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Instructor: Engr. Roman Richard	Semester and SY: 1st sem 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

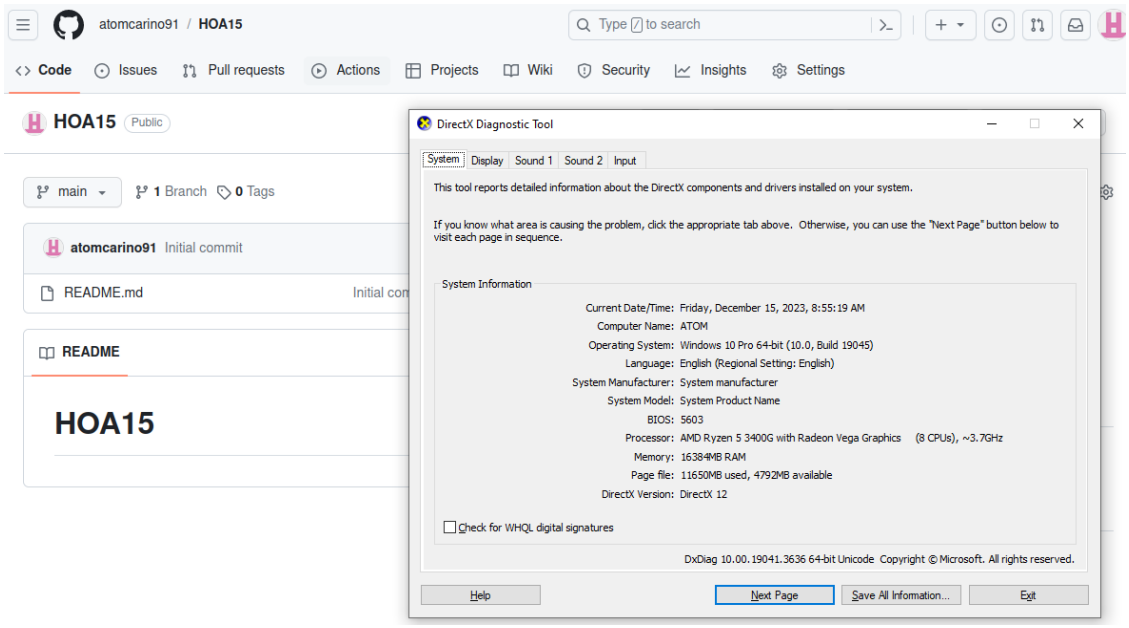
Oracle VirtualBox (Hypervisor)

1x Ubuntu VM or Centos VM

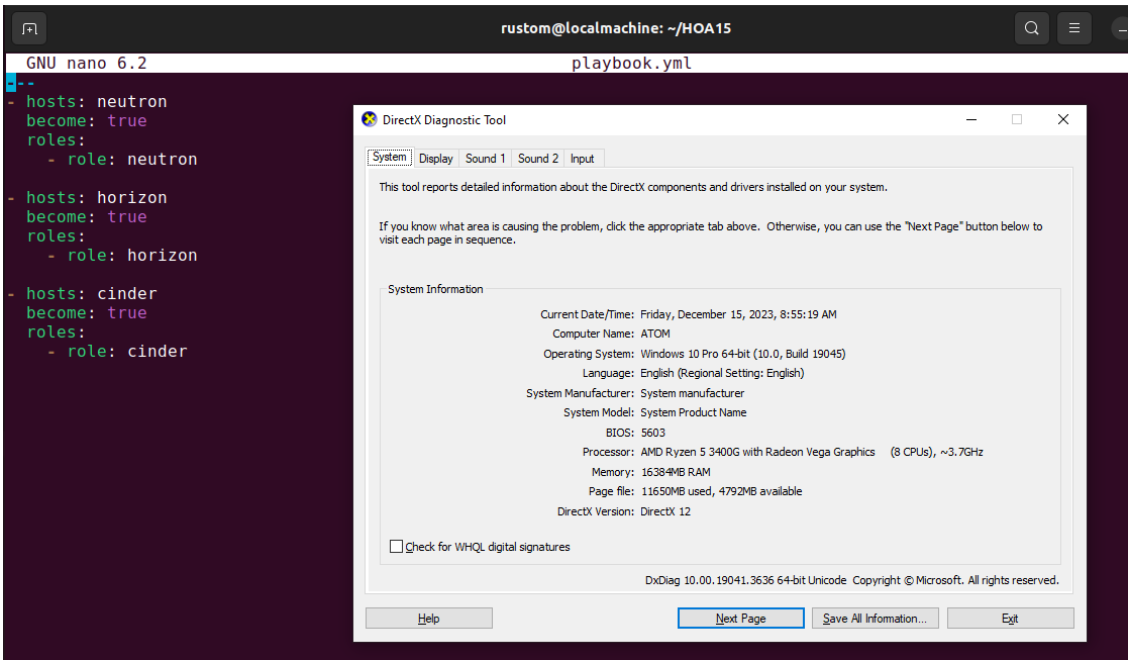
4. Tasks

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.

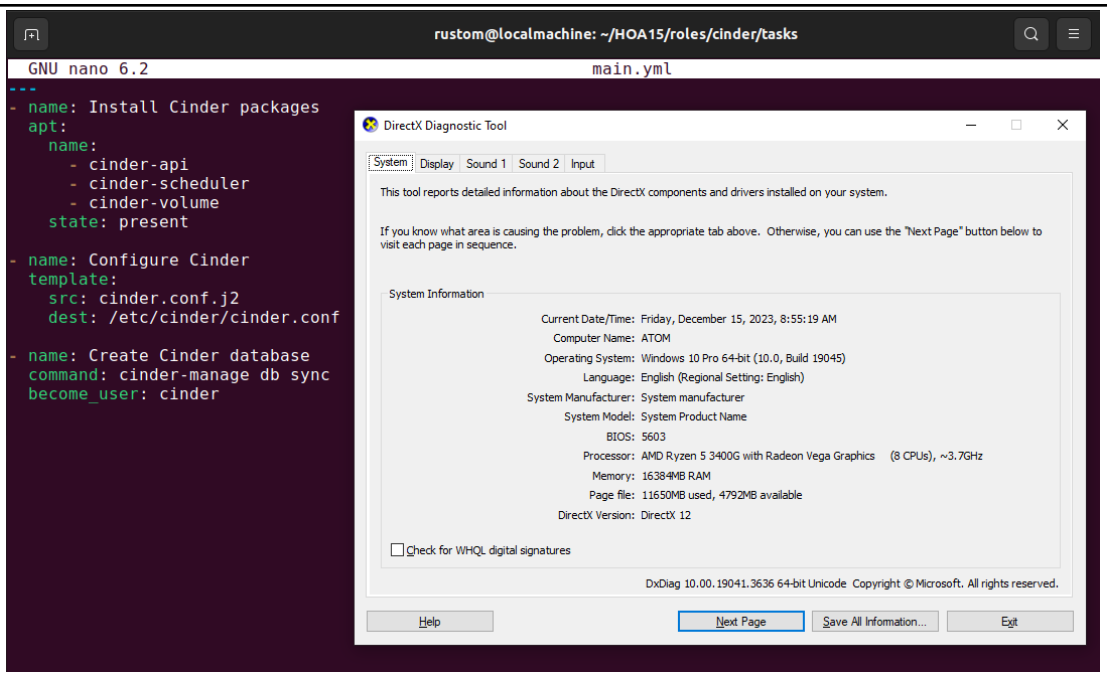
5. Output (screenshots and explanations)



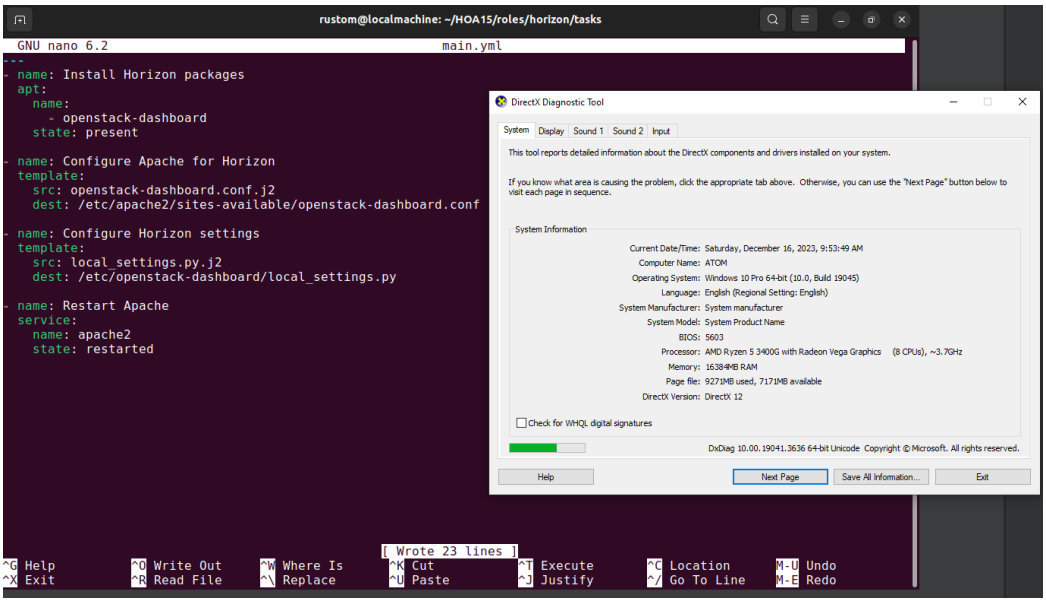
- Creating a repository.



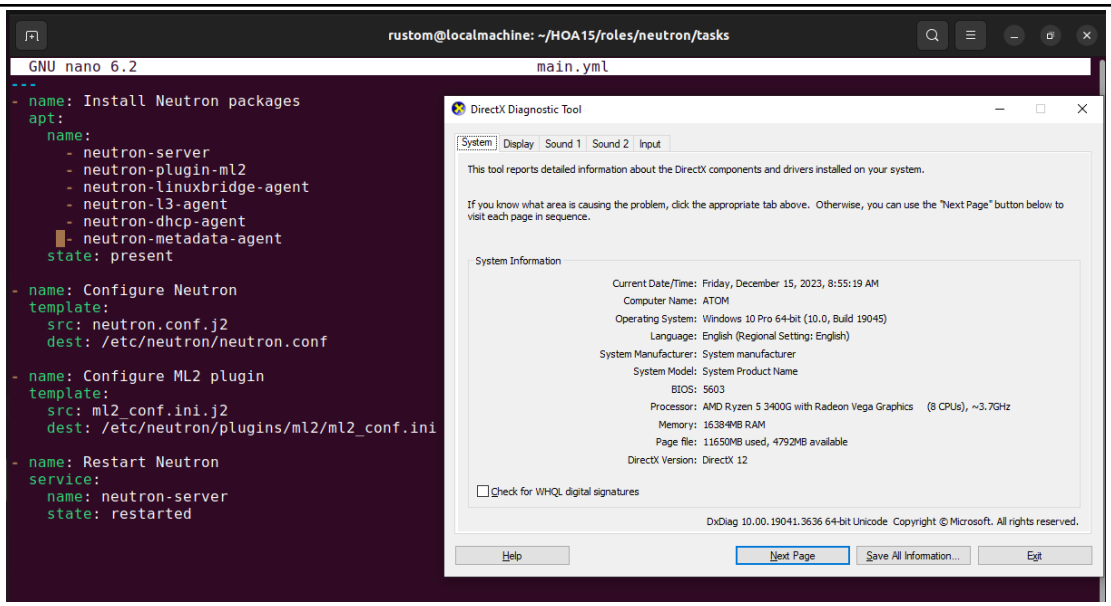
- Main playbook that execute the command per role.



- Playbook that installs the cinder packages.

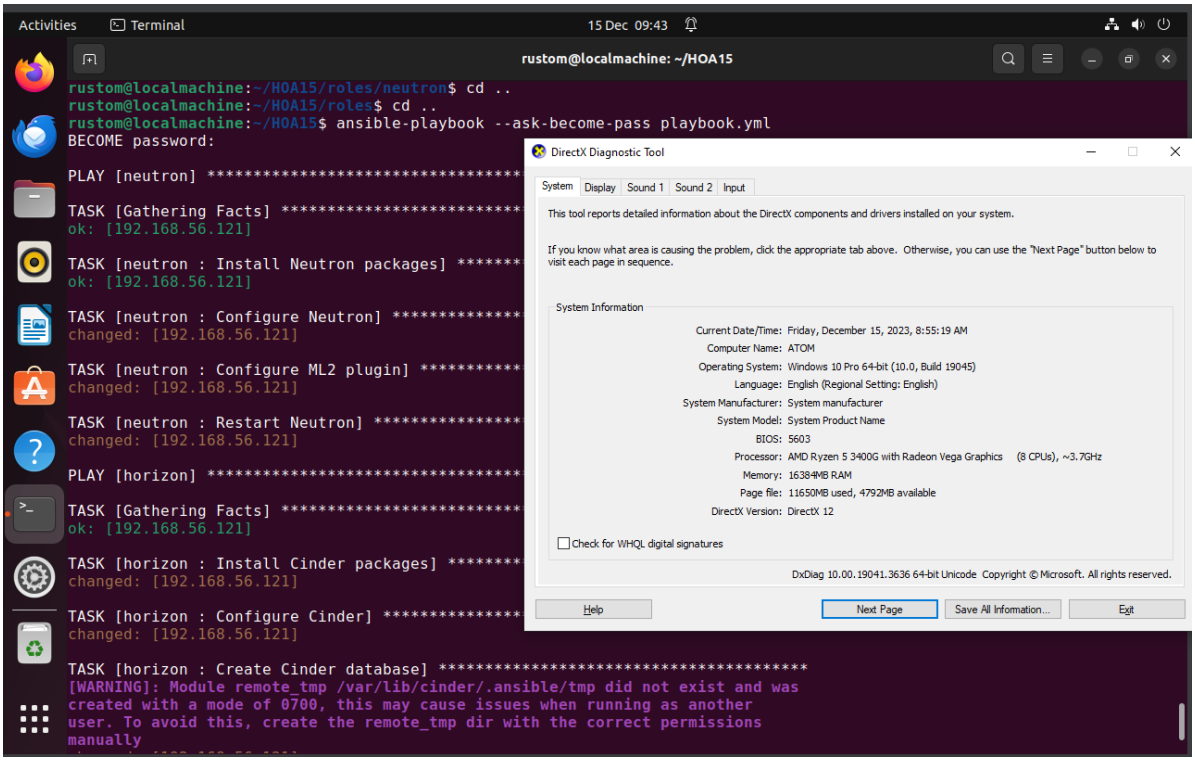


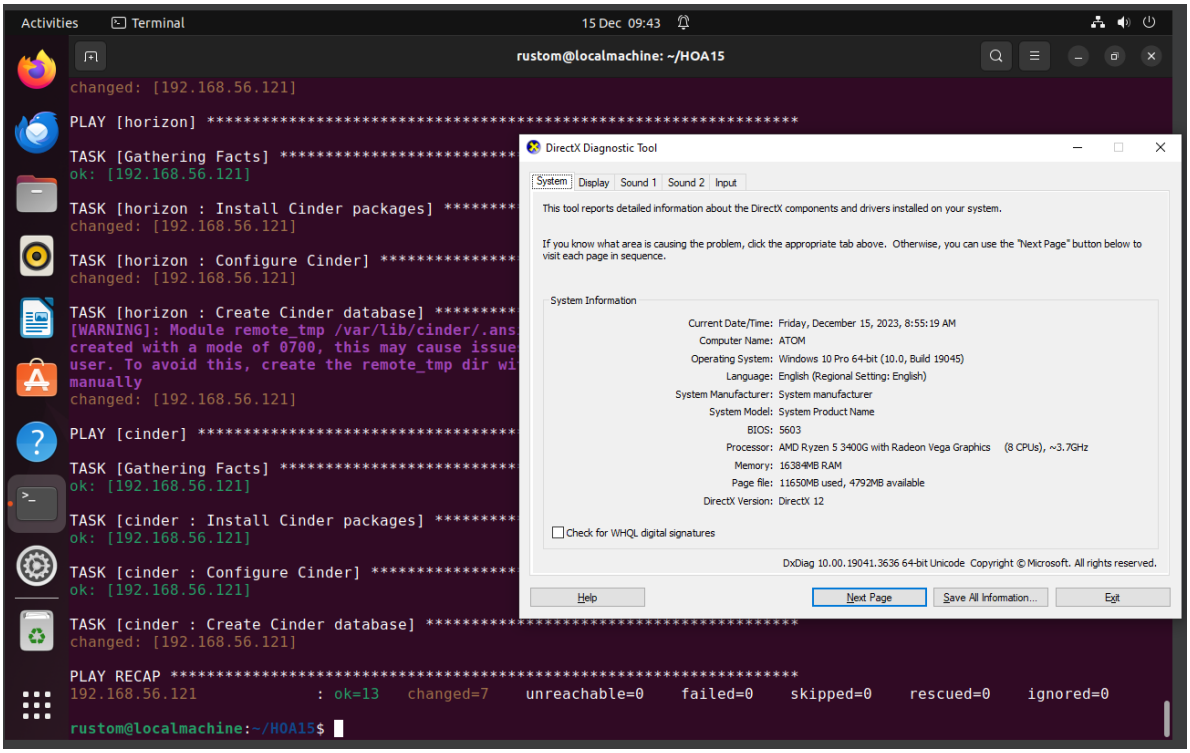
- Playbook that installs the horizon packages.



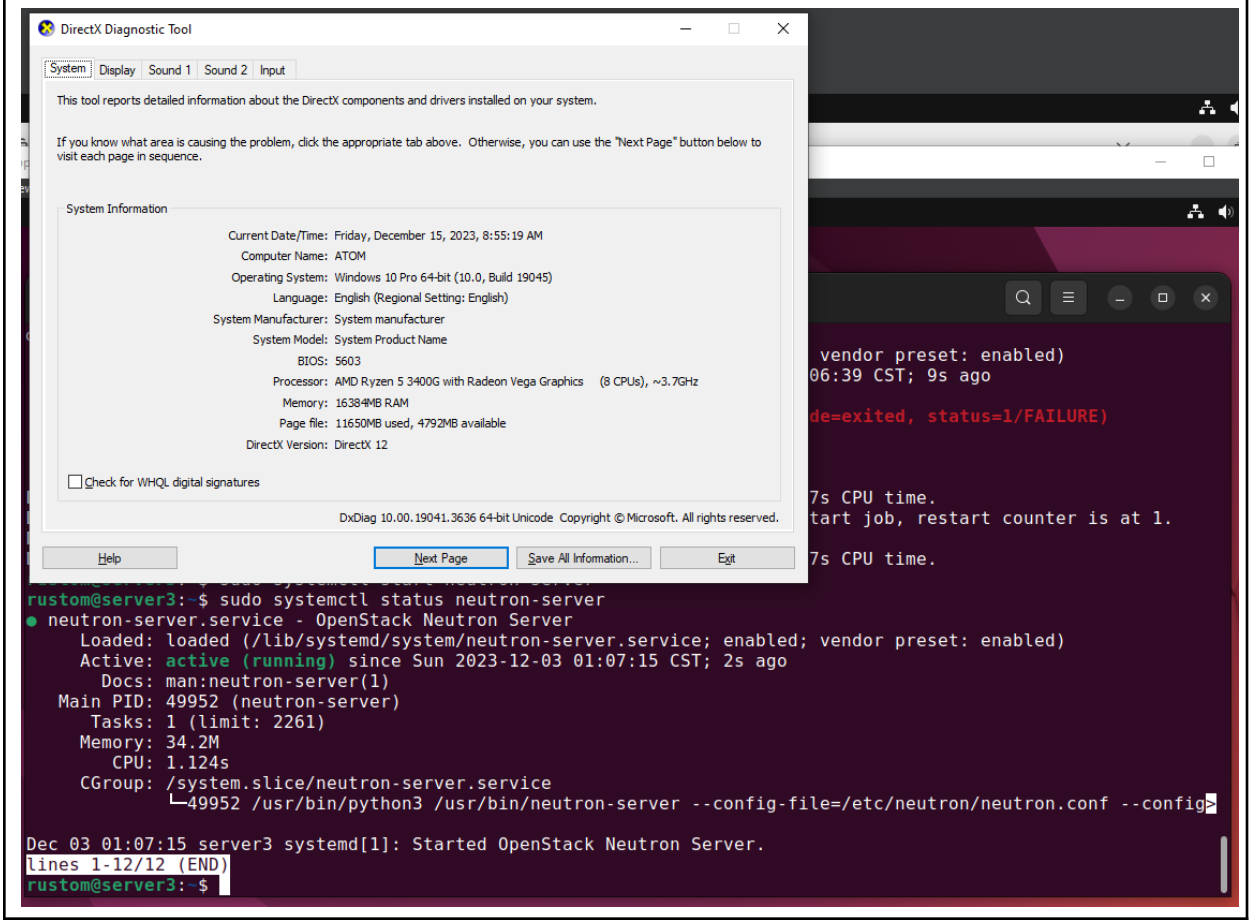
- Playbook that installs the neutron packages.

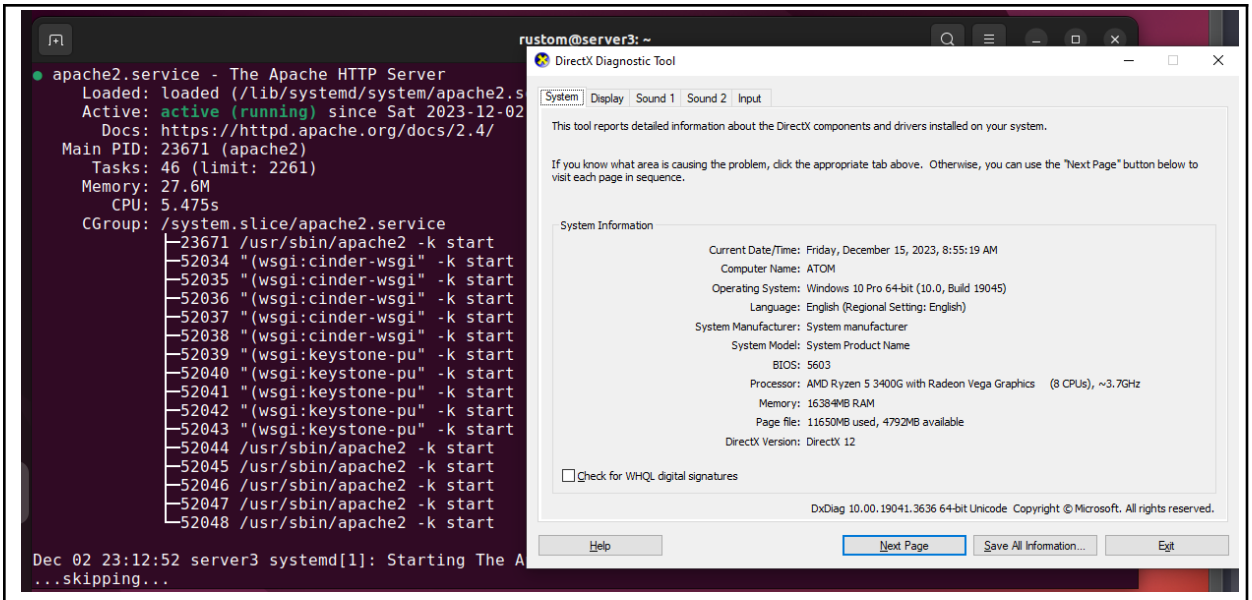
Executing the playbook.

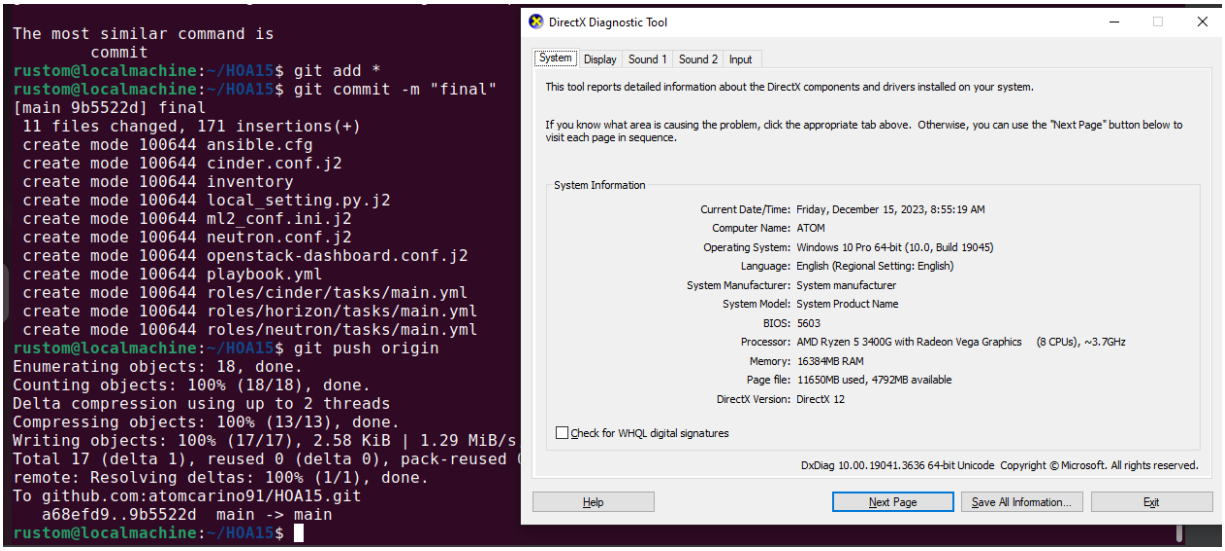




Proof that neutron, cinder and horizon was installed in ubuntu.







- Add, commit and push my playbooks to the GitHub repository.

Reflections:

Answer the following:

1. **Describe Neutron, Horizon and Cinder services**
   - Neutron, Horizon, and Cinder are essential components of OpenStack, a cloud computing platform on Ubuntu. Neutron manages virtual networks, Horizon provides a web dashboard, and Cinder manages block storage volumes. These services are well-integrated with Ubuntu, allowing seamless integration and management of virtual machines, storage, and resources.

Conclusions:

- In this activity I will be able to install openstack using ansible as my infrastructure as code. I am also able to analyze and evaluate the advantages and disadvantages of cloud servind and its service model. Cloud computing offers advantages like scalability, agility, and cost optimization, but challenges like vendor lock-in and security concerns need careful consideration. OpenStack and Ansible are tools for deploying and configuring private clouds, promoting consistency, efficiency, and scalability.