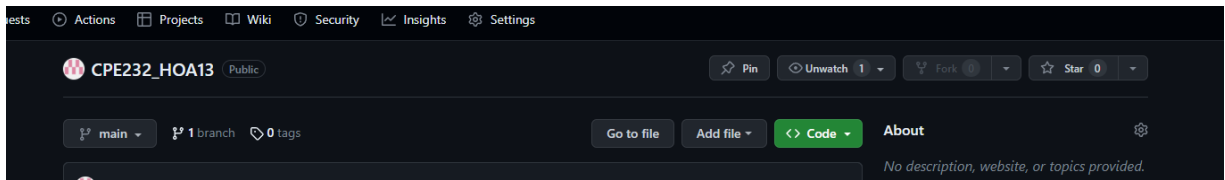


Name: Victor B. Ortega	Date Performed: 12/02/23
Course/Section: CPE232/S5	Date Submitted: 12/03/23
Instructor: Engr. Roman Richard	Semester and SY:
Activity 13: OpenStack Prerequisite Installation	
1. Objectives	
Create a workflow to install OpenStack using Ansible as your Infrastructure as Code (IaC).	
2. Intended Learning Outcomes	
<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	
Oracle VirtualBox (Hypervisor) 1x Ubuntu VM or Centos VM	
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. 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)	

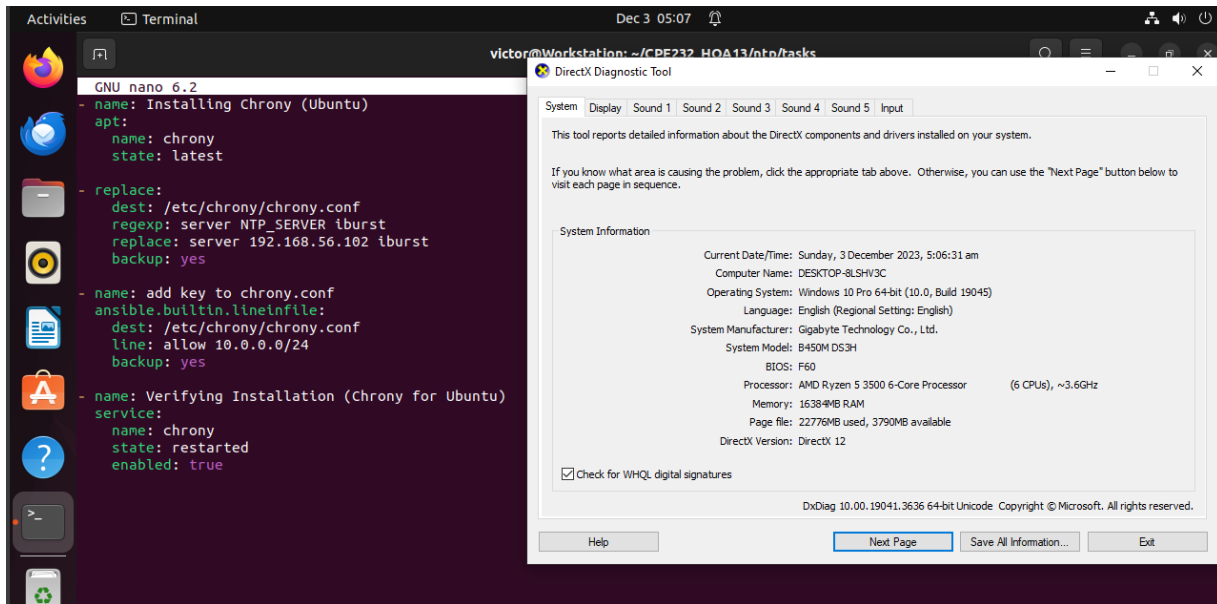
1. New repository



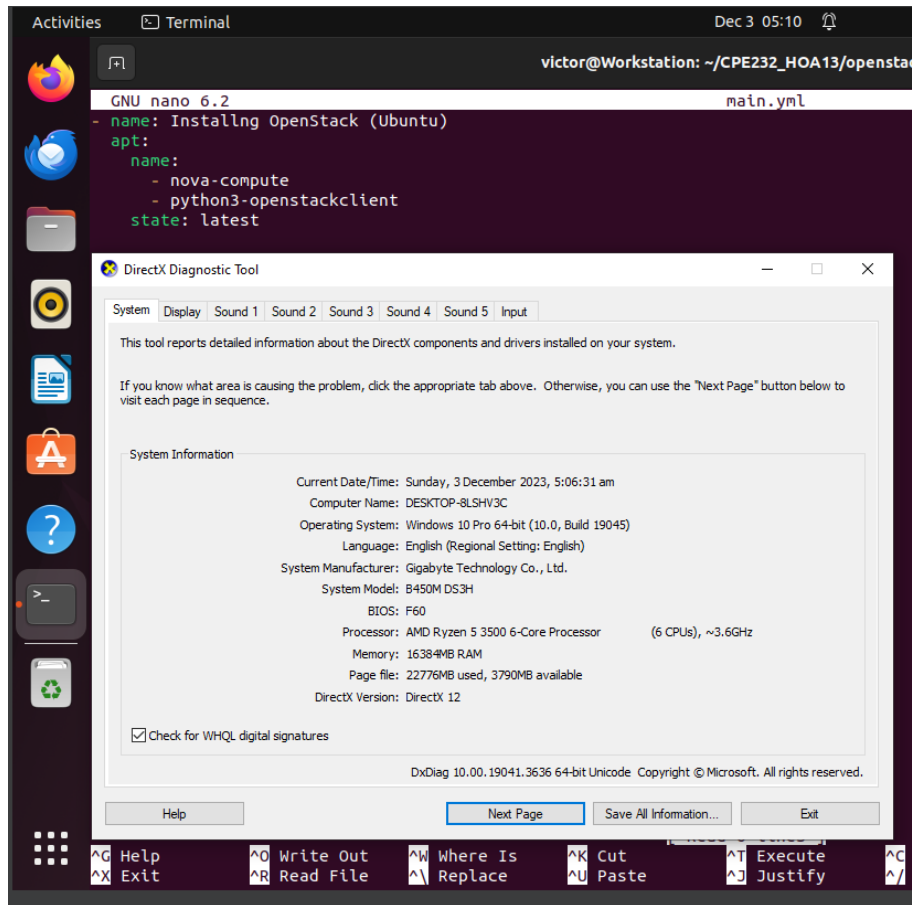
2. overall of repository

```
<command> [<args>]
victor@Workstation:~/CPE232_HOA13$ tree
.
├── ansible.cfg
├── etcd
│   └── tasks
│       └── main.yml
├── inventory
├── memcache
│   └── tasks
│       └── main.yml
├── mesq
│   └── tasks
│       └── main.yml
├── ntp
│   └── tasks
│       └── main.yml
├── openstack
│   └── tasks
│       └── main.yml
├── openstack.yml
├── README.md
├── sql
│   └── tasks
│       └── main.yml
```

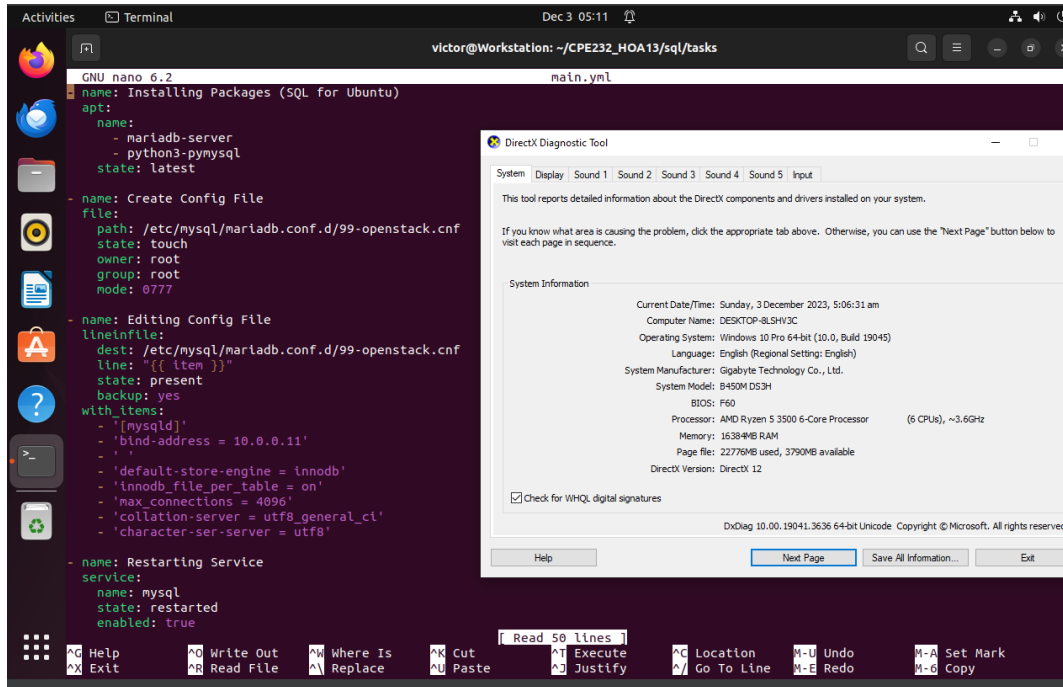
a. NTP



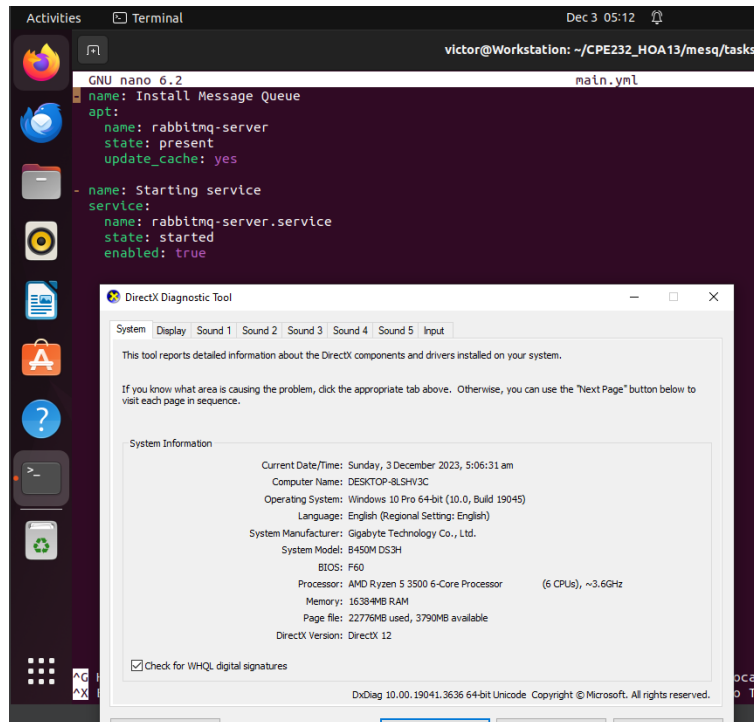
b. OpenStack packages



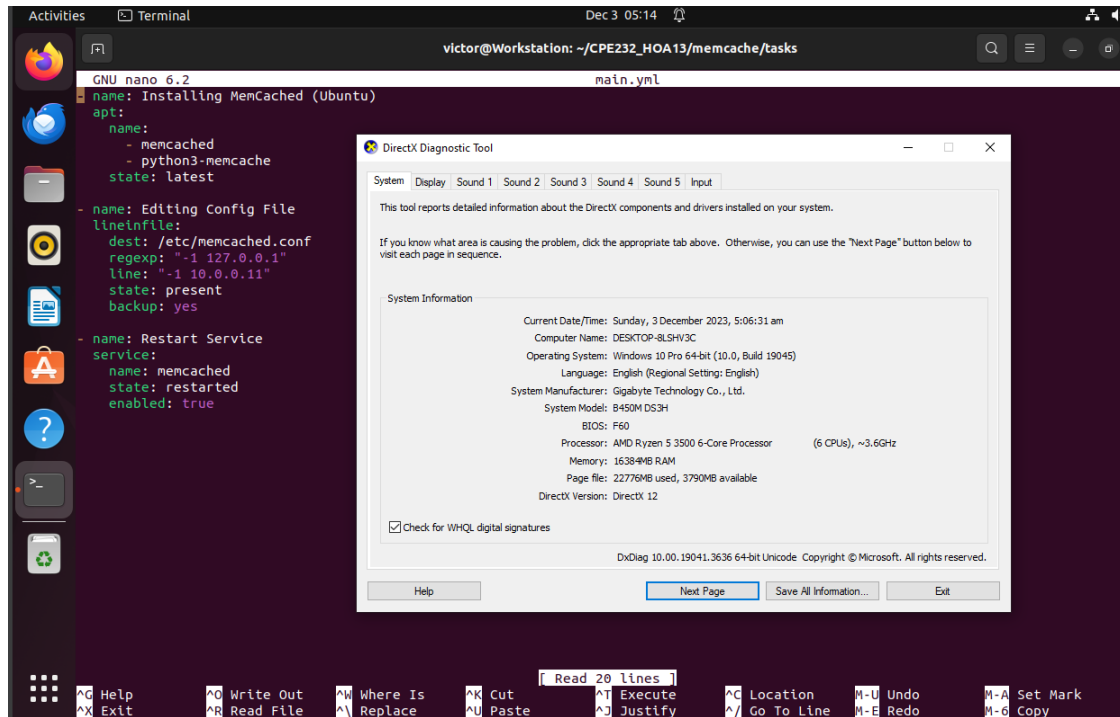
c. SQL Database



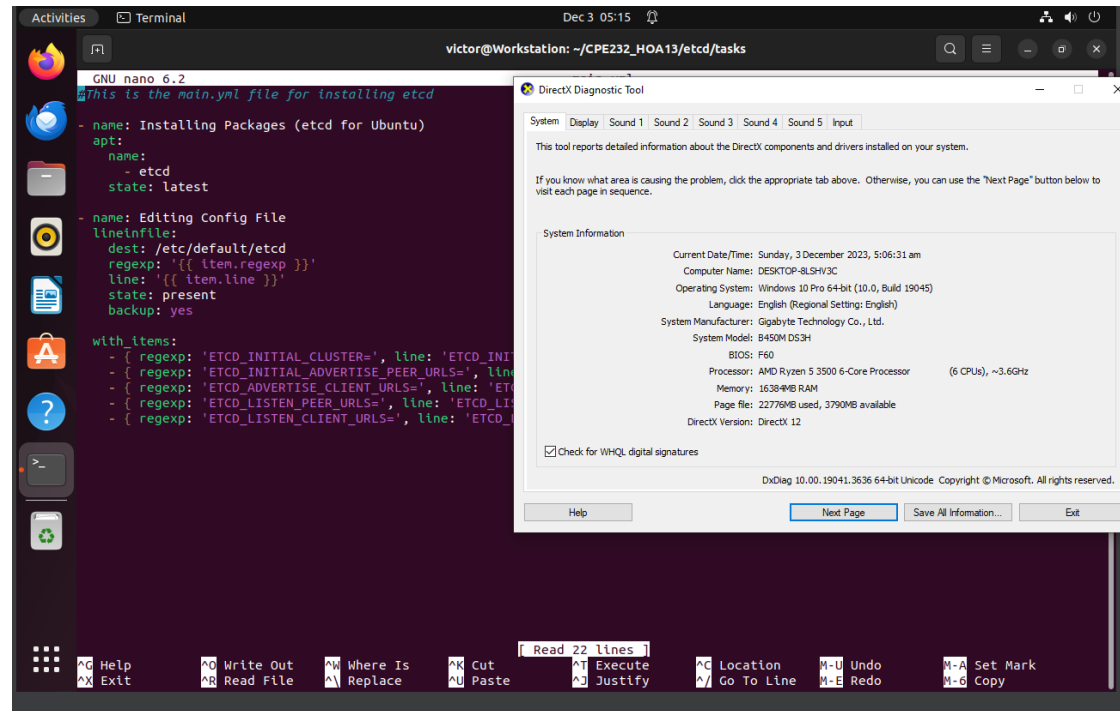
d. . Message queue



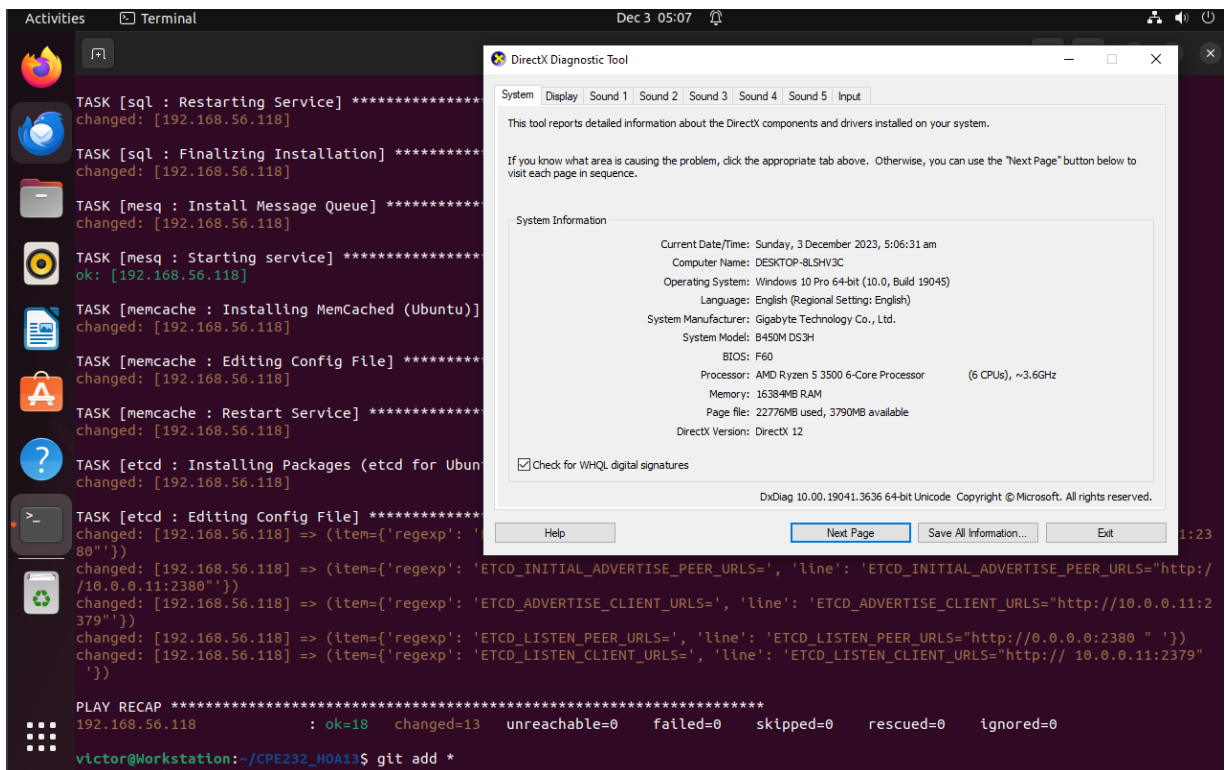
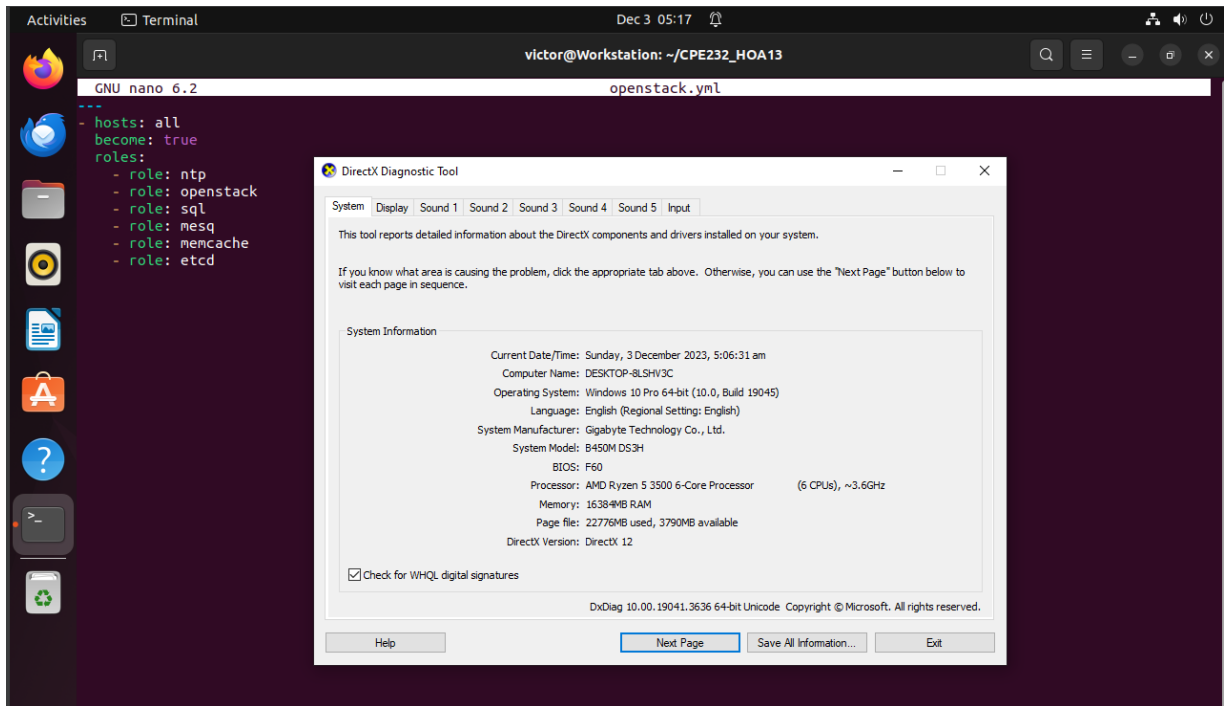
e. Memcached



f. ETcd

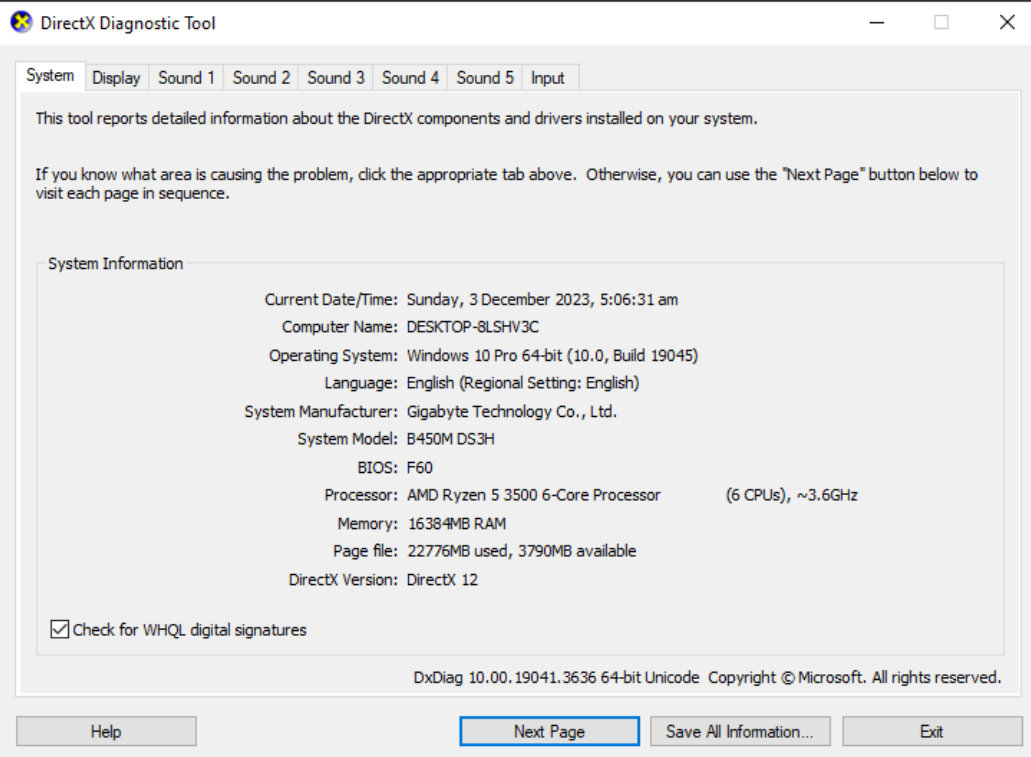


3. Running the playbook



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

4. Pushing into GitHub repository



```
victor@Workstation:~/CPE232_HOA13$ sudo nano main
victor@Workstation:~/CPE232_HOA13$ git add *
victor@Workstation:~/CPE232_HOA13$ git commit -m
error: switch `m` requires a value
victor@Workstation:~/CPE232_HOA13$ git commit -m "Updates"
[main e626d54] Updates
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 main
victor@Workstation:~/CPE232_HOA13$ git push origin
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 2 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 264 bytes | 264.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:qvbTor/CPE232_HOA13.git
48d001c..e626d54 main -> main
victor@Workstation:~/CPE232_HOA13$
```

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.