Name: Aldwin Joseph B. Revilla	**Date Performed: 10/24/2023**
Course/Section: CPE31S5	**Date Submitted: 10/25/2023**
Instructor: Engr. Roman Richard	**Semester and SY: 1st sem 2023-2024**

Activity 9: Install, Configure, and Manage Performance Monitoring tools

1. Objectives

Create and design a workflow that installs, configure and manage enterprise performance tools using Ansible as an Infrastructure as Code (IaC) tool.

2. Discussion

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.

Prometheus

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: Prometheus - Monitoring system & time series database

Cacti

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: Cacti® - The Complete RRDTool-based Graphing Solution

3. Tasks

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.)
3. Show an output of the installed Prometheus for both Ubuntu and CentOS.
4. Make sure to create a new repository in GitHub for this activity.

4. Output (screenshots and explanations)

Pre-setup:

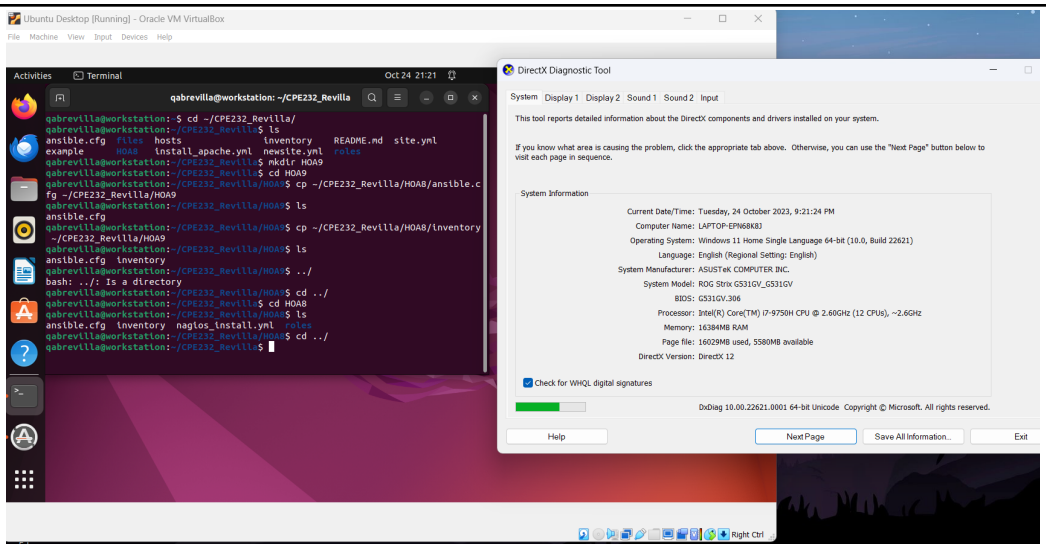


Figure 0.1 directory setup

Creating HOA9 directory and inside it is the copy of inventory and ansible.cfg from past activity

1. Create a playbook that installs Prometheus in both Ubuntu and CentOS. Apply the concept of creating roles.

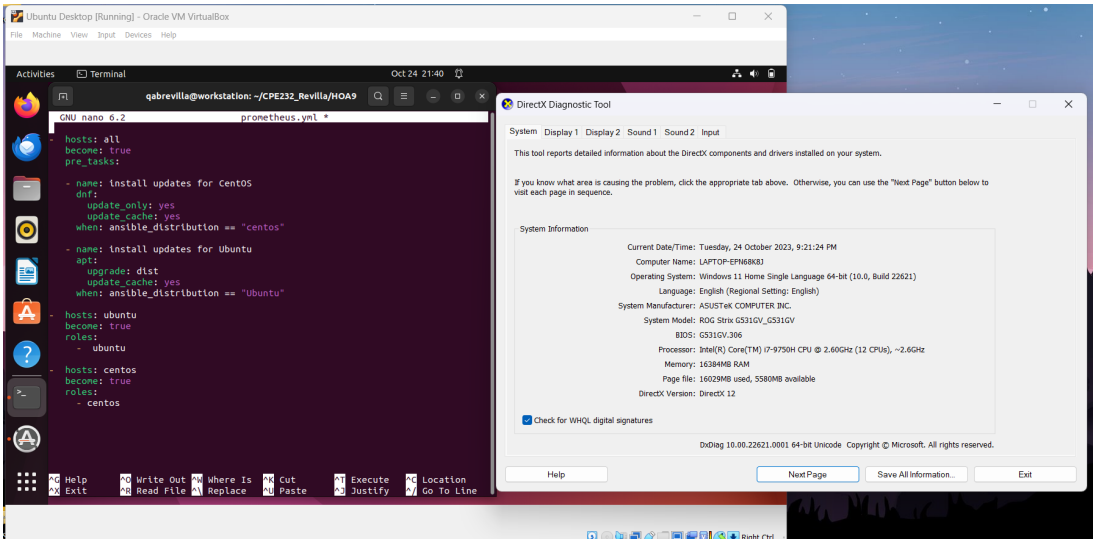


Figure 1 Create a playbook

Creating a playbook called prometheus.yml that installs prometheus in both Ubuntu and Centos remote servers.

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.)

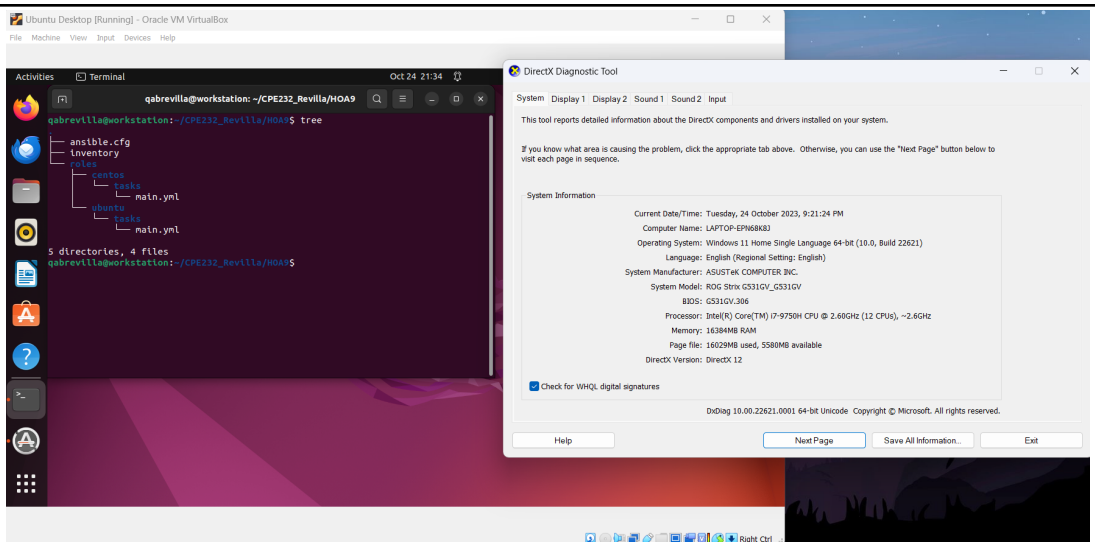


Figure 2.1 Create a galaxy directory

From the created directory, create a role directory that contains ubuntu and centos tasks.

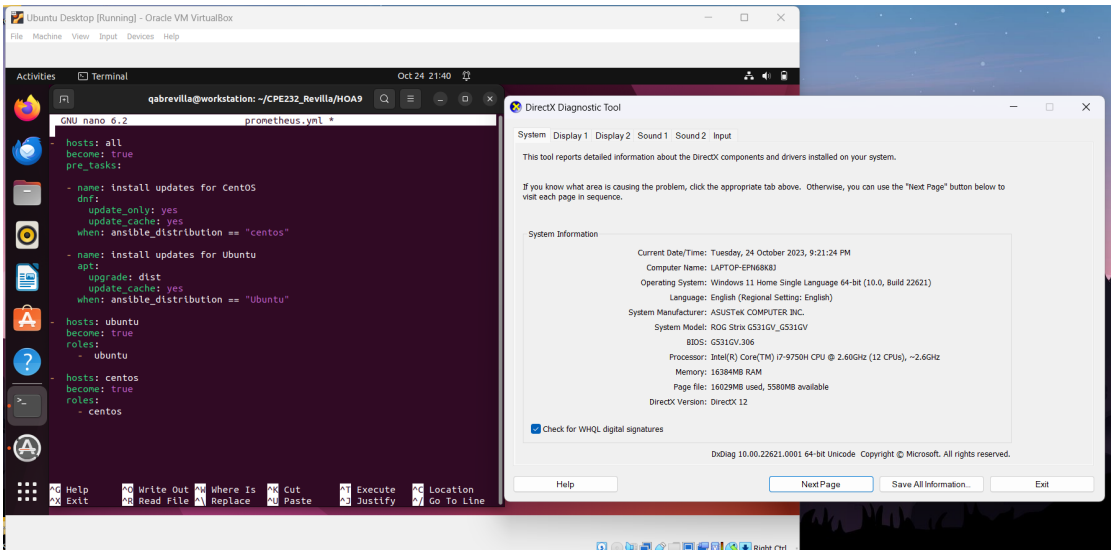


Figure 2.2 Create a playbook

Creating a playbook called prometheus.yml that installs prometheus in both Ubuntu and Centos remote servers.

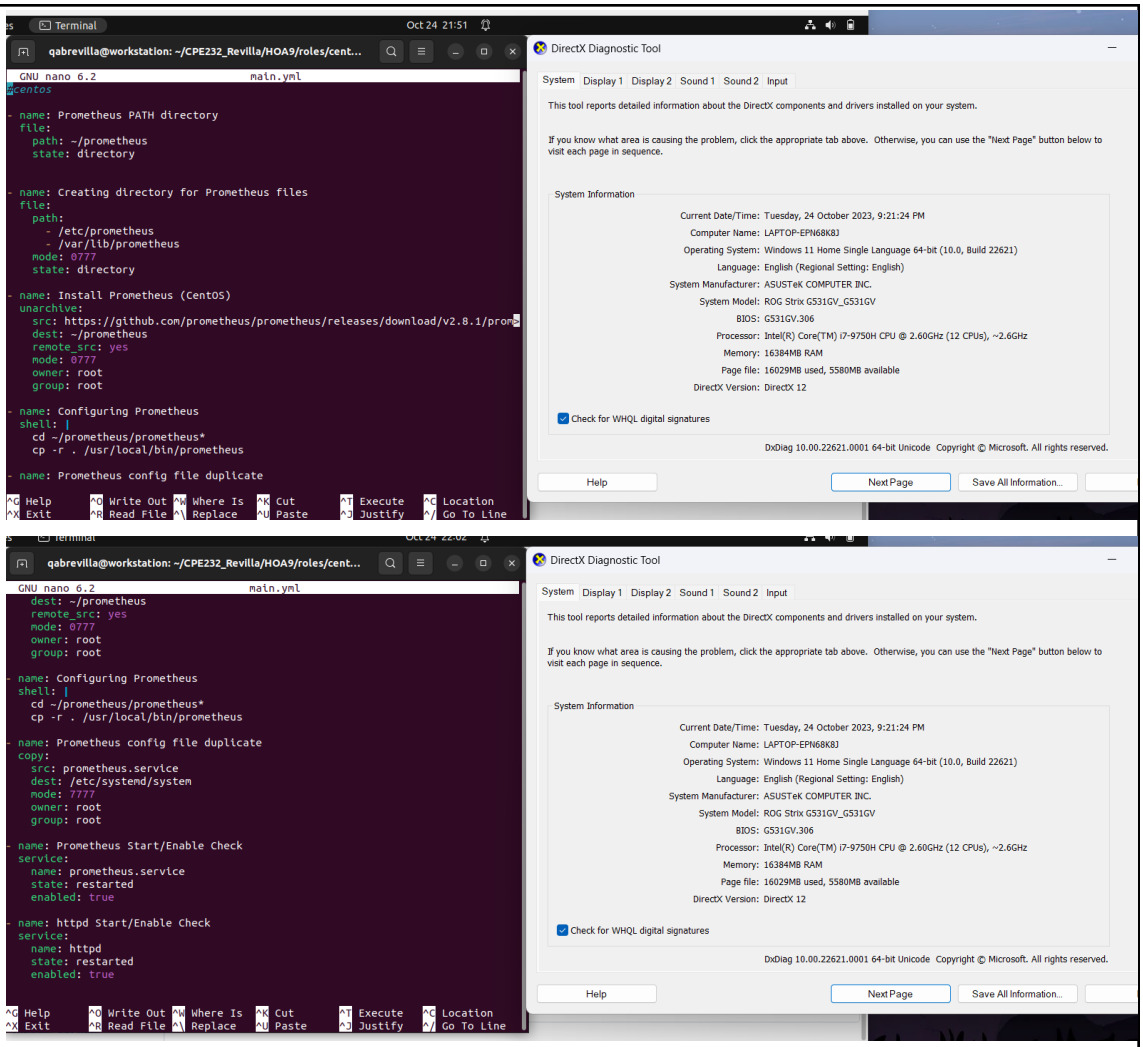


Figure 2.3 Create a main.yml for CentOS

Inside roles/centos/tasks, create a main.yml that contains the installations and pre-requisites for prometheus in CentOS.

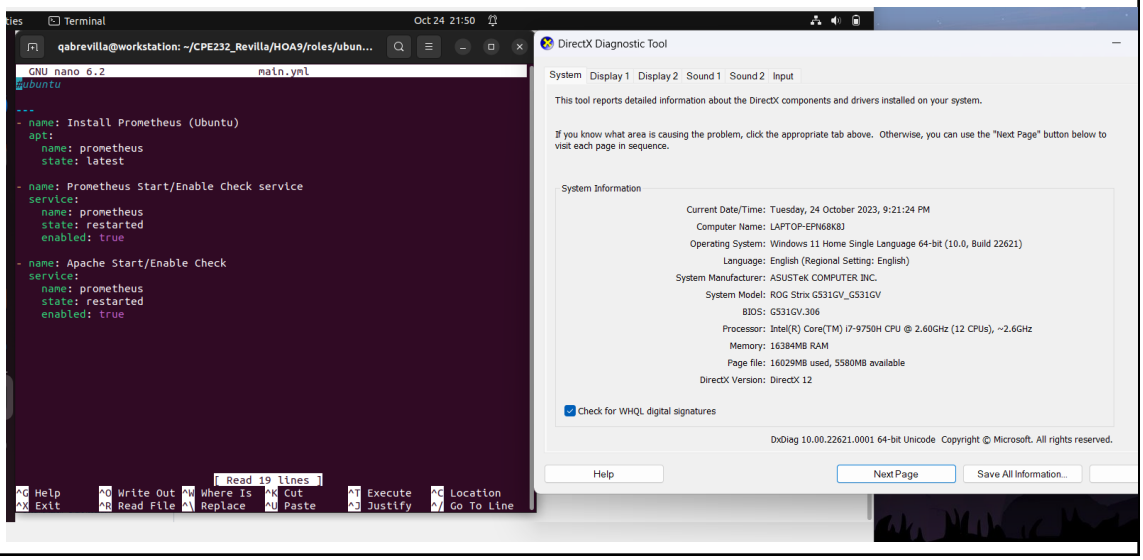


Figure 2.4 Create a main.yml for Ubuntu

Inside roles/centos/tasks, create a main.yml that contains the installations and pre-requisites for prometheus in Ubuntu.

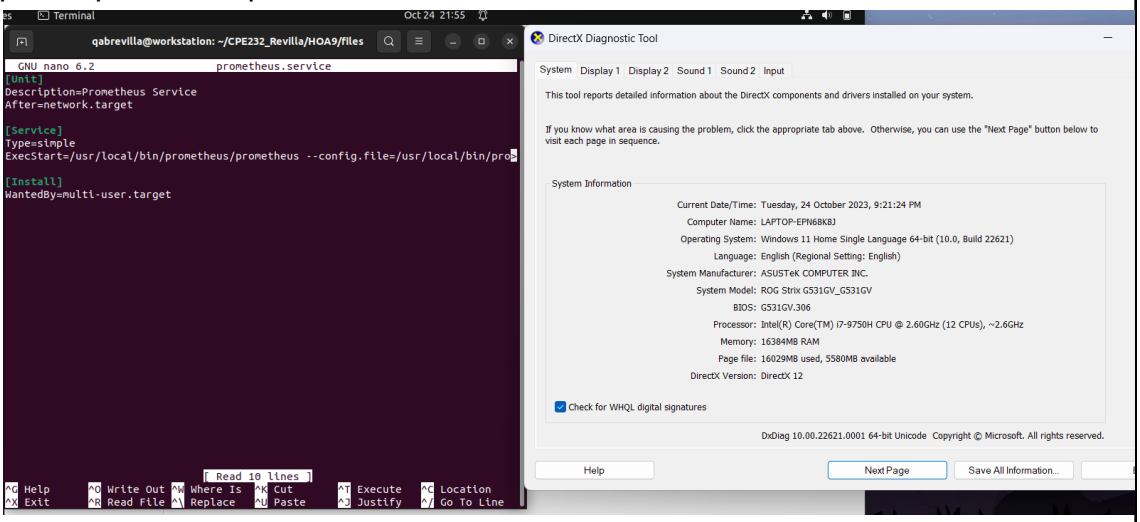
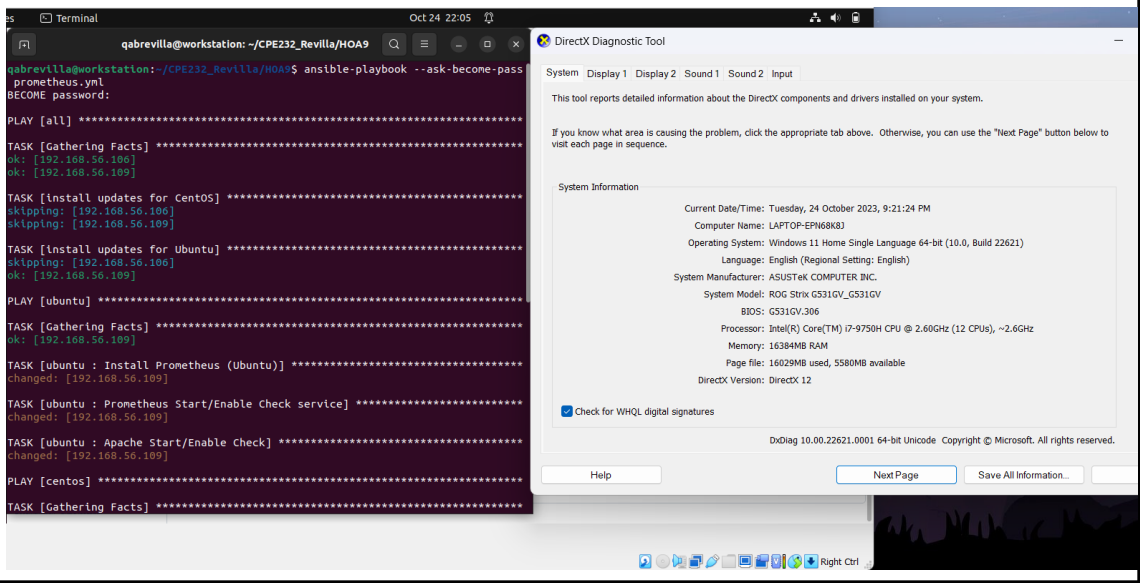
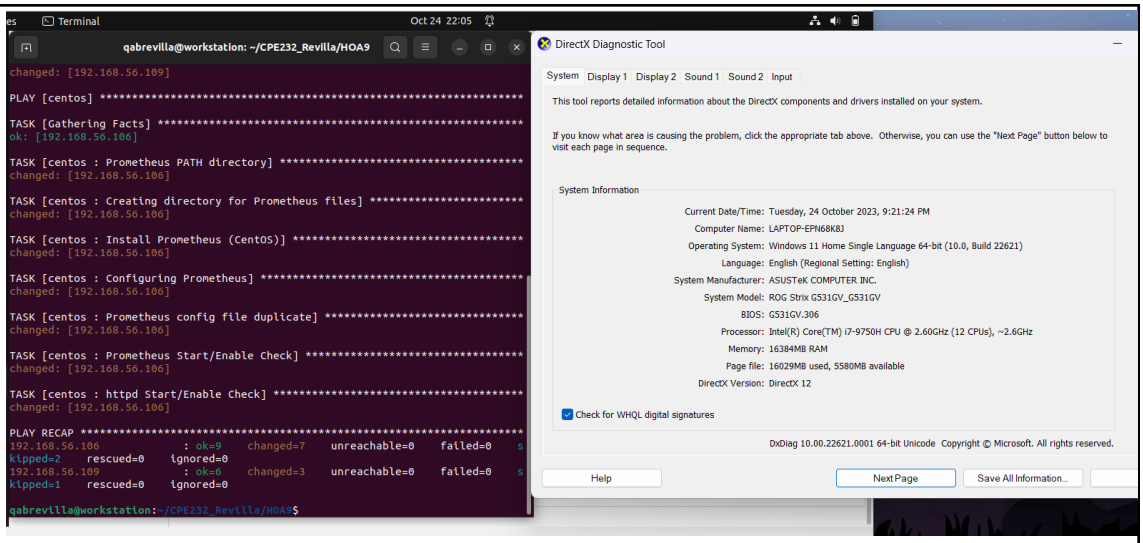


Figure 2.5 Prometheus.service

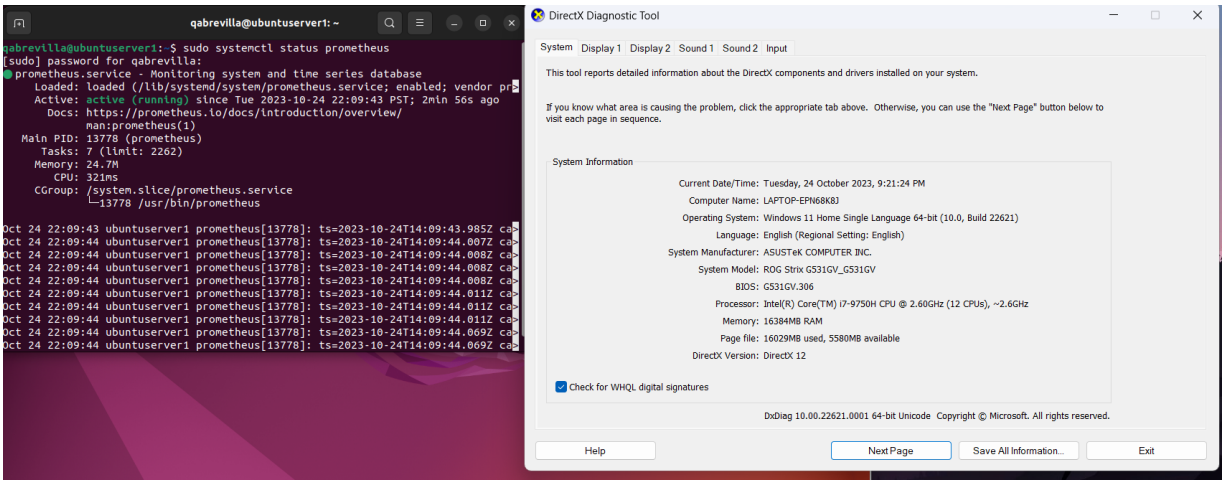
Prometheus.service contains commands that would enable the playbook to callback on the prometheus and for the main.yml work in both distributions.

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




Terminal
Oct 24 22:05
qabrevilla@workstation: ~/CPE232_Revilla/HOA9
changed: [192.168.56.109]
PLAY [centos] ***
TASK [Gathering Facts] ***
ok: [192.168.56.106]
TASK [centos : Prometheus PATH directory] **
changed: [192.168.56.106]
TASK [centos : Creating directory for Prometheus files] ******************************
changed: [192.168.56.106]
TASK [centos : Install Prometheus (CentOS)] **
changed: [192.168.56.106]
TASK [centos : Configuring Prometheus] ***
changed: [192.168.56.106]
TASK [centos : Prometheus config file duplicate] *************************************
changed: [192.168.56.106]
TASK [centos : Prometheus Start/Enable Check] **
changed: [192.168.56.106]
TASK [centos : httpd Start/Enable Check] ***
changed: [192.168.56.106]
PLAY RECAP ***
192.168.56.106 : ok=9 changed=7 unreachable=0 failed=0
klpped=2 rescued=0 ignored=0
192.168.56.109 : ok=6 changed=3 unreachable=0 failed=0
klpped=1 rescued=0 ignored=0
qabrevilla@workstation:~/CPE232_Revilla/HOA9$
DirectX Diagnostic Tool
System Display 1 Display 2 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, 9:21:24 PM
Computer Name: LAPTOP-EPN68K8J
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: ROG Strix G531GV_G531GV
BIOS: G531GV.306
Processor: Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz (12 CPUs), ~2.6GHz
Memory: 16384MB RAM
Page file: 16029MB used, 5580MB 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...

Checking:


qabrevilla@ubuntuserver1: ~
qabrevilla@ubuntuserver1:~$ sudo systemctl status prometheus
[sudo] password for qabrevilla:
prometheus.service - Monitoring system and time series database
Loaded: loaded (/lib/systemd/system/prometheus.service; enabled; vendor pr
Active: active (running) since Tue 2023-10-24 22:09:43 PST; 2min 56s ago
Docs: https://prometheus.io/docs/introduction/overview/
man:prometheus(1)
Main PID: 13778 (prometheus)
Tasks: 7 (limit: 2262)
Memory: 24.7M
CPU: 321ms
CGroup: /system.slice/prometheus.service
└─13778 /usr/bin/prometheus
Oct 24 22:09:43 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:43.985Z ca
Oct 24 22:09:44 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:44.007Z ca
Oct 24 22:09:44 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:44.008Z ca
Oct 24 22:09:44 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:44.008Z ca
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Oct 24 22:09:44 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:44.011Z ca
Oct 24 22:09:44 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:44.011Z ca
Oct 24 22:09:44 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:44.011Z ca
Oct 24 22:09:44 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:44.069Z ca
Oct 24 22:09:44 ubuntuserver1 prometheus[13778]: ts=2023-10-24T14:09:44.069Z ca
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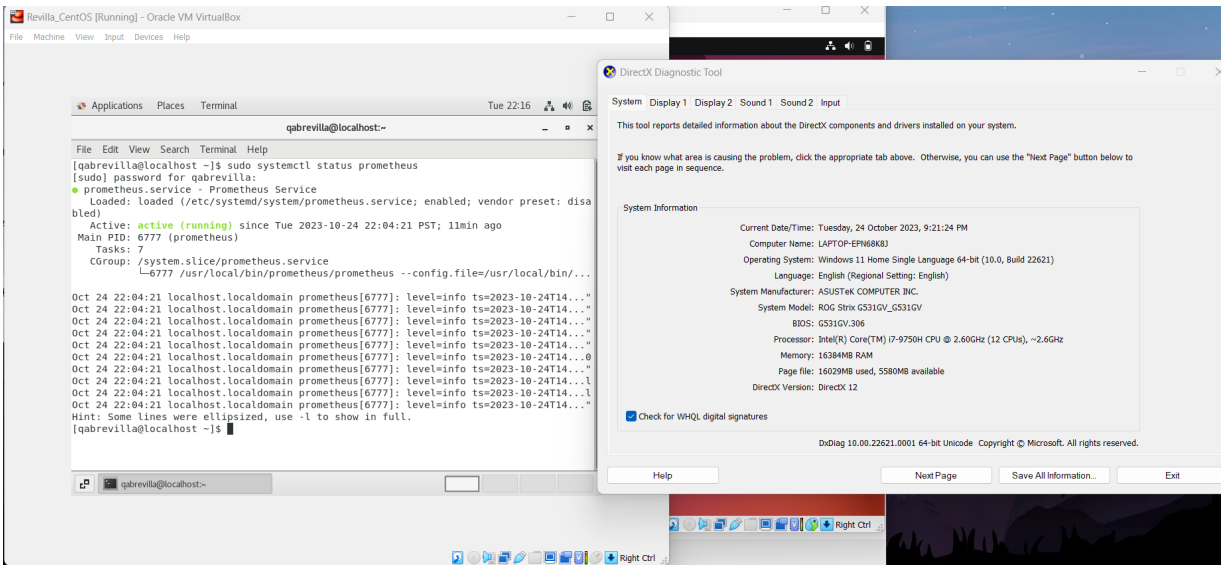
Memory: 16384MB RAM
Page file: 16029MB used, 5580MB available
DirectX Version: DirectX 12
Check for WHQL digital signatures
DxDiag 10.00.22621.0001 64-bit Unicode Copyright © Microsoft. All rights reserved.
Help
Next Page
Save All Information...
Exit


Revilla_CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
Tue 22:16
qabrevilla@localhost:~
File Edit View Search Terminal Help
[qabrevilla@localhost ~]$ sudo systemctl status prometheus
[sudo] password for qabrevilla:
prometheus.service - Prometheus Service
Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; vendor preset: disa
bled)
Active: active (running) since Tue 2023-10-24 22:04:21 PST; 11min ago
Main PID: 6777 (prometheus)
Tasks: 7
CGroup: /system.slice/prometheus.service
└─6777 /usr/local/bin/prometheus/prometheus --config.file=/usr/local/bin/...
Oct 24 22:04:21 localhost.localdomain prometheus[6777]: level=info ts=2023-10-24T14...
Hint: Some lines were ellipsized, use -l to show in full.
[qabrevilla@localhost ~]$
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System Display 1 Display 2 Sound 1 Sound 2 Input
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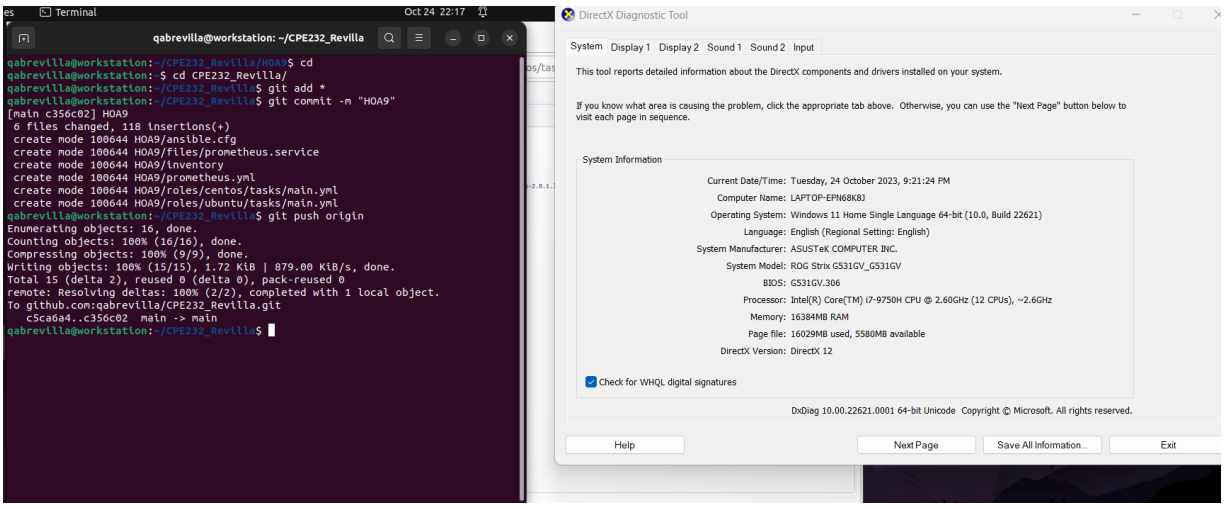
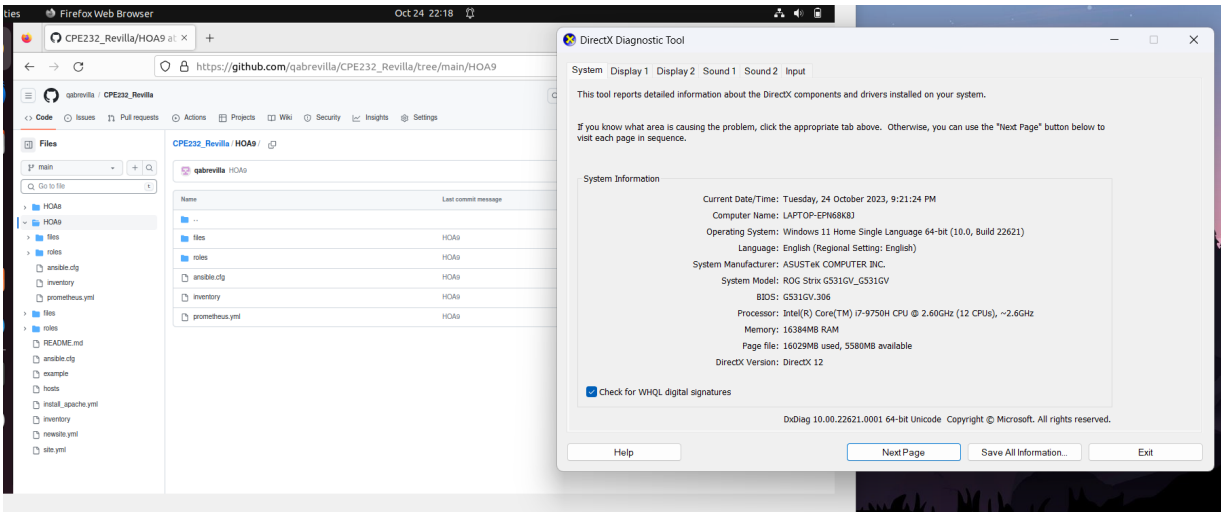
DirectX Version: DirectX 12
Check for WHQL digital signatures
DxDiag 10.00.22621.0001 64-bit Unicode Copyright © Microsoft. All rights reserved.
Help
Next Page
Save All Information...
Exit
Right Ctrl

Github:





https://github.com/qabrevilla/CPE232_Revilla/tree/main/HOA9

Reflections:

Answer the following:

1. What are the benefits of having a performance monitoring tool?
   Having a monitoring tool is essential for local machines or servers because it gives a lot of benefits in maintaining the machine. These tools can be used for tracking system performance and checking if all systems are working properly.

Conclusions:

In this activity, we go deep in using playbooks in ubuntu. We install prometheus, configure it in order to work, and manage the performance of monitoring tools for both distributions. We used the playbooks features and made use of roles that are efficient for organizing directories containing files needed to run the program. This activity is interesting because I was able to connect playbooks in other directories to do many tasks at one. It is challenging because the commands are not given and i am not familiar with Prometheus and how to install it.