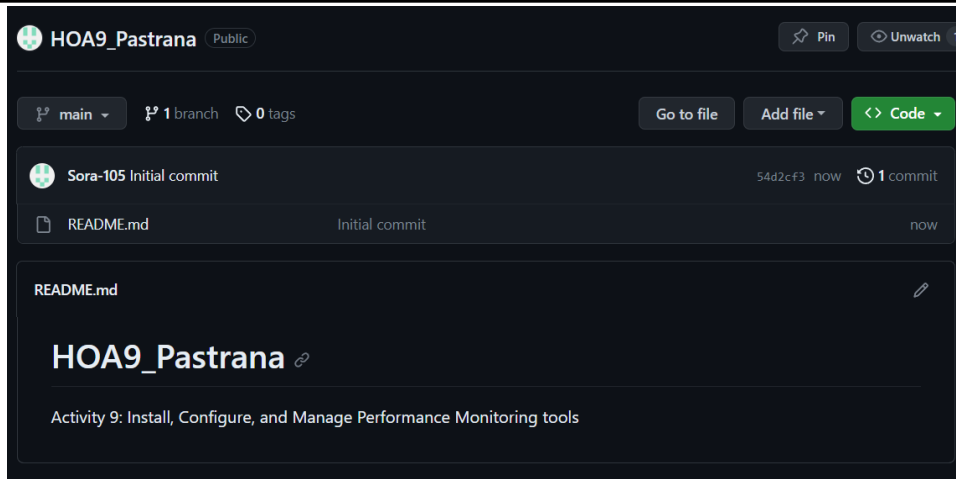


<b>Name: Pastrana, Mark Laurenz</b>	<b>Date Performed: Oct 24, 2023</b>
<b>Course/Section: CPE 232 - CPE31S5</b>	<b>Date Submitted: Oct 24, 2023</b>
<b>Instructor: Engr. Richard Roman</b>	<b>Semester and SY: 1st, 2023-2024</b>
<b>Activity 9: Install, Configure, and Manage Performance Monitoring tools</b>	
<b>1. Objectives</b>	
Create and design a workflow that installs, configure and manage enterprise performance tools using Ansible as an Infrastructure as Code (IaC) tool.	
<b>2. Discussion</b>	
<p>Performance monitoring is a type of monitoring tool that identifies current resource consumption of the workload, in this page we will discuss multiple performance monitoring tool.</p> <p><b>Prometheus</b></p> <p>Prometheus fundamentally stores all data as timeseries: streams of timestamped values belonging to the same metric and the same set of labeled dimensions. Besides stored time series, Prometheus may generate temporary derived time series as the result of queries. Source: <a href="#">Prometheus - Monitoring system &amp; time series database</a></p> <p><b>Cacti</b></p> <p>Cacti is a complete network graphing solution designed to harness the power of RRDTool's data storage and graphing functionality. Cacti provides a fast poller, advanced graph templating, multiple data acquisition methods, and user management features out of the box. All of this is wrapped in an intuitive, easy to use interface that makes sense for LAN-sized installations up to complex networks with thousands of devices. Source: <a href="#">Cacti® - The Complete RRDTool-based Graphing Solution</a></p>	
<b>3. Tasks</b>	
<ol style="list-style-type: none"> <li>1. Create a playbook that installs Prometheus in both Ubuntu and CentOS. Apply the concept of creating roles.</li> <li>2. Describe how you did step 1. (Provide screenshots and explanations in your report. Make your report detailed such that it will look like a manual.)</li> <li>3. Show an output of the installed Prometheus for both Ubuntu and CentOS.</li> <li>4. Make sure to create a new repository in GitHub for this activity.</li> </ol>	
<b>4. Output</b> (screenshots and explanations)	
<ul style="list-style-type: none"> <li>- First we need to create a new repository just like in the previous activity.</li> </ul>	



- And then we have to clone it into our virtual machine.

```
pastrana@localmachina: ~  
pastrana@localmachina:~$ git clone git@github.com:Sora-105/HOA9_Pastrana.git  
Cloning into 'HOA9_Pastrana'...  
remote: Enumerating objects: 3, done.  
remote: Counting objects: 100% (3/3), done.  
remote: Compressing objects: 100% (2/2), done.  
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0  
Receiving objects: 100% (3/3), done.  
pastrana@localmachina:~$
```

- We need to copy the ansible.cfg and inventory file into the new repository so that it will be easier for us not to type everything. In order to do this we have to type "cp <file> ~/<destination>".

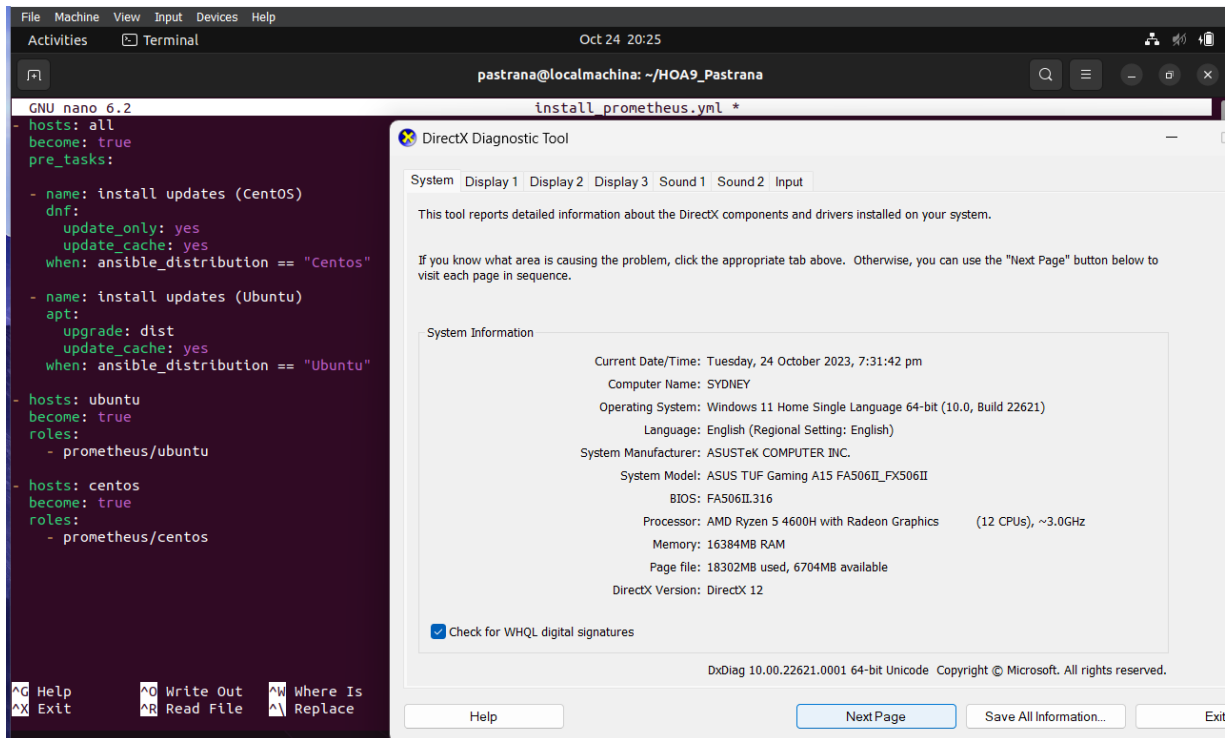
```
pastrana@localmachina: ~/HOA8  
pastrana@localmachina:~/HOA8$ ls  
ansible.cfg  install_nagios.yml  inventory  README.md  roles  
pastrana@localmachina:~/HOA8$ cp ansible.cfg ~/HOA9_Pastrana  
pastrana@localmachina:~/HOA8$ cp inventory ~/HOA9_Pastrana  
pastrana@localmachina:~/HOA8$
```

- Now the files are in the new repository.

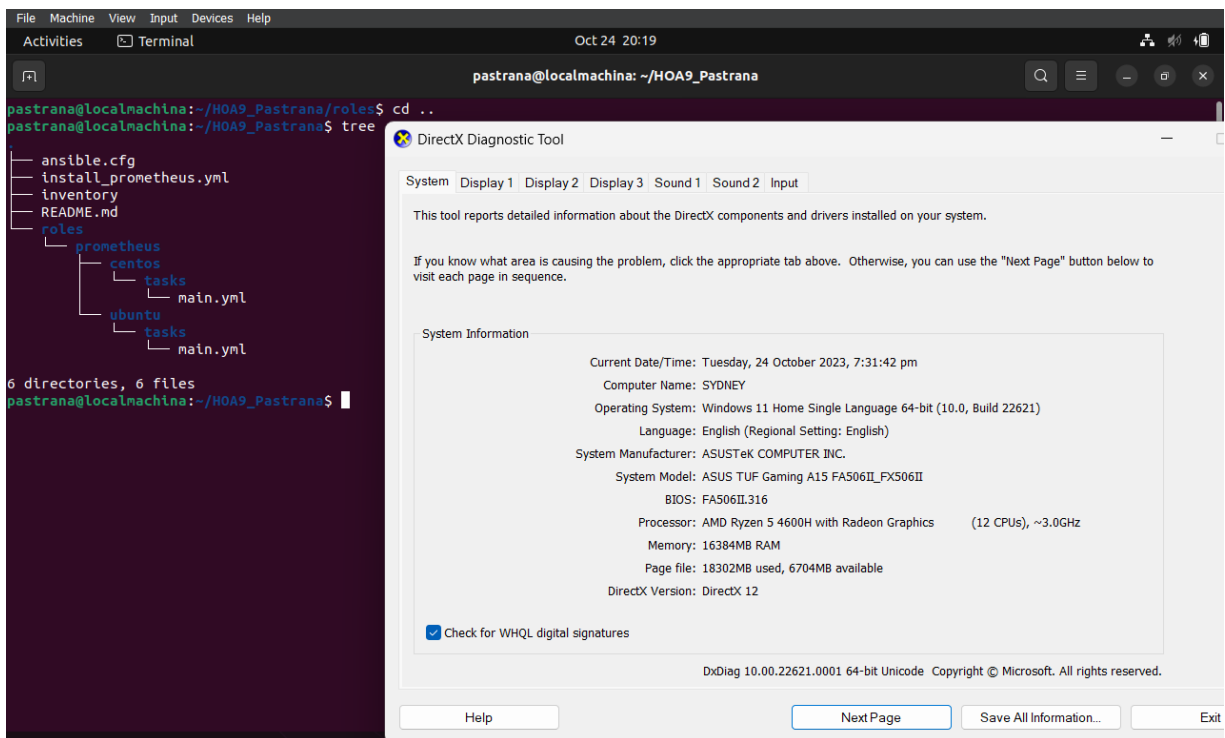
```
pastrana@localmachina:~$ cd HOA9_Pastrana  
pastrana@localmachina:~/HOA9_Pastrana$ ls  
ansible.cfg  inventory  README.md  
pastrana@localmachina:~/HOA9_Pastrana$
```

1. Create a playbook that installs Prometheus in both Ubuntu and CentOS. Apply the concept of creating roles.
2. Describe how you did step 1. (Provide screenshots and explanations in your report. Make your report detailed such that it will look like a manual.)

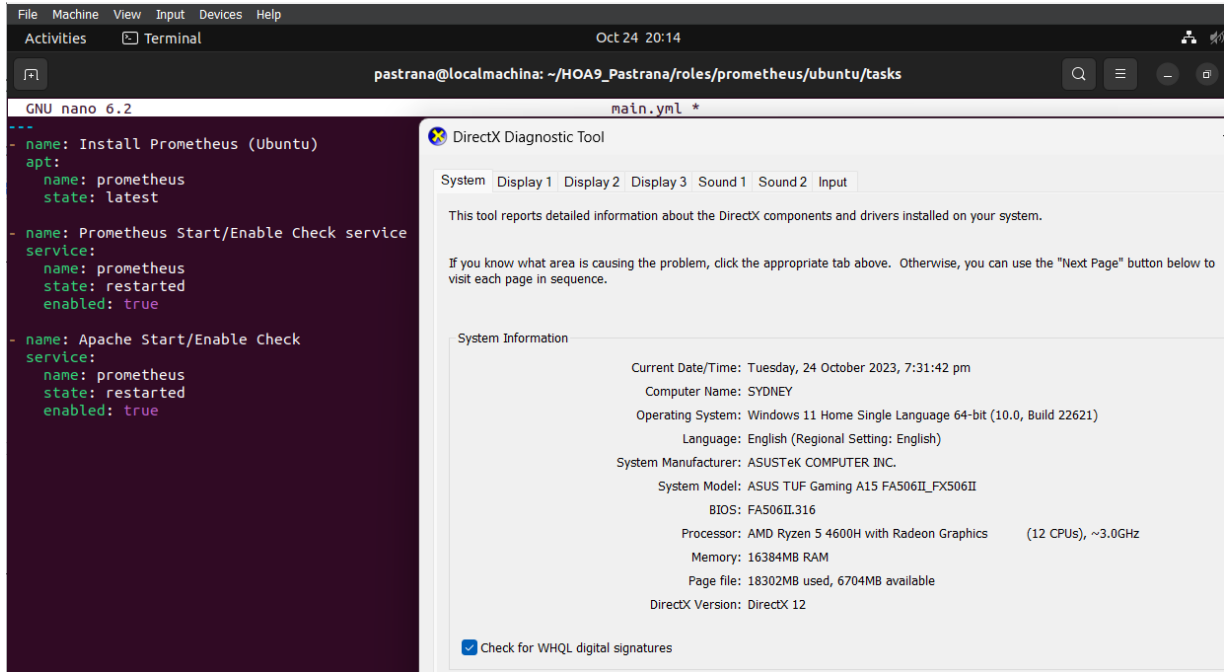
- Then I will now create the playbook that will be used to install the prometheus.



- Just like in the previous activity, I created a role directories that will be called by the main playbook in order to install prometheus.



- This is the **ubuntu** role that will be called by the main playbook.
- On the other hand, it is way simpler compared to the CentOS one since it only needs a few lines of syntax in order to run. It will install Prometheus and start checking the Prometheus service before finally running it.



- This is the **centos** role that will be called by the main playbook.
- The tasks contain the installation of Prometheus, configuration, changing the ownership of the files, configuring the service file, reloading the system service, and finally running Prometheus.

pastrana@localmachina: ~/HOA9\_Pastrana/roles/prometheus/centos/tasks

GNU nano 6.2

main.yml \*

```
#this is the Prometheus playbook for CentOS

- name: Prometheus PATH directory
  file:
    path: ~/prometheus
    state: directory

- name: Creating directory for Prometheus files
  file:
    path:
      - /etc/prometheus
      - /var/lib/prometheus
    mode: 0777
    state: directory

- name: Install Prometheus (CentOS)
  unarchive:
    src: https://github.com/prometheus/prometheus/releases/download/v2.37.0/prometheus-2.37.0-linux-amd64.tar.gz
    dest: ~/prometheus
    remote_src: yes
    mode: 0777
    owner: root
    group: root

- name: Configuring Prometheus
  shell: |
    cd ~/prometheus/prometheus*
    cp -r ./usr/local/bin/prometheus

- name: Prometheus config file duplicate
  copy:
```

Help

Exit

Write Out

Read File

Where Is

Replace

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: Tuesday, 24 October 2023, 7:31:42 pm

Computer Name: SYDNEY

Operating System: Windows 11 Home Single Language 64-bit (10.0, Build 22621)

Language: English (Regional Setting: English)

System Manufacturer: ASUSTeK COMPUTER INC.

System Model: ASUS TUF Gaming A15 FA506II\_FX506II

BIOS: FA506II.316

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

Memory: 16384MB RAM

Page file: 18302MB used, 6704MB available

DirectX Version: DirectX 12

☒ Check for WHQL digital signatures

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

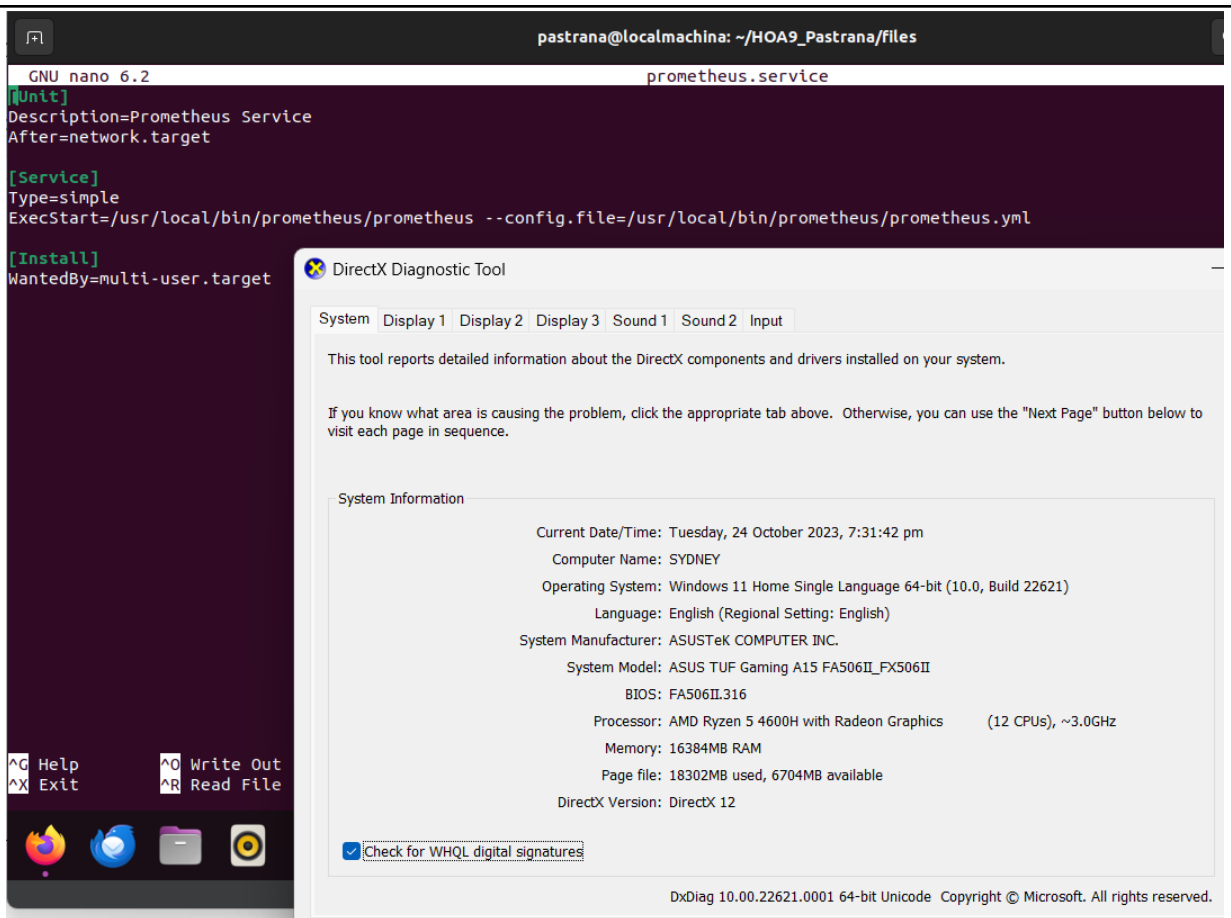
Help

Next Page

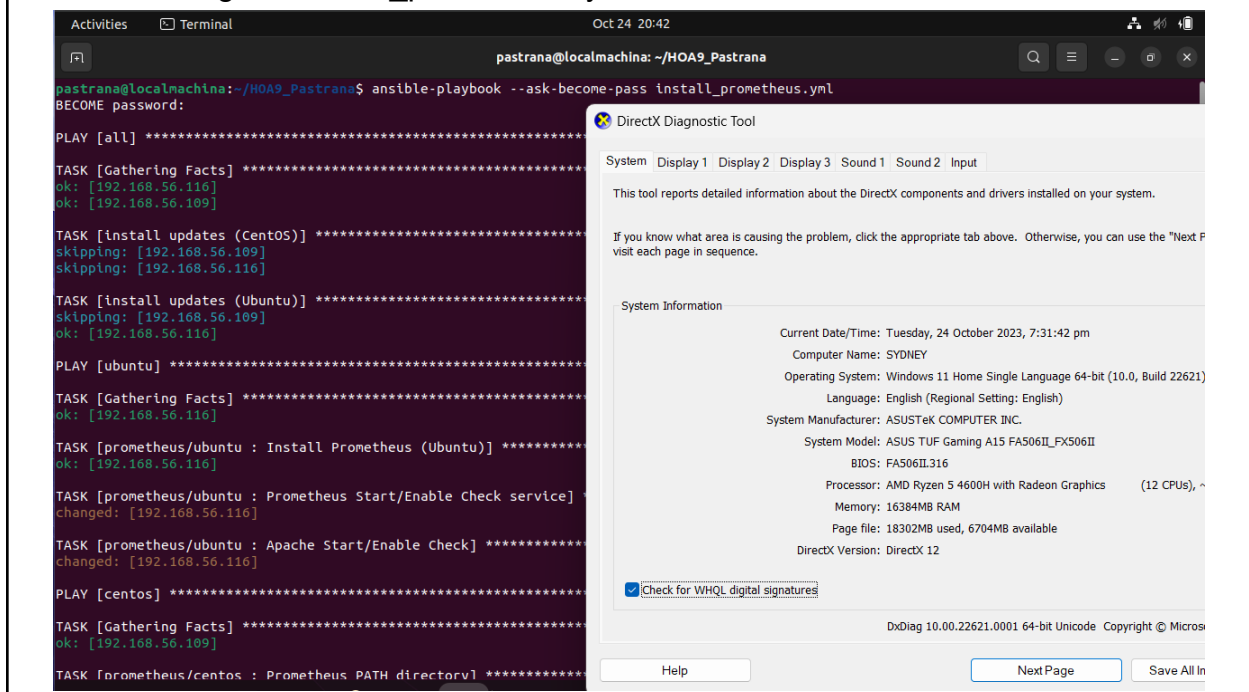
Save All Information...

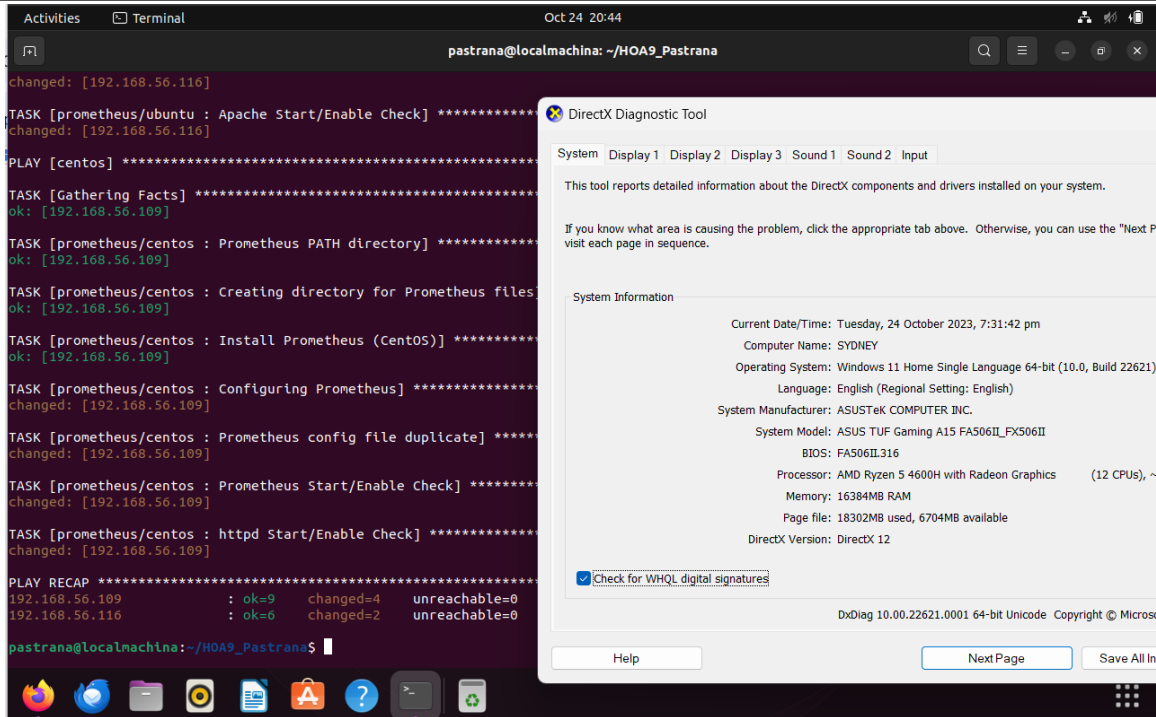
E

- To enable the main.yml playbook for CentOS function, we'll need a files directory in the repository with a file called **prometheus.service** in it. This file contains commands that would allow the playbook to function by calling back on the Prometheus service.

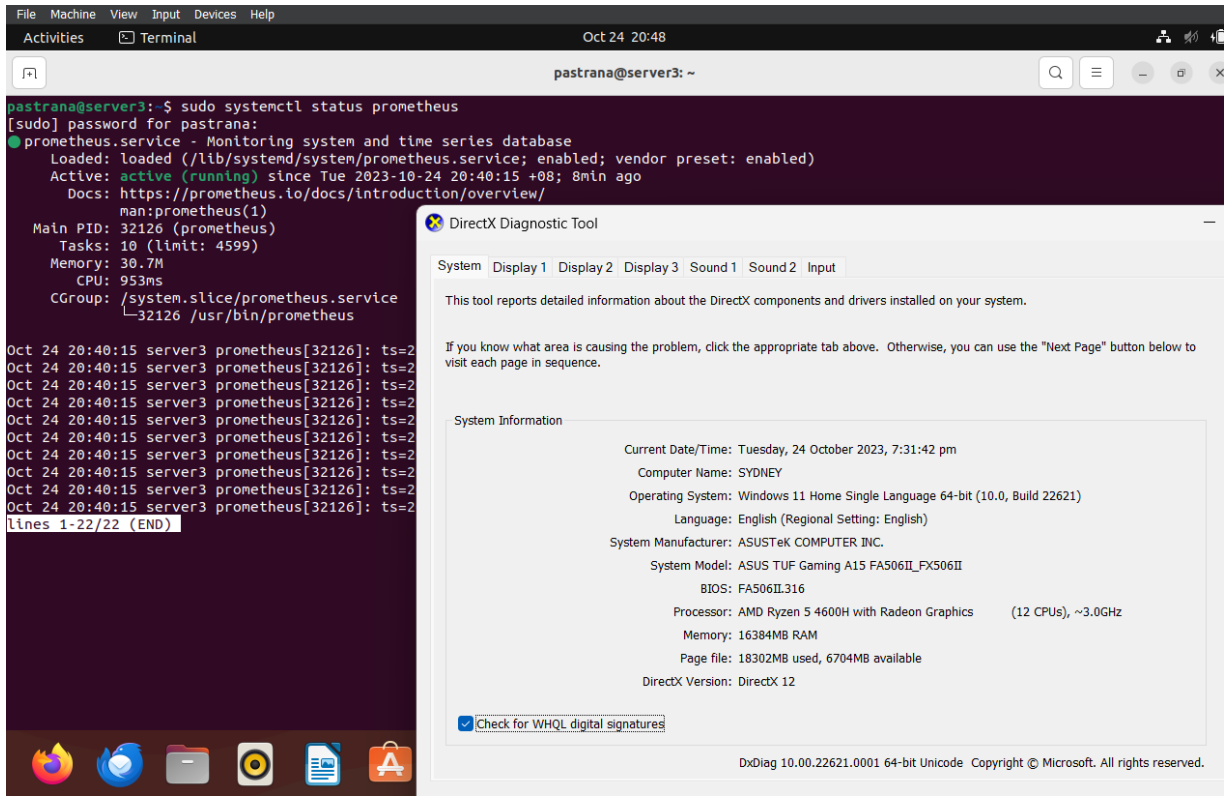


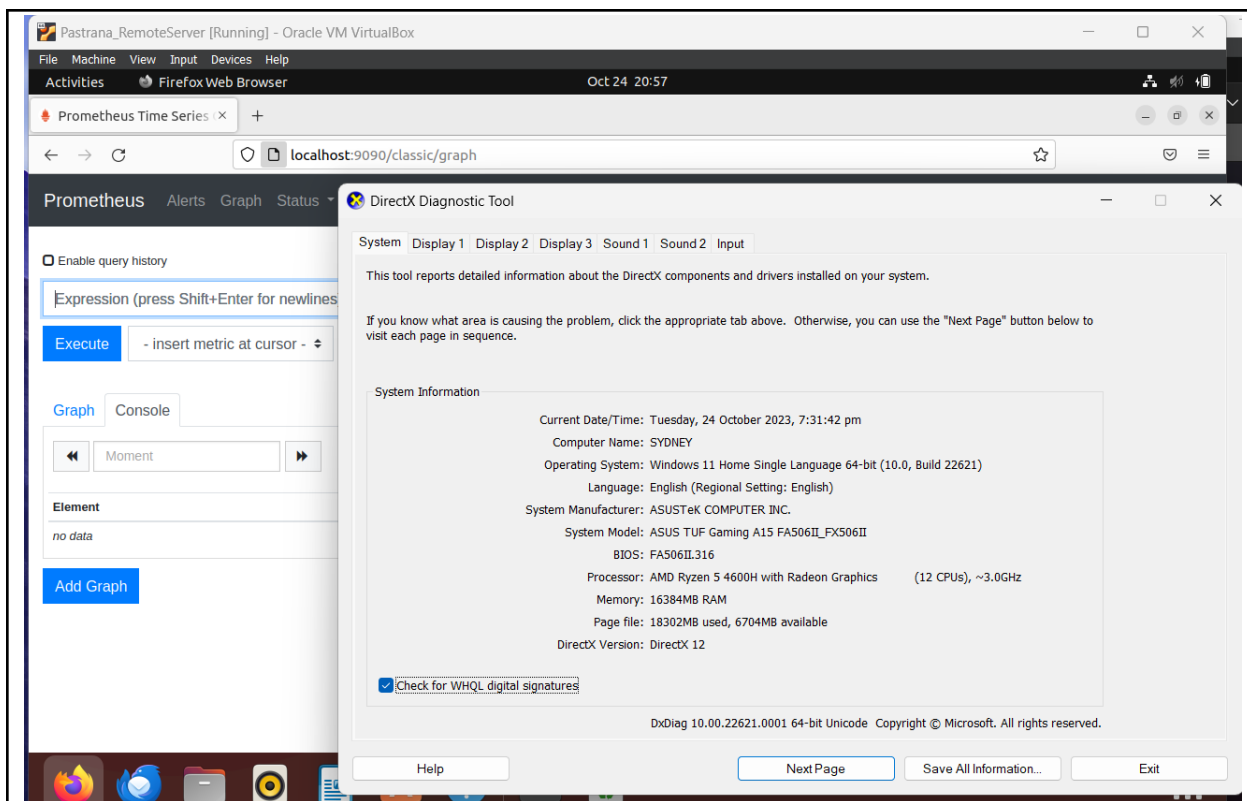
## - Running the "install\_prometheus.yml"



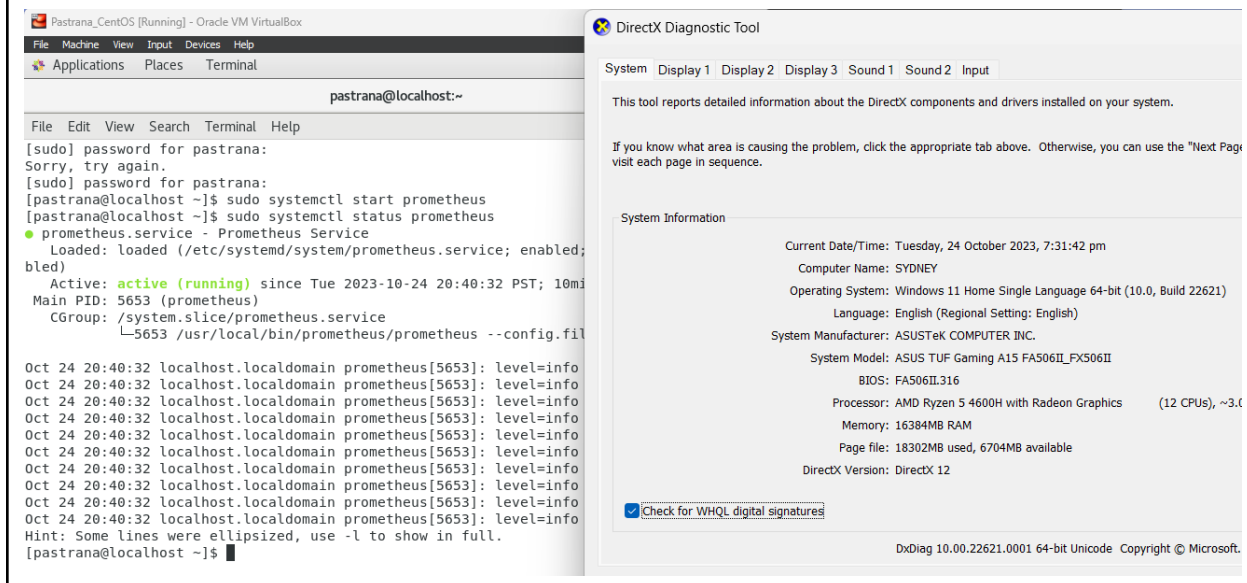


### 3. Show an output of the installed Prometheus for both Ubuntu and CentOS. Ubuntu:

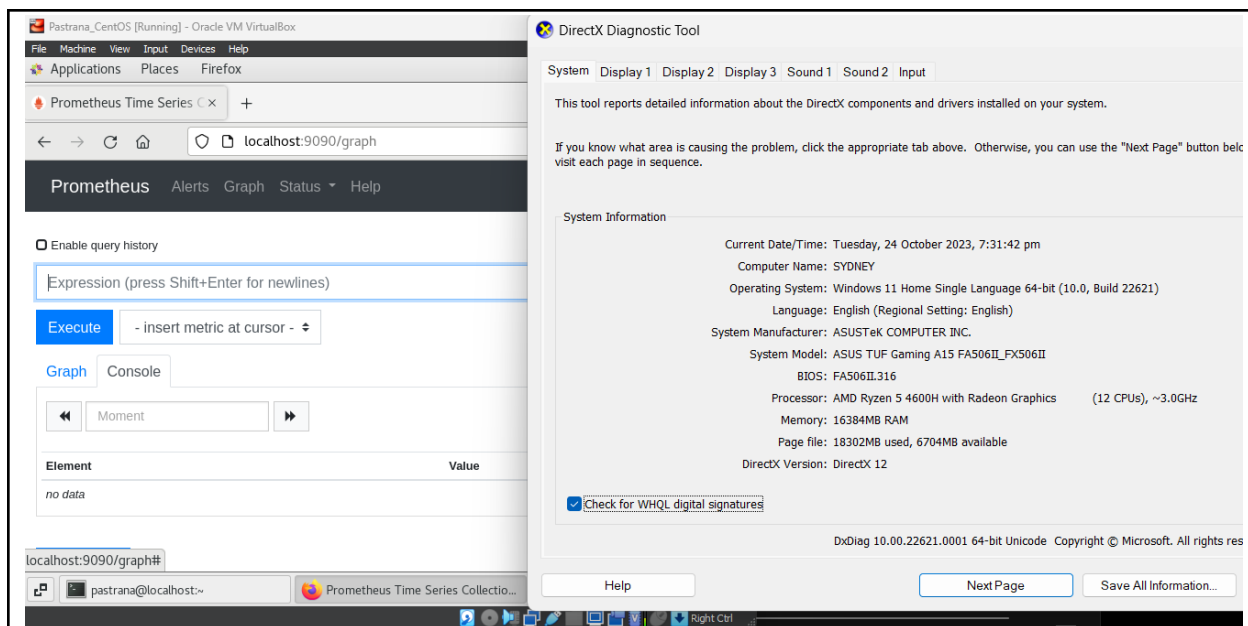




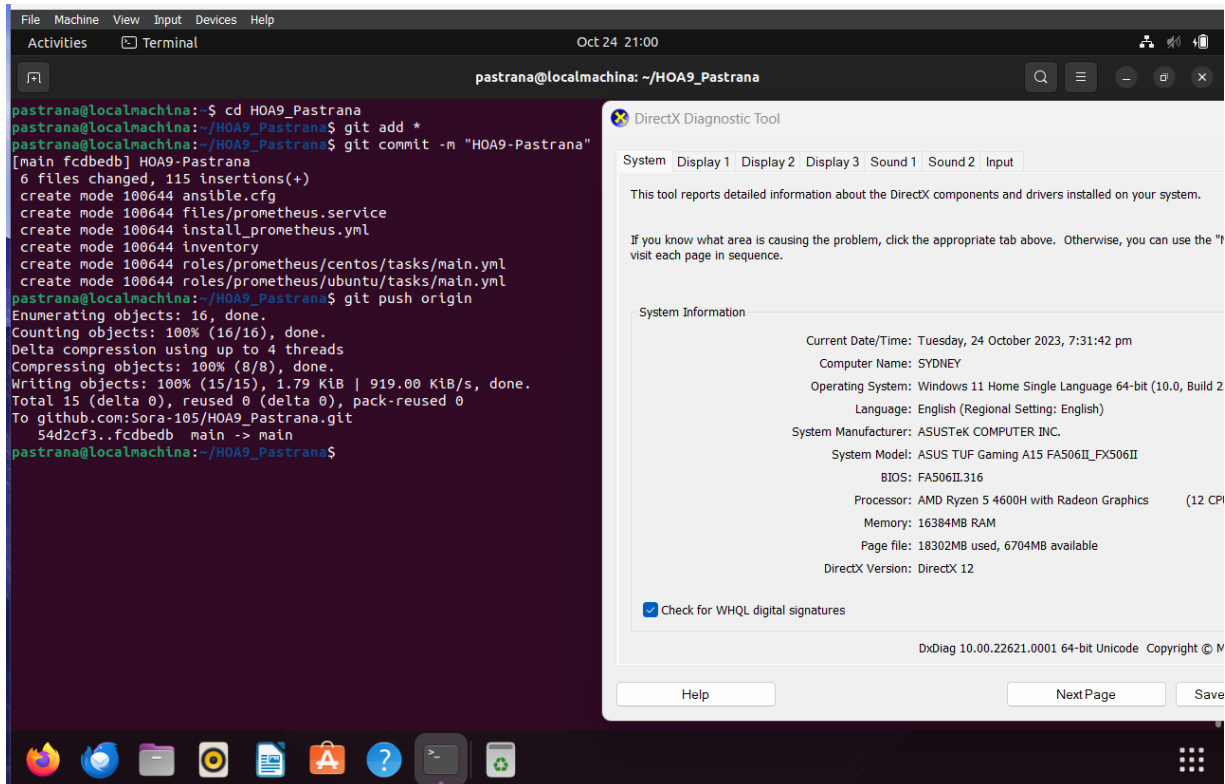
## CentOS:







#### 4. Make sure to create a new repository in GitHub for this activity.



[https://github.com/Sora-105/HOA9\\_Pastrana.git](https://github.com/Sora-105/HOA9_Pastrana.git)

### Reflections:

Answer the following:

1. What are the benefits of having a performance monitoring tool?

- The advantage of using a performance monitoring tool is that we can precisely examine how the machine works by observing its performance. This allows us to identify the machine's state, whether its performance is within the desired range, making it efficient, or if it is operating slower than it should be.

**Conclusions:**

- Hands-on Activity 9 centers around the setup, arrangement, and control of performance monitoring utilities on our Ubuntu and CentOS servers. Prometheus has been chosen as the dedicated tool for overseeing performance. This task is completed through the application of an ansible playbook that enforces the roles directory, ensuring a streamlined and organized code deployment for different roles, such as Ubuntu and CentOS servers. The challenge lies in the complexity of setting up Prometheus on CentOS, whereas it was smoother on Ubuntu.