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Course/Section: CPE232/S5	Date Submitted: 12/03/23
Instructor: Engr. Roman Richard	Semester and SY:

Activity 13: OpenStack Prerequisite Installation

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)

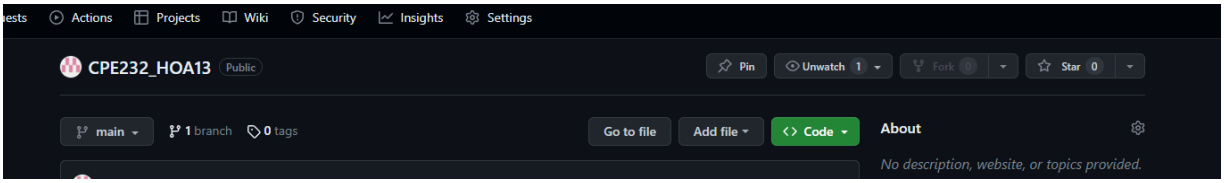
1x Ubuntu VM or Centos VM

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. NTP
    b. OpenStack packages
    c. SQL Database
    d. Message Queue
    e. Memcached
    f. Etcd
    g. Create different plays in installing per server type (controller, compute etc.) and identify it as a group in Inventory file.
    h. Add, commit and push it to your GitHub repo.

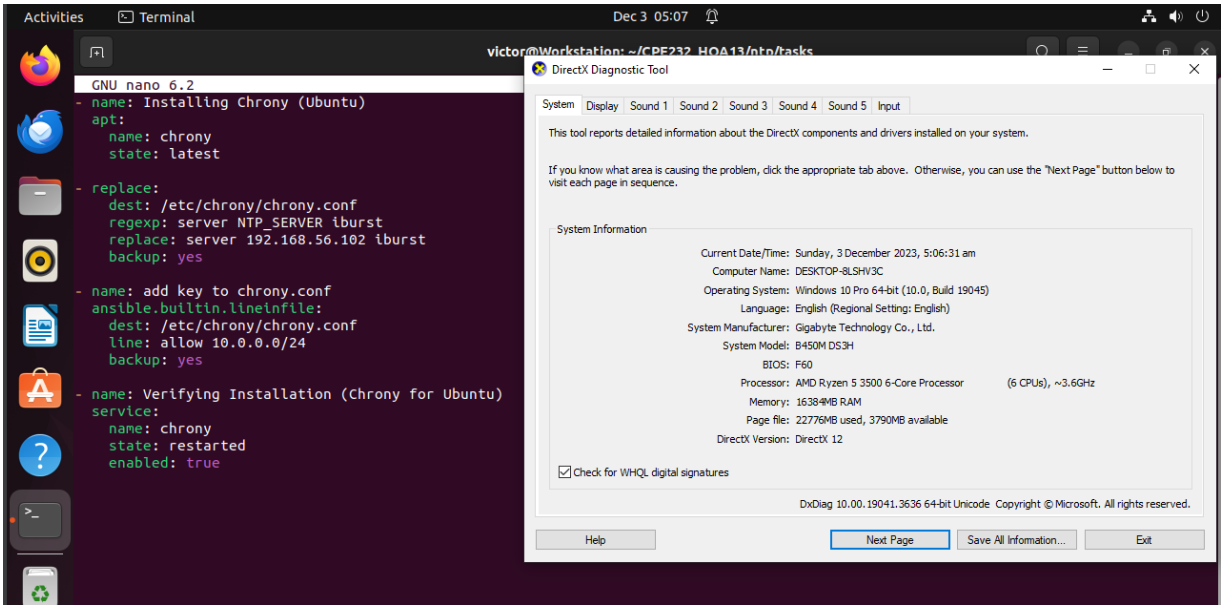
5. Output (screenshots and explanations)

1. New repository

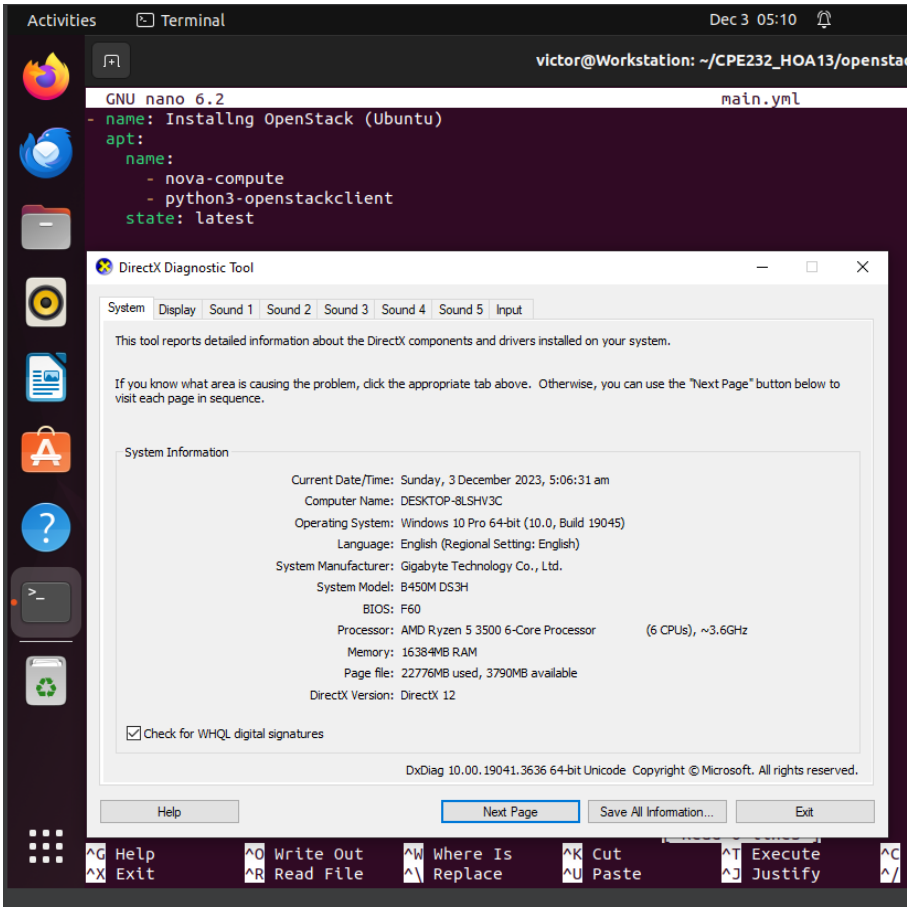


2. overall of repository

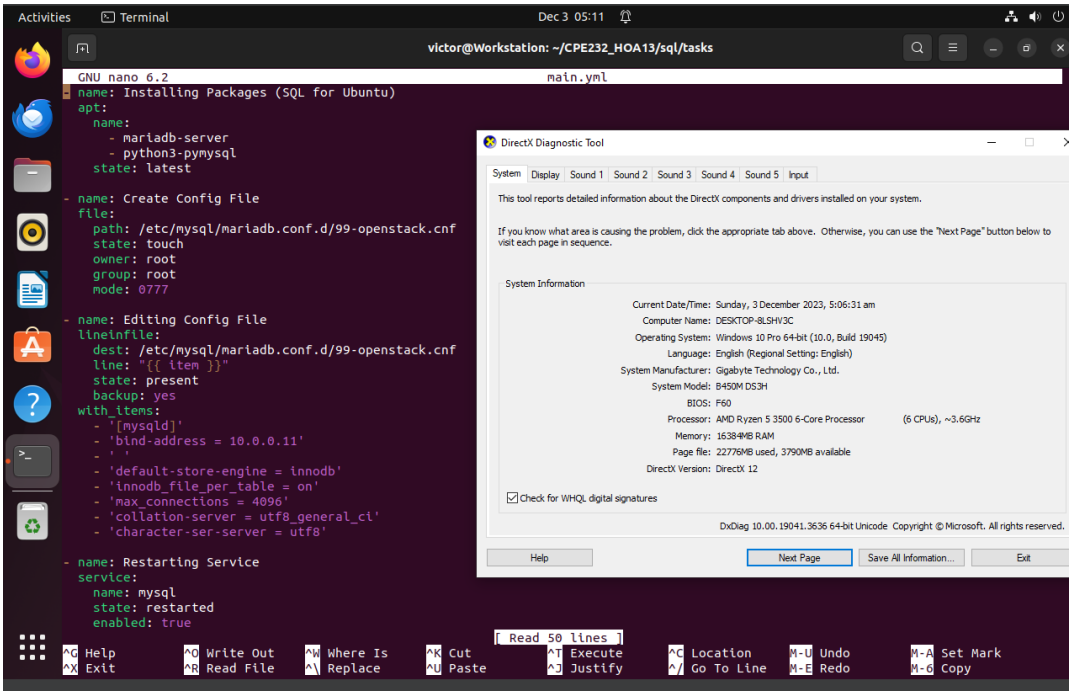
a. NTP



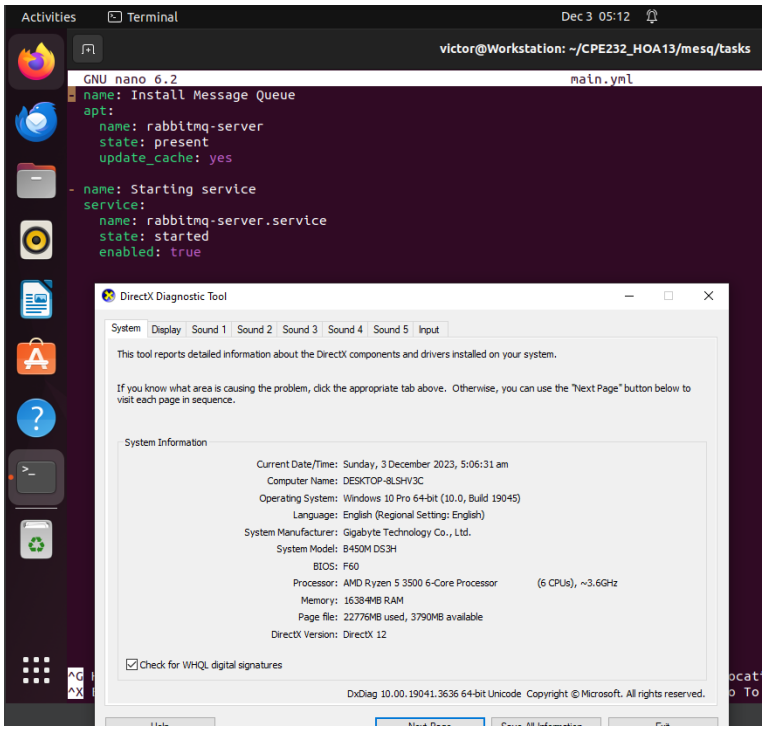
b. OpenStack packages



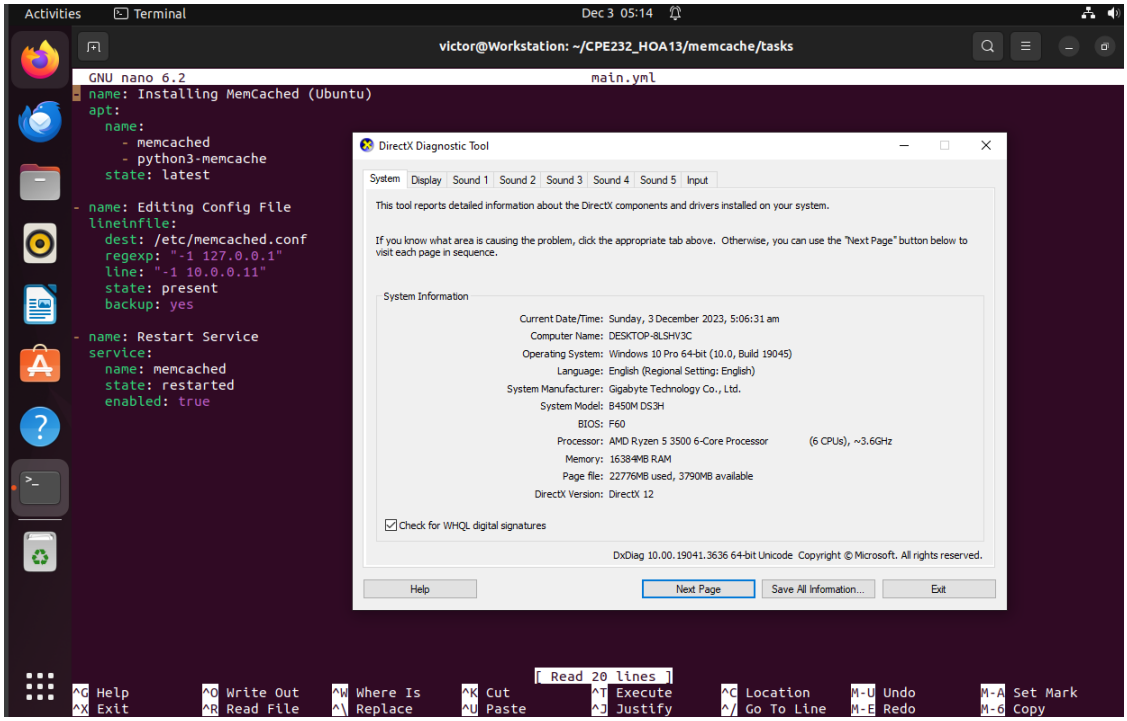
c. SQL Database



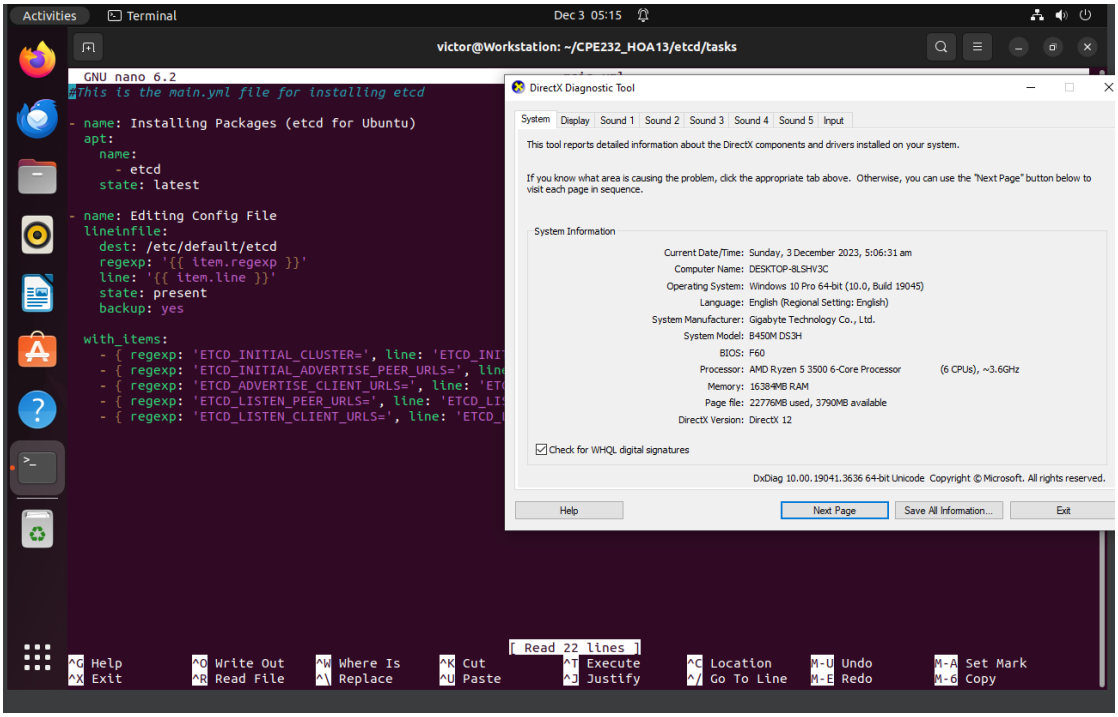
d. . Message queue



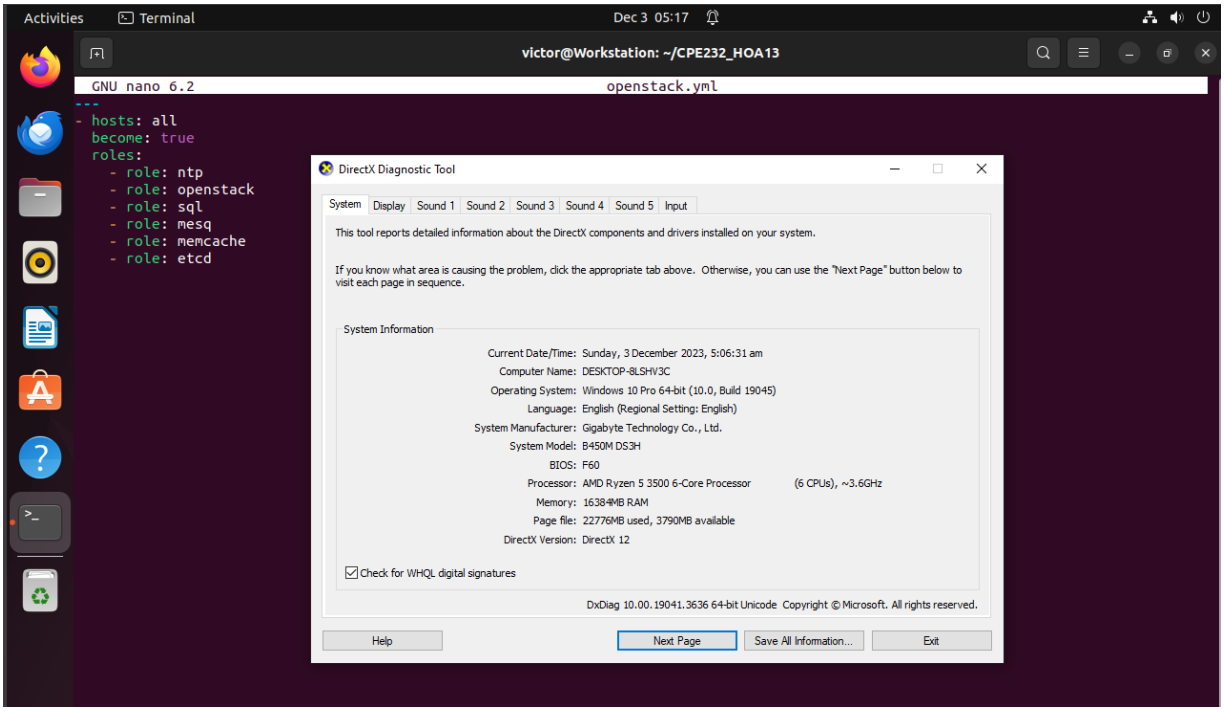
e. Memcached

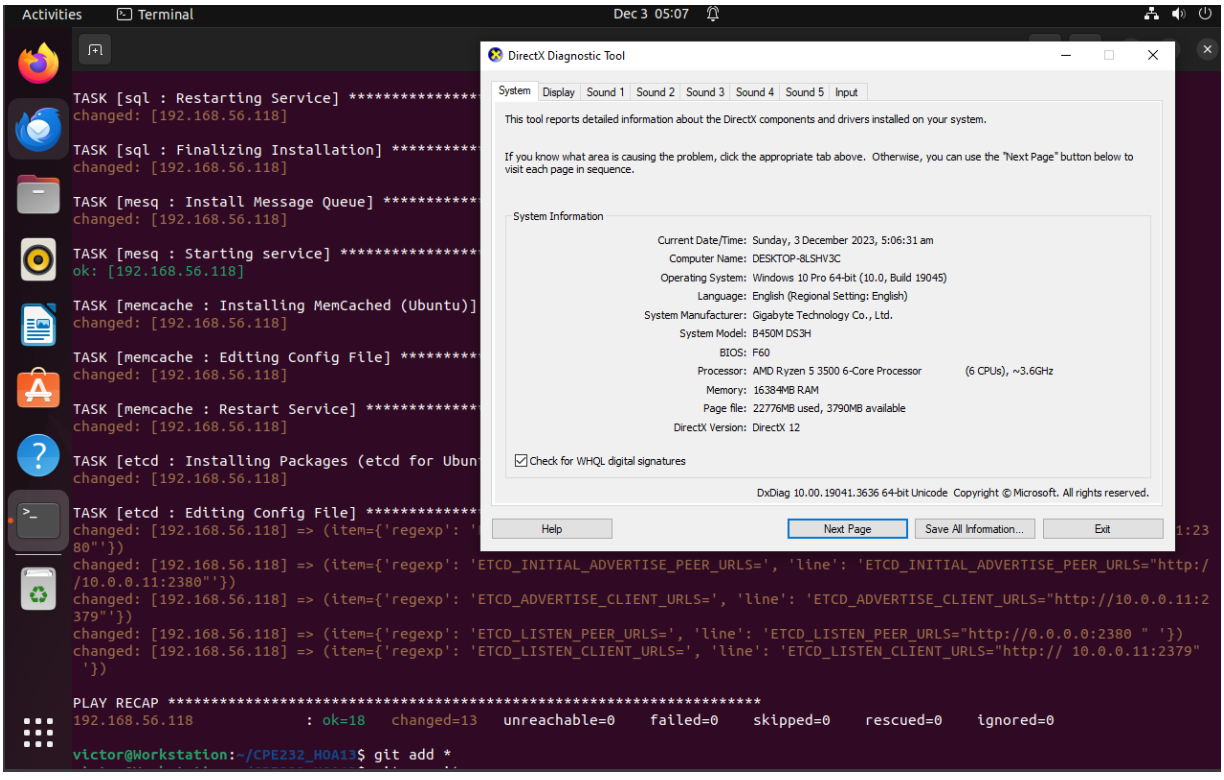


f. ETcd



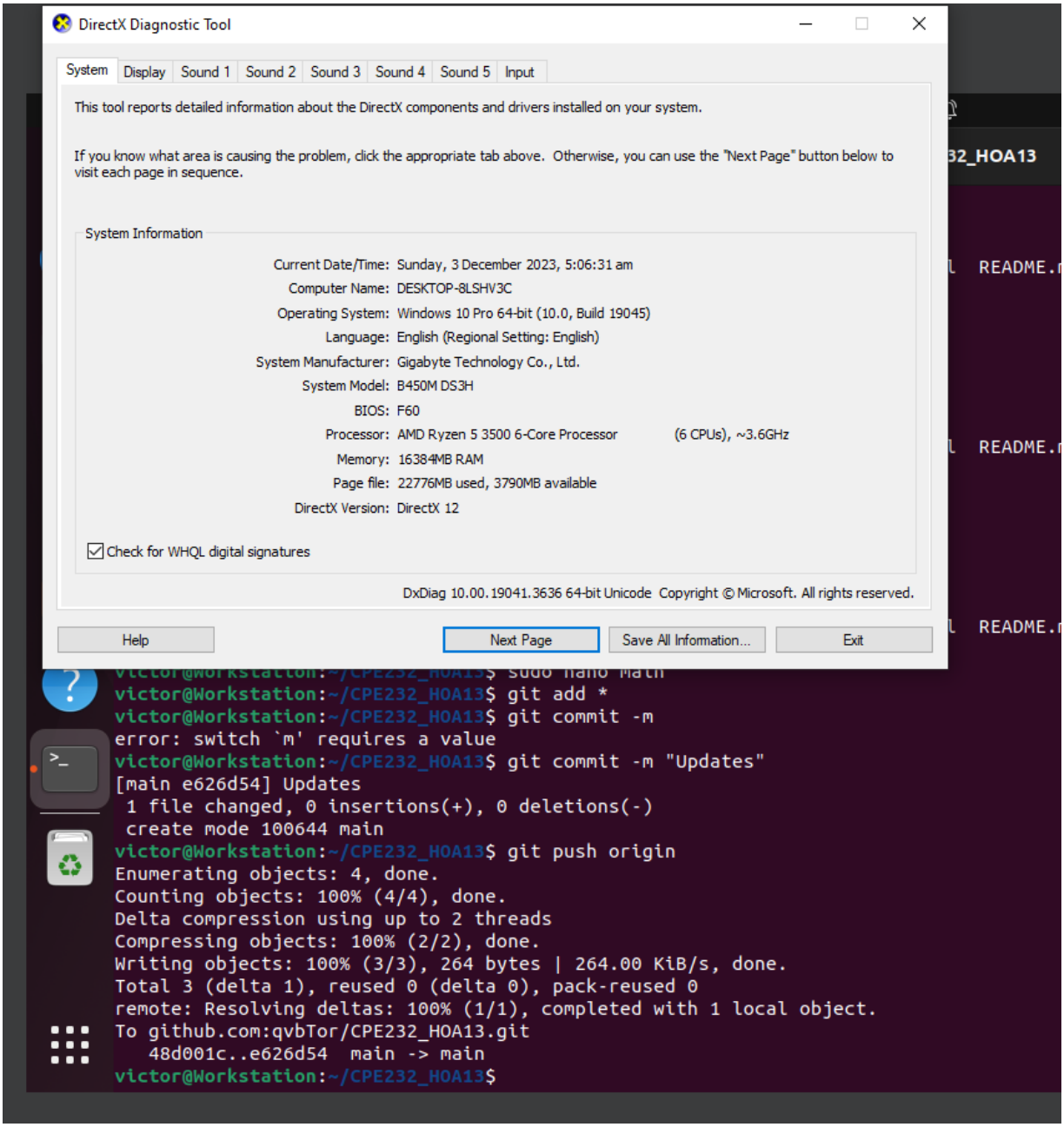
3. Running the playbook





```
victor@Workstation:~$ openstack --version
openstack 5.8.0
victor@Workstation:~$
```

4. Pushing into GitHub repository



Reflections:

Answer the following:

1. What are the benefits of implementing OpenStack?

Deploying OpenStack provides organizations with scalability, flexibility, and cost-effectiveness. It fosters interoperability, automation, and self-service, giving users more control. The robust open-source community ensures continuous development and security. OpenStack's ability to handle multi-tenancy and hybrid cloud scenarios makes it a versatile and potent cloud solution. This technology not only meets organizational needs but also reflects the dynamic landscape of cloud computing.

Conclusions:

Therefore, OpenStack serves as a dynamic and robust choice for organizations in need of scalable, flexible, and budget-friendly cloud infrastructure. Installing OpenStack seamlessly involves employing an Ansible playbook, which streamlines the process, ensuring a swift and effective deployment with optimized configuration. This playbook simplifies the intricacies, making OpenStack more user-friendly and enabling organizations to readily leverage its capabilities.