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Course/Section: CPE232 - CPE31S21	**Date Submitted: November 11. 2024**
Instructor: Engr. Robin Valenzuela	**Semester and SY: 2024 - 2025**

Midterm Skills Exam: Install, Configure, and Manage Log Monitoring tools

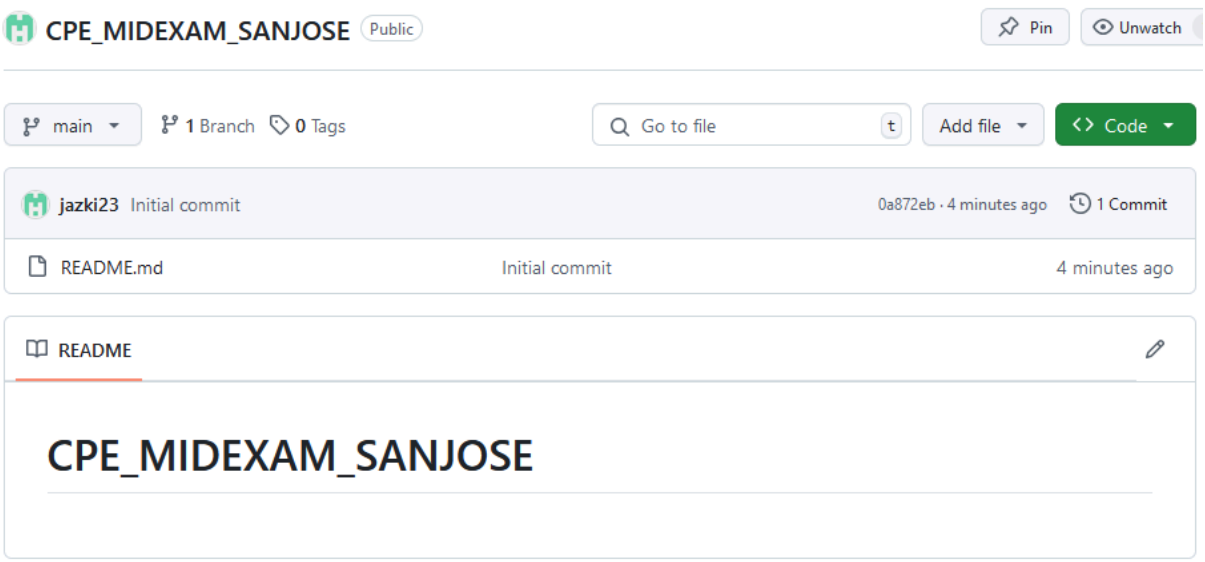
1. Objectives

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

1. Create a repository in your GitHub account and label it CPE_MIDEXAM_SURNAME.
2. Clone the repository and do the following:
   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 separate 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)



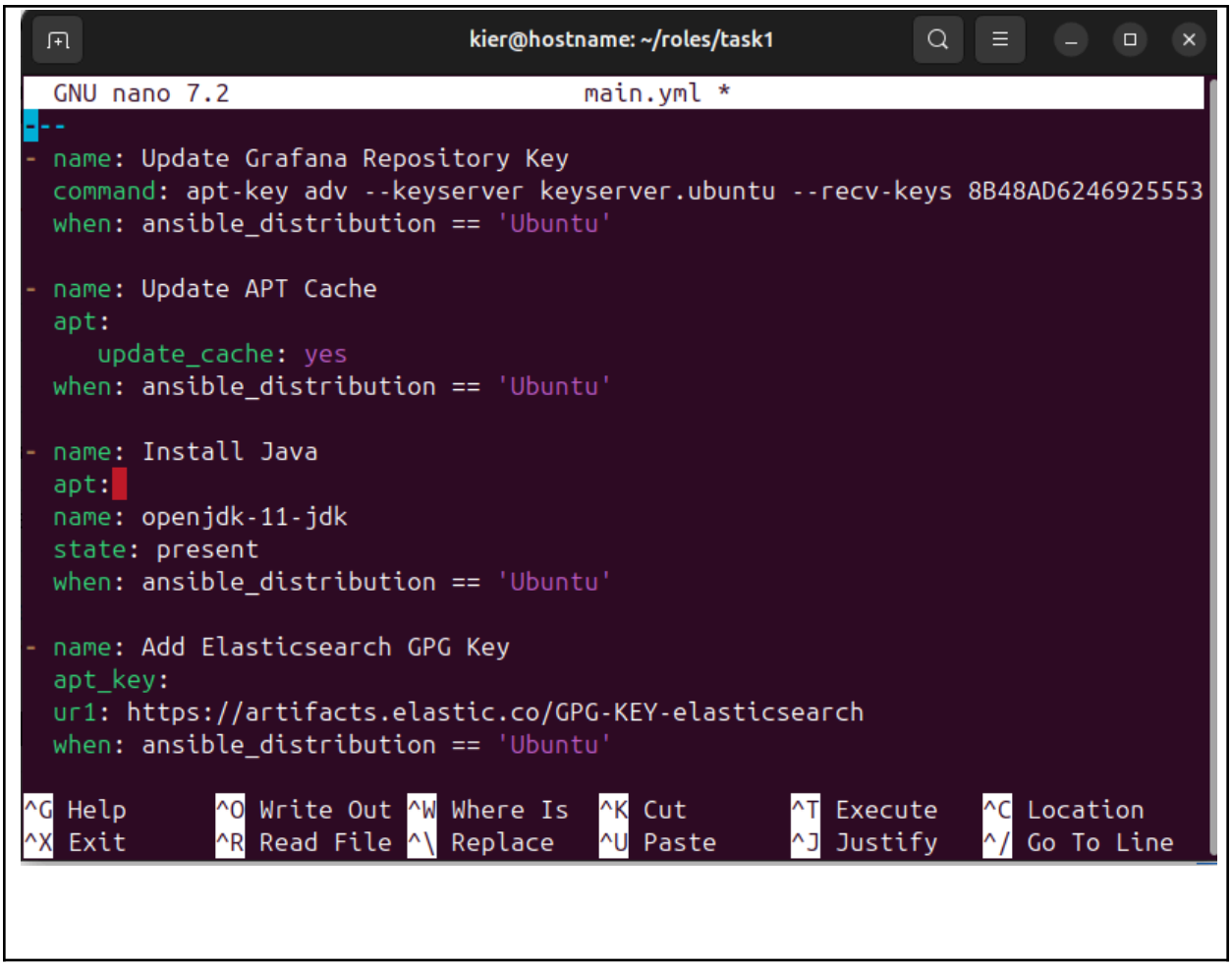
config.yaml:

```
  GNU nano 7.2                                  config.yml
---
- name: Install packages
  hosts: all
  become: true
  roles:
     - task1
     - task2
```

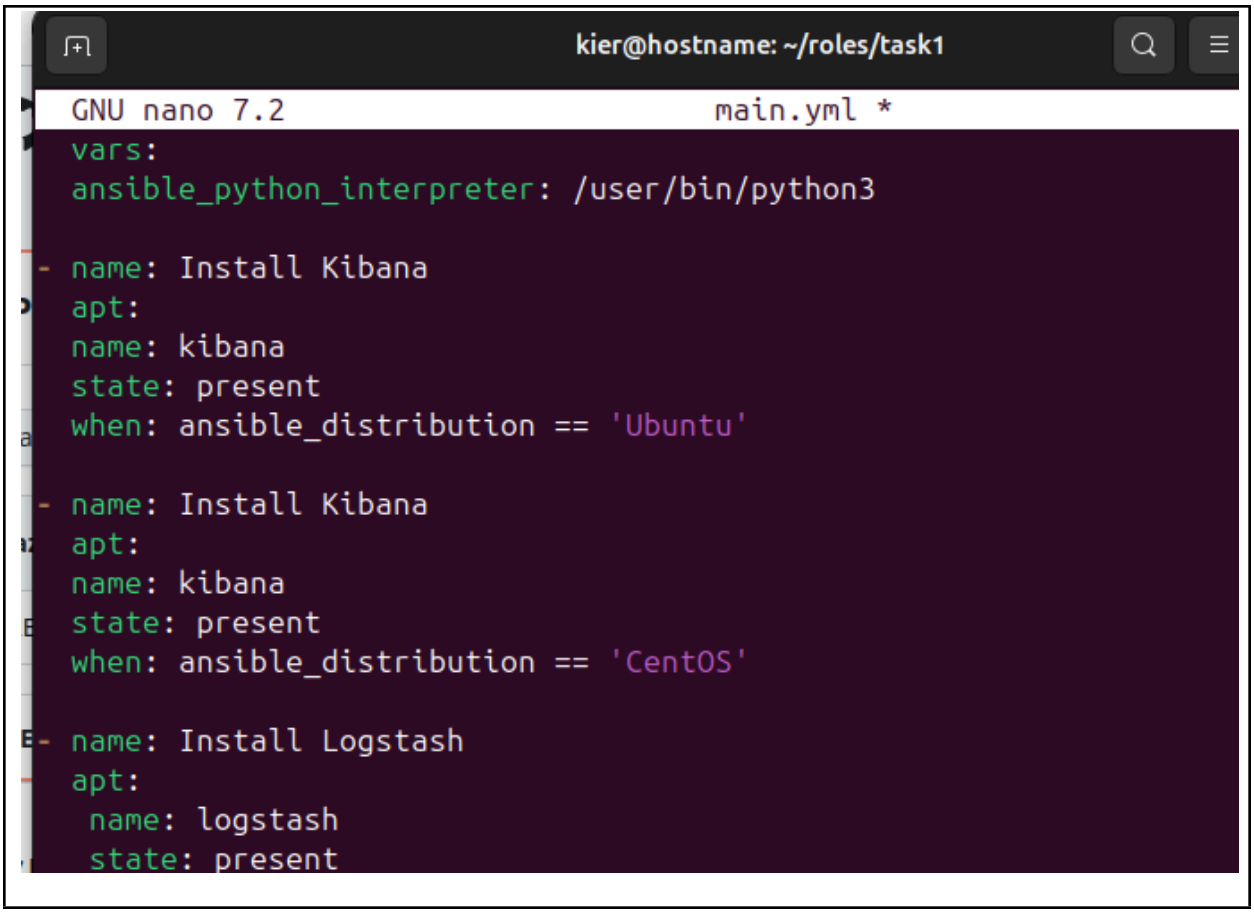
inventory:

```
  GNU nano 7.2                                   inventory
[servers]
server1 ansible_host=192.168.56.151 ansible_user=kier
test3 ansible_host=192.168.56.155 ansible_user=kier

[server_centos]
centos ansible_host=192.168.56.154 ansible_user=kiersanj

[fileservers]
server1 ansible_host=192.168.56.151 ansible_user=kier
```

2.2


kier@hostname: ~/roles/task1
GNU nano 7.2 main.yml *

- name: Update Grafana Repository Key
command: apt-key adv --keyserver keyserver.ubuntu --recv-keys 8B48AD6246925553
when: ansible_distribution == 'Ubuntu'
- name: Update APT Cache
apt:
update_cache: yes
when: ansible_distribution == 'Ubuntu'
- name: Install Java
apt:
name: openjdk-11-jdk
state: present
when: ansible_distribution == 'Ubuntu'
- name: Add Elasticsearch GPG Key
apt_key:
ur1: https://artifacts.elastic.co/GPG-KEY-elasticsearch
when: ansible_distribution == 'Ubuntu'
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line


kier@hostname: ~/roles/task1
GNU nano 7.2 main.yml *
vars:
ansible_python_interpreter: /user/bin/python3
- name: Install Kibana
apt:
name: kibana
state: present
when: ansible_distribution == 'Ubuntu'
- name: Install Kibana
apt:
name: kibana
state: present
when: ansible_distribution == 'CentOS'
- name: Install Logstash
apt:
name: logstash
state: present

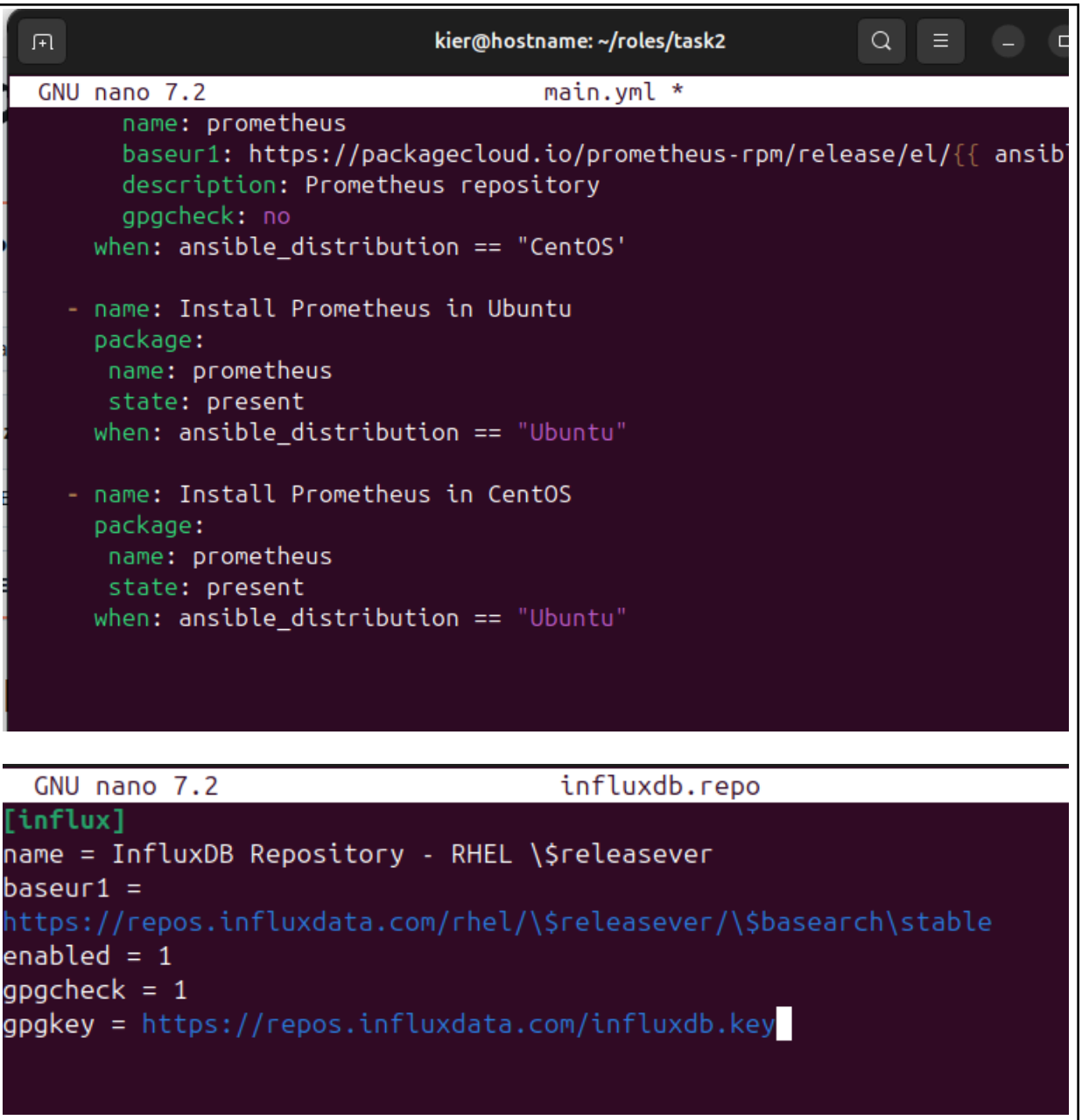
```
  apt:
   name: logstash
   state: present
  when: ansible_distribution == 'Ubuntu'

- name: Install Logstash
  yum:
   name: logstash
   state: present
   when: ansible_distribution == 'CentOS'

- name: Install Nagios (Ubuntu)
  apt:
  name: nagios3
  state: latest
  update_cache: yes
  when: ansible_distribution == 'Ubuntu'
```

2.3:

```
  GNU nano 7.2                          main.yml *
---

- name: influxdb - create folders
  file:
   path: ~/rpm
   state: directory
   mode: 0755
  when: ansible_distribution == 'CentOS'

- name: influxdb - install
  yum:
   name: /{{ ansible_env.HOME}}/rpm/{{ INFLUXDB_RPM_FILENAME }}
   state: present
  when: ansible_distribution == 'CentOS'

- name: Installing Influxdb
  apt:
   name: influxdb
  when: ansible_distribution == 'Ubuntu'
```

```
 GNU nano 7.2                              main.yml *
- name: Downloading Grafana package
  get_ur1:
  ur1: https://d1.grafana.com/enterprise/release/grafana-enterprise-9.2.2-1.x86>
  dest: /tmp/grafana-enterprise-9.2.2-1.x86_64.rpm
  when: ansible_distribution == 'CentOS'

- name: Installing Grafana
  yum:
   name: /tmp/grafana-enterprise-9.2.2-1.x86_64.rpm
  when: ansible_distribution == 'CentOS'

- name: Installing Grafana
  apt:
    name: grafana
  when: ansible_distribution == 'Ubuntu'

- name: Install Prometheus
  become: yes
  become_user: root
  block:
```

```
 GNU nano 7.2                              main.yml *
 block:
   - name: Import Grafana GPG Key
     apt_key:
        ur:1 https://packages.grafana.com/gpg.key
     when: ansible_distribution == "Ubuntu"

   - name: Add Prometheus APT repository (Ubuntu)
     apt_repository:
       repo: "deb https://packages.grafana.com/oss/deb stable main"
     when: ansible_distribution == "Ubuntu"

   - name: Add Prometheus YUM repository (CentOS)
     yum_repository:
       name: prometheus
       baseur1: https://packagecloud.io/prometheus-rpm/release/el/{{ ansib
       description: Prometheus repository
       gpgcheck: no
     when: ansible_distribution == "CentOS'

   - name: Install Prometheus in Ubuntu
```


kier@hostname: ~/roles/task2
GNU nano 7.2 main.yml *
name: prometheus
baseur1: https://packagecloud.io/prometheus-rpm/release/el/{{ ansib
description: Prometheus repository
gpgcheck: no
when: ansible_distribution == "CentOS'
- name: Install Prometheus in Ubuntu
package:
name: prometheus
state: present
when: ansible_distribution == "Ubuntu"
- name: Install Prometheus in CentOS
package:
name: prometheus
state: present
when: ansible_distribution == "Ubuntu"
GNU nano 7.2 influxdb.repo
[influx]
name = InfluxDB Repository - RHEL \$releasever
baseur1 =
https://repos.influxdata.com/rhel/\$releasever/\$basearch\stable
enabled = 1
gpgcheck = 1
gpgkey = https://repos.influxdata.com/influxdb.key

GIT PUSH:

```
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git config --global user.name jazki23
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git config --global user.email qkjfsanjose@tip.edu.ph
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git commit
Aborting commit due to empty commit message.
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git commit midterms
error: pathspec 'midterms' did not match any file(s) known to git
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git commit -m midterms
[main 1d1638a] midterms
 2 files changed, 140 insertions(+)
 create mode 100644 roles/task1/tasks/main.yml
 create mode 100644 roles/task2/tasks/main.yml
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git push origin main
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 2 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (9/9), 1.59 KiB | 1.59 MiB/s, done.
Total 9 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:jazki23/CPE_MIDEXAM_SANJOSE.git
   0a872eb..1d1638a  main -> main
```

```
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        ansible.cfg
        config.yml
        inventory

nothing added to commit but untracked files present (use "git add" to track)
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git add ansible.cfg
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git add config.yml
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git add inventory
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git commit -m midterms
[main 06cf086] midterms
 3 files changed, 21 insertions(+)
 create mode 100644 ansible.cfg
 create mode 100644 config.yml
 create mode 100644 inventory
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$ git push origin main
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 2 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 636 bytes | 636.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:jazki23/CPE_MIDEXAM_SANJOSE.git
   1d1638a..06cf086  main -> main
kier@hostname:~/Desktop/CPE_MIDEXAM_SANJOSE/CPE_MIDEXAM_SANJOSE$
```

GitHub link:
https://github.com/jazki23/CPE_MIDEXAM_SANJOSE.git

Conclusions: (link your conclusion from the objective)

- **In this activity, we are able to learn how to maneuver in different directory roles, configure our own playbooks and debug it.**