Name: Mark Angelo A. Aquino	**Date Performed:** 04/12/2024
Course/Section: CPE31S2	**Date Submitted:** 04/12/2024
Instructor: Engr. Robin Valenzuela	**Semester and SY:** 1st sem - 2024

Hands-on Final Exam

Mark Angelo Aquino GitHub -
https://github.com/CPE232-MarkAngelo/Final_Exam_Aquino.git

Tools Needed:

1. VM with Ubuntu, CentOS and Ansible installed
2. Web browser

Procedure:

1. Create a repository and label it as "Final_Exam_Surname"

2. Clone your new repository in your VM

3. Create an Ansible playbook that does the following with an input of a config.yaml file and structure inventory file.

3.1 Install and configure one enterprise service that can be installed in Debian and Centos servers

3.2 Install and configure one monitoring tool that can be installed in Debian and Centos servers (if it is a stack there should be option of different host)

4.4 Change Motd as "Ansible Managed by <username>"

4. Push and commit your files in GitHub

5. Make sure to show evidence of input (codes) process (codes successfully running) and output (evidence of installation)

5. For your final exam to be counted, please paste your repository link as an answer in this exam.

Note: Extra points if you will implement the said services via containerization.

Procedure Tasks: Screenshots

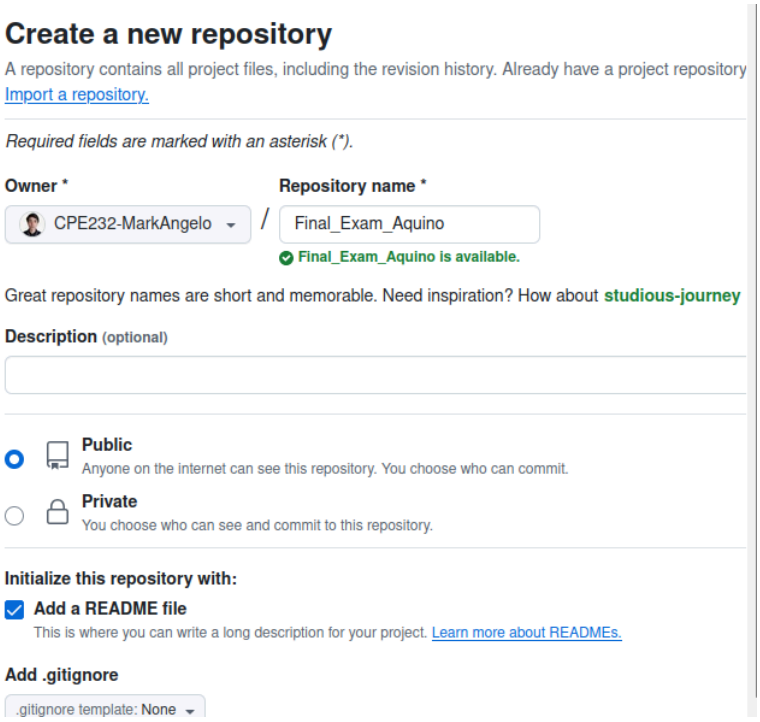

Figure 1: Creating new repository named **Final_Exam_Aquino**

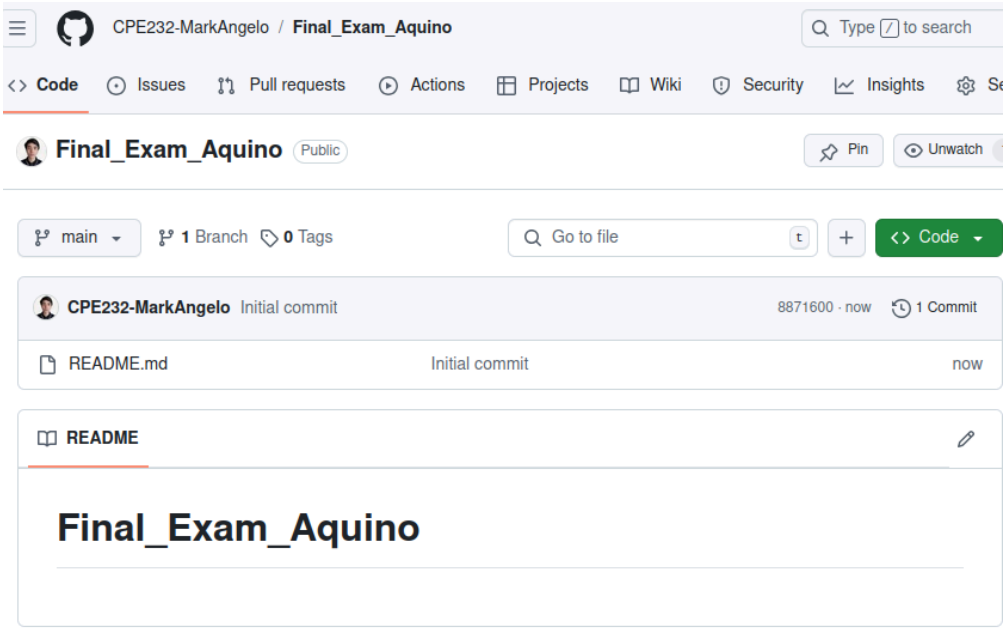

Figure 2: Final_Exam_Aquino repository was created.

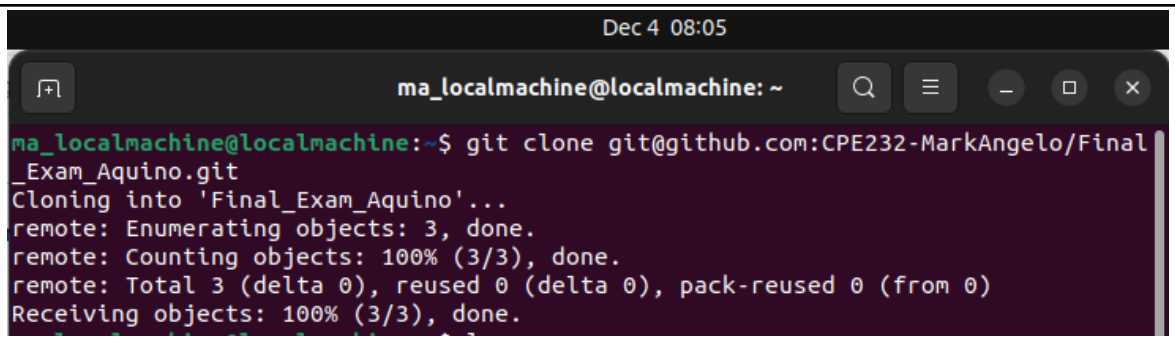

Figure 3: Final_Exam_Aquino repository was clone using the command **"git clone"**

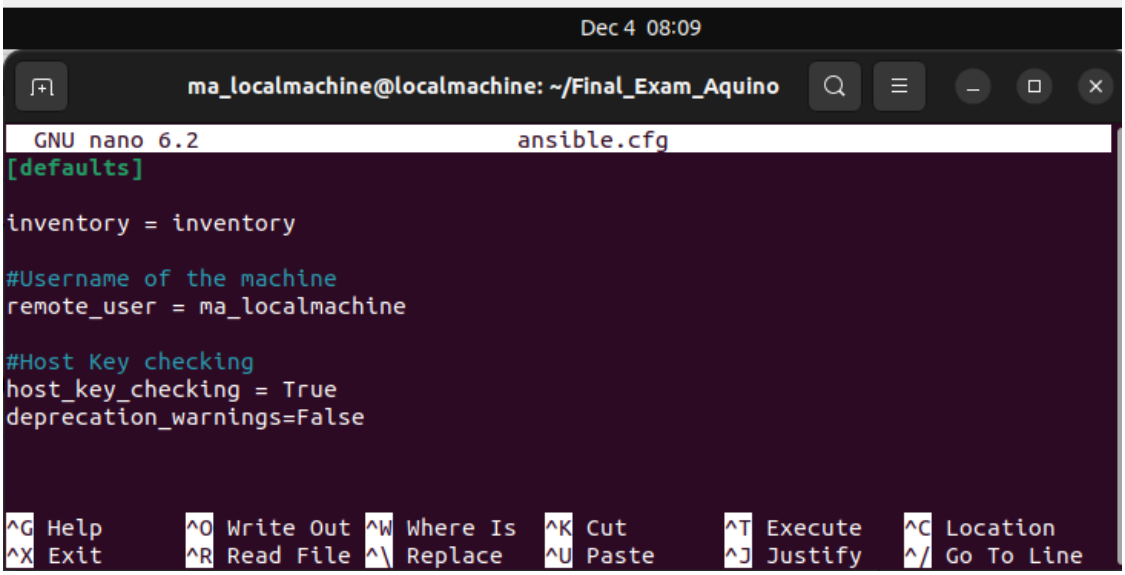

Figure 4: Creating a **ansible.cfg**.

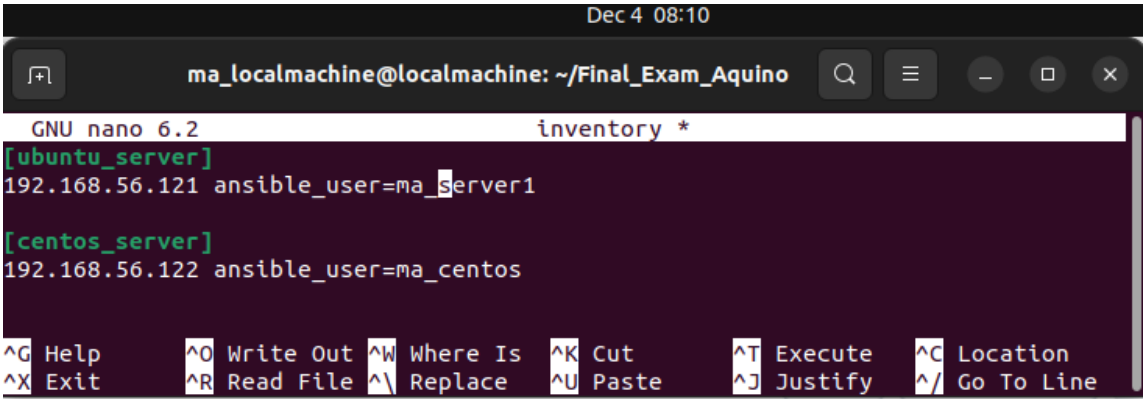

Figure 5: Creating **inventory** file where Ubuntu server and CentOS server IP address is located.

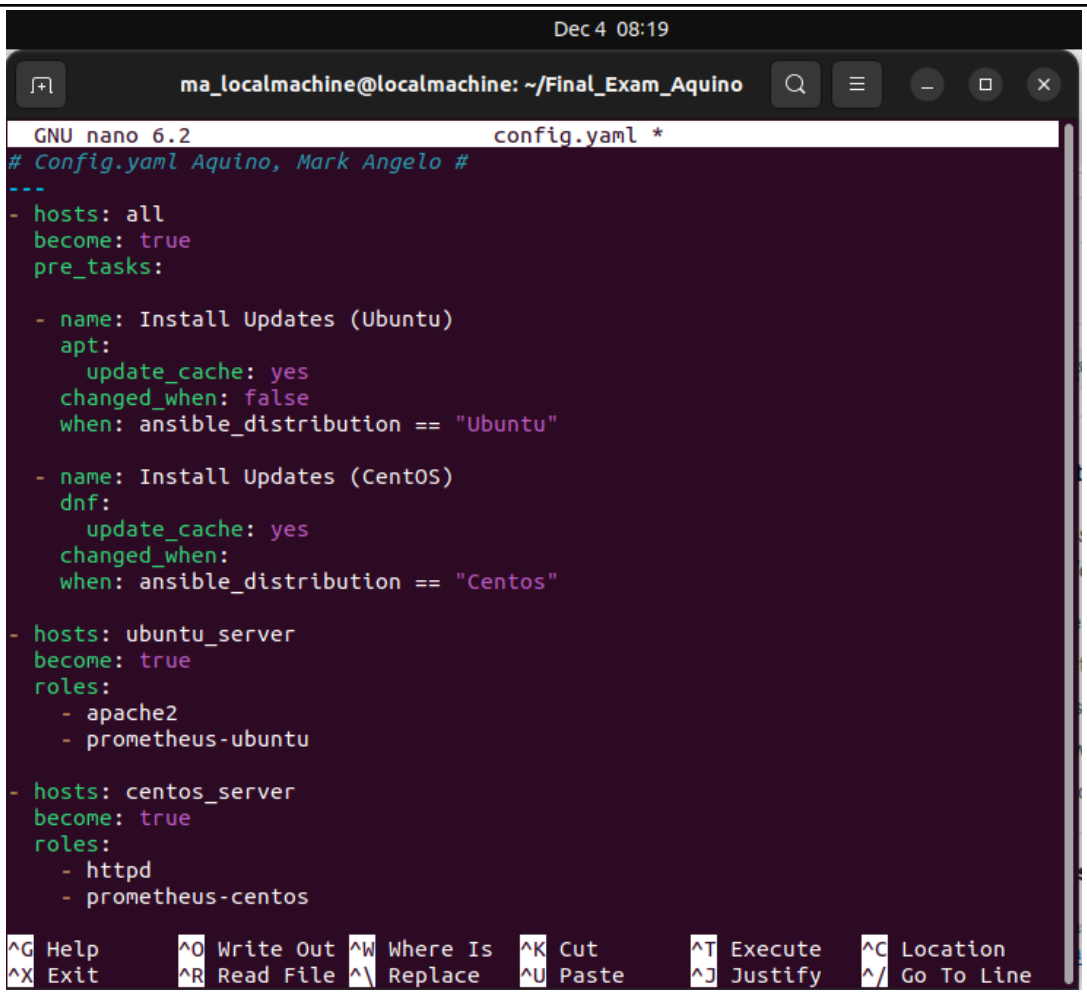

Figure 6: Creating a **config.yaml** for calling installations of tasks in Ubuntu and CentOS.

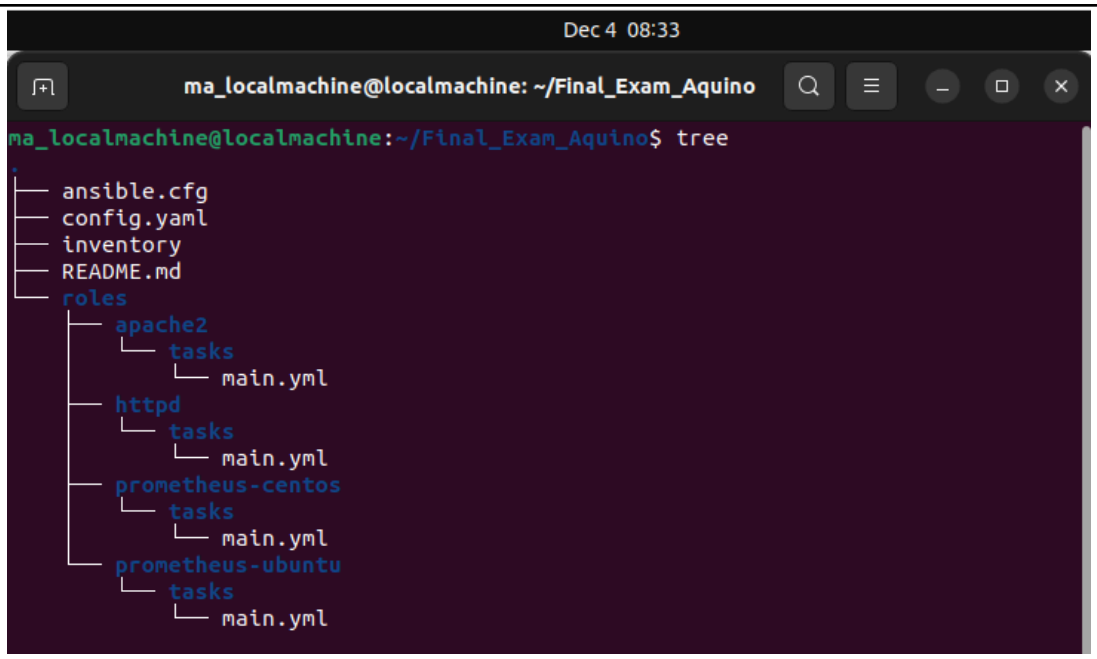

Figure 7: Commanding **"tree"** to show all directory paths.

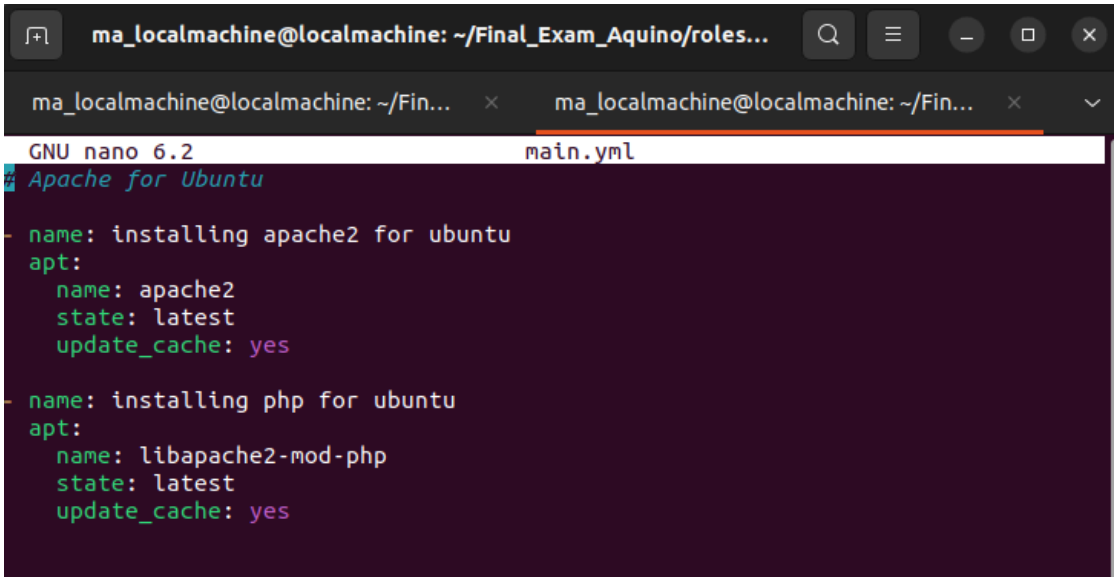

Figure 8: Creating main.yml for Apache Ubuntu.

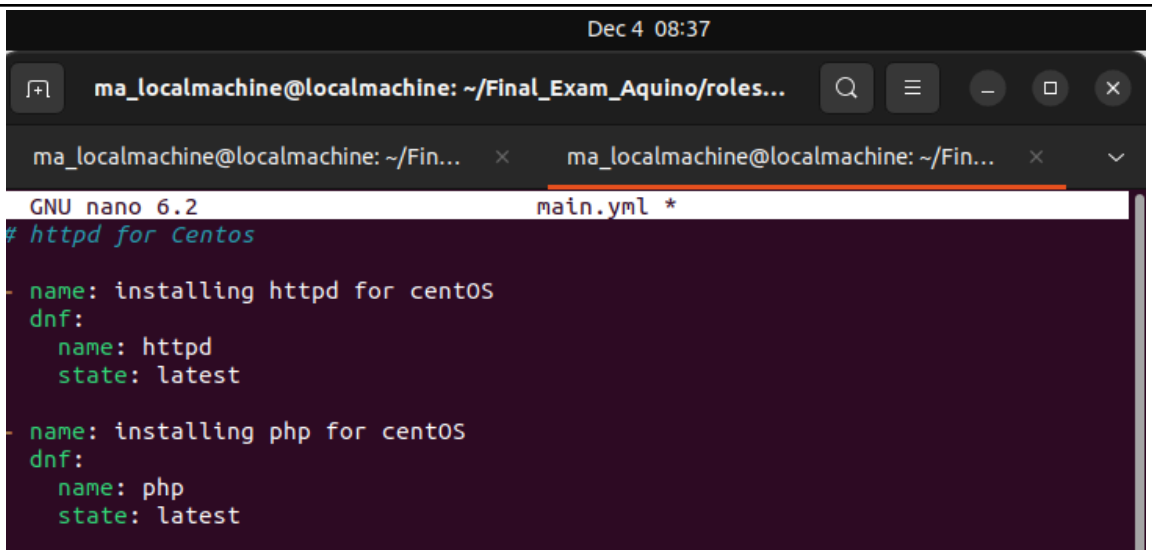

Figure 9: Creating main.yml for httpd CentOS.

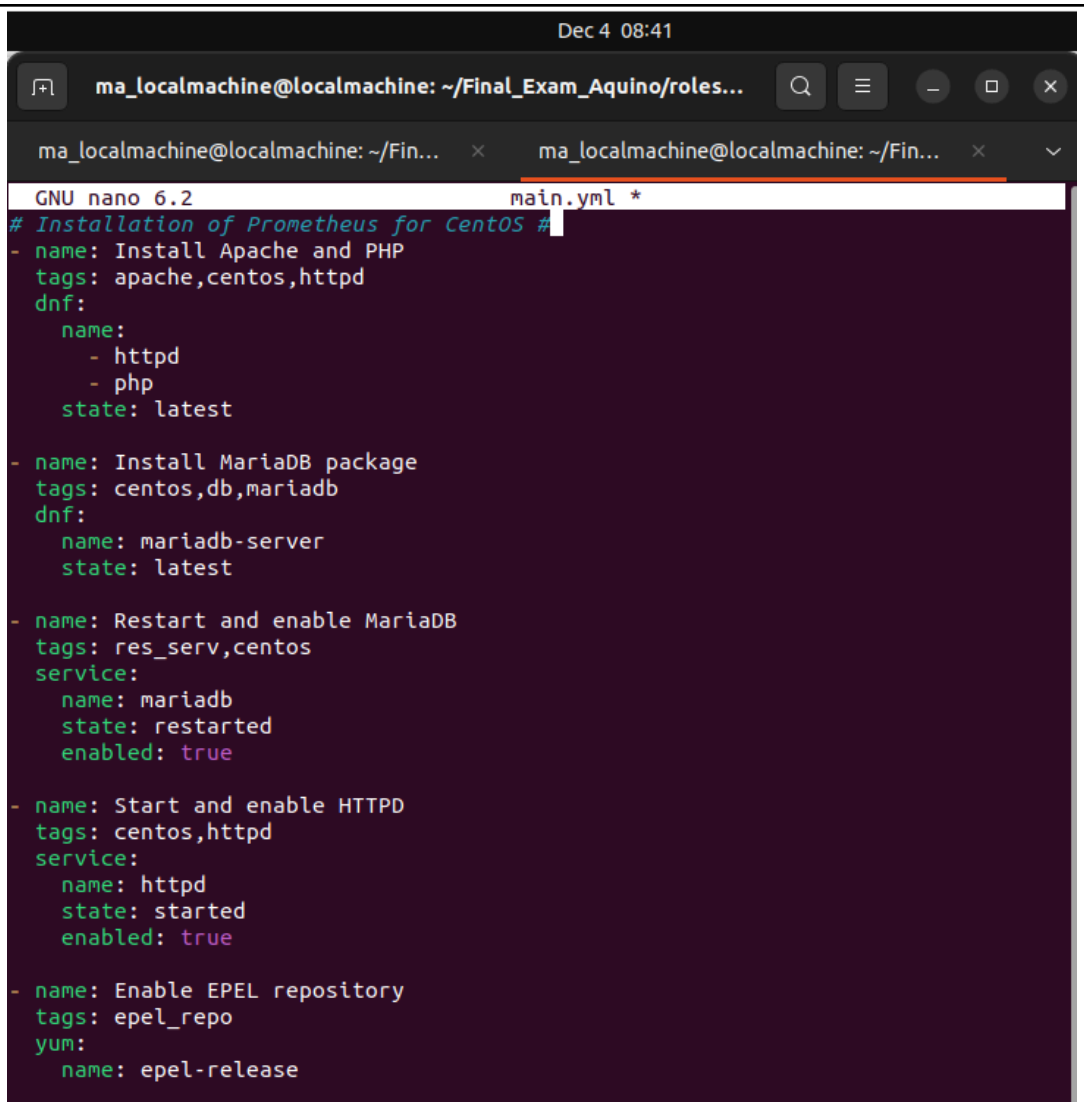

Figure 10: Creating main.yml for installation of Prometheus and required tasks for CentOS.

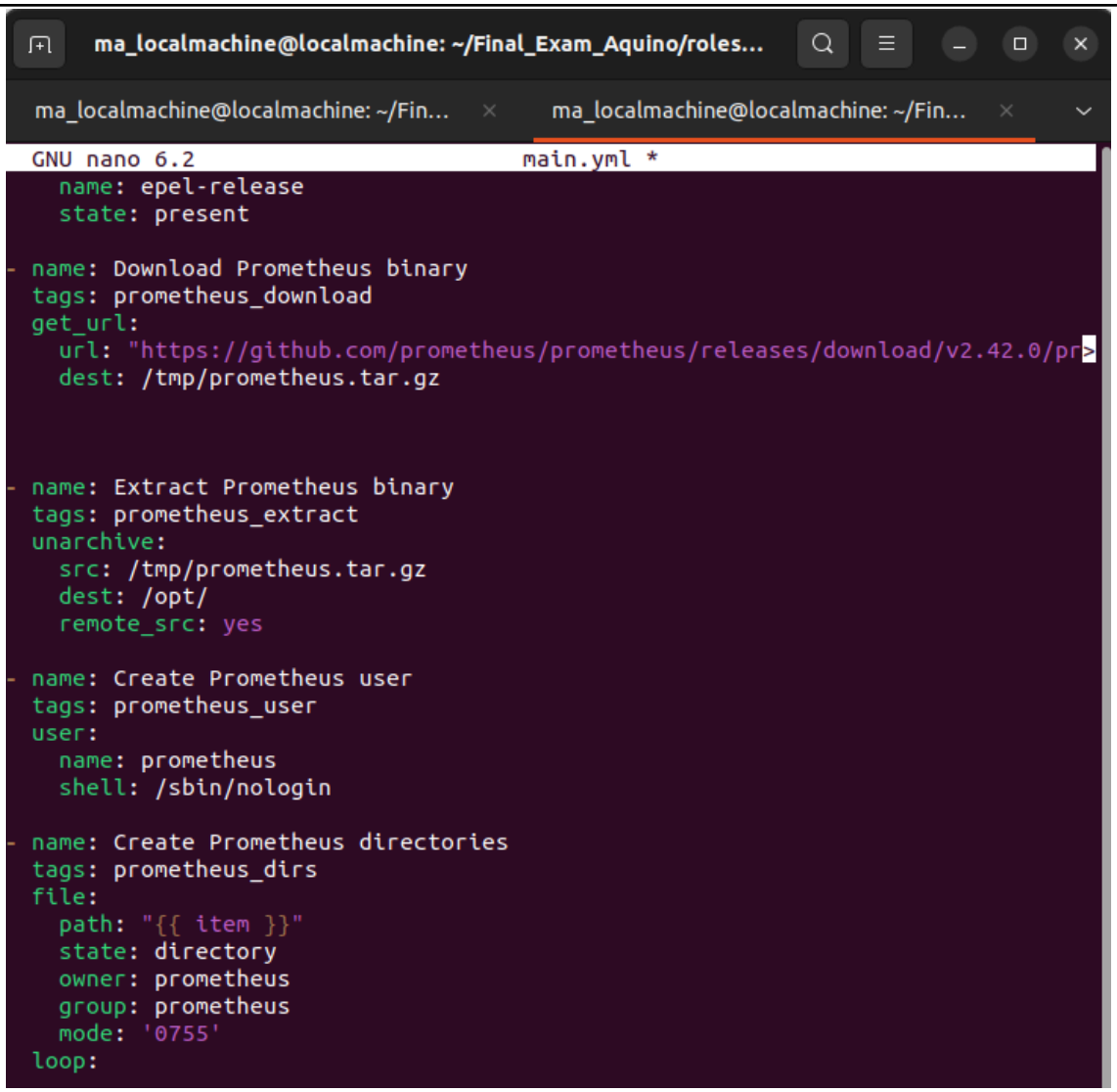

Figure 11: Creating main.yml for installation of Prometheus and required tasks for CentOS. (Part 2)

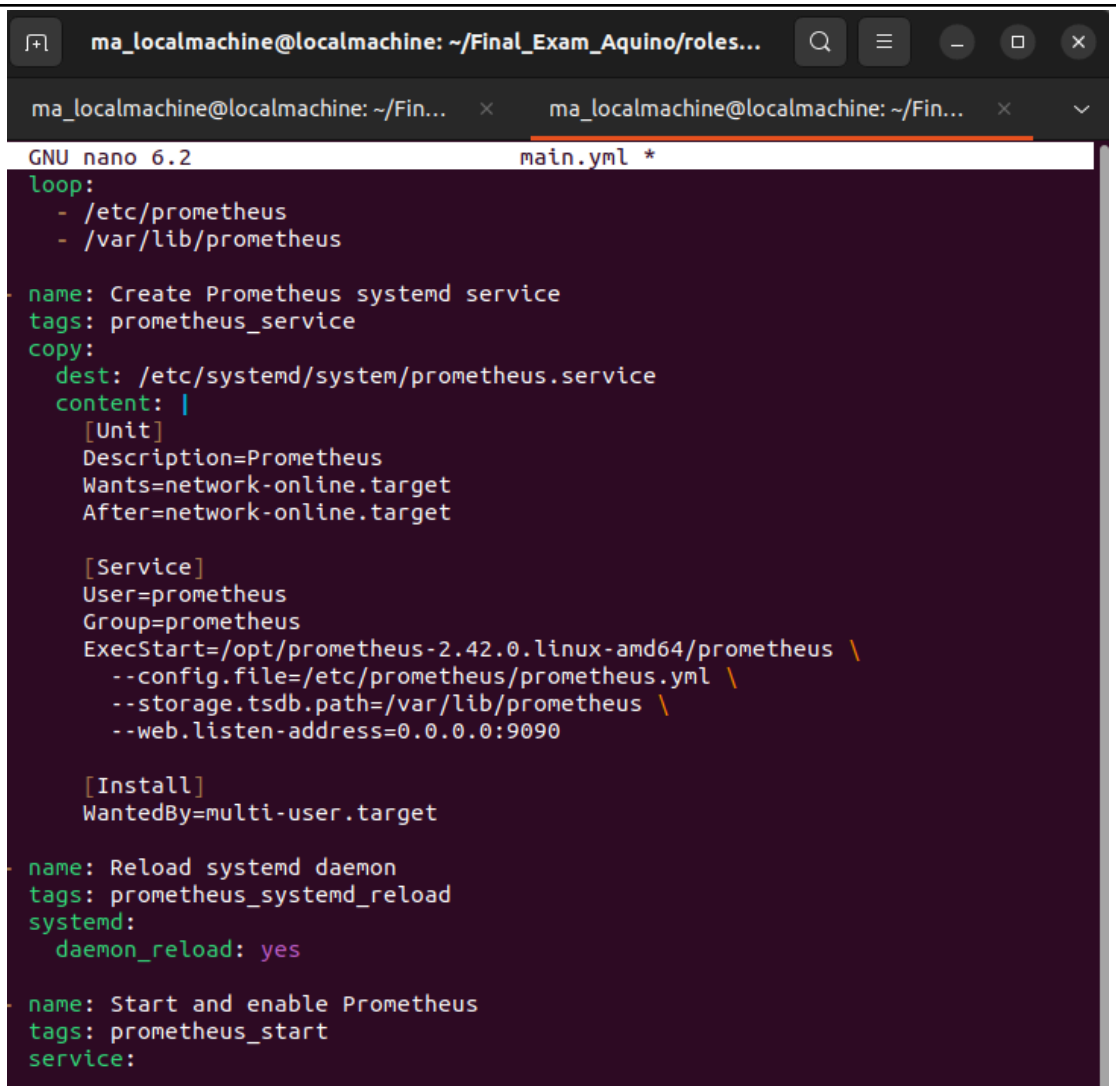

Figure 12: Creating main.yml for installation of Prometheus and required tasks for CentOS. (Part 3)

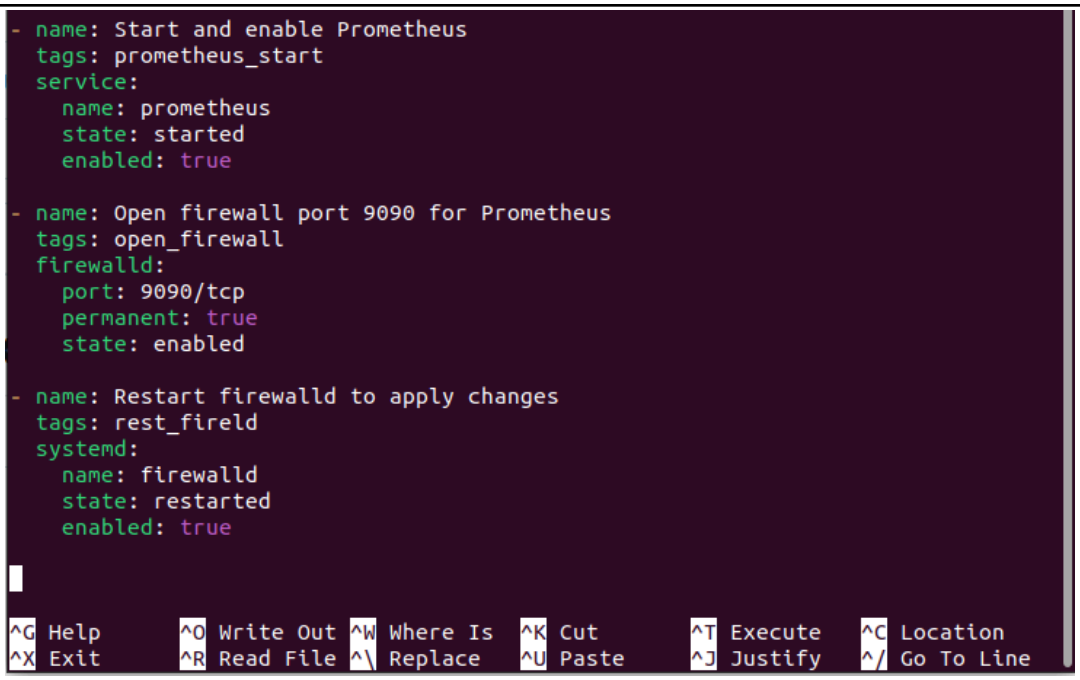

Figure 13: Creating main.yml for installation of Prometheus and required tasks for CentOS. (Last part)

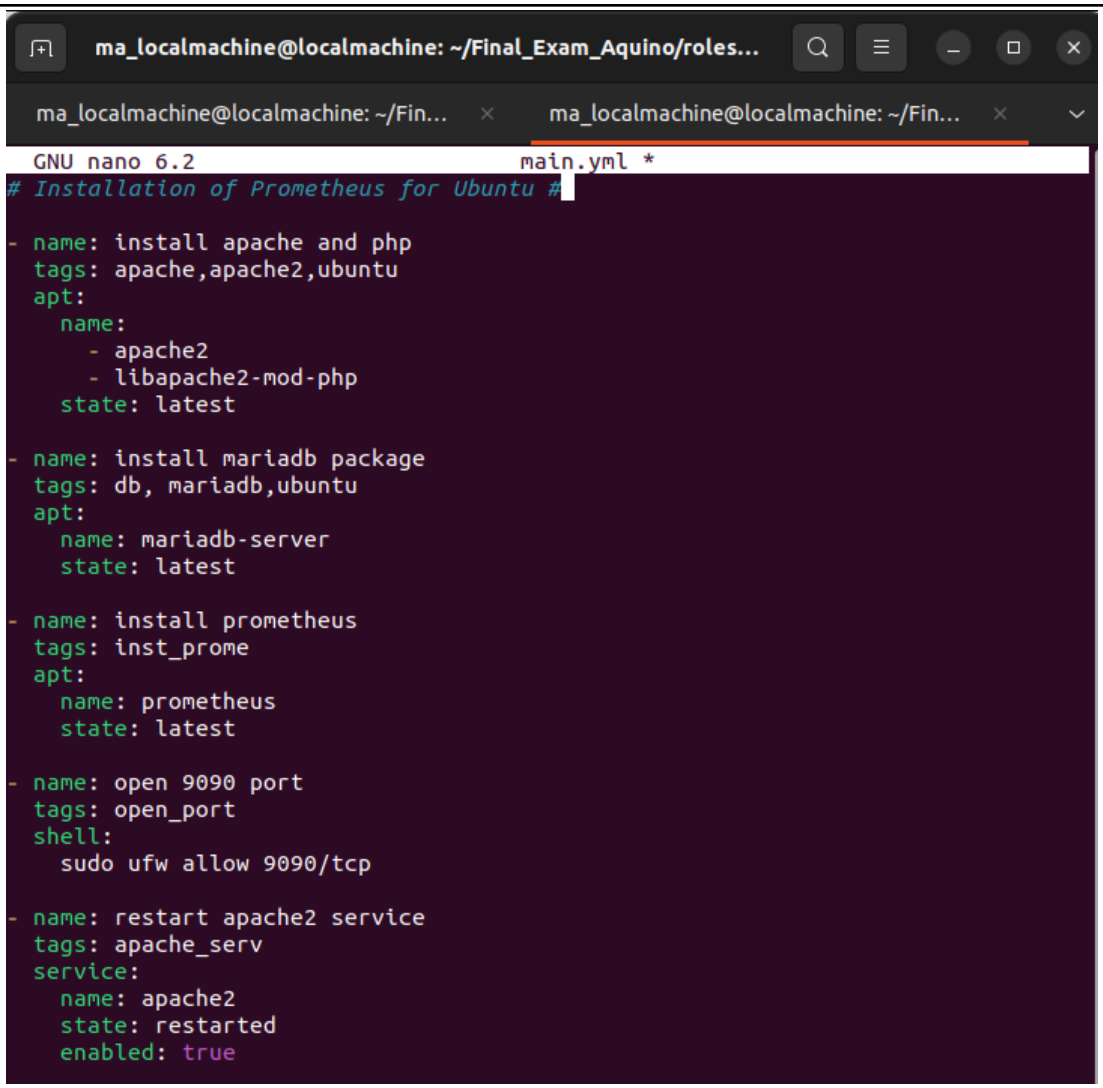

Figure 14: Creating main.yml for installation of Prometheus and required tasks for Ubuntu.

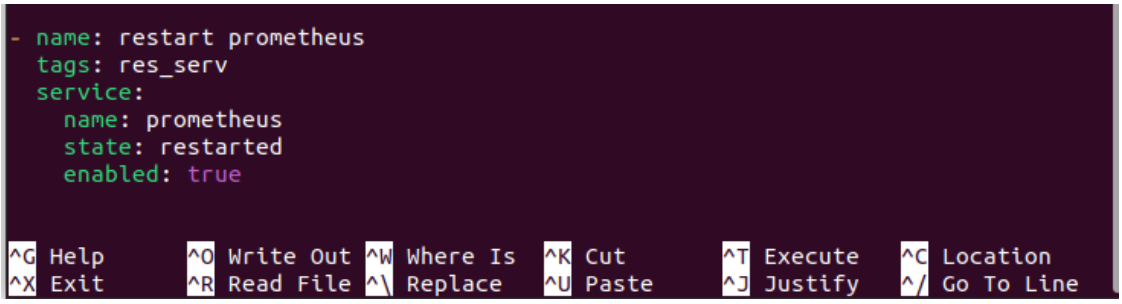

Figure 15: Creating main.yml for installation of Prometheus and required tasks for Ubuntu. (Last part)

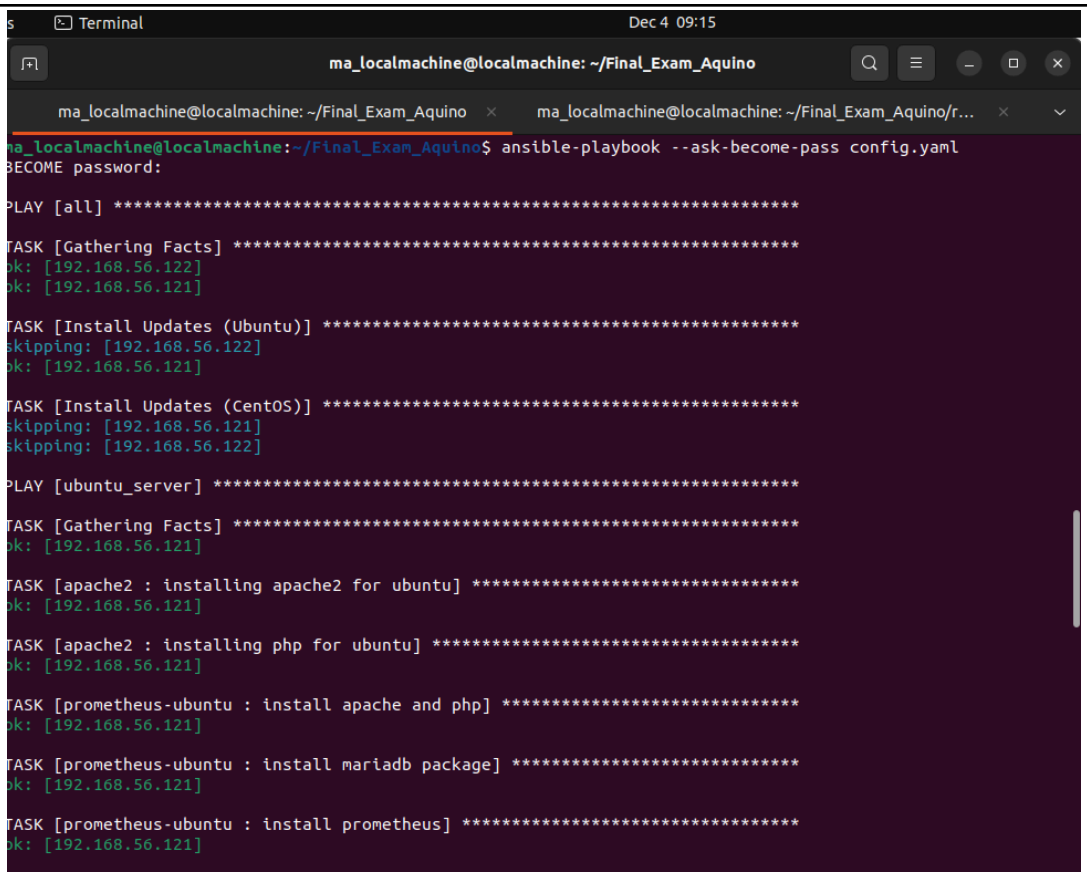

Figure 16 : Commanding “ansible-playbook –ask-become-pass config.yaml” to begin installation.

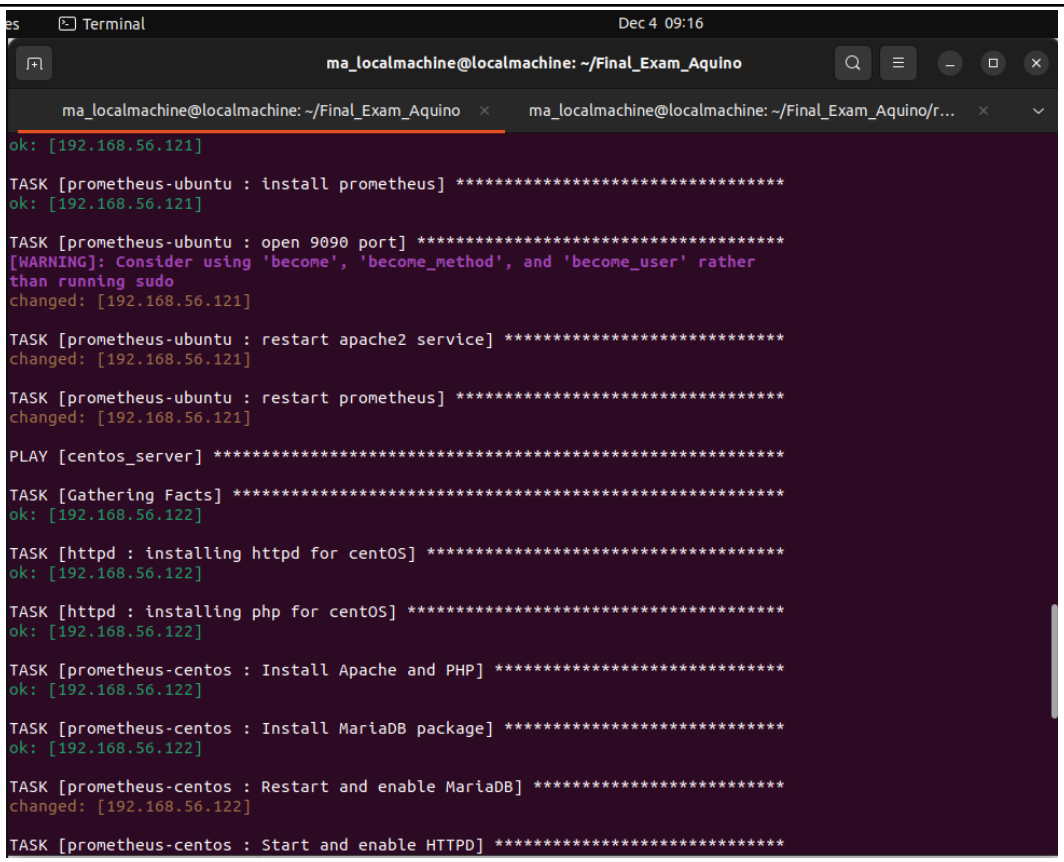

Figure 17 : Commanding “ansible-playbook –ask-become-pass config.yaml” to begin installation. (progress installation part 2)

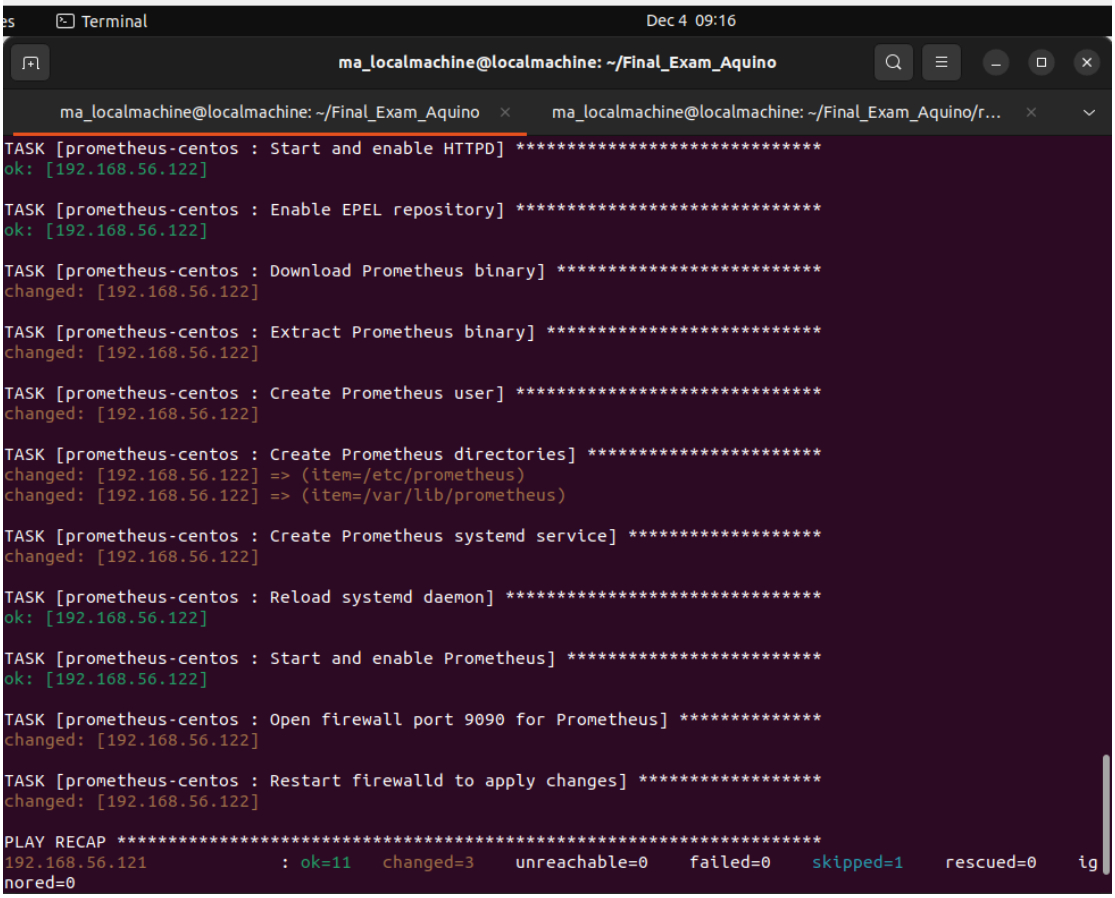

Figure 18 : Commanding “ansible-playbook –ask-become-pass config.yaml” to begin installation. (progress installation part 2)

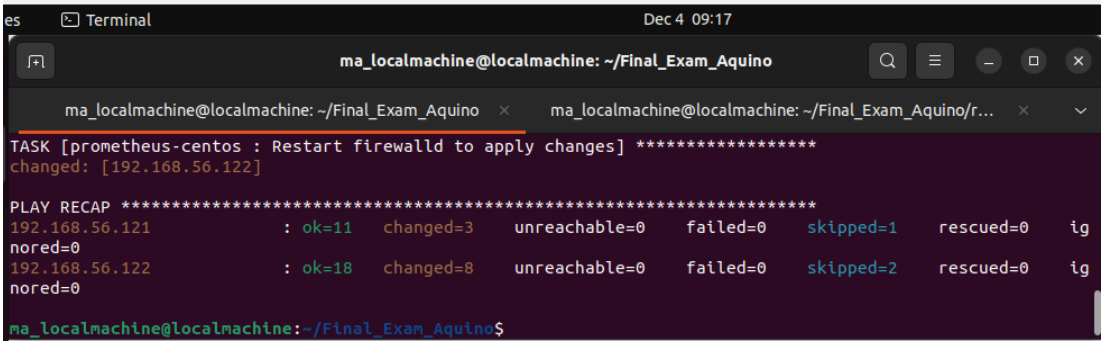

Figure 19 : Commanding “ansible-playbook –ask-become-pass config.yaml” to begin installation. (progress installation last part)

- The playbook successfully installed the required task for Ubuntu and CentOS. No errors was encountered that leads to 11 ok for Ubuntu and 18 ok for CentOS.

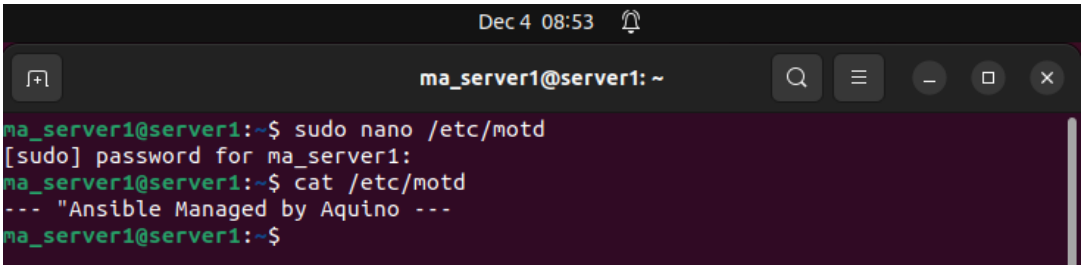

Figure 20 : Creating a Motd message " Ansible Manage by Aquino" on Ubuntu server.

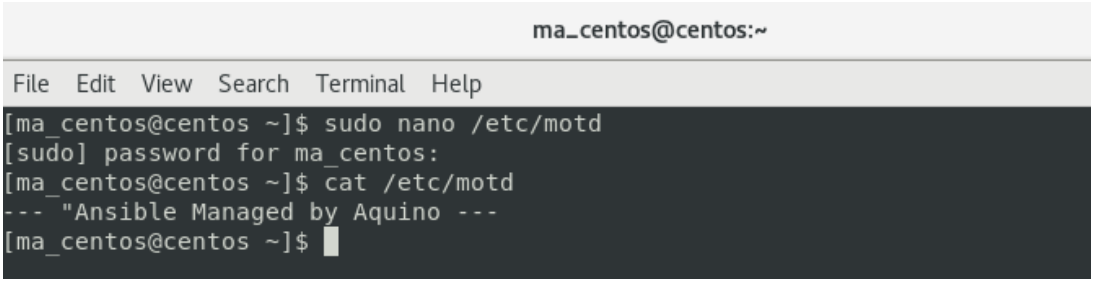

Figure 21 : Creating a Motd message " Ansible Manage by Aquino" on CentOS server.

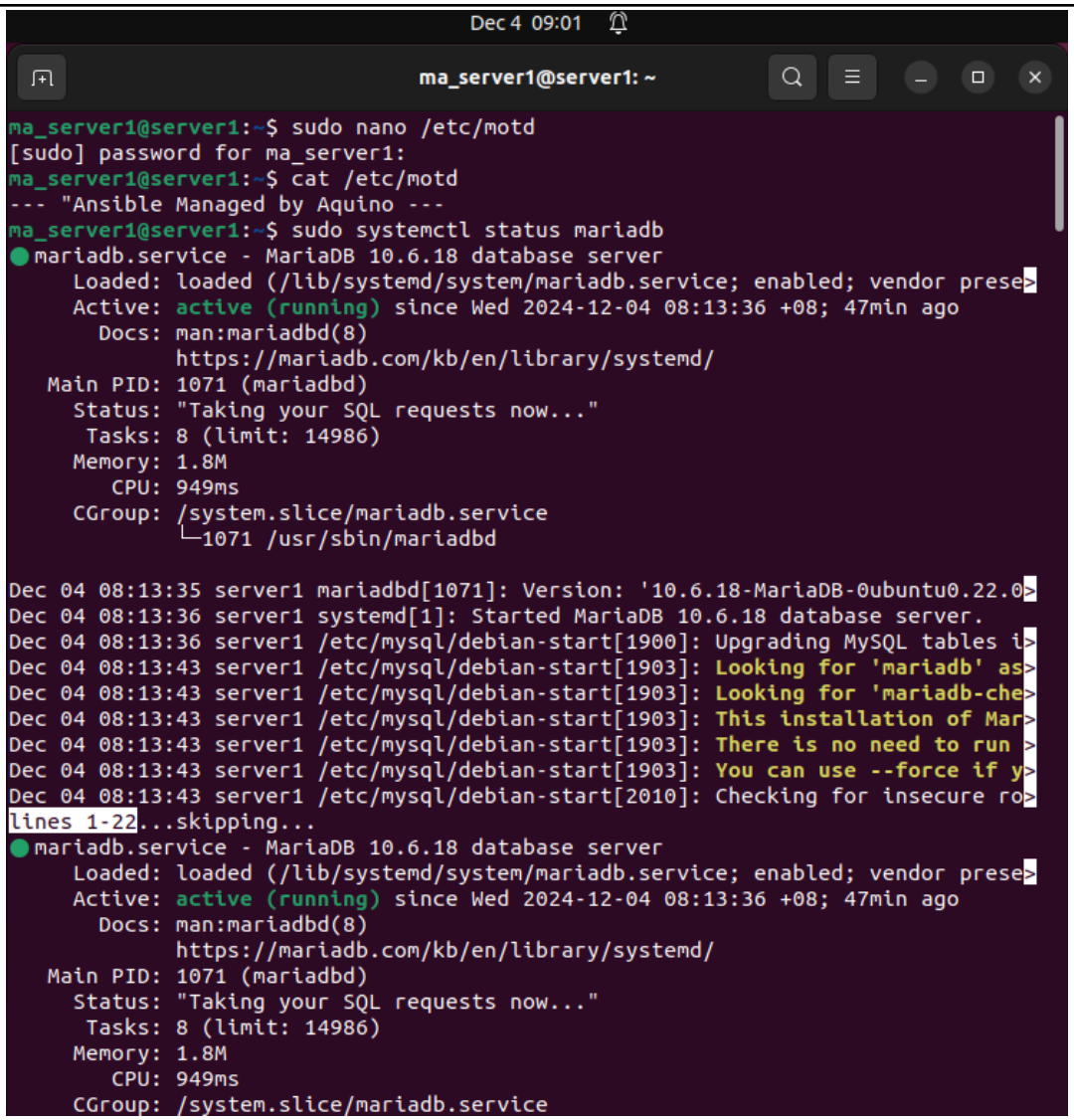

Figure 22 : Mariadb on Ubuntu Server 1.

- The Mariadb was actively running and successfully installed in ma_server1 Ubuntu.

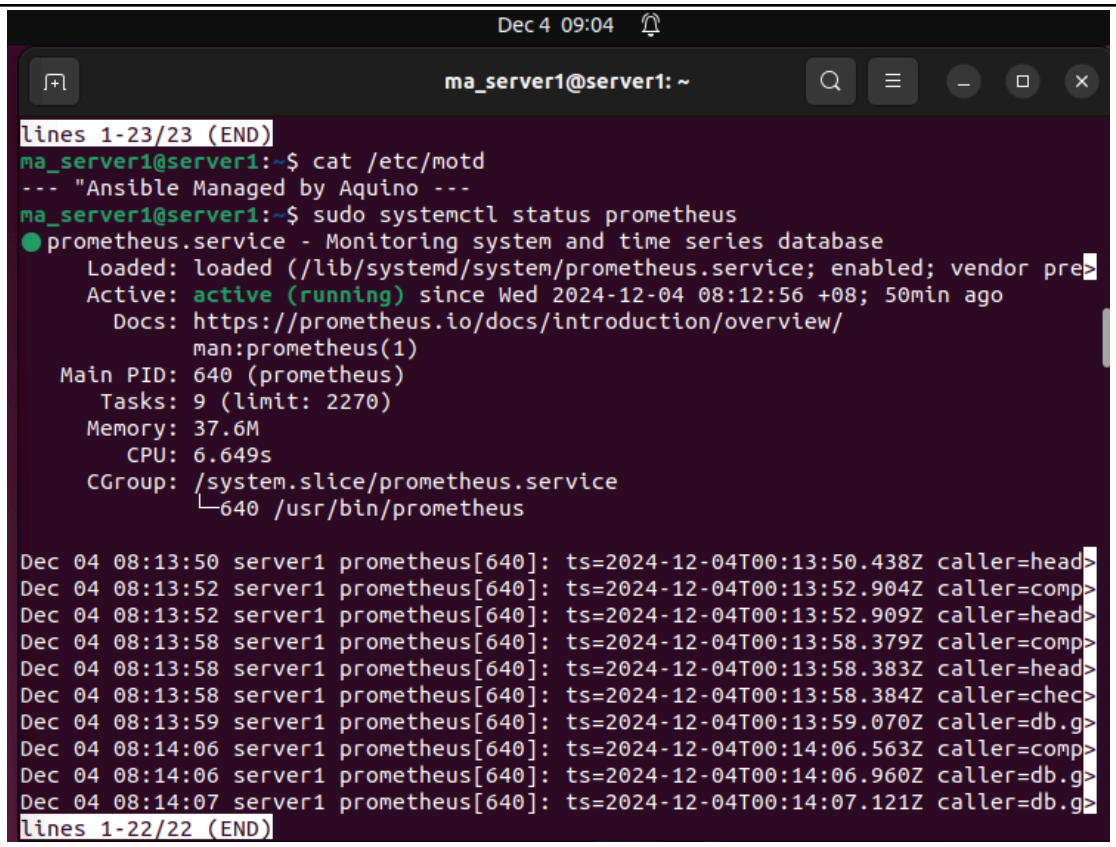

Figure 23 : Prometheus on Ubuntu Server 1.

- The Prometheus was actively running and successfully installed in ma_server1 Ubuntu.

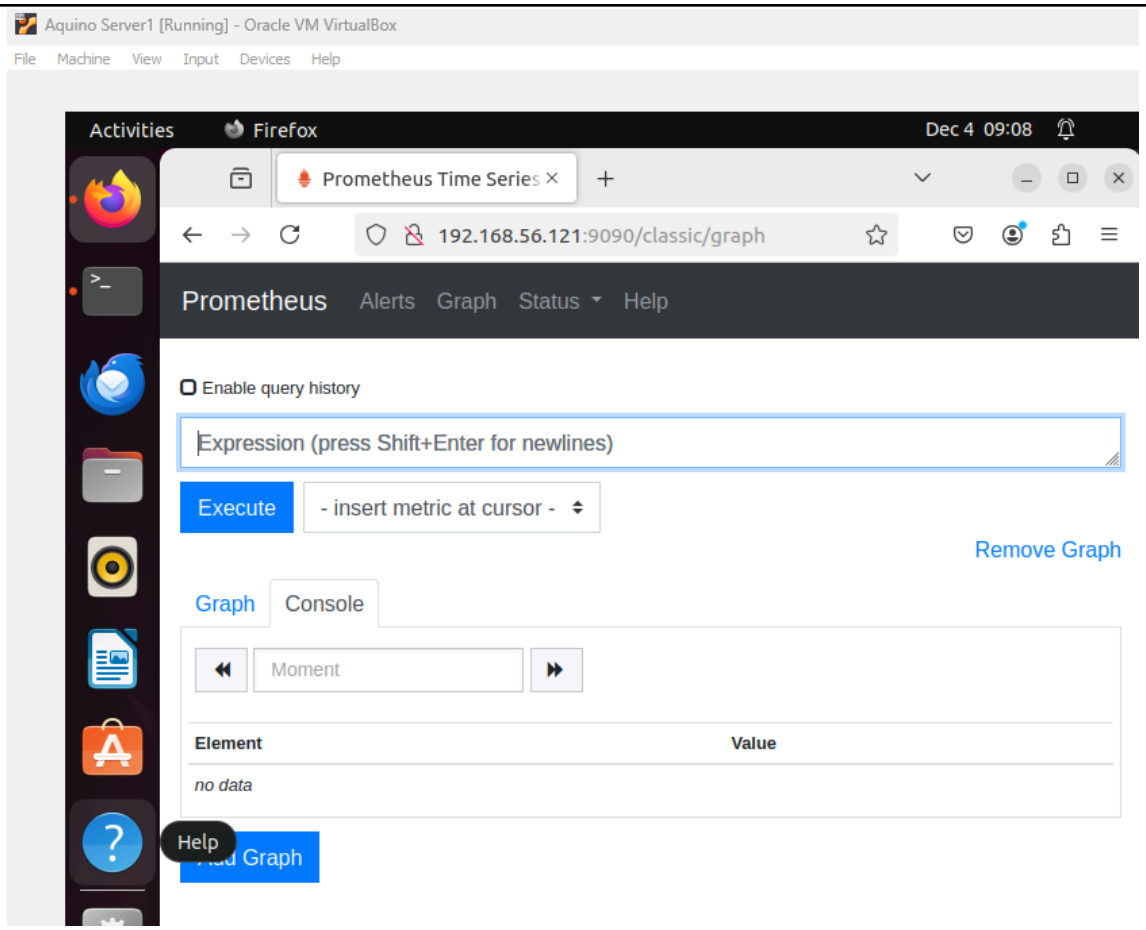

Figure 24 : Opening Prometheus on Server 1 Ubuntu browser.

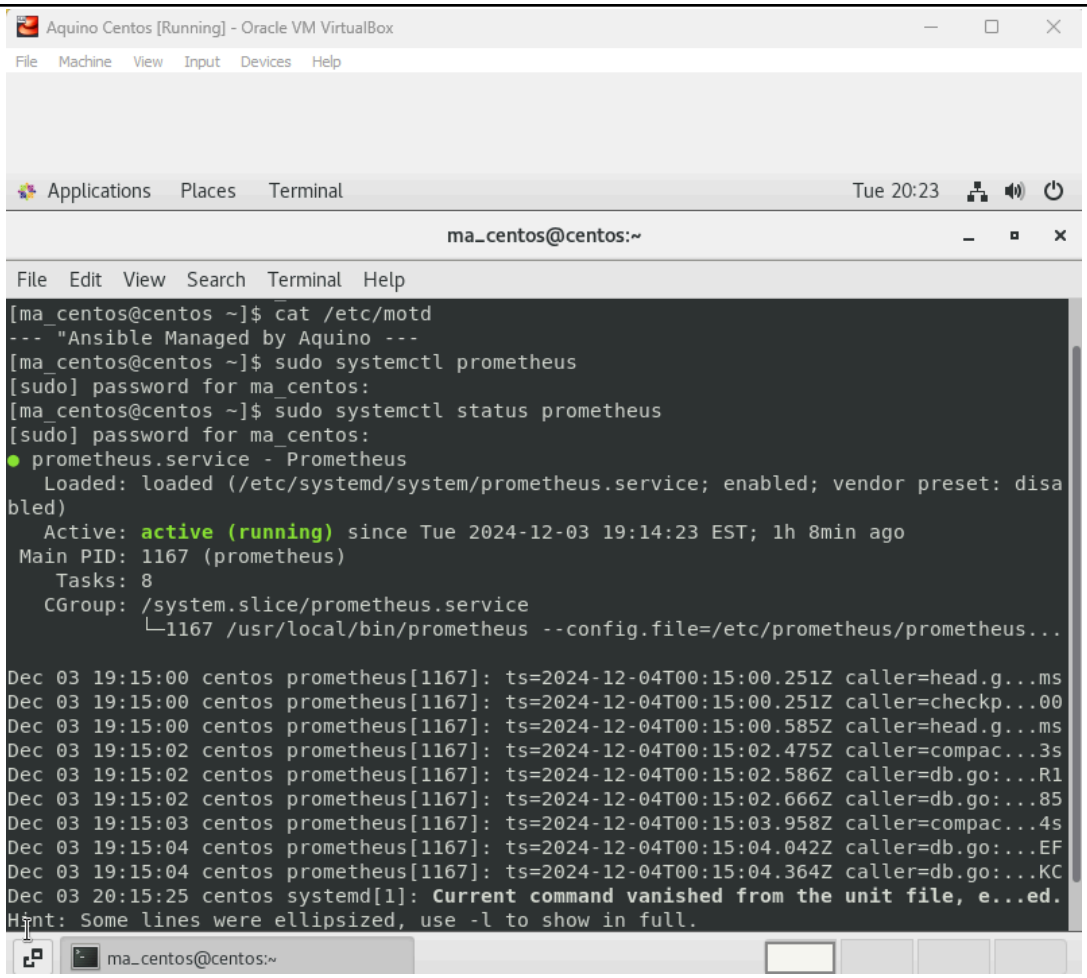

Figure 25 : Prometheus on CentOS.

- The Prometheus was actively running and successfully installed in ma_centos CentOS.

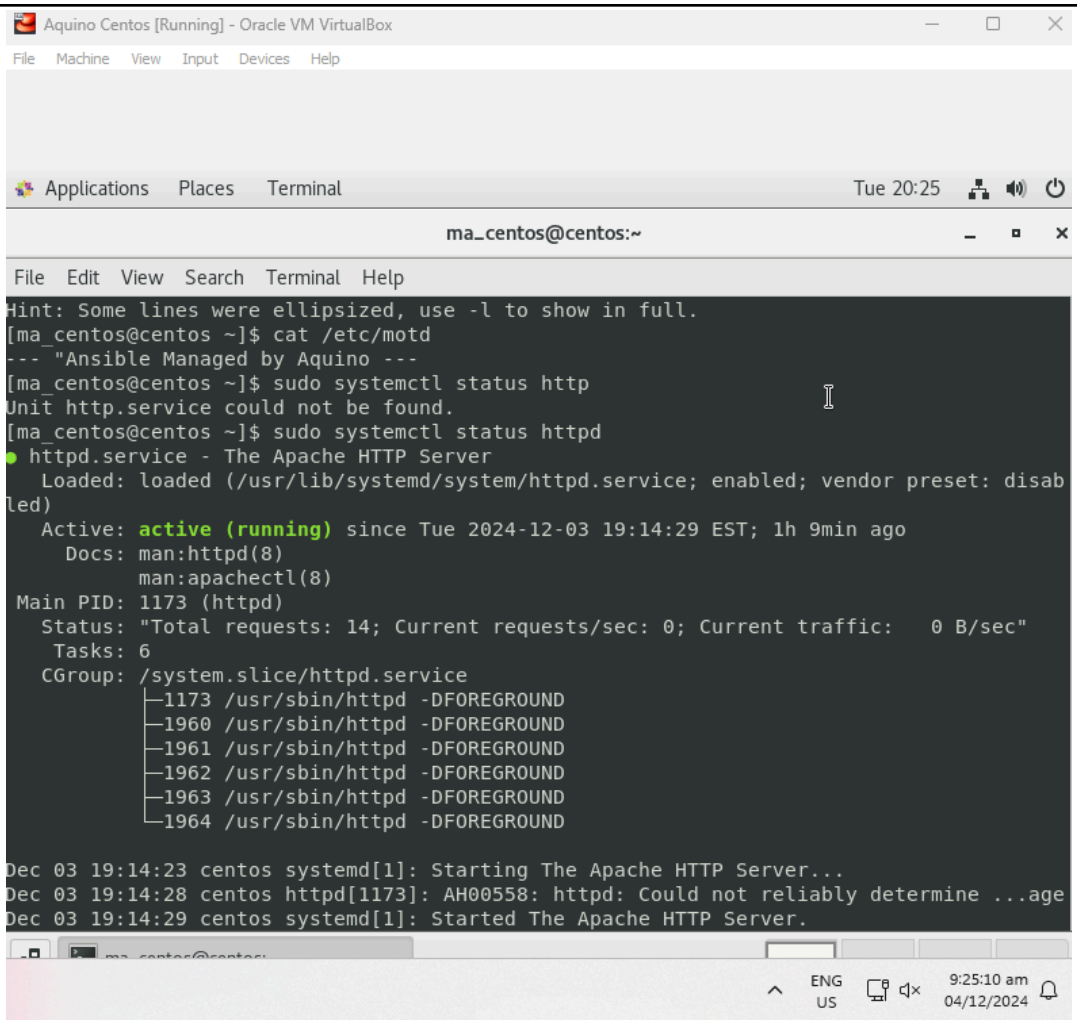

Figure 26 : Httpd on CentOS.

- The Httpd was actively running and successfully installed in ma_centos CentOS.

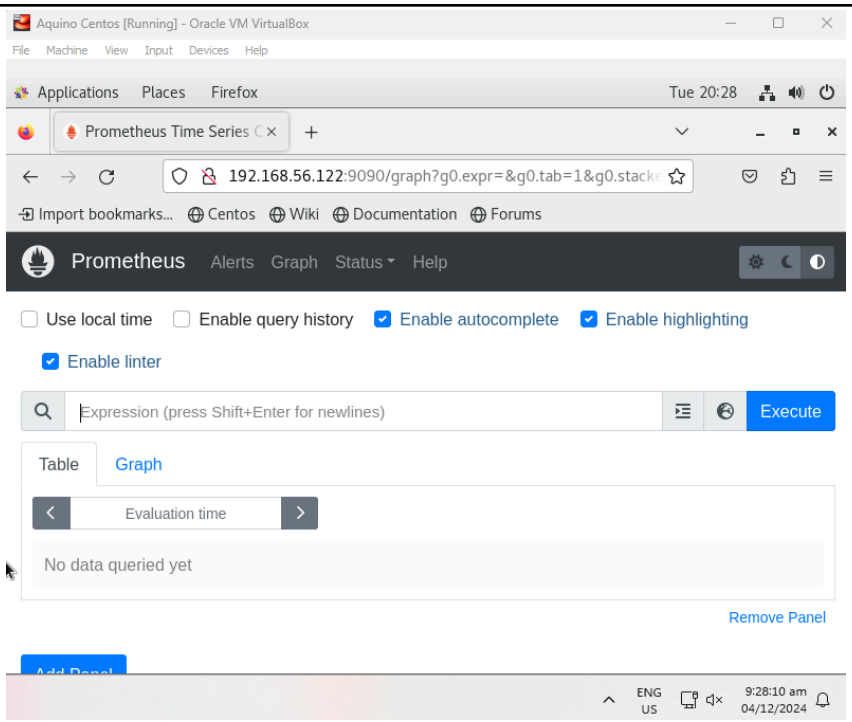

Figure 27 : Opening Prometheus on CentOS browser.

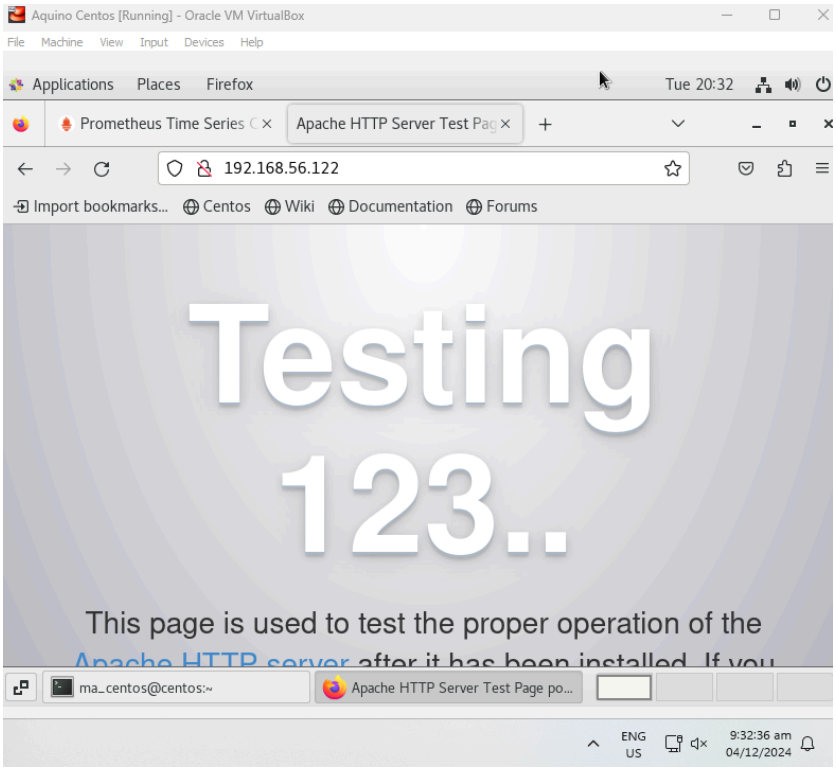

Figure 28 : Testing Httpd on CentOS browser.

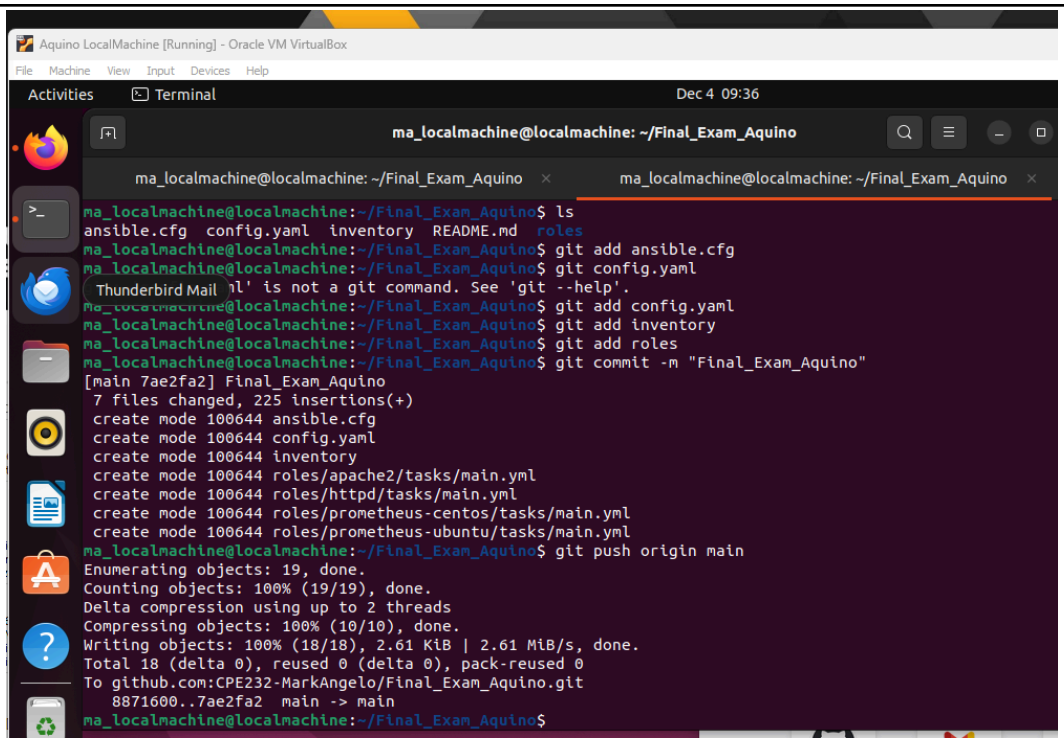

Figure 29 : Adding, committing, and pushing all directories and files on **CPE232-MarkAngelo** GitHub account.

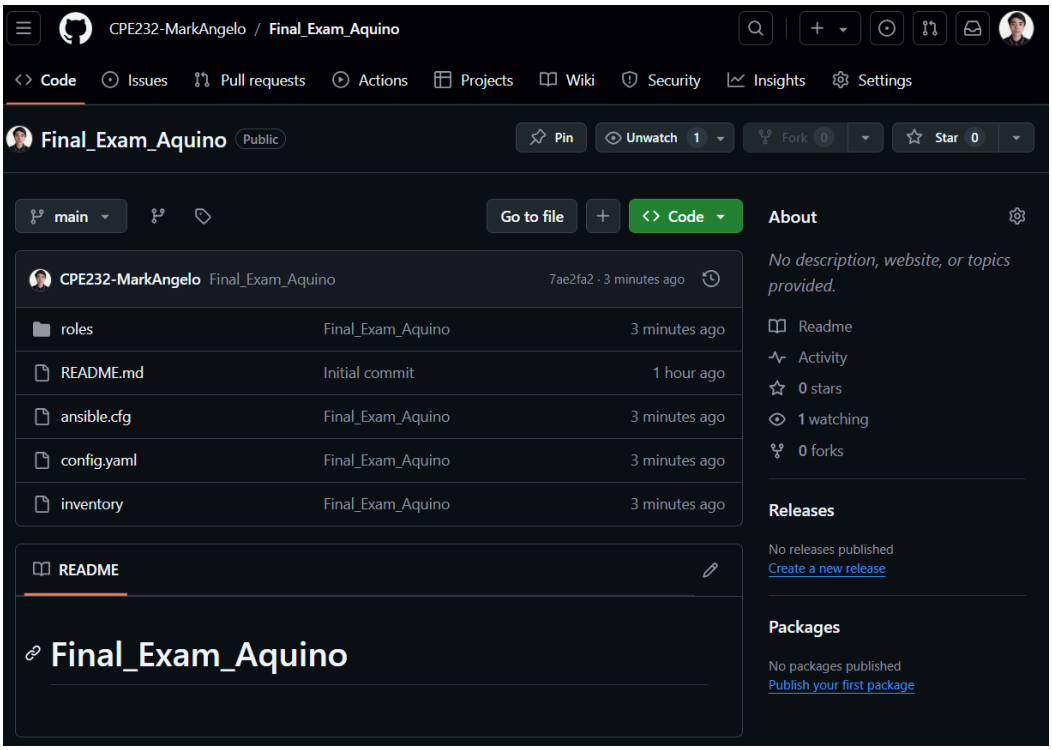

Figure 30 : Final_Exam_Aquino repository was updated.

Conclusion:

Reflections:

In this Final Exam, I have used MariaDB and Prometheus installation for Ubuntu server which is my ma_server1. For ma_centos of my CentOS server, Httpd and Prometheus were installed. I conclude that I have successfully accomplished the given tasks that were given to us. I have used roles for installation so it will be more manageable to configure and to easily approach whenever some errors happen. In this Final Exam, I have applied all my knowledge that I have remembered during the previous lessons that we have discussed. Implementing an ansible playbook is important to apply especially when installing different applications in many servers. This helps to be more flexible in managing softwares and debugging possible problems that occur. Finally, I have successfully push my updated repository on my GitHub account **CPE232-MarkAngelo**