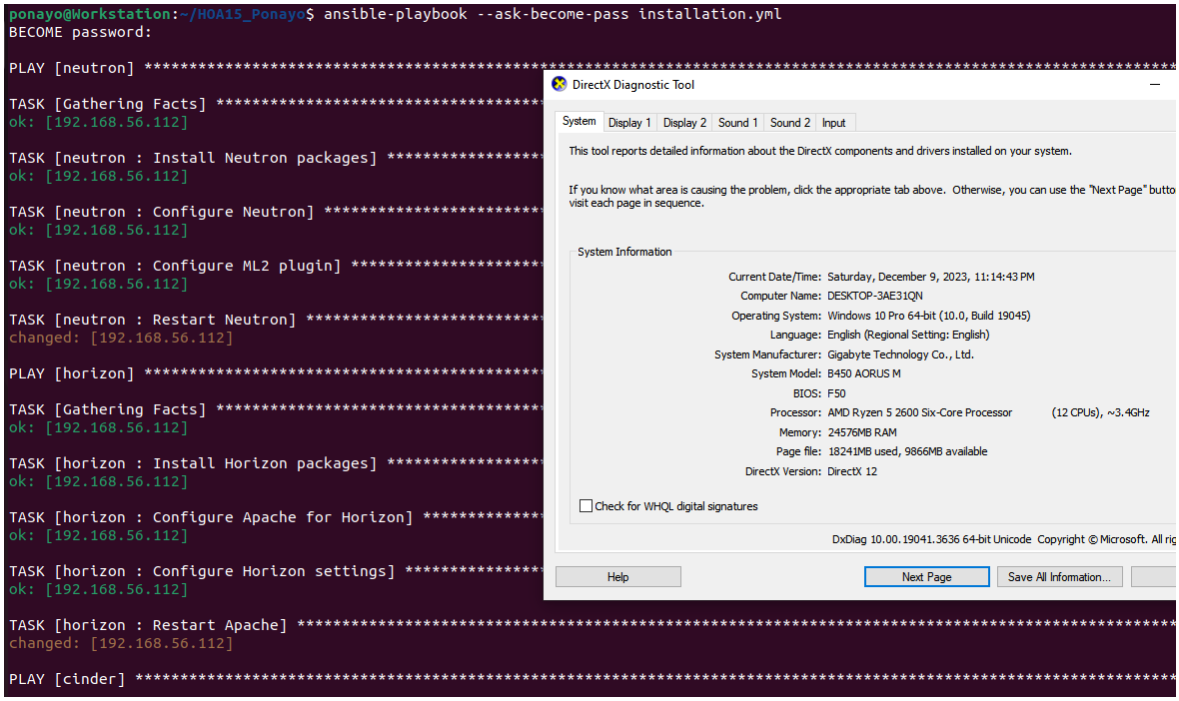
Neutron

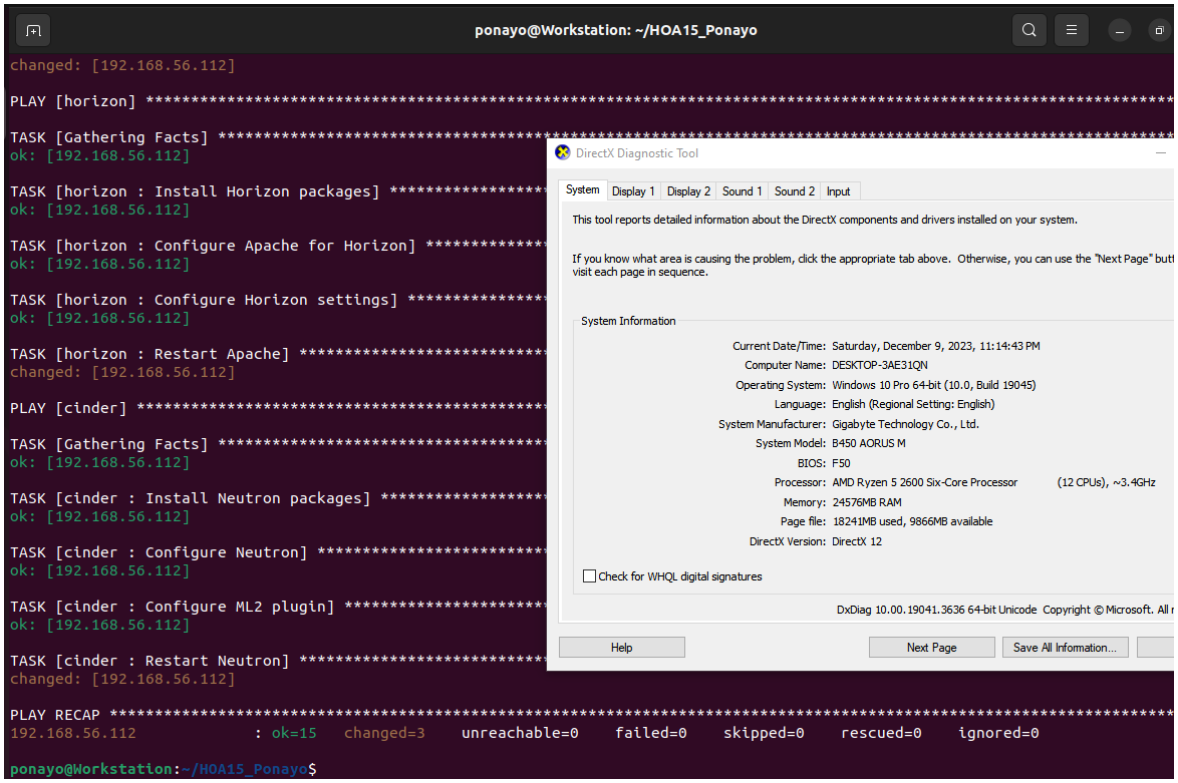
This is the following code for the installation of Neutron.



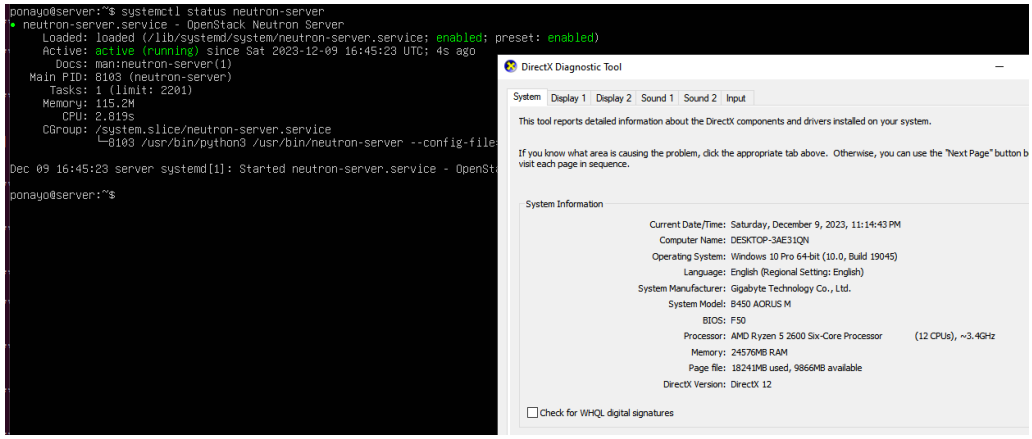
Running the files

For the step, i used the ansible-playbook –ask-become-pass installation command to run the following files to install the neutron, horizon, and cinder.

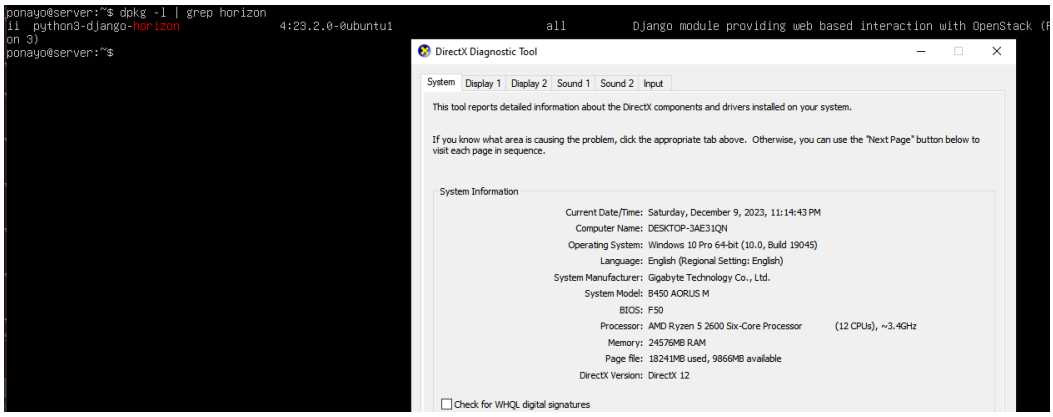




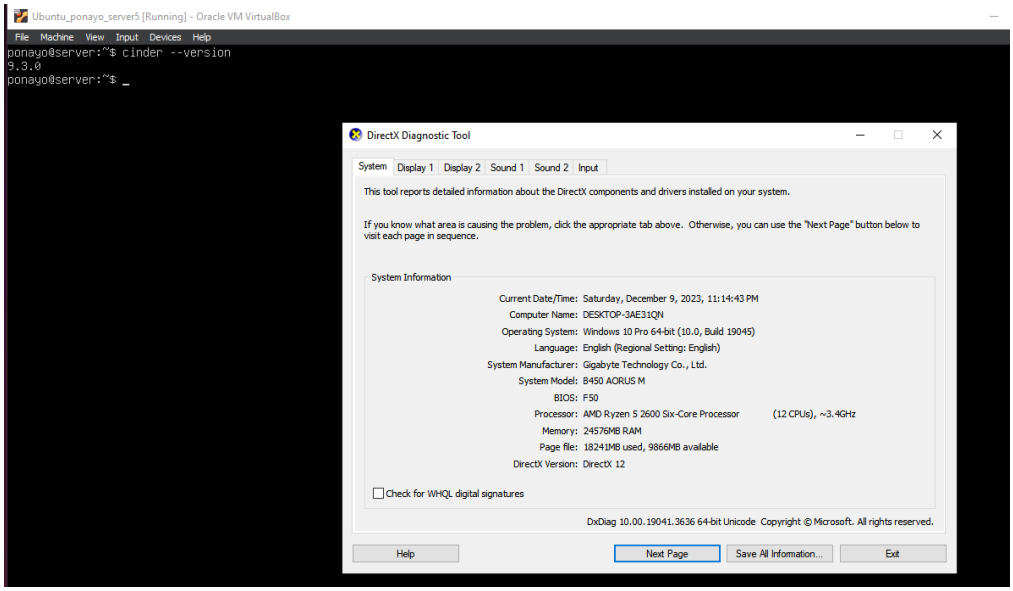
Neutron



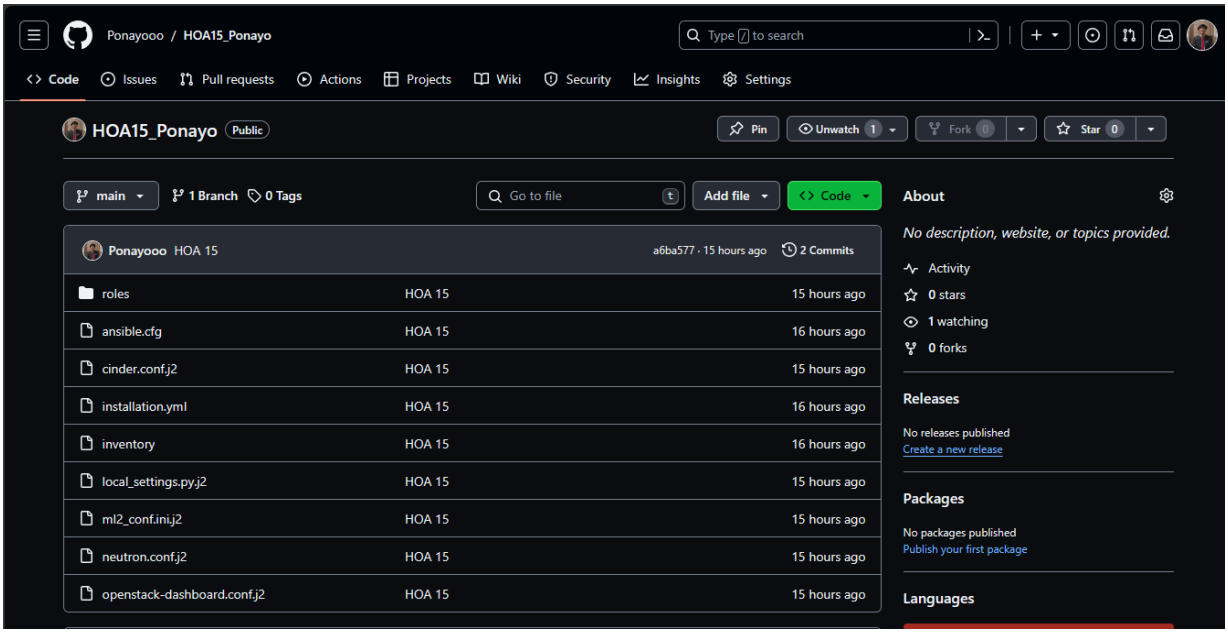
Horizon



Cinder



Github



https://github.com/Ponayooo/HOA15_Ponayo

Reflections:

Answer the following:

1. Describe Neutron, Horizon and Cinder services

- In addition to the functionality provided by Keystone, Glance, and Nova, the OpenStack cloud computing platform also includes Neutron, Horizon, and Cinder as essential services. In OpenStack, network connectivity comes as a service by Neutron, the networking service. The web-based Horizon dashboard for OpenStack provides a graphical user interface (GUI) for resource management and monitoring. The Block Storage service, Cinder, is in charge of giving OpenStack instances persistent block storage.

Conclusions:

In conclusion, using Ansible to deploy Neutron, Horizon, and Cinder in OpenStack is an effective way to make installation of critical cloud services easy. When compared to manual setups, Ansible's automation features make the deployment process more efficient and less prone to error. Ansible ensures that networking services are connected perfectly. Neutron, making it possible to create and maintain a variety of network topologies that are necessary for OpenStack instances. Ansible automation makes Horizon, the web-based dashboard, more accessible and simple. Ansible simplifies the block storage resource management process for Cinder.