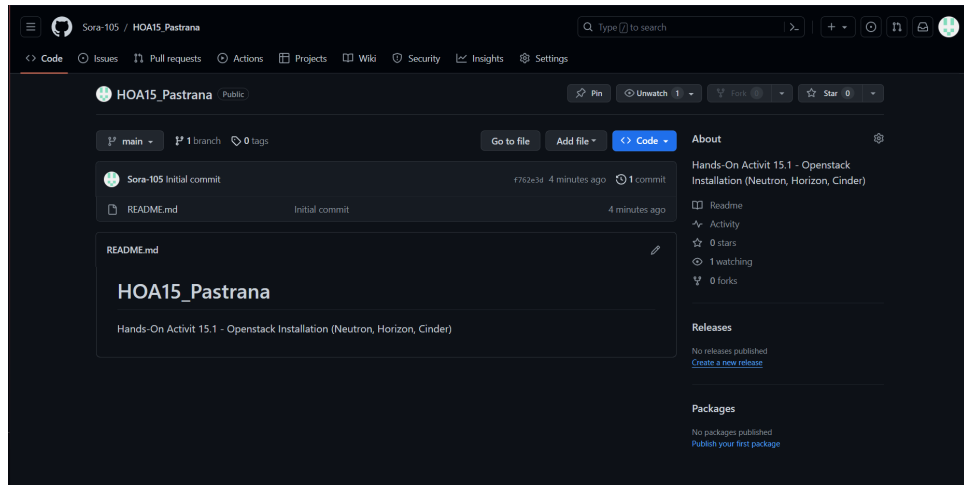
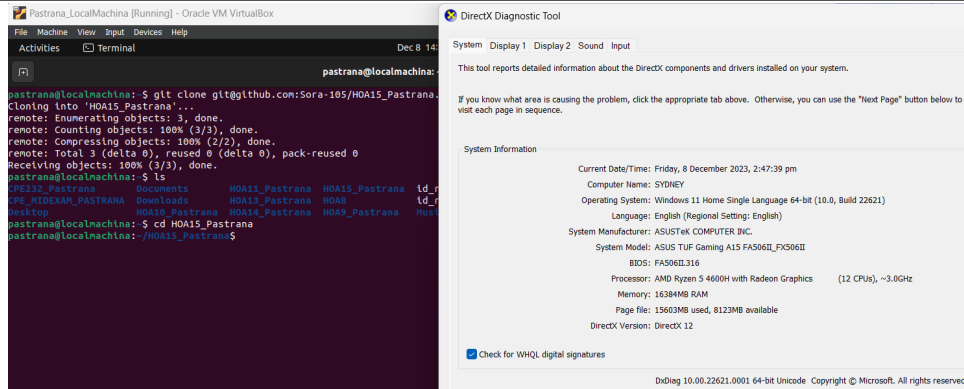
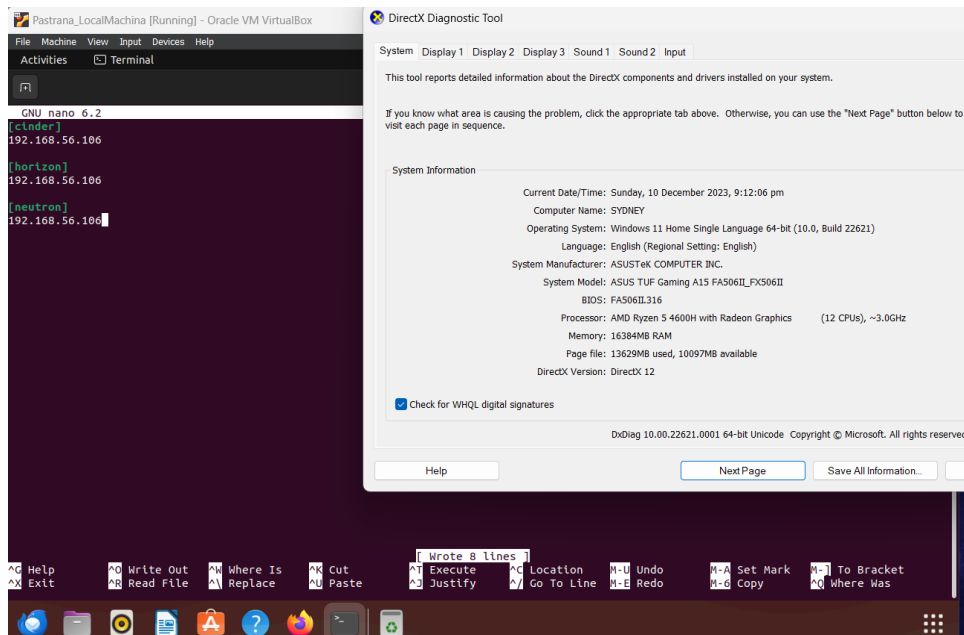


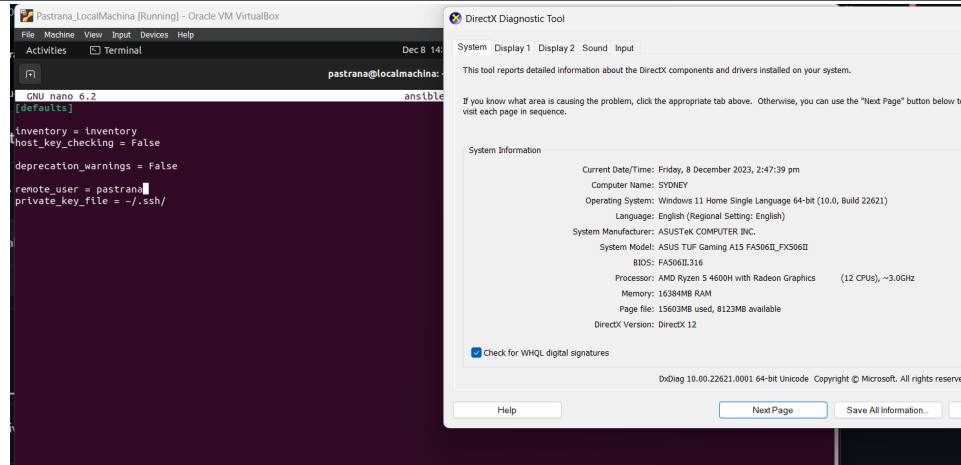
Name: Pastrana, Mark Laurenz	Date Performed: Dec 7, 2023
Course/Section: CPE31S5	Date Submitted: Dec 8, 2023
Instructor: Engr. Richard Roman	Semester and SY: 2023-2024
Activity 15: OpenStack Installation (Neutron, Horizon, Cinder)	
1. Objectives	
Create a workflow to install OpenStack using Ansible as your Infrastructure as Code (IaC).	
2. Intended Learning Outcomes	
<ol style="list-style-type: none"> 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	
<p>Oracle VirtualBox (Hypervisor)</p> <p>1x Ubuntu VM or Centos VM</p>	
4. Tasks	
<ol style="list-style-type: none"> 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/ <ol style="list-style-type: none"> 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)	
<ol style="list-style-type: none"> 1. Create a new repository for this activity. 	



Inventory file:

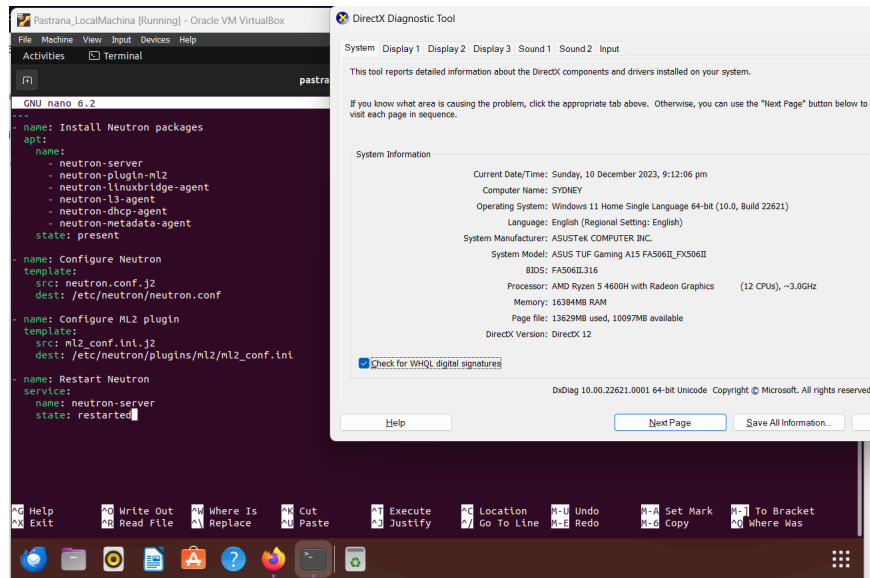


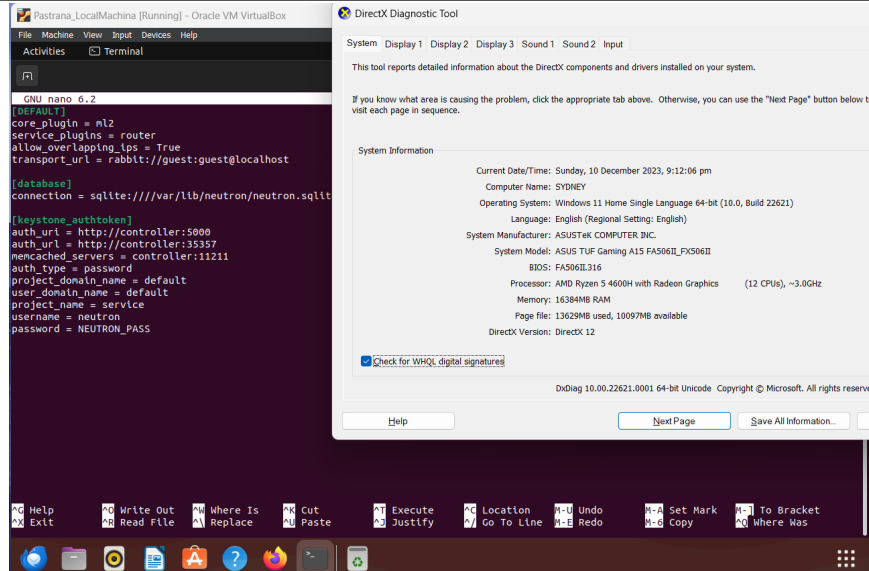
ansible.cfg file:



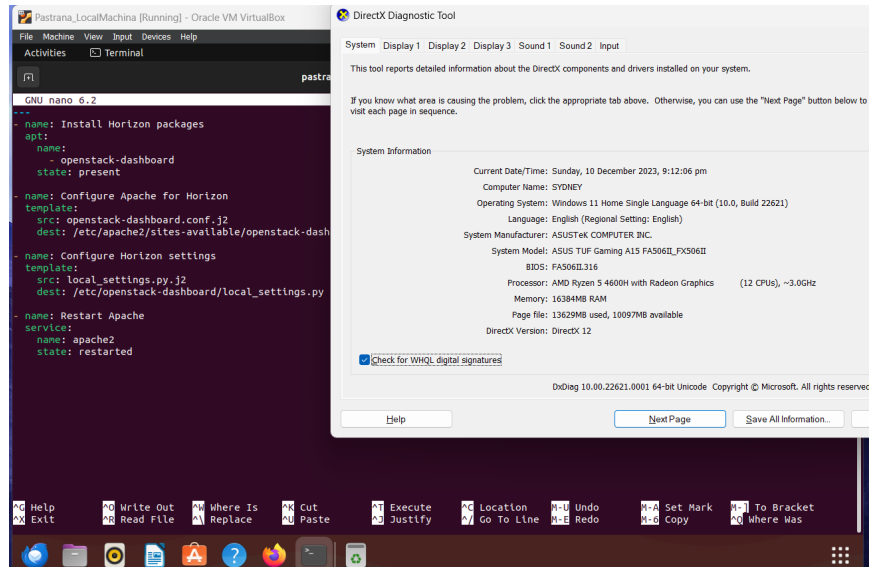
2. Create a playbook that converts the steps in the following items in <https://docs.openstack.org/install-guide/>

a. Neutron





b. Horizon



c. Cinder

Pastrana_LocalMachina [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal

pastr

GNU nano 6.2

```
--
- name: Install Cinder packages
  apt:
    name:
      - cinder-api
      - cinder-scheduler
      - cinder-volume
    state: present

- name: Configure Cinder
  template:
    src: cinder.conf.j2
    dest: /etc/cinder/cinder.conf

- name: Create Cinder database
  command: cinder-manage db sync
  become_user: cinder
```

DirectX Diagnostic Tool

System Display 1 Display 2 Display 3 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, 9:12:06 pm

Computer Name: SYDNEY

Operating System: Windows 11 Home Single Language 64-bit (10.0, Build 22H2)

Language: English (Regional Setting: English)

System Manufacturer: ASUS TUF GAMING INC.

System Model: ASUS TUF Gaming A15 FA506IL FX506II

BIOS: FAS06IL316

Processor: AMD Ryzen 5 4600H with Radeon Graphics (12 CPUs), ~3.0GHz

Memory: 16384MB RAM

Page file: 13629MB used, 10097MB available

DirectX Version: DirectX 12

☒ Check for WHQL digital signatures

DxDiag 10.00.22621.0001 64-bit Unicode Copyright © Microsoft. All rights reserved.

Help Next Page Save All Information...

Pastrana_LocalMachina [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal

pastr

GNU nano 6.2

```
[DEFAULT]
transport_url = rabbit://guest:guest@localhost
auth_strategy = keystone

[database]
connection = sqlite:///var/lib/cinder/cinder.sqlite

[keystone_auth_token]
auth_url = http://controller:5000
auth_url = http://controller:35357
memcached_servers = controller:11211
auth_type = password
project_domain_name = default
user_domain_name = default
project_name = service
username = cinder
password = CINDER_PASS

[oslo_concurrency]
lock_path = /var/lib/cinder/tmp
```

DirectX Diagnostic Tool

System Display 1 Display 2 Display 3 Sound 1 Sound 2 Input

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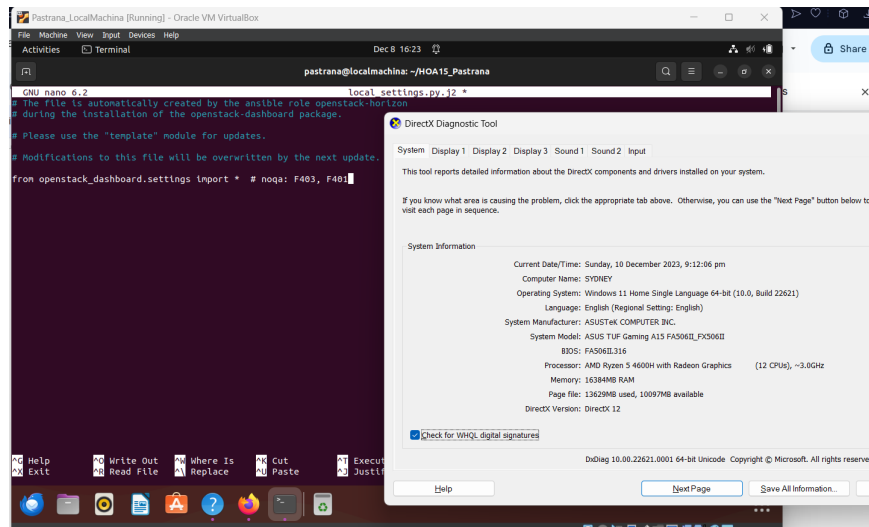
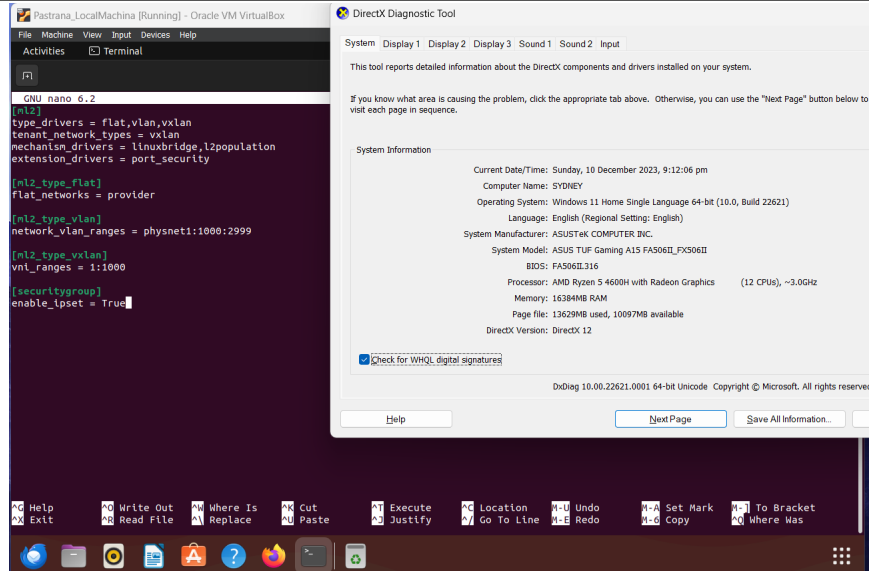
DirectX Version: DirectX 12

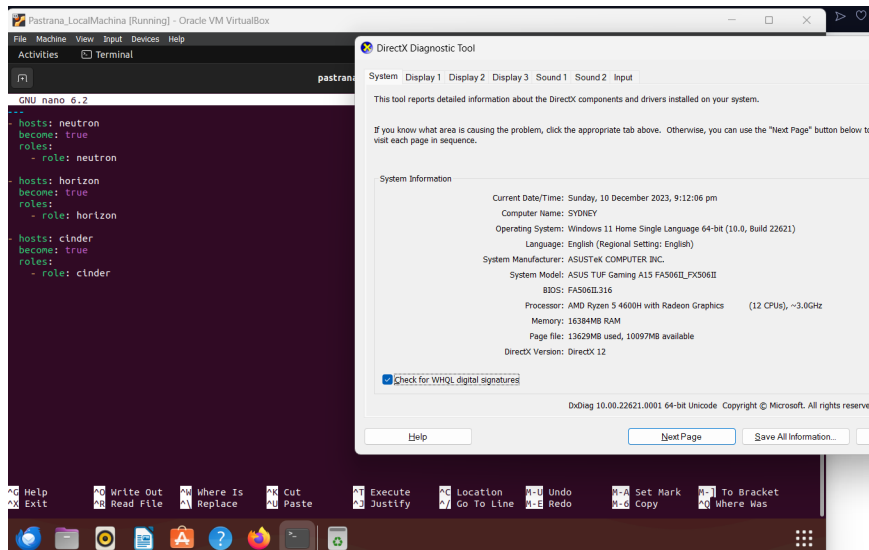
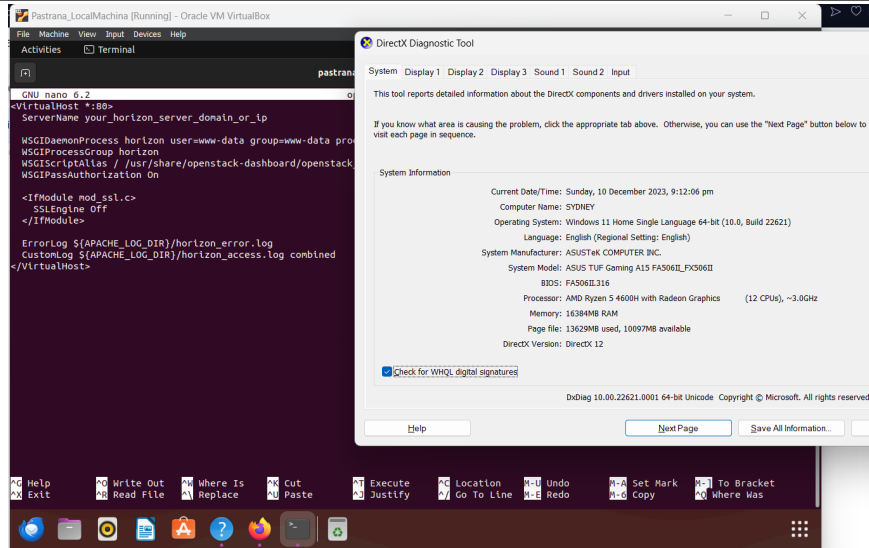
☒ Check for WHQL digital signatures

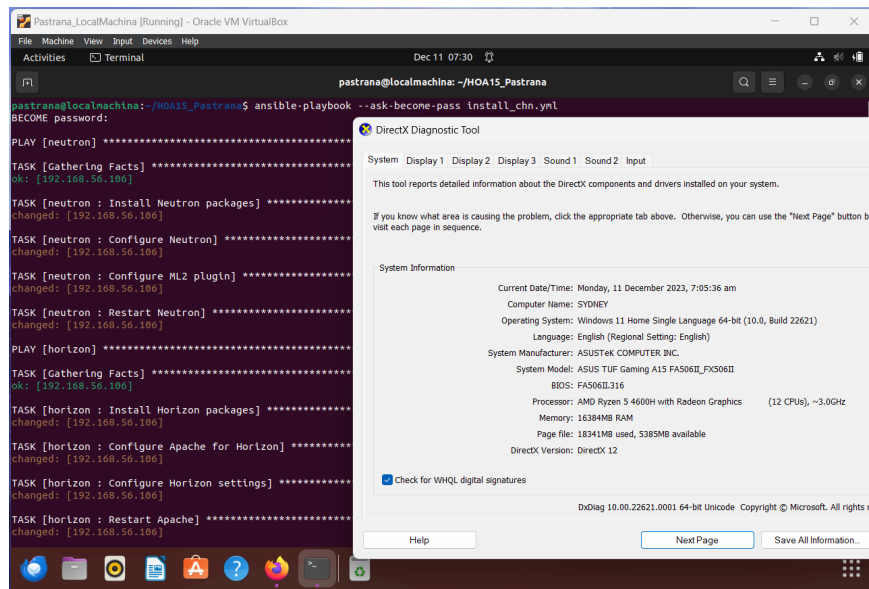
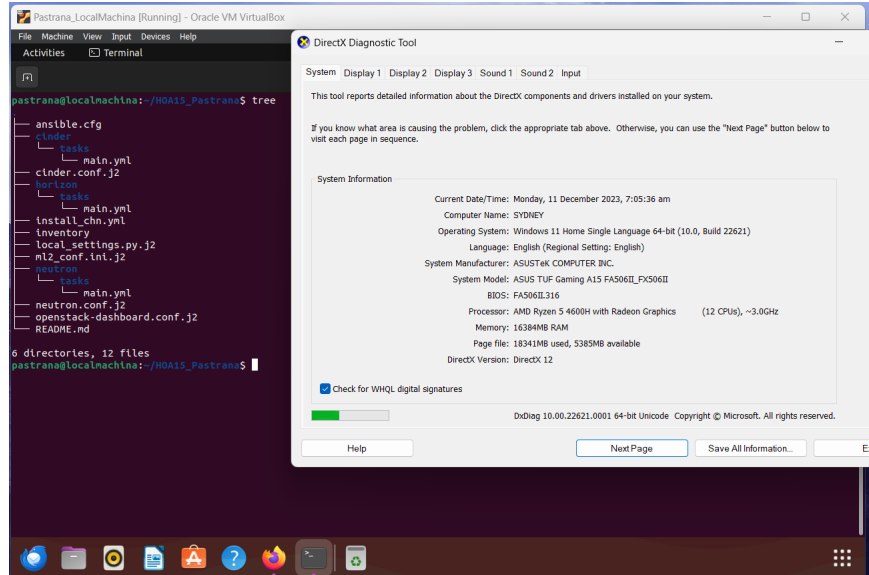
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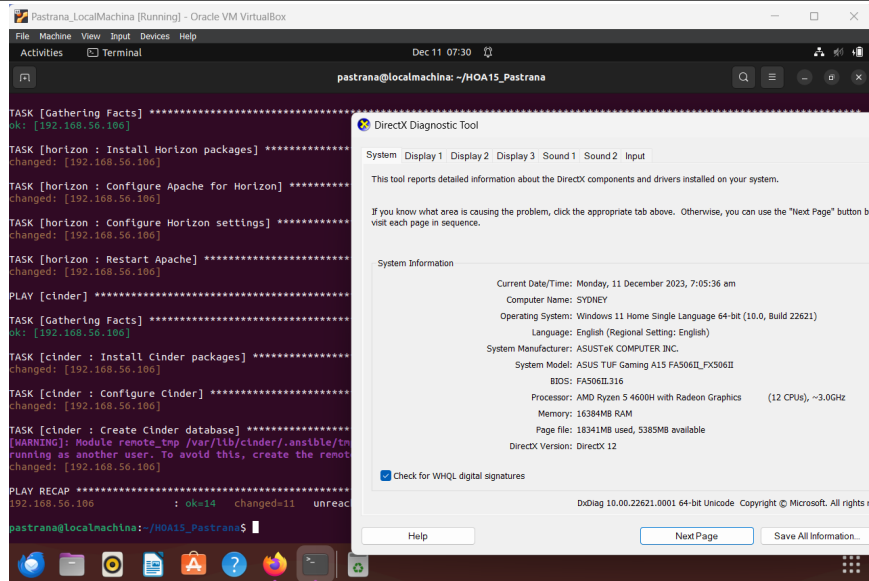
Help Next Page Save All Information...

- 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.

```

File Machine View Input Devices Help
Activities Terminal
pastrana@localmachina: ~/HOA15_Pastrana

pastrana@localmachina:~/HOA15_Pastrana$ git add *
pastrana@localmachina:~/HOA15_Pastrana$ git commit -m "HOA15_Pastrana"
[main 461ae21] HOA15_Pastrana
11 files changed, 175 insertions(+)
create mode 100644 ansible.cfg
create mode 100644 cinder.conf.j2
create mode 100644 cinder/tasks/main.yml
create mode 100644 horizon/tasks/main.yml
create mode 100644 install_chn.yml
create mode 100644 inventory
create mode 100644 local_settings.py.j2
create mode 100644 ml2_conf.ini.j2
create mode 100644 neutron.conf.j2
create mode 100644 neutron/tasks/main.yml
create mode 100644 openstack-dashboard.conf.j2
pastrana@localmachina:~/HOA15_Pastrana$ git push origin
Enumerating objects: 20, done.
Counting objects: 100% (20/20), done.
Delta compression using up to 4 threads
Compressing objects: 100% (13/13), done.
Writing objects: 100% (19/19), 2.86 KiB | 1.43 MiB/s, done.
Total 19 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
To github.com:Sora-105/HOA15_Pastrana.git
   f762e3d..461ae21  main -> main
pastrana@localmachina:~/HOA15_Pastrana$

```

https://github.com/Sora-105/HOA15_Pastrana.git

Reflections:

Answer the following:

1. Describe Neutron, Horizon and Cinder services

An essential function of Neutron, the OpenStack networking service, is to manage cloud infrastructures' networking elements. It makes it easier to set up and

maintain virtual networks, subnets, routers, and ports, resulting in efficient communication and separation of instances.

As the Dashboard service, Horizon offers an online interface for more efficient resource management with OpenStack. It makes virtualized infrastructure deployment and administration easier with features like resource provisioning, role-based access control, and an intuitive UI.

Block-level storage for instances is managed by Cinder, an OpenStack block storage service. In order to meet the storage requirements of applications that demand scalability and persistence, it enables users to create and manage volumes, snapshots, and other volume kinds. In the OpenStack cloud computing platform, Neutron, Horizon, and Cinder work together to provide stable and adaptable networking, UI, and block storage management.

Conclusions:

In conclusion, using Ansible to deploy OpenStack services on an Ubuntu virtual machine offers a simplified and automated method of configuring a cloud architecture. Important components such as Cinder for block storage, Horizon for an intuitive interface, and Neutron for networking may be installed and configured with the help of Ansible playbooks. The deployment process is accelerated, consistency is ensured, and manual errors are decreased thanks to this automation. Using Ansible to deploy OpenStack on an Ubuntu virtual machine (VM) improves cloud management efficiency by enabling users to swiftly set up a dependable and scalable cloud environment.