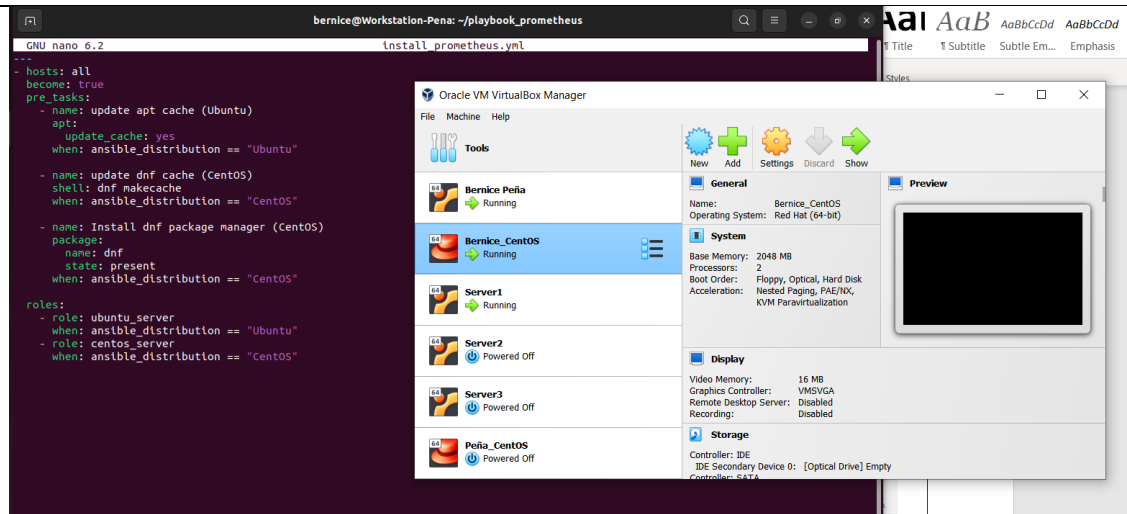
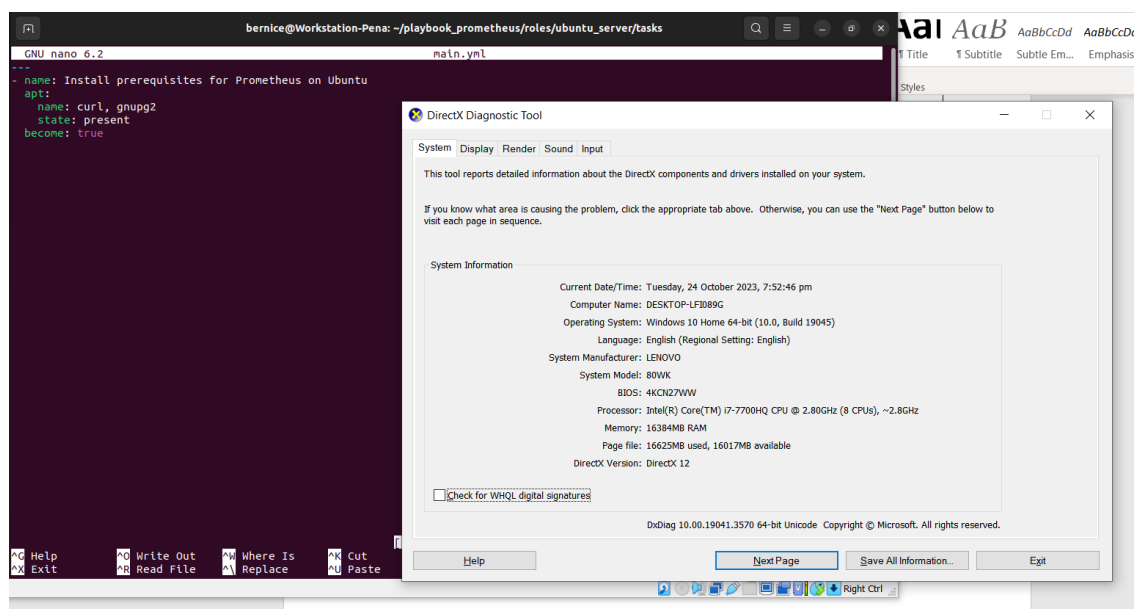


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<b>Course/Section:</b> Managing Enterprise Servers / CPE31S5	<b>Date Submitted:</b> 10/25/2023
<b>Instructor:</b> Engr. Roman Richard	<b>Semester and SY:</b> 1 <sup>st</sup> semester, SY 2023-2024
<b>Activity 9: Install, Configure, and Manage Performance 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)	

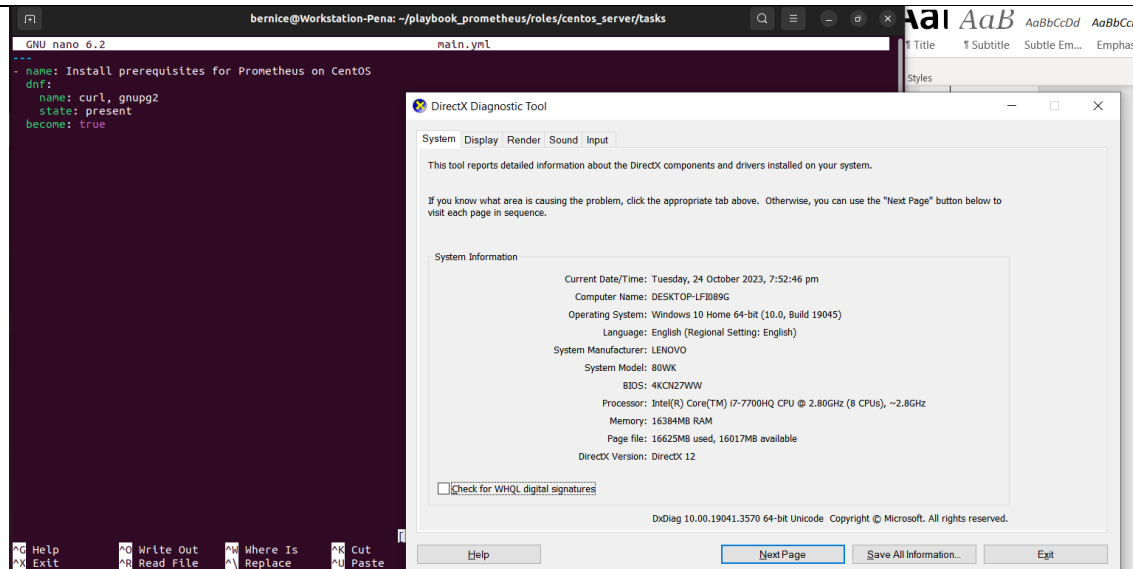




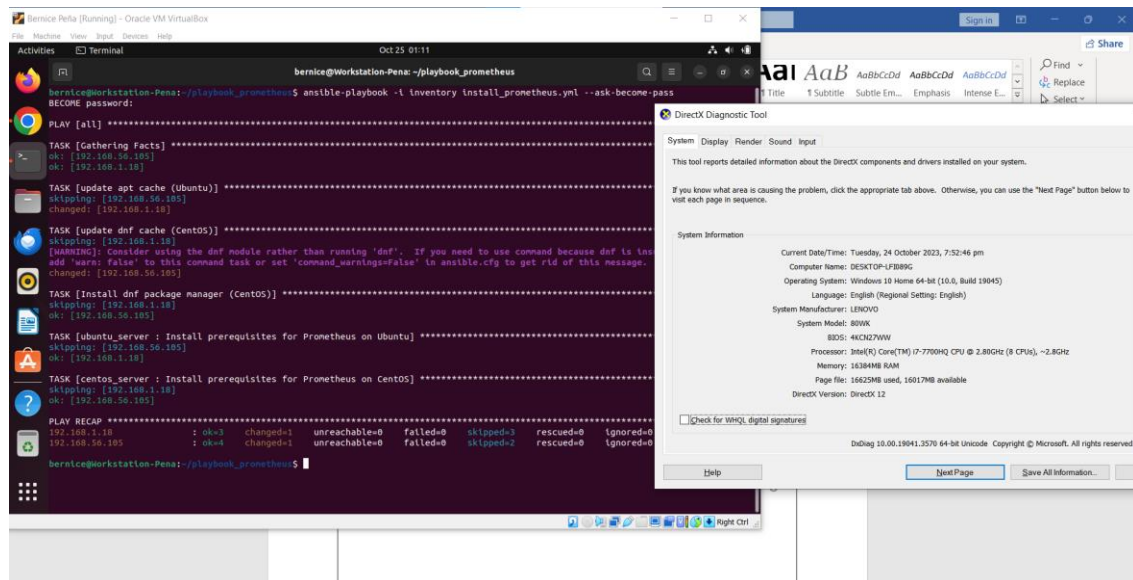
I created this yml file named `install_prometheus.yml` inside my `playbook_prometheus`. This yml file contains the roles of `ubuntu_server` and `centos_server`.



Then I created a `main.yml` file inside my `ubuntu_server/tasks` consisting of tasks specific for `ubuntu_server`.

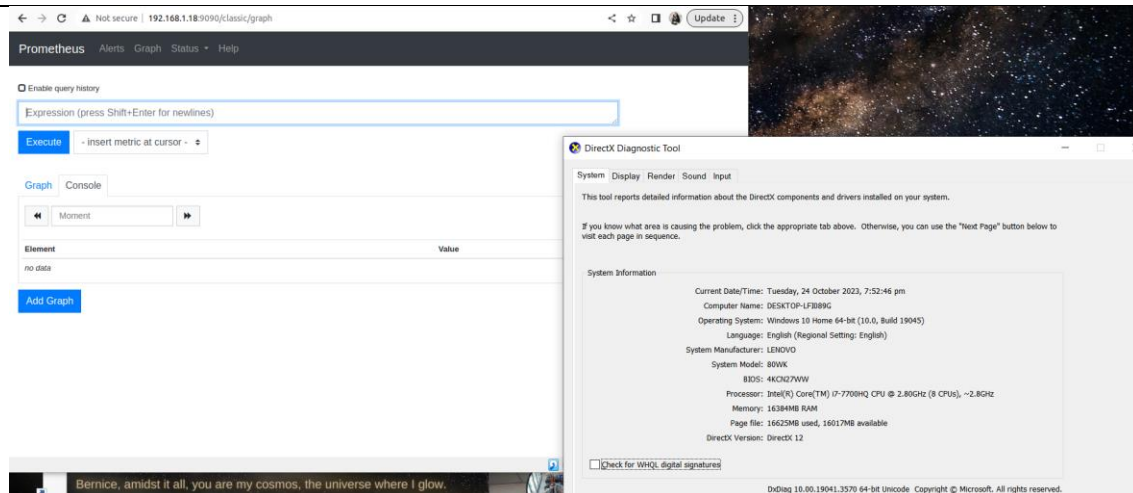


I did the same thing for centos\_server, I also created a main.yml file for it.

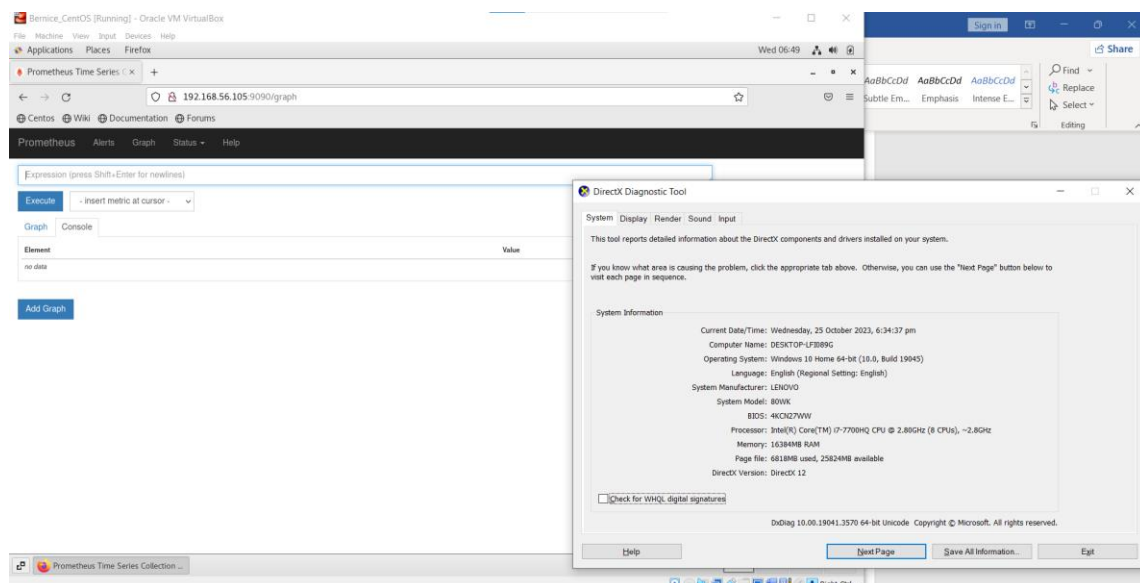


This was the result after executing the install\_prometheus.yml, as you can see in the result, there were changes happened in my ubuntu and centos server, this caused by the installation of the prometheus. After the process, the recap shows that the status for both servers are labeled as “ok” indicating that the installation is successful.

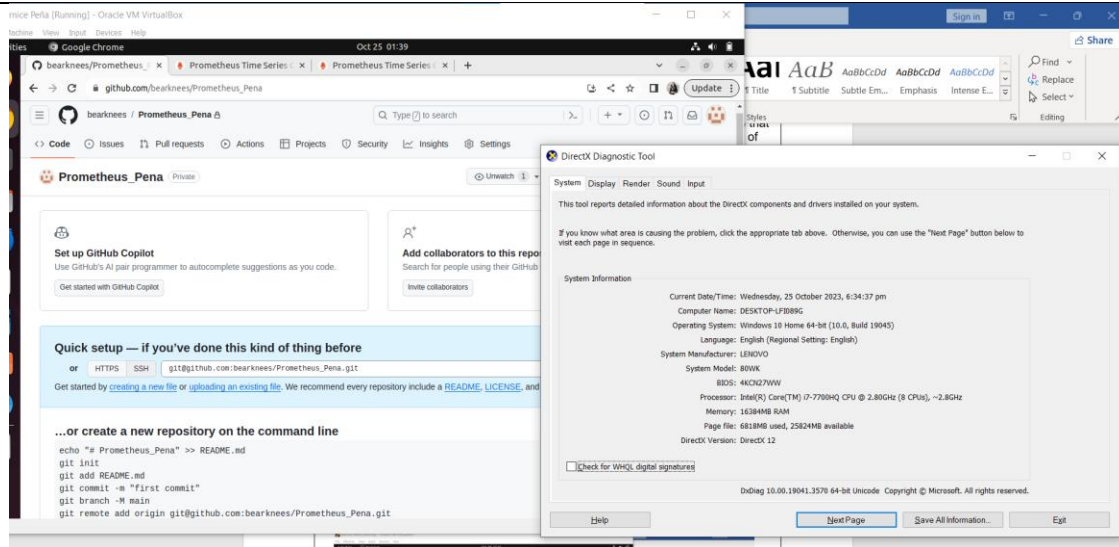




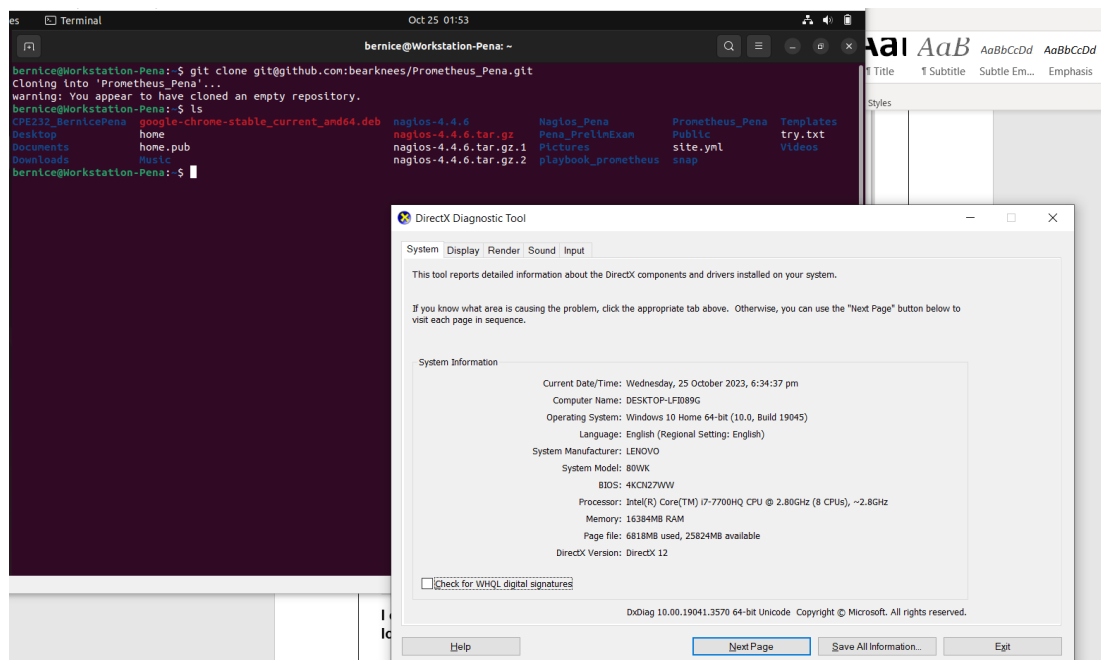
To verify that it is installed and working, I opened prometheus in my browser using my ubuntu server ip address followed by the :9090 port (192.168.1.18:9090) to specifically open the prometheus.



I also opened the prometheus in my CentOS server using my CentOS ip address followed by the :9090 port (192.168.56.105:9090) to verify that it is installed and working properly.

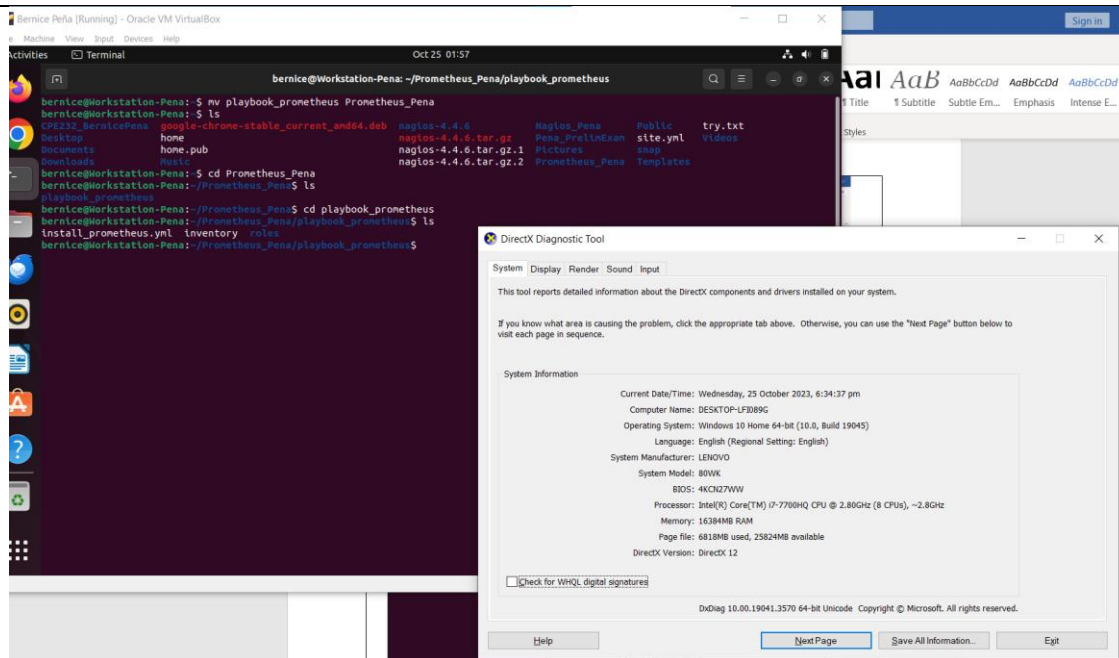


After the installation, I created a repository in GitHub for this activity named **Pena\_Prometheus**.

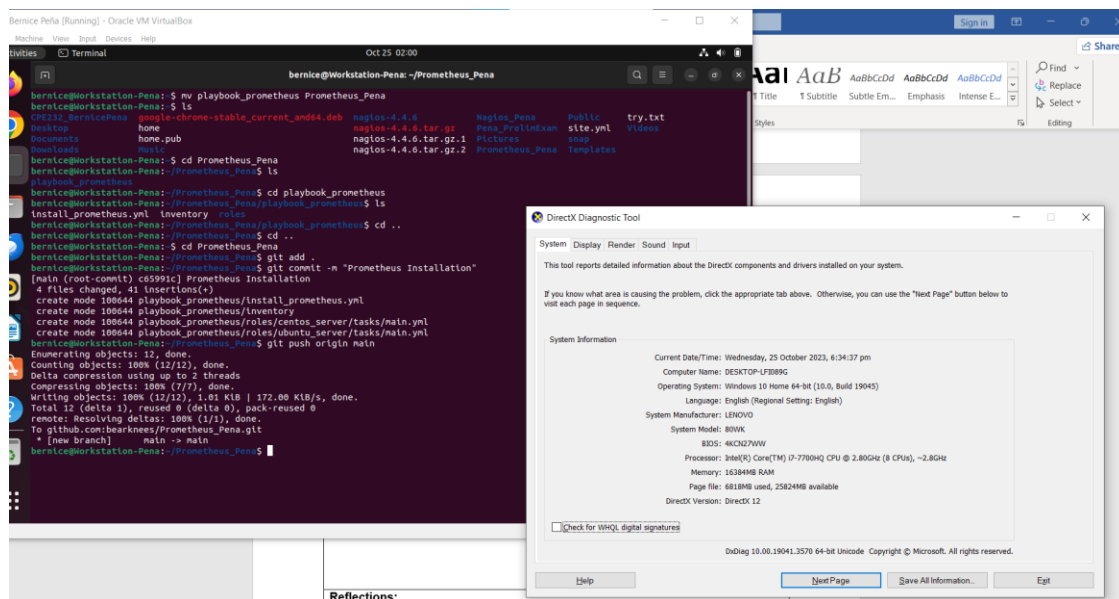


I cloned the repository I created in GitHub in order to be created also in my local machine.



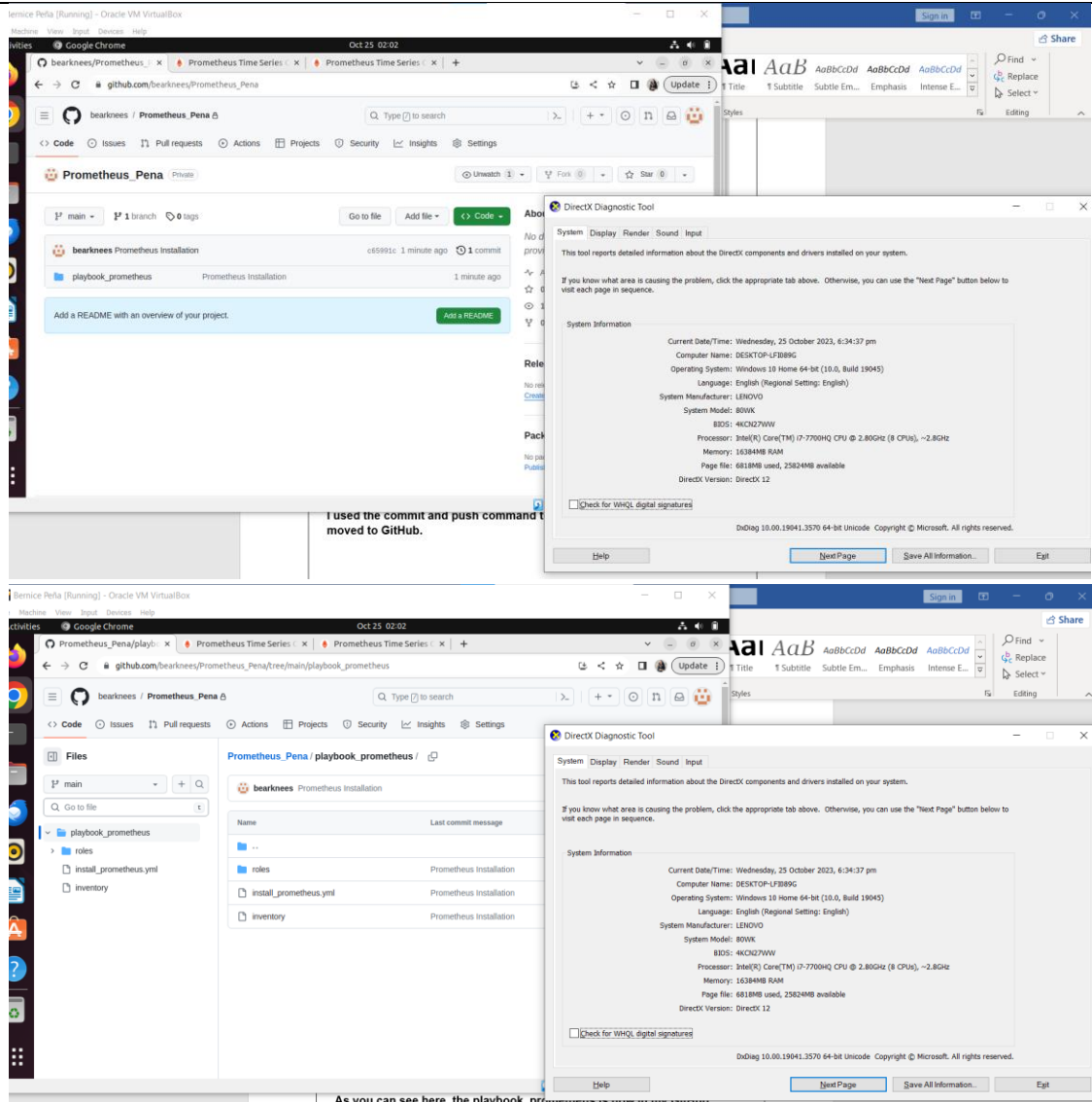


Then I moved my `playbook_prometheus` to my newly created repository named `Prometheus_Pena` so I'll be able to commit the changes into GitHub.



I used the `commit` and `push` command to be able to have all the changes be moved to GitHub.





As you can see here, the `playbook_prometheus` is now in my GitHub including all the yml and necessary files that I used in the installation.

GitHub repository link: [https://github.com/barknees/Prometheus\\_Pena](https://github.com/barknees/Prometheus_Pena)

## Reflections:

Answer the following:

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

**Technology like performance monitoring provides an in-depth picture of a system's behavior, this helps in the discovery of potential bottlenecks as well as inefficiencies. This provides the useful insights with regards on resource utilization, performance of application, and network activity, this**

leads to allowing the administrators to diagnose and the issues immediately. This kind of solution will not just support data-driven decision-making in measuring key performance of delivering analytical errors, but also ensuring that the firms can be able to adapt in changing demands. Aside from this, one of the important things that it can do is to help identify the security weaknesses as well as possible attacks.

#### **Conclusions:**

Through this activity, I was able to acquire the hands-on experience using Ansible in order to install the Prometheus, an effective monitoring program, this also helps me understand more about the roles concept by applying the tasks and installation process in my ubuntu server and CentOS server. This activity provided me with practical insights when it comes to automating monitoring system deployment and configuration, it emphasizes the necessity of guaranteeing the system's availability, resource optimization, and performance improvements. This activity also highlights role-based setups leading to best practices when managing a lot of files, this is necessary since it helps in managing potential faults or warnings properly during the installation process.

Aside from this information, I was also able to have a deep understanding in relates to concepts of ansible automation and GitHub repository management. I learned about the significance of thorough system inspections, error debugging, and carefully validation of system configurations to ensure the effective deployment of the monitoring tool and its operation and services.