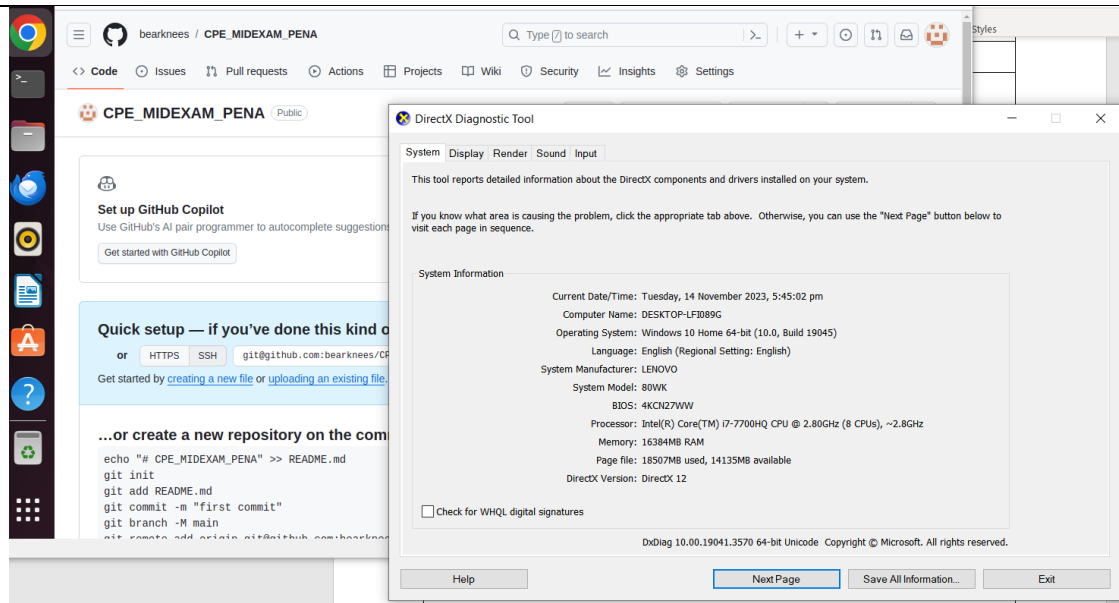
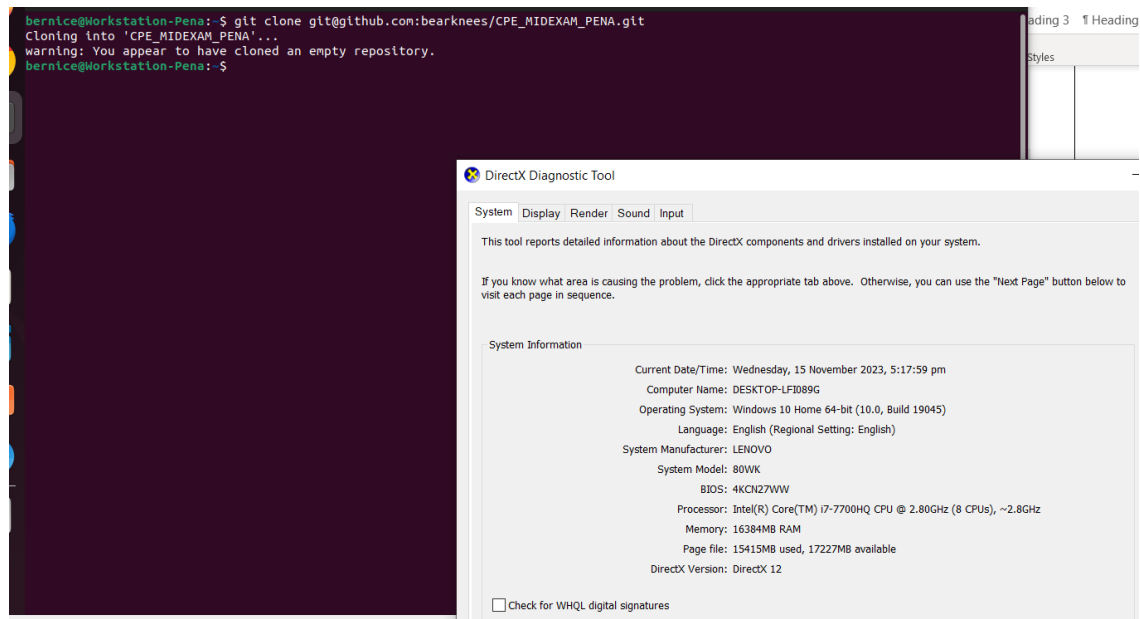


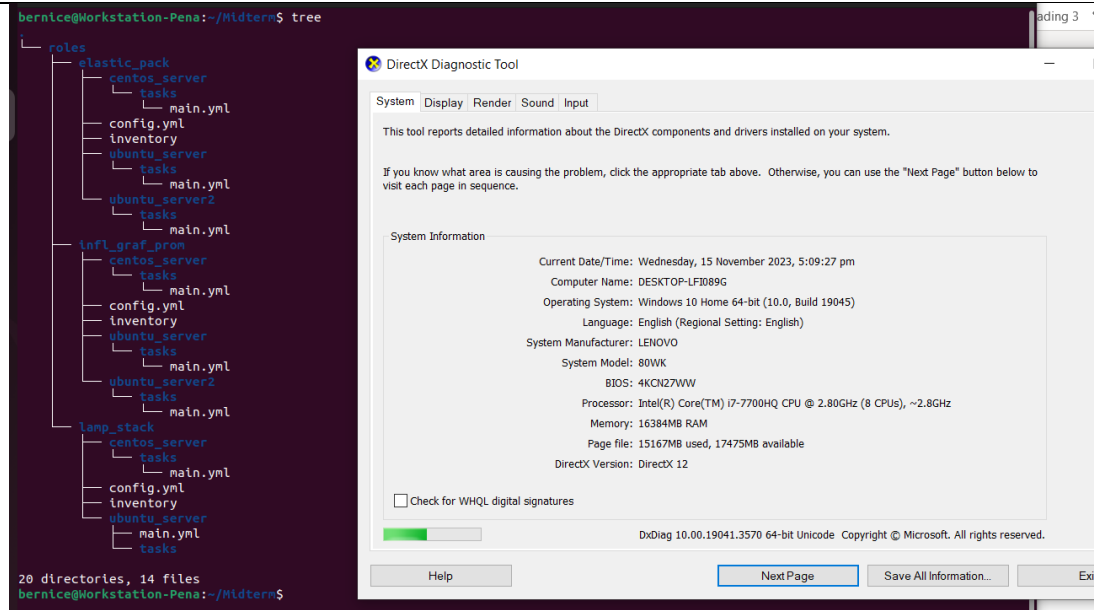
Name: Bernice M. Peña	Date Performed: 11/14/2023
Course/Section: Managing Enterprise Servers / CPE31S5	Date Submitted: 11/15/2023
Instructor: Engr. Roman Richard	Semester and SY: 1 st , S.Y. 2023-2024
Midterm Skills Exam: Install, Configure, and Manage Log Monitoring tools	
1. Objectives	
Create and design a workflow that installs, configure and manage enterprise availability, performance and log monitoring tools using Ansible as an Infrastructure as Code (IaC) tool.	
2. Instructions	
<ol style="list-style-type: none"> 1. Create a repository in your GitHub account and label it CPE_MIDEXAM_SURNAME. 2. Clone the repository and do the following: <ol style="list-style-type: none"> 2.1. Create an Ansible playbook that does the following with an input of a config.yaml file and arranged Inventory file: 2.2. Install and configure Elastic Stack in separate hosts (Elastic Search, Kibana, Logstash) • Install Nagios in one host 2.3. Install Grafana,Prometheus and Influxdb in seperate hosts (Influxdb,Grafana,Prometheus) 2.4. Install Lamp Stack in separate hosts (Httpd + Php,Mariadb) 3. Document all your tasks using this document. Provide proofs of all the ansible playbooks codes and successful installations. 4. Document the push and commit from the local repository to GitHub. 5. Finally, paste also the link of your GitHub repository in the documentation. 	
3. Output (screenshots and explanations)	



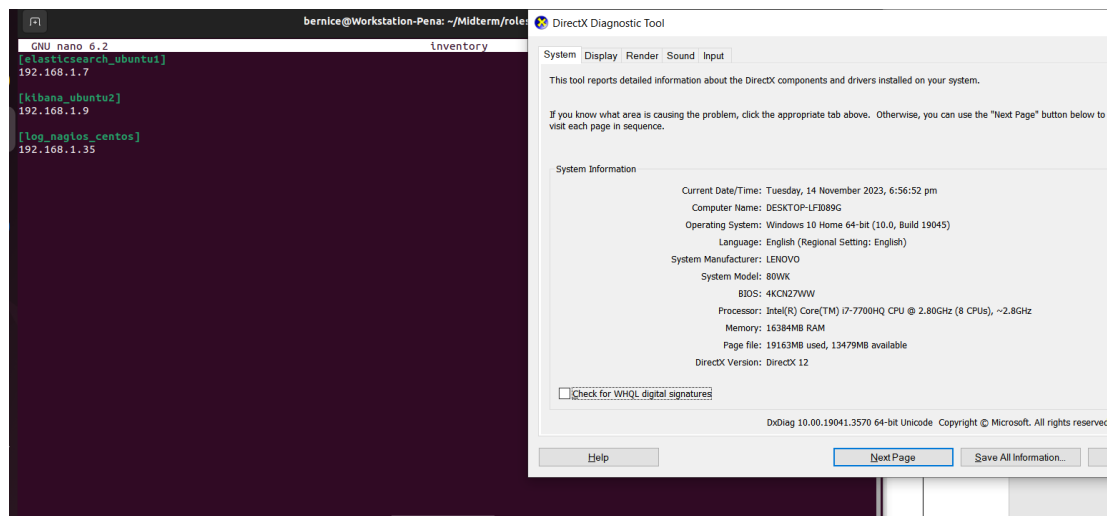
This is my newly created GitHub repository named CPE_MIDEXAM_PENA



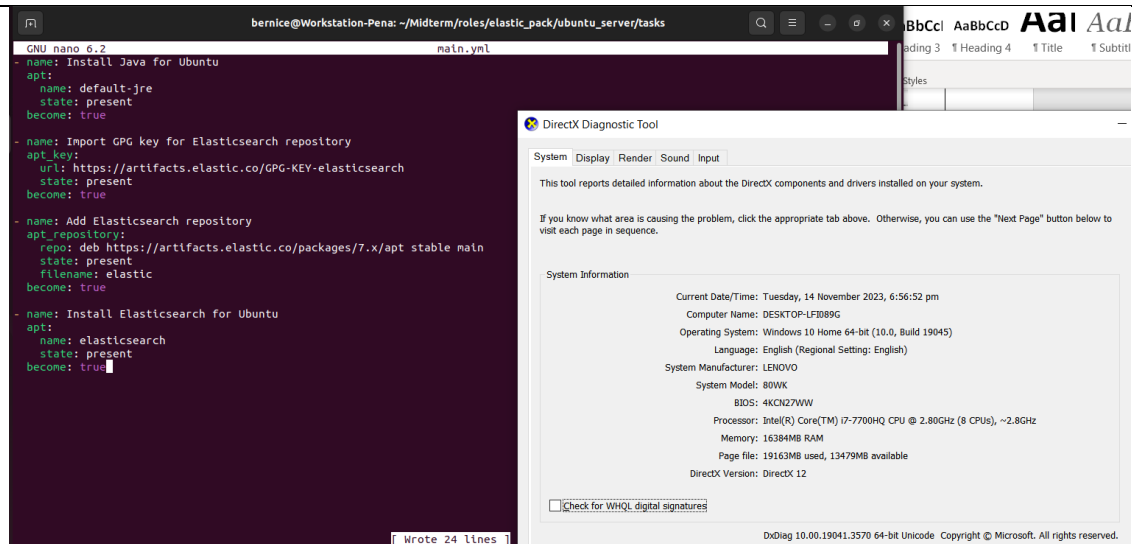
Then I used the clone command in order to clone it and have it on my ubuntu desktop



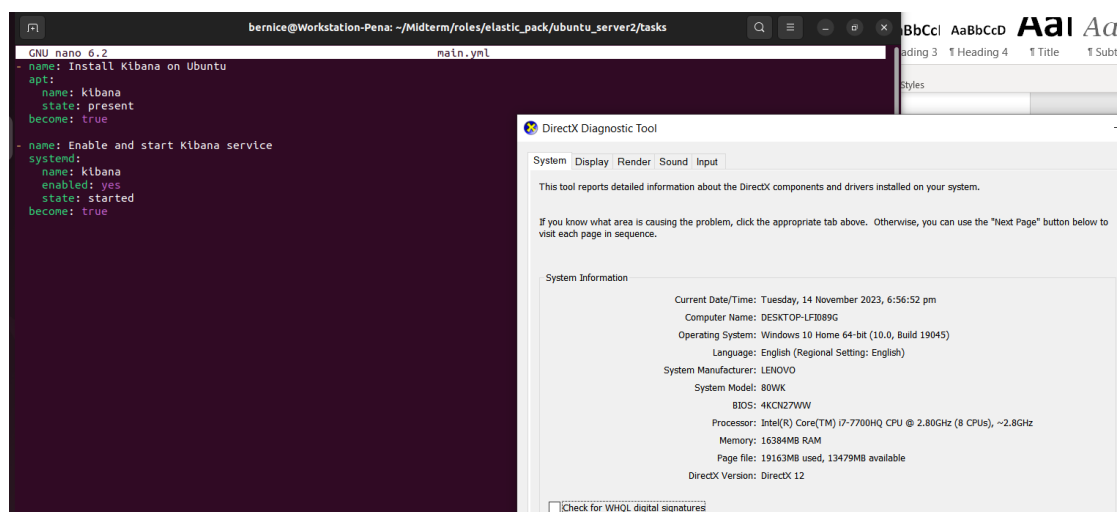
I created the necessary yml files, directories and config.yml that will be used for the installation of the required tools. The inventory will be used to identify which servers will be used for installing the required tools.



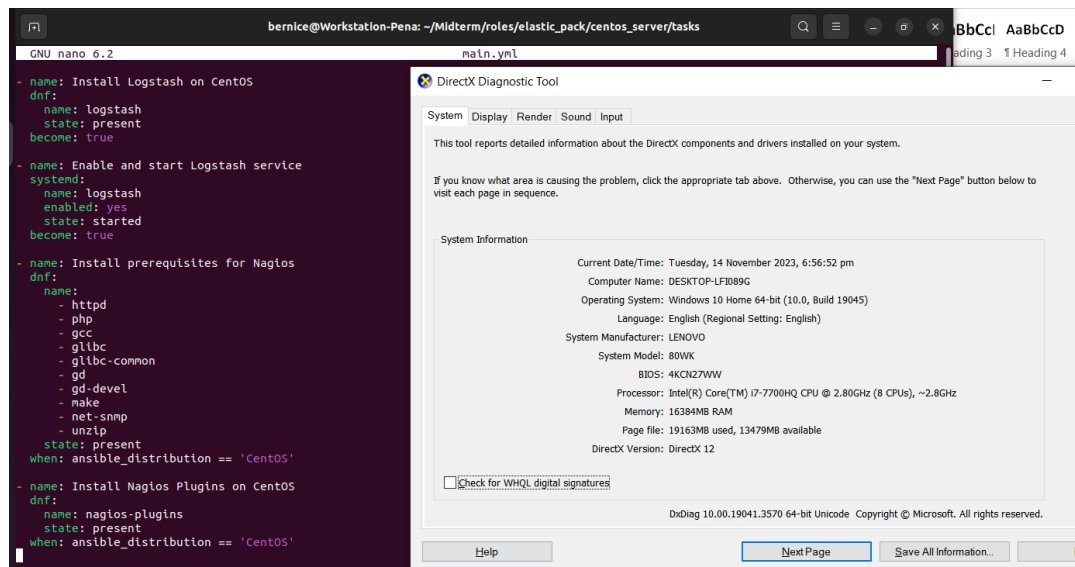
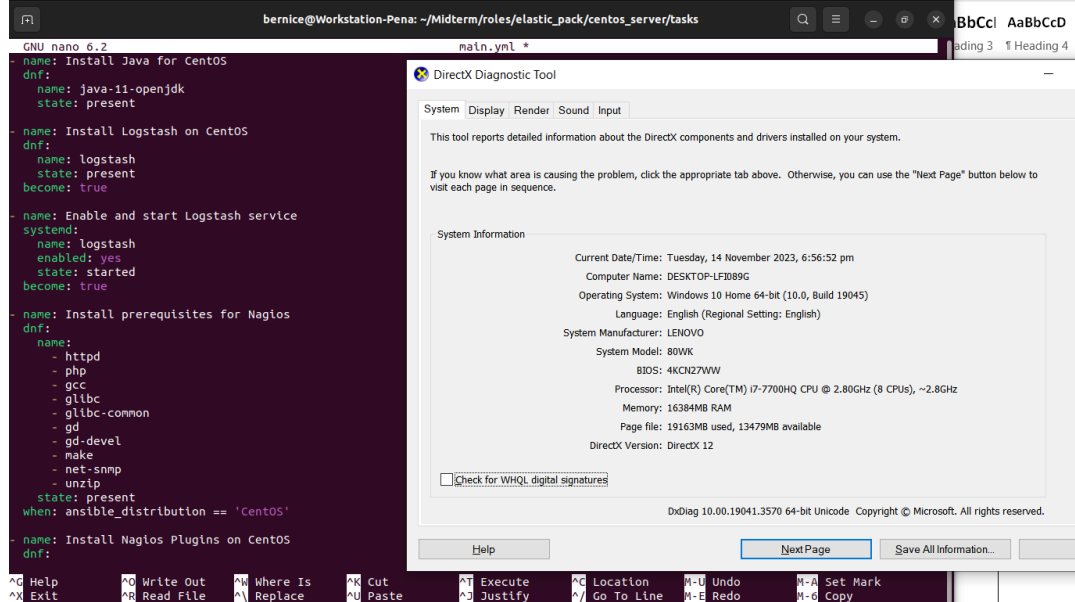
Then I created an inventory to note the ip of the servers that I'll be using for elastic search tools.



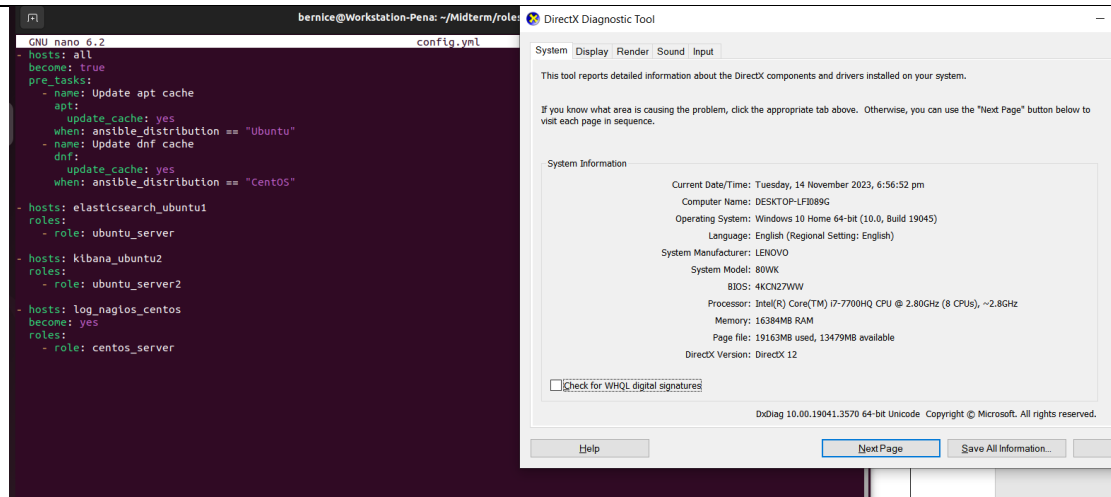
This is where I created main.yml file inside my elastic_pack/ubuntu_server/tasks, the screenshot shown above is the code for the installation of my elastic search.



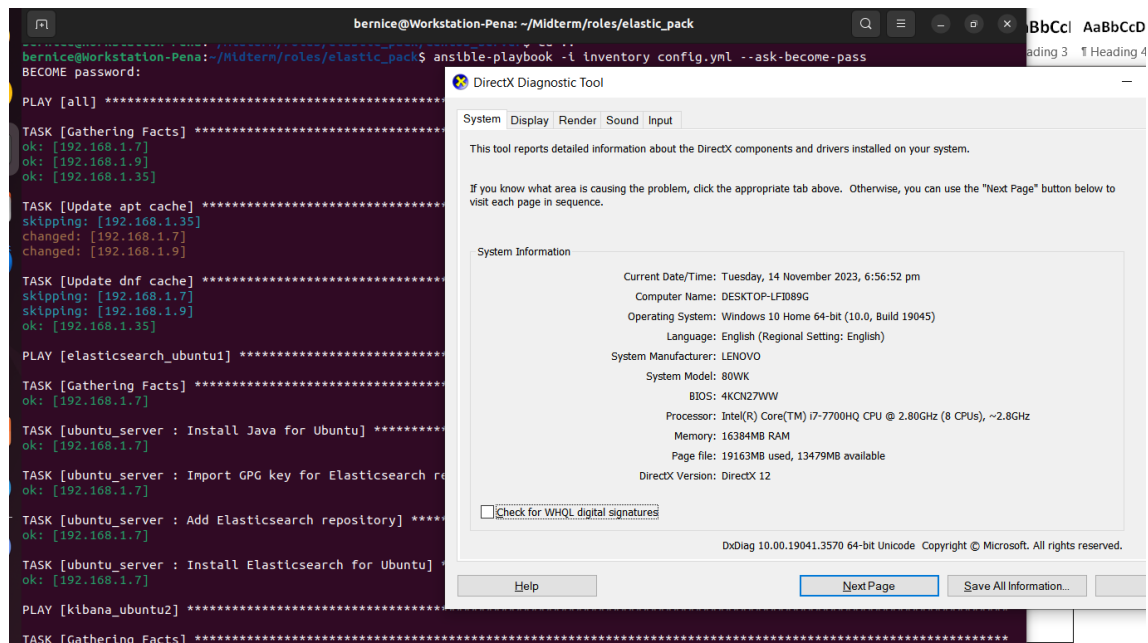
And this is my code for the installation of Kibana on my ubuntu_server2.

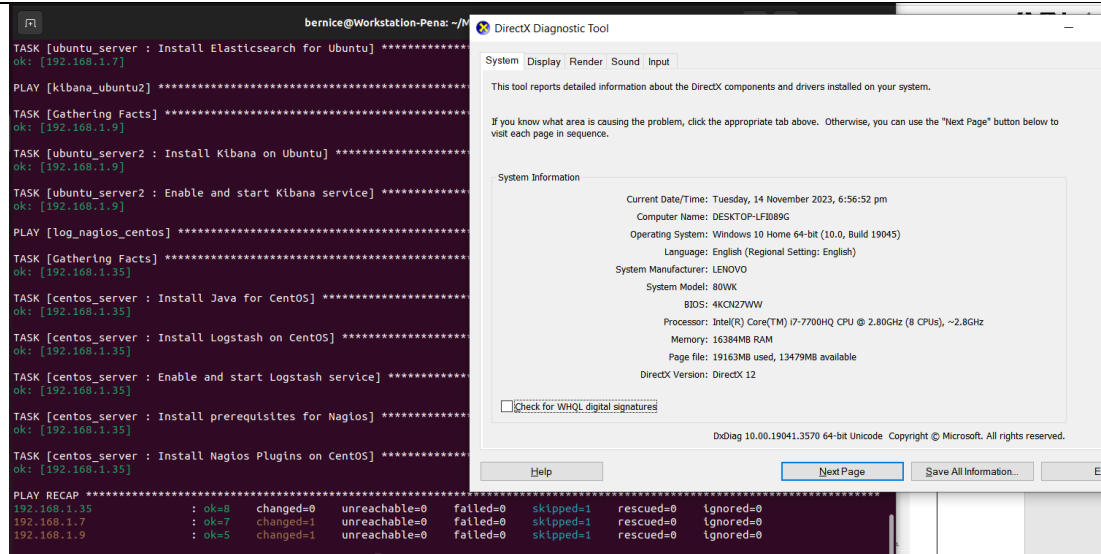


This is what I have in my main.yml of my centos_server, this is for the installation of Logstash and Nagios on my centos_server.

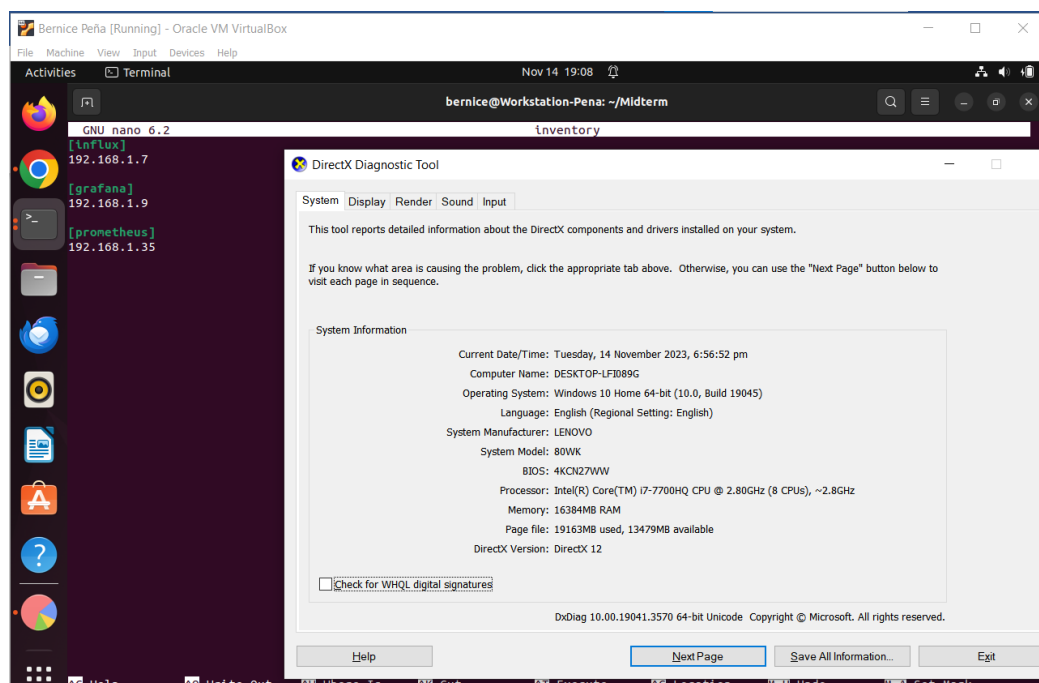


Then I created a `config.yml` file. This is where I used the `roles` command to call the tasks inside my `main.yml` files (for `ubuntu_server`, `ubuntu_server2`, and `centos_server`).

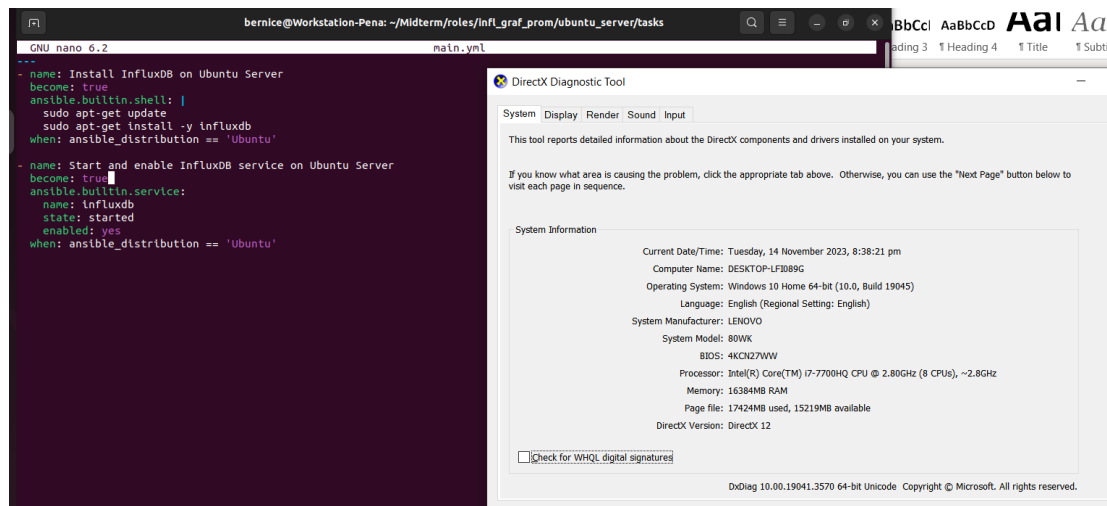




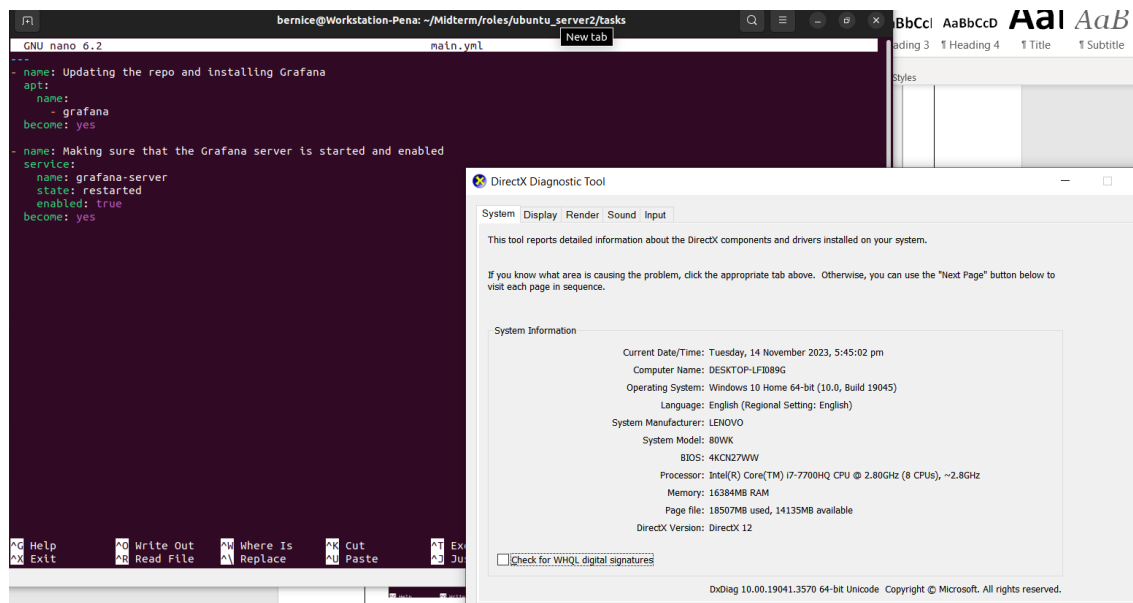
After running the config.yml, the result shows that the changes have been made including the installation of Elastic search, Kibana, and Logstash on my ubuntu servers and centos server.



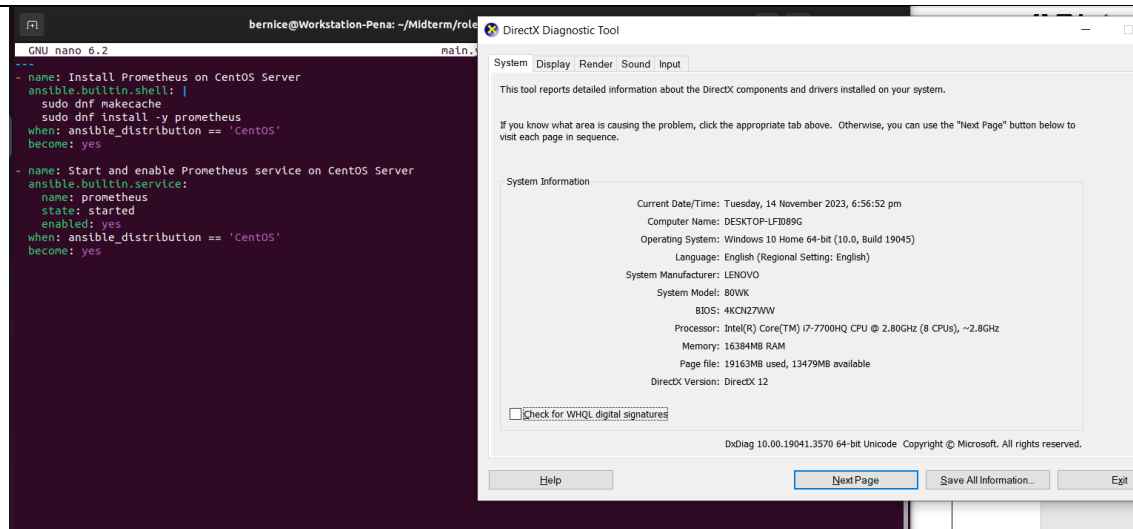
Then I proceeded with installing InfluxDB, Grafana, and prometheus. This is what I have in my inventory.yml, I'll be using my ubuntu server 2 (influx), 3 (grafana), and my centos server (prometheus).



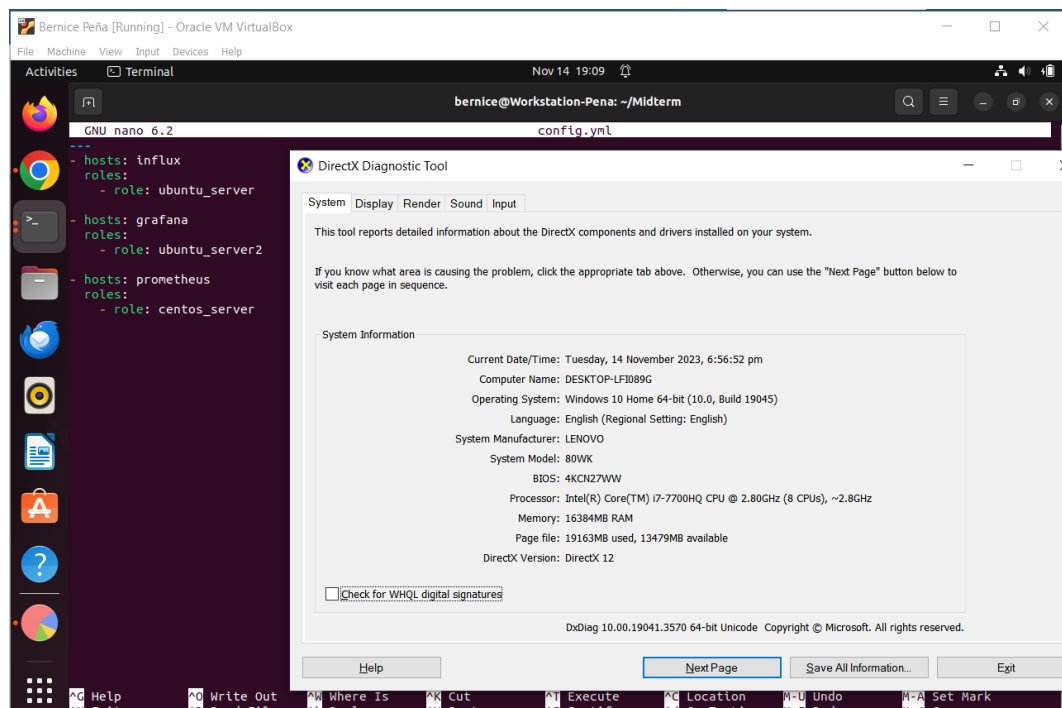
This is what I have in my `ubuntu_server/tasks/main.yml`, this code is for the installation of InfluxDB.



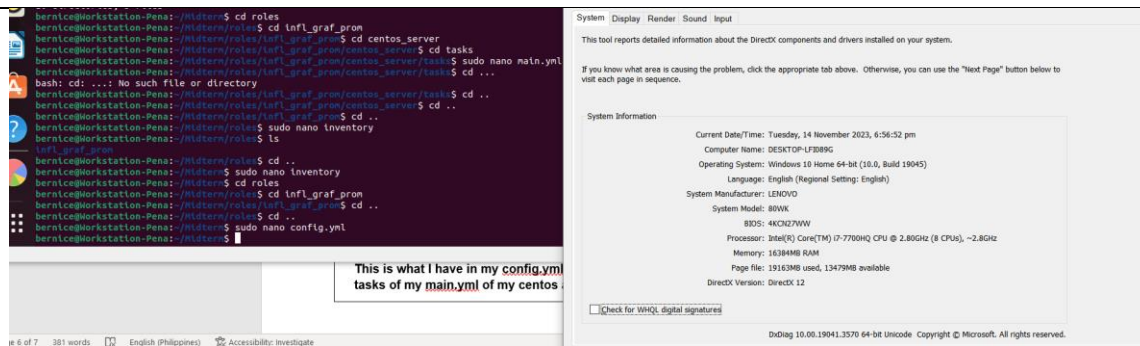
Then I also created codes for the installation of Grafana inside my `ubuntu_server2/tasks/main.yml`.



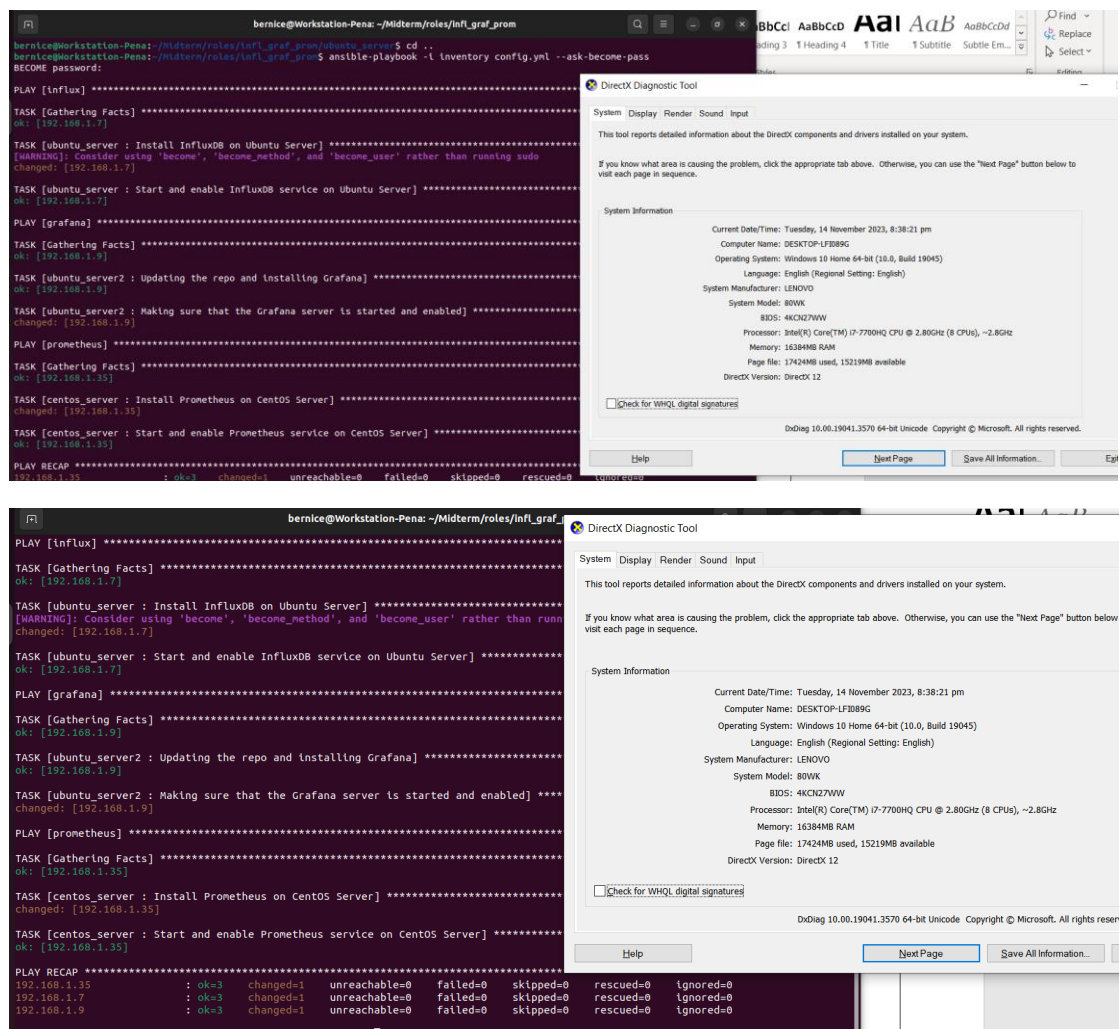
The screenshots shown above is for the installation of prometheus on my centos_server.



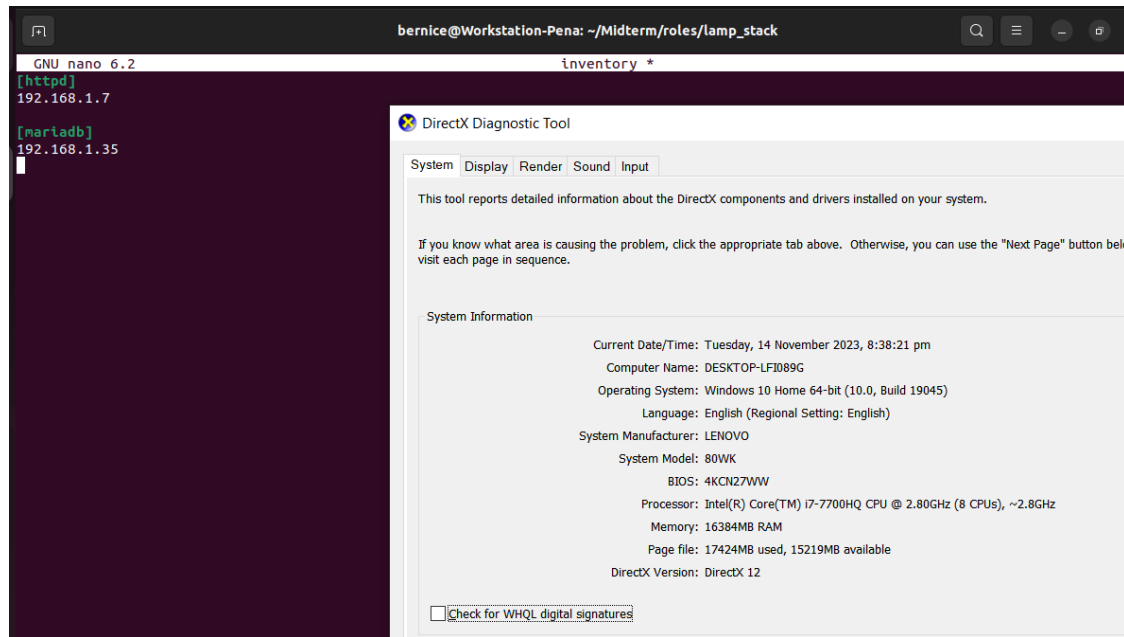
This is what I have in my config.yml. I used the roles command to call the tasks of my main.yml of my centos and ubuntu servers.



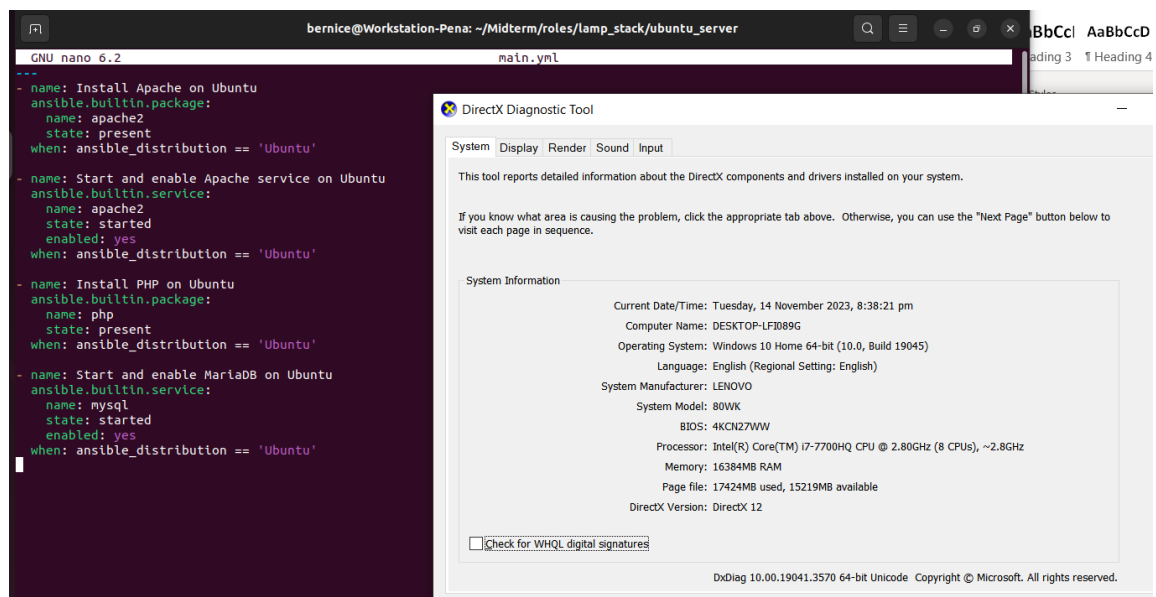
Then I created another directory named `inf1_graf_prom` and I moved my directories, yml files, and tasks in that directory in order for it to be organized since I'll be creating more directories for lamp stack.



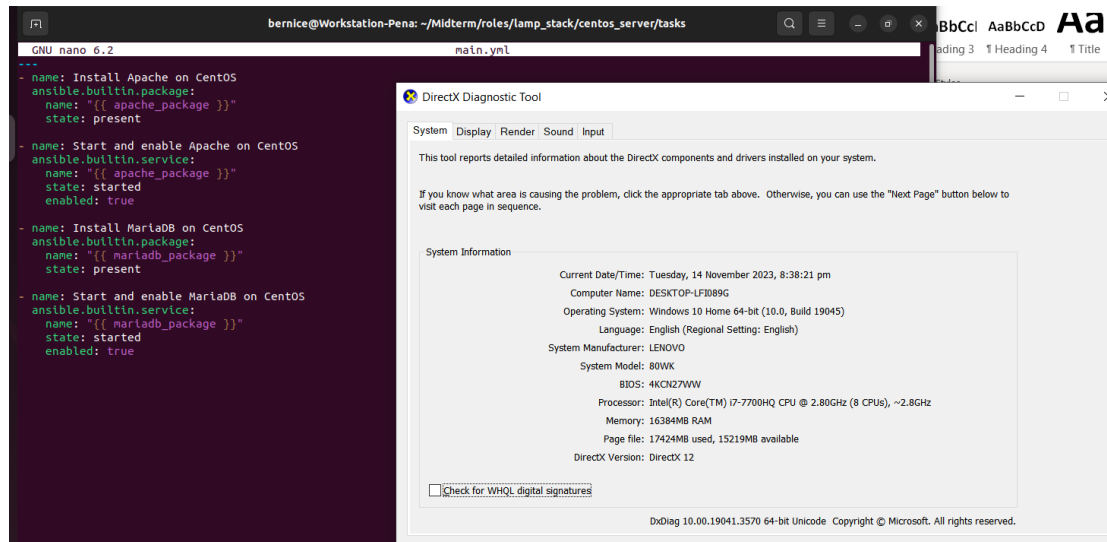
After running the config.yml, the status has changed, this is because of the installation of InfluxDB, Grafana, and Prometheus on different servers.



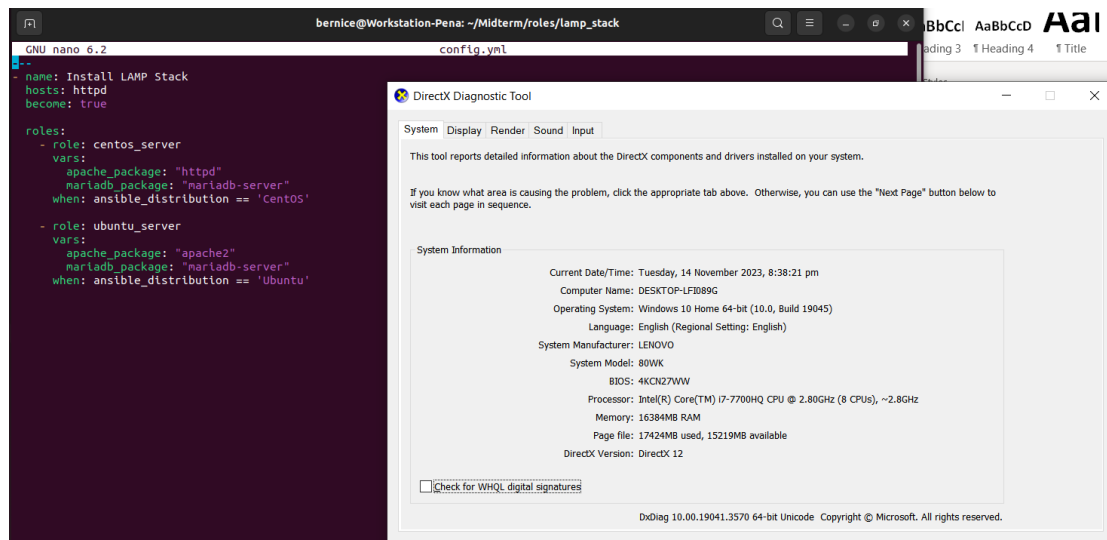
Proceeding with installing httpd + php and mariadb, I created an inventory file wherein I store the ip address of the servers I'll be using for this installation.



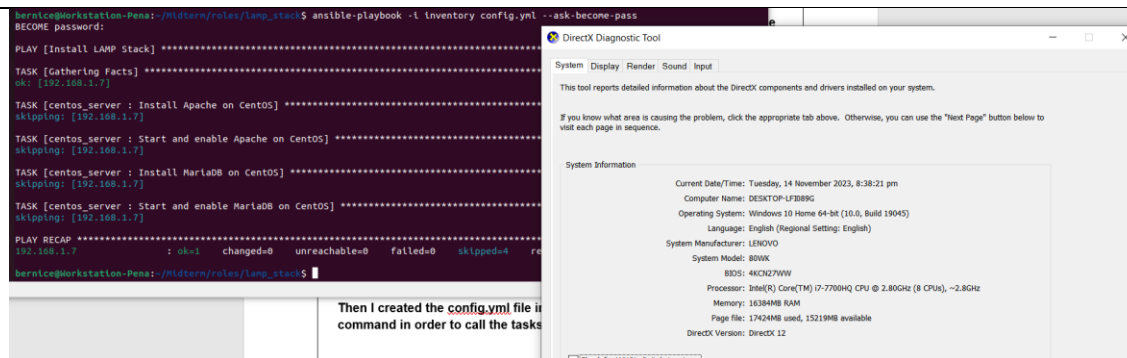
Then I created main.yml file inside my lamp_stack/ubuntu_server/tasks, this is where the tasks are listed in installing httpd + php.



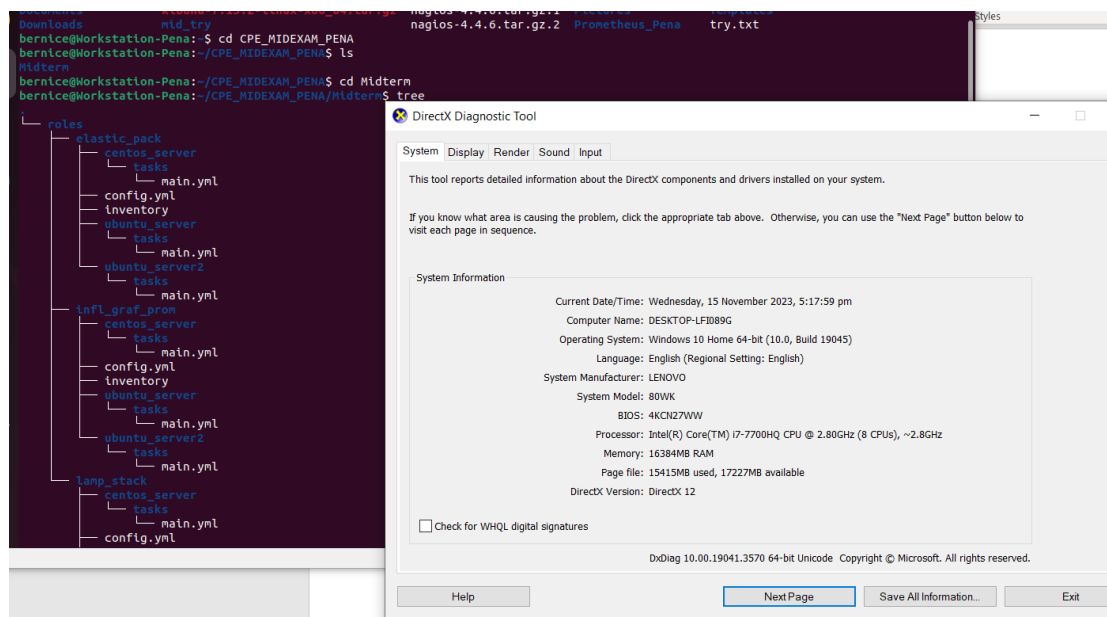
This is what I have in my main.yml for my centos server. This includes the tasks for installing MariaDB.



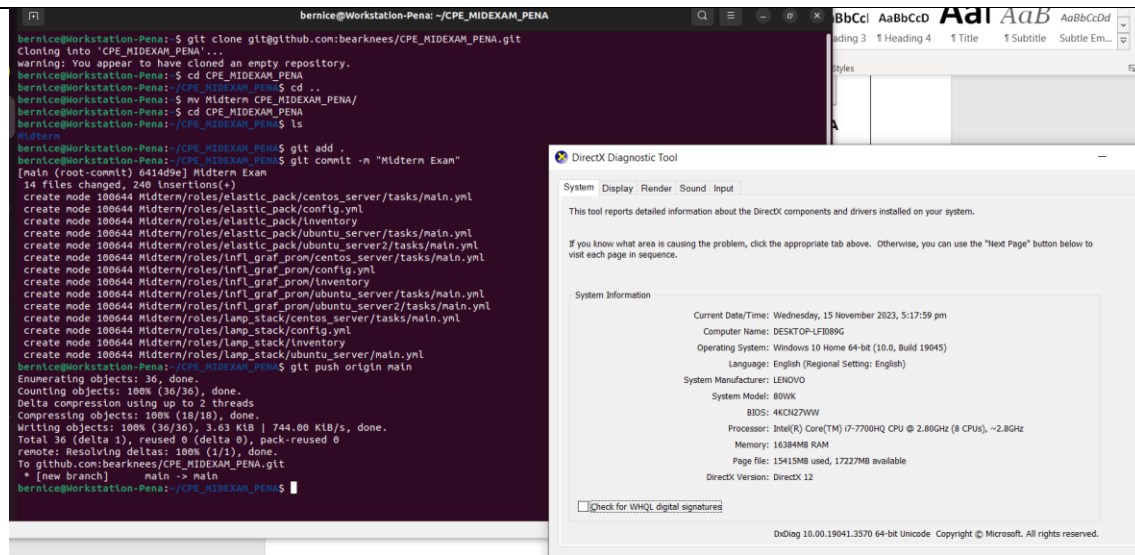
Then I created the config.yml file in my lamp_stack directory. I used the roles command in order to call the tasks I've made in my main.yml files.



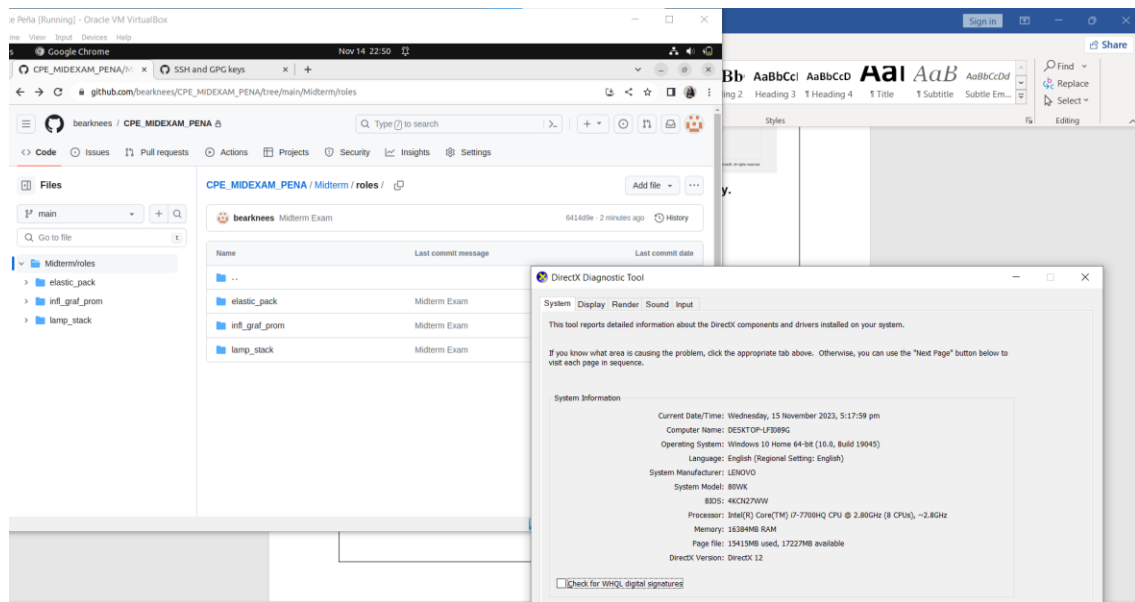
After running the config.yml file, the installation was executed successfully. On my ubuntu server, the status of the installation of httpd + php was successful, it is indicated by the status “ok”. Regarding with my CentOS server, as you notice, there are skips that happened, this is because MariaDB was already installed on my CentOS since I’ve installed it before on my CentOS.



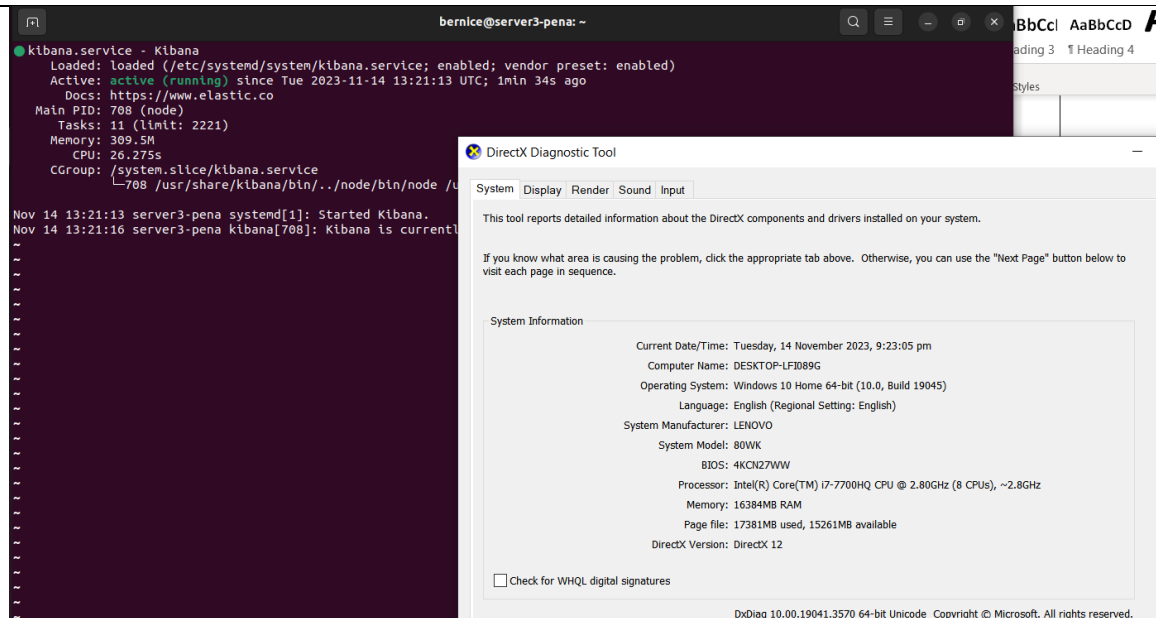
Then I moved my Midterm directory to my CPE_MIDEXAM_PENA



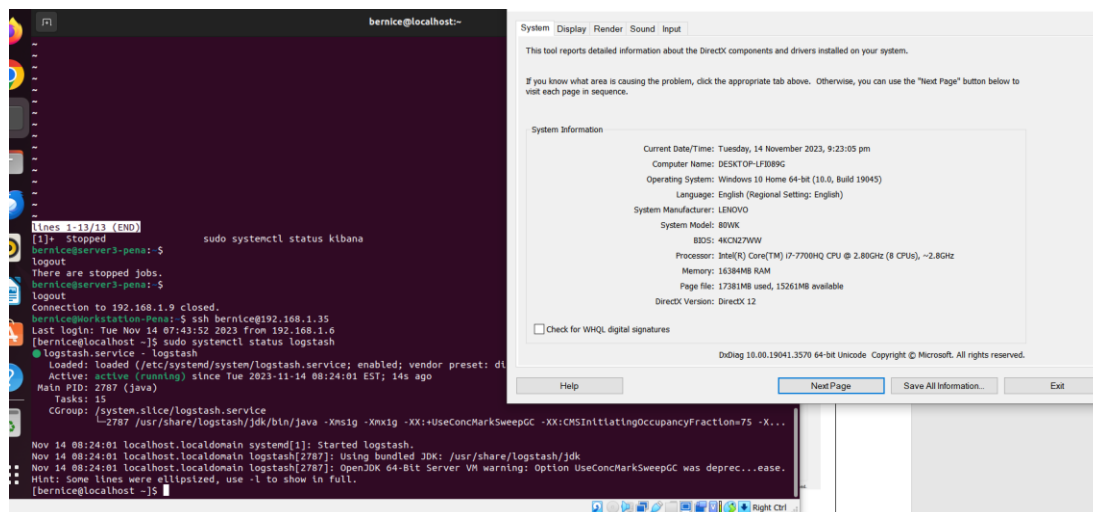
Then I commit the changes and pushed it in my GitHub repository.



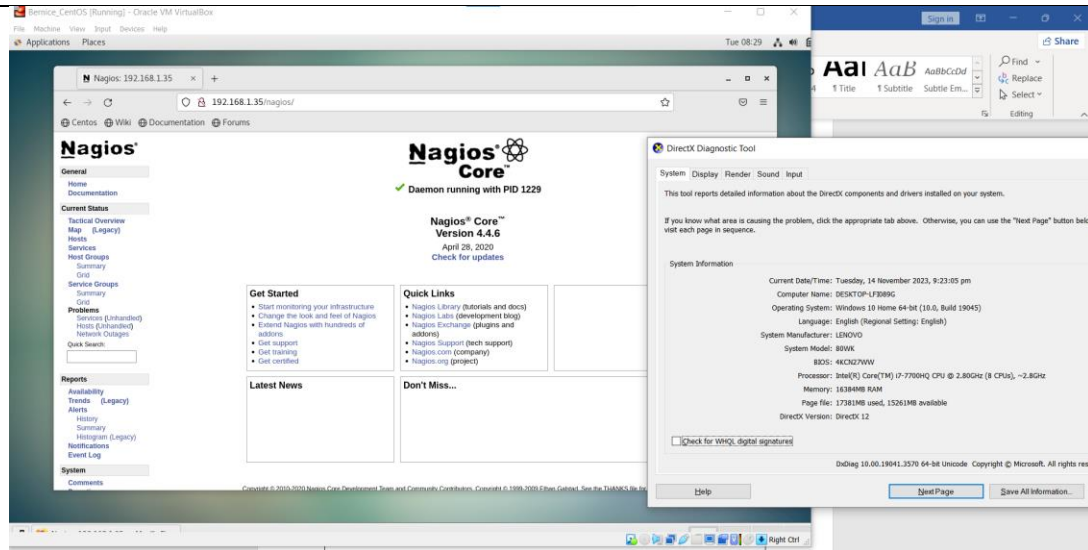
Upon checking my repository in GitHub, my Midterm directory and other necessary directories and files are successfully pushed.



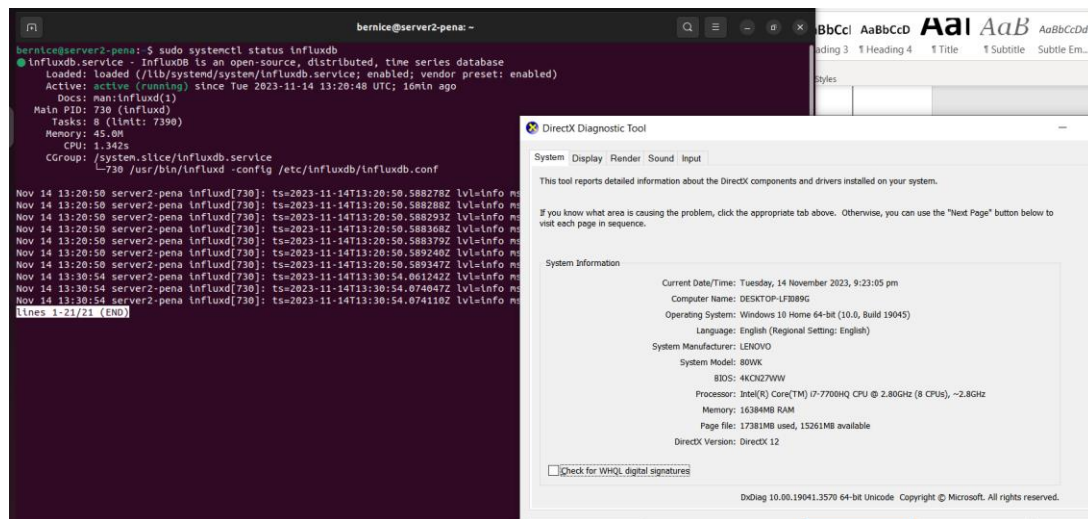
This is the status of Kibana



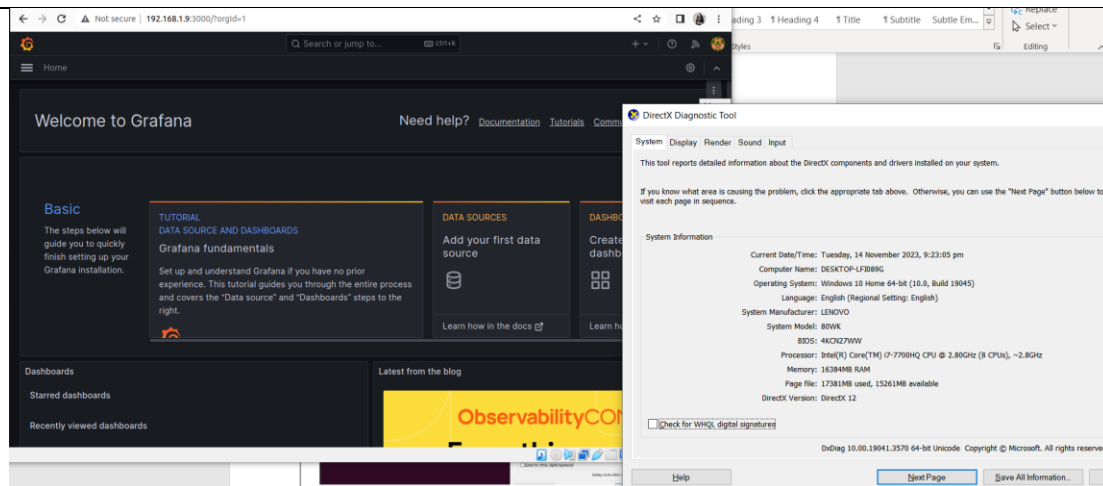
This is the status of Logstash



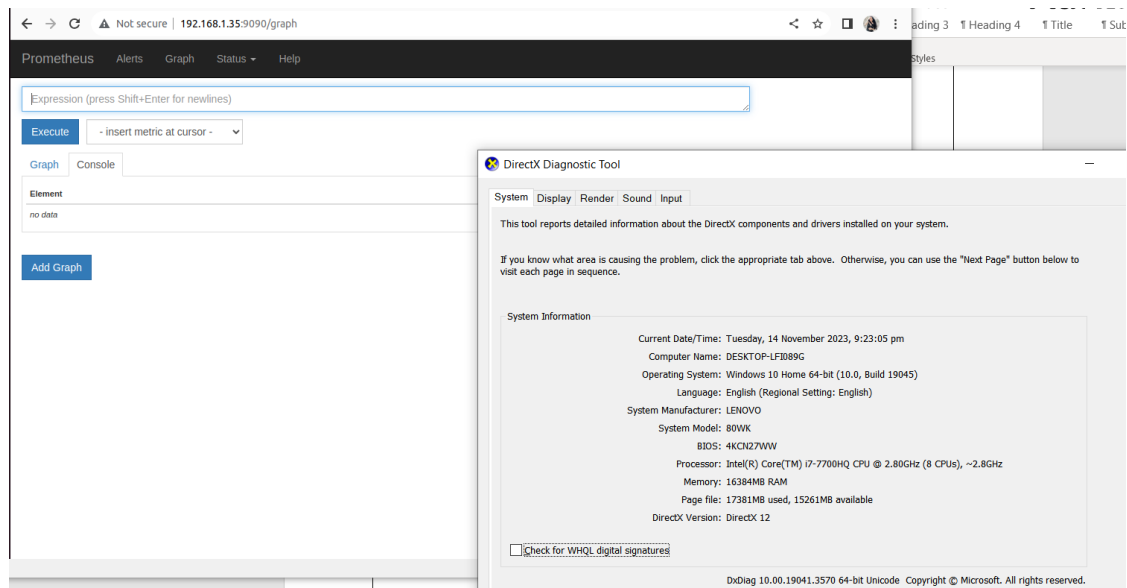
Nagios on CentOS



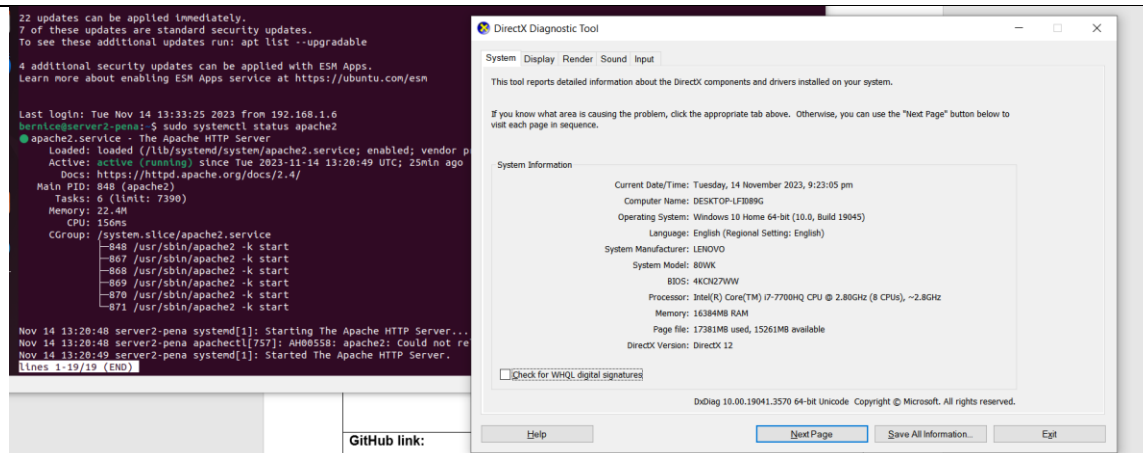
InfluxDB



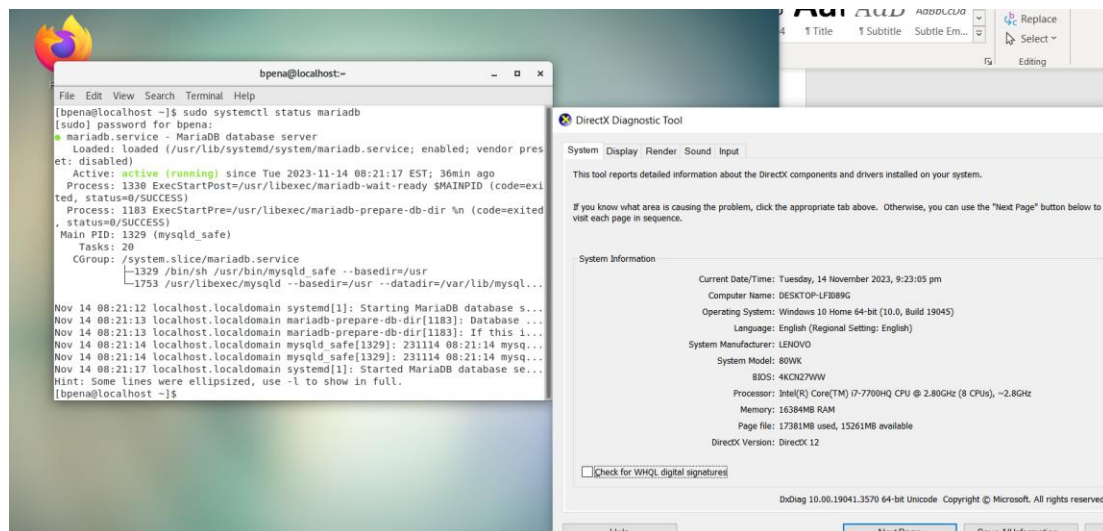
Grafana



Prometheus



Httpd/apache



MariaDB

GitHub link:

https://github.com/bearknees/CPE_MIDEXAM_PENA?fbclid=IwAR32ZTMLpKFCz_vypjaTqMYXoyGaBKrVXtDYRmzYmWS5WLxeTxnk27wmho6g

Conclusions: (link your conclusion from the objective)

This activity helped me with developing and implementing an infrastructure for deploying, configuring, and controlling a suite of monitoring tools using Ansible IaC tool. The infrastructure was design in order to be structured and modular, Ansible playbooks are used to carry out the activities across different servers

such as Ubuntu and CentOS. This activity involves installation and configuration of lamp stack, elastic search, prometheus, Grafana, influxDB, and Nagios on several servers. These tools are used on variety of cases such as performance monitoring, log analysis, and system availability. Throughout this activity, I also did some troubleshooting such as package installation failures and service restarting difficulties.

By performing the required tasks, I was able to have grasp of continuous learning in the field of DevOps and automation processes since this highlights the importance of infrastructure automation, monitoring methods, as well as different methods on how log monitoring tools should be use and how useful it can be. This activity not only addressed the objectives, but also emphasized and helped me in troubleshooting process and analysis of different errors the I've encountered.