

Name: Reyes, Alexzander J.	Date Performed: 10/10/2025
Course/Section: CPE212/ CPE31S2	Date Submitted: 10/10/2025
Instructor: Engr. Robin Valenzuela	Semester and SY:
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)	
<ol style="list-style-type: none"> 1. Create a repository in your GitHub account and label it CPE_MIDEXAM_SURNAME. 	

Create a new repository

Repositories contain a project's files and version history. Have a project elsewhere? [Import a repository](#).
Required fields are marked with an asterisk (*).

1 General

Owner *

AlexanderReyes

Repository name *

CPE_MIDEXAM_REYES

✔ CPE_MIDEXAM_REYES is available.

Great repository names are short and memorable. How about [automatic-invention](#)?

Description

0 / 350 characters

2 Configuration

Choose visibility *

Choose who can see and commit to this repository

Public

Add README

READMEs can be used as longer descriptions. [About READMEs](#)

On ☒

Add .gitignore

.gitignore tells git which files not to track. [About ignoring files](#)

No .gitignore

Add license

Licenses explain how others can use your code. [About licenses](#)

Apache License 2.0

Create repository

CPE_MIDEXAM_REYES Public

Pin Watch 0 Fork 0 Star 0

main 1 Branch 0 Tags

Go to file

Add file Code

About

AlexanderReyes Initial commit 180f221 · now 1 Commit

LICENSE	Initial commit	now
README.md	Initial commit	now

README Apache-2.0 license

CPE_MIDEXAM_REYES

No description, website, or topics provided.

- Readme
- Activity
- 0 stars
- 0 watching
- 0 forks

Releases

No releases published
[Create a new release](#)

Packages

No packages published
[Publish your first package](#)

2. Clone the repository and do the following:

```
vboxuser@Workstation:~$ git clone git@github.com:AlexzanderReyes/CPE_MIDEXAM_REYES.git
Cloning into 'CPE_MIDEXAM_REYES'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 4 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (4/4), 4.76 KiB | 1.59 MiB/s, done.
vboxuser@Workstation:~$ ls
control-node      Documents  Pictures    Templates
CPE212_REYES_ALEXZANDER-LAPTOP- Downloads  Public      Videos
CPE_MIDEXAM_REYES hosts.ini  Reyes_PrelimExam
Desktop          Music     snap
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES
GNU nano 7.2 ansible.cfg *
[default]
inventory=inventory.ini
private_key_file=~/.ssh/ansible
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES
GNU nano 7.2 inventory.ini
[web_servers]
192.168.26.11 ansible_user=vboxuser
192.168.26.13 ansible_user=vboxuser

[db_servers]
192.168.26.13 ansible_user=Reyes

[file_servers]
192.168.26.11
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES
GNU nano 7.2 /etc/ansible/hosts
[web_servers]
192.168.26.11 ansible_user=vboxuser
192.168.26.13 ansible_user=vboxuser
[db_servers]
192.168.26.13 ansible_user=Reyes
[file_servers]
192.168.26.11 ansible_user=vboxuser
```

```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ sudo nano /etc/ansible/hosts
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ ansible all -m ping
192.168.26.11 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
192.168.26.13 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
```

```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ ls
ansible.cfg  inventory.ini  playbook.yaml  roles
config.yaml  LICENSE       README.md
```

- 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)

```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ cd roles
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir elasticsearch
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir kibana
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir logstash
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir nagios
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir influxdb
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir grafana
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir prometheus
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir httpd_php
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ mkdir mariadb
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles$ ls
elasticsearch  httpd_php  kibana    mariadb  prometheus
grafana        influxdb   logstash  nagios
```

```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/elasticsearch/tasks$ rmdir main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/elasticsearch/tasks$ sudo nano main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/elasticsearch/tasks$ ls
main.yml
```

```
GNU nano 7.2                                main.yml
--
- name: Install dependencies
  package:
    name: "{{ item }}"
    state: present
  loop:
    - apt-transport-https
    - curl
  when: ansible_os_family == "Debian"

- name: Install dependencies
  package:
    name: "{{ item }}"
    state: present
  loop:
    - curl
  when: ansible_os_family == "RedHat"

- name: Add Elasticsearch GPG key
  ansible.builtin.shell: |

[ Read 57 lines ]
```

```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/kibana/tasks$ sudo nano main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/kibana/tasks$ ls
main.yml
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES/roles/kibana/tasks
GNU nano 7.2 main.yml *
---
- name: Install Kibana
  package:
    name: kibana
    state: present

- name: Enable and start Kibana
  service:
    name: kibana
    enabled: yes
    state: started

vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/logstash/tasks$ sudo nano main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/logstash/tasks$ ls
main.yml
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES/roles/logstash/tasks
GNU nano 7.2 main.yml *
---
- name: Install Logstash
  package:
    name: logstash
    state: present

- name: Enable and start Logstash
  service:
    name: logstash
    enabled: yes
    state: started

vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/nagios/tasks$ sudo nano main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/nagios/tasks$ ls
main.yml
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES/roles/nagios/tasks
GNU nano 7.2 main.yml
---
- name: Install Nagios (basic)
  package:
    name: nagios
    state: present
  ignore_errors: yes

- name: Enable and start Nagios
  service:
    name: nagios
    enabled: yes
    state: started

vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/prometheus/tasks$ ls
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/prometheus/tasks$ sudo nano main.
yml

vboxuser@Workstation: ~/CPE_MIDEXAM_REYES/roles/prometheus/tasks
GNU nano 7.2 main.yml
---
- name: Install Prometheus
  package:
    name: prometheus
    state: present

- name: Enable and start Prometheus
  service:
    name: prometheus
    enabled: yes
    state: started

vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/mariadb/tasks$ sudo nano main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/mariadb/tasks$ ls
main.yml
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES/roles/mariadb/tasks
GNU nano 7.2 main.yml
---
- name: Install MariaDB
  package:
    name: mariadb-server
    state: present

- name: Enable and start MariaDB
  service:
    name: mariadb
    enabled: yes
    state: started
```

```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/influxdb/tasks$ sudo nano main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/influxdb/tasks$ ls
main.yml
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES/roles/influxdb/tasks
GNU nano 7.2 main.yml
---
- name: Install InfluxDB
  package:
    name: influxdb
    state: present

- name: Enable and start InfluxDB
  service:
    name: influxdb
    enabled: yes
    state: started
```

```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/httpd_php/tasks$ sudo nano main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/httpd_php/tasks$ ls
main.yml
```



```
GNU nano 7.2                                main.yml
---
- name: Install Apache
  package:
    name: "[[ 'httpd' if ansible_os_family == 'RedHat' else 'apache2' ]]"
    state: present

- name: Install PHP
  package:
    name: php
    state: present

- name: Enable and start Apache
  service:
    name: "[[ 'httpd' if ansible_os_family == 'RedHat' else 'apache2' ]]"
    enabled: yes
    state: started

vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/grafana/tasks$ sudo nano main.yml
vboxuser@Workstation:~/CPE_MIDEXAM_REYES/roles/grafana/tasks$ ls
main.yml
```

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES/roles/grafana/tasks
GNU nano 7.2                                main.yml
---
- name: Install Prometheus
  package:
    name: prometheus
    state: present

- name: Enable and start Prometheus
  service:
    name: prometheus
    enabled: yes
    state: started
```

config.yaml

```
vboxuser@Workstation: ~/CPE_MIDEXAM_REYES
GNU nano 7.2 config.yaml
elasticsearch_version: "7.x"
kibana_version: "7.x"
logstash_version: "7.x"
nagios_version: "latest"
grafana_version: "latest"
prometheus_version: "latest"
influxdb_version: "latest"
httpd_version: "latest"
php_version: "latest"
mariadb_version: "latest"
```

inventory.ini

```
GNU nano 7.2 inventory.ini
[elasticsearch]
192.168.26.11 ansible_user=vboxuser

[kibana]
192.168.26.11 ansible_user=vboxuser

[logstash]
192.168.26.13 ansible_user=Reyes

[nagios]
192.168.26.11 ansible_user=vboxuser

[influxdb]
192.168.26.11 ansible_user=vboxuser

[grafana]
192.168.26.11 ansible_user=vboxuser

[prometheus]
192.168.26.11 ansible_user=vboxuser
```

[httpd_php]

192.168.26.11 ansible_user=vboxuser

[mariadb]

192.168.26.13 ansible_user=Reyes

^G Help

^X Exit

^O Write Out

^R Read File

^W Where Is

^_ Replace

^K Cut

^U Paste

^T Execute

^J Justify

^C Locat

^/ Go To

playbook.yaml

```
GNU nano 7.2                                playbook.yaml
--
- name: Install and Configure Elasticsearch
  hosts: elasticsearch
  become: yes
  vars_files:
    - config.yaml
  roles:
    - elasticsearch

- name: Install and Configure Kibana
  hosts: kibana
  become: yes
  vars_files:
    - config.yaml
  roles:
    - kibana

- name: Install and Configure Logstash
  hosts: logstash
  become: yes
[ Wrote 72 lines ]
^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execu
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justi
```

GNU nano 7.2

playbook.yaml

```
vars_files:
  - config.yaml
roles:
  - logstash

- name: Install and Configure Nagios
  hosts: nagios
  become: yes
  vars_files:
    - config.yaml
  roles:
    - nagios

- name: Install and Configure InfluxDB
  hosts: influxdb
  become: yes
  vars_files:
    - config.yaml
  roles:
    - influxdb
```

```
- name: Install and Configure Prometheus
  hosts: prometheus
  become: yes
  vars_files:
    - config.yaml
  roles:
    - prometheus

- name: Install and Configure Apache + PHP
  hosts: httpd_php
  become: yes
  vars_files:
    - config.yaml
  roles:
    - httpd_php

- name: Install and Configure MariaDB
  hosts: mariadb
```

```
  become: yes
  vars_files:
    - config.yaml
  roles:
    - mariadb
```

Elasticsearch

```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ ansible-playbook -i inventory.ini play
book.yaml -K
BECOME password:

PLAY [Install and Configure Elasticsearch] *****

TASK [Gathering Facts] *****
ok: [192.168.26.11]

TASK [elasticsearch : Install dependencies on Debian/Ubuntu] *****
ok: [192.168.26.11]

TASK [elasticsearch : Install dependencies on RedHat/CentOS] *****
skipping: [192.168.26.11]

TASK [elasticsearch : Add Elasticsearch GPG key (Ubuntu)] *****
changed: [192.168.26.11]

TASK [elasticsearch : Add Elasticsearch GPG key (CentOS)] *****
skipping: [192.168.26.11]

TASK [elasticsearch : Add Elasticsearch APT repo (Ubuntu)] *****
changed: [192.168.26.11]

TASK [elasticsearch : Add Elasticsearch YUM repo (CentOS)] *****
skipping: [192.168.26.11]

TASK [elasticsearch : Update APT package cache (Ubuntu)] *****
changed: [192.168.26.11]

TASK [elasticsearch : Install Elasticsearch] *****
ok: [192.168.26.11]

TASK [elasticsearch : Enable and start Elasticsearch service] *****
ok: [192.168.26.11]
```

```
vboxuser@Server1:~$ sudo systemctl status elasticsearch
[sudo] password for vboxuser:
● elasticsearch.service - Elasticsearch
   Loaded: loaded (/usr/lib/systemd/system/elasticsearch.service; enabled; pr>
   Active: active (running) since Fri 2025-10-10 10:18:58 UTC; 26s ago
     Docs: https://www.elastic.co
   Main PID: 1174 (java)
    Tasks: 71 (limit: 12072)
   Memory: 5.5G (peak: 5.5G)
      CPU: 56.151s
   CGroup: /system.slice/elasticsearch.service
           └─1174 /usr/share/elasticsearch/jdk/bin/java -Xshare:auto -Des.net>
             2388 /usr/share/elasticsearch/modules/x-pack-ml/platform/linux-x>

Oct 10 10:18:12 Server1 systemd[1]: Starting elasticsearch.service - Elasticsea>
Oct 10 10:18:31 Server1 systemd-entrypoint[1174]: Oct 10, 2025 10:18:31 AM sun.>
Oct 10 10:18:31 Server1 systemd-entrypoint[1174]: WARNING: COMPAT locale provid>
Oct 10 10:18:58 Server1 systemd[1]: Started elasticsearch.service - Elasticsear>
lines 1-16/16 (END)
[1]+  Stopped                  sudo systemctl status elasticsearch
```

Kibana

```
PLAY [Install and Configure Kibana] *****

TASK [Gathering Facts] *****
ok: [192.168.26.11]

TASK [kibana : Install Kibana] *****
ok: [192.168.26.11]

TASK [kibana : Enable and start Kibana] *****
ok: [192.168.26.11]

PLAY [Install and Configure Logstash] *****

TASK [Gathering Facts] *****
ok: [192.168.26.13]

TASK [logstash : Install curl] *****
ok: [192.168.26.13]

TASK [logstash : Import Elastic GPG key (RedHat)] *****
changed: [192.168.26.13]
```



```
TASK [logstash : Add Logstash YUM repo (RedHat)] *****
changed: [192.168.26.13]
```

```
TASK [logstash : Add Elastic APT repo (Debian)] *****
skipping: [192.168.26.13]
```

```
TASK [logstash : Add Elastic APT key (Debian)] *****
skipping: [192.168.26.13]
```

```
TASK [logstash : Update APT package cache] *****
skipping: [192.168.26.13]
```

```
[1]+ Stopped                  sudo systemctl status elasticsearch
vboxuser@Server1:~$ sudo systemctl status kibana
● kibana.service - Kibana
   Loaded: loaded (/etc/systemd/system/kibana.service; enabled; preset: enable>
   Active: active (running) since Fri 2025-10-10 10:18:12 UTC; 1min 22s ago
     Docs: https://www.elastic.co
   Main PID: 1191 (node)
    Tasks: 11 (limit: 12072)
   Memory: 836.0M (peak: 836.2M)
      CPU: 20.698s
   CGroup: /system.slice/kibana.service
           └─1191 /usr/share/kibana/bin/../node/bin/node /usr/share/kibana/bi>

Oct 10 10:18:12 Server1 systemd[1]: Started kibana.service - Kibana.
Oct 10 10:18:14 Server1 kibana[1191]: Kibana is currently running with legacy 0>
lines 1-13/13 (END)
[2]+ Stopped                  sudo systemctl status kibana
```

Logstash

```
PLAY [Install and Configure Logstash] *****

TASK [Gathering Facts] *****
ok: [192.168.26.13]

TASK [logstash : Install curl] *****
ok: [192.168.26.13]

TASK [logstash : Import Elastic GPG key (RedHat)] *****
changed: [192.168.26.13]

TASK [logstash : Add Logstash YUM repo (RedHat)] *****
changed: [192.168.26.13]

TASK [logstash : Add Elastic APT repo (Debian)] *****
skipping: [192.168.26.13]

TASK [logstash : Add Elastic APT key (Debian)] *****
skipping: [192.168.26.13]

TASK [logstash : Update APT package cache] *****
skipping: [192.168.26.13]
```

```
TASK [logstash : Install Logstash] *****
changed: [192.168.26.13]

TASK [logstash : Start and enable Logstash] *****
changed: [192.168.26.13]

PLAY [Install and Configure Nagios] *****

TASK [Gathering Facts] *****
ok: [192.168.26.13]
```

```

vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ ssh CentOS@Reyes
ssh: Could not resolve hostname reyes: Temporary failure in name resolution
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ ssh Reyes@CentOS
Activate the web console with: systemctl enable --now cockpit.socket

Last login: Fri Oct 10 18:22:18 2025
[Reyes@CentOS ~]$ sudo systemctl status logstash
[sudo] password for Reyes:
● logstash.service - logstash
   Loaded: loaded (/etc/systemd/system/logstash.service; enabled; preset: disabled)
   Active: active (running) since Fri 2025-10-10 18:22:44 PST; 10s ago
     Main PID: 7339 (java)
       Tasks: 15 (limit: 123502)
      Memory: 404.8M (peak: 416.8M)
         CPU: 15.879s
        CGroup: /system.slice/logstash.service
                └─7339 /usr/share/logstash/jdk/bin/java -Xms1g -Xmx1g -XX:+UseConc>

Oct 10 18:22:44 CentOS systemd[1]: Started logstash.
Oct 10 18:22:45 CentOS logstash[7339]: Using bundled JDK: /usr/share/logstash/j>
Oct 10 18:22:45 CentOS logstash[7339]: OpenJDK 64-Bit Server VM warning: Option>
lines 1-13/13 (END)

```

Nagios

```

PLAY [Install and Configure Nagios] *****

TASK [Gathering Facts] *****
ok: [192.168.26.11]

TASK [nagios : Install Nagios on Ubuntu] *****
changed: [192.168.26.11]

TASK [nagios : Ensure Nagios is running] *****
changed: [192.168.26.11]

PLAY [Install and Configure InfluxDB] *****

TASK [Gathering Facts] *****
ok: [192.168.26.11]

```

Nagios: 192.168.26.11

x

+

←

→

↻

🔒 Not Secure

http://192.168.26.11/nagios4/

Nagios®

General

Home

Documentation

Current Status

Tactical Overview

Map (Legacy)

Hosts

Services

Host Groups

Summary

Grid

Service Groups

Summary

Grid

Problems

Services (Unhandled)

Hosts (Unhandled)

Network Outages

Quick Search:

Reports

Availability

Trends (Legacy)

Alerts

History

Summary

Histogram (Legacy)

Notifications

Event Log

System

Comments

Downtime

Process Info

Performance Info

Nagios®

Core™

Nagios® Core™

Version 4.4.6

April 28, 2020

Copyright © 2010-2020 Nagios Core Development Team and Community Contributors. Copyright © 1999-2009 Ethan Galstad. See the THANKS f
on contributors.

Nagios Core is licensed under the GNU General Public License and is provided AS IS with NO WARRANTY OF ANY KIND, INCLUDING THE WA
MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. Nagios, Nagios Core and the Nagios logo are trademarks, servicemarks,
or registered servicemarks owned by Nagios Enterprises, LLC. Use of the Nagios marks is governed by the trademark use restric

MONITORED BY

Nagios®

NAGIOS CORE

SOURCEFORGE.NET

InfluxDB

```
PLAY [Install and Configure InfluxDB] *****

TASK [Gathering Facts] *****
ok: [192.168.26.11]

TASK [influxdb : Install InfluxDB] *****
changed: [192.168.26.11]

TASK [influxdb : Enable and start InfluxDB] *****
ok: [192.168.26.11]

PLAY [Install and Configure Grafana] *****

TASK [Gathering Facts] *****
ok: [192.168.26.13]
```

```

Expanded Security Maintenance for Applications is not enabled.

35 updates can be applied immediately.
12 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Fri Oct 10 10:31:06 2025 from 192.168.26.10
vboxuser@Server1:~$ systemctl status influxdb
● influxdb.service - InfluxDB is an open-source, distributed, time series datab>
   Loaded: loaded (/usr/lib/systemd/system/influxdb.service; enabled; preset:~>
   Active: active (running) since Fri 2025-10-10 10:29:13 UTC; 5min ago
     Docs: man:influxd(1)
    Main PID: 13459 (influxd)
      Tasks: 8 (limit: 12072)
     Memory: 6.9M (peak: 7.4M)
        CPU: 328ms
    CGroup: /system.slice/influxdb.service
            └─13459 /usr/bin/influxd -config /etc/influxdb/influxdb.conf

lines 1-10/10 (END)

```

Grafana

```

PLAY [Install and Configure Grafana] *****

TASK [Gathering Facts] *****
ok: [192.168.26.11]

TASK [grafana : Add Grafana APT key] *****
ok: [192.168.26.11]

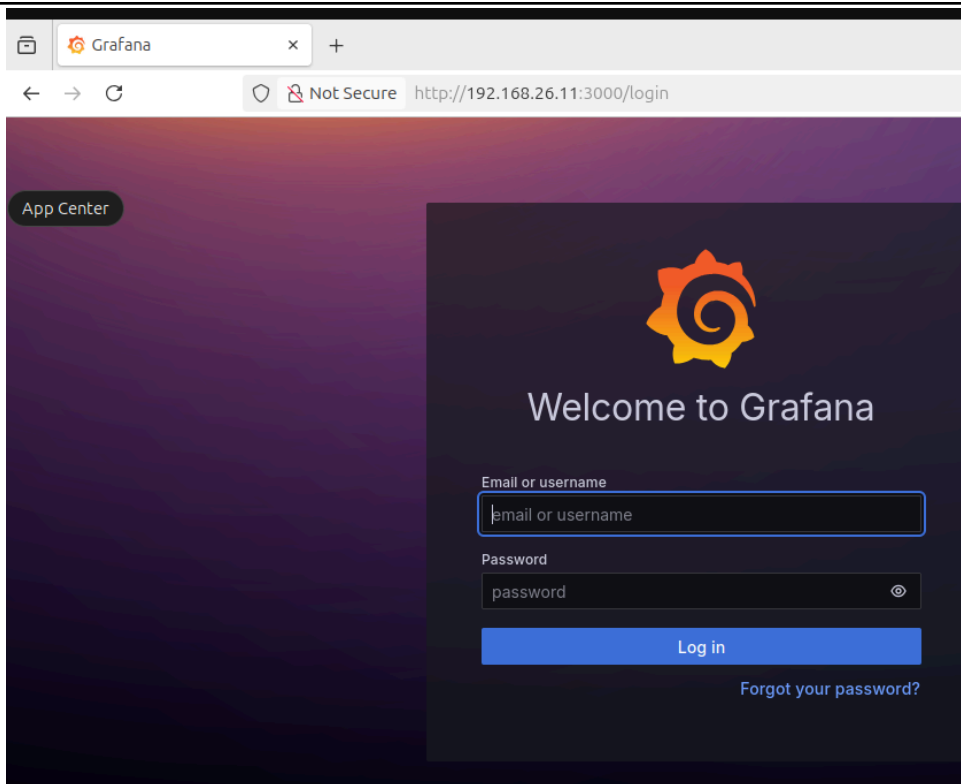
TASK [grafana : Add Grafana APT repo] *****
ok: [192.168.26.11]

TASK [grafana : Update apt cache] *****
changed: [192.168.26.11]

TASK [grafana : Install Grafana] *****
ok: [192.168.26.11]

TASK [grafana : Enable and start Grafana service] *****
ok: [192.168.26.11]

```



Prometheus

```
PLAY [Install and Configure Prometheus] *****
TASK [Gathering Facts] *****
ok: [192.168.26.11]

TASK [prometheus : Install Prometheus] *****
changed: [192.168.26.11]

TASK [prometheus : Enable and start Prometheus] *****
ok: [192.168.26.11]

PLAY [Install and Configure Apache + PHP] *****
```

```
vboxuser@Server1:~$ systemctl status prometheus
● prometheus.service - Monitoring system and time series database
   Loaded: loaded (/usr/lib/systemd/system/prometheus.service; enabled; prese>
   Active: active (running) since Fri 2025-10-10 11:08:16 UTC; 2min 34s ago
     Docs: https://prometheus.io/docs/introduction/overview/
          man:prometheus(1)
  Main PID: 31094 (prometheus)
    Tasks: 7 (limit: 12072)
   Memory: 28.2M (peak: 28.6M)
      CPU: 341ms
   CGroup: /system.slice/prometheus.service
           └─31094 /usr/bin/prometheus

lines 1-11/11 (END)
```

Apache + PHP

```
PLAY [Install and Configure Apache + PHP] *****

TASK [Gathering Facts] *****
ok: [192.168.26.11]

TASK [httpd_php : Install Apache] *****
ok: [192.168.26.11]

TASK [httpd_php : Install PHP] *****
changed: [192.168.26.11]

TASK [httpd_php : Enable and start Apache] *****
ok: [192.168.26.11]
```

```
vboxuser@Server1:~$ systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: v>
   Active: active (running) since Fri 2025-10-10 10:28:56 UTC; 44min ago
     Docs: https://httpd.apache.org/docs/2.4/
  Main PID: 12408 (apache2)
    Tasks: 9 (limit: 12072)
   Memory: 14.7M (peak: 17.3M)
      CPU: 316ms
   CGroup: /system.slice/apache2.service
           └─12408 /usr/sbin/apache2 -k start
              └─12449 /usr/sbin/apache2 -k start
                 └─12450 /usr/sbin/apache2 -k start
                    └─12451 /usr/sbin/apache2 -k start
                       └─12452 /usr/sbin/apache2 -k start
                          └─12453 /usr/sbin/apache2 -k start
                             └─14746 /usr/sbin/apache2 -k start
                                └─14769 /usr/sbin/apache2 -k start
                                   └─14770 /usr/sbin/apache2 -k start

lines 1-18/18 (END)
```

```
vboxuser@Server1:~$ php -v
PHP 8.3.6 (cli) (built: Jul 14 2025 18:30:55) (NTS)
Copyright (c) The PHP Group
Zend Engine v4.3.6, Copyright (c) Zend Technologies
    with Zend OPcache v8.3.6, Copyright (c), by Zend Technologies
```

mariadb

```
PLAY [Install and Configure MariaDB] *****

TASK [Gathering Facts] *****
ok: [192.168.26.13]

TASK [mariadb : Install MariaDB] *****
ok: [192.168.26.13]

TASK [mariadb : Enable and start MariaDB] *****
ok: [192.168.26.13]

PLAY RECAP *****
192.168.26.11      : ok=29   changed=4    unreachable=0    failed=0    s
kipped=3   rescued=0   ignored=0
192.168.26.13     : ok=9    changed=0    unreachable=0    failed=0    s
kipped=3   rescued=0   ignored=0
```


```
● mariadb.service - MariaDB 10.11.13 database server
   Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; preset: >
   Active: active (running) since Fri 2025-10-10 10:18:14 UTC; 56min ago
     Docs: man:mariabdb(8)
           https://mariadb.com/kb/en/library/systemd/
  Main PID: 1273 (mariabdb)
    Status: "Taking your SQL requests now..."
     Tasks: 9 (limit: 79678)
    Memory: 107.9M (peak: 112.2M)
       CPU: 1.589s
    CGroup: /system.slice/mariadb.service
            └─1273 /usr/sbin/mariabdb





Oct 10 10:18:14 Server1 mariabdb[1273]: 2025-10-10 10:18:14 0 [Note] InnoDB: Lo>
Oct 10 10:18:14 Server1 mariabdb[1273]: 2025-10-10 10:18:14 0 [Note] Plugin 'FE>
Oct 10 10:18:14 Server1 mariabdb[1273]: 2025-10-10 10:18:14 0 [Warning] You nee>
Oct 10 10:18:14 Server1 mariabdb[1273]: 2025-10-10 10:18:14 0 [Note] InnoDB: Bu>
Oct 10 10:18:14 Server1 mariabdb[1273]: 2025-10-10 10:18:14 0 [Note] Server soc>
Oct 10 10:18:14 Server1 mariabdb[1273]: 2025-10-10 10:18:14 0 [Note] /usr/sbin/>
Oct 10 10:18:14 Server1 mariabdb[1273]: Version: '10.11.13-MariaDB-0ubuntu0.24.>
Oct 10 10:18:14 Server1 systemd[1]: Started mariadb.service - MariaDB 10.11.13 >
Oct 10 10:18:14 Server1 /etc/mysql/debian-start[1447]: Upgrading MariaDB table>
Oct 10 10:18:15 Server1 /etc/mysql/debian-start[1503]: Triggering myisam-recove>
lines 1-23
```

4. Document the push and commit from the local repository to GitHub.


```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ git add .
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ git commit -m "MIDTERM EXAM"
[main 0268b5b] MIDTERM EXAM
13 files changed, 334 insertions(+)
create mode 100644 ansible.cfg
create mode 100644 config.yaml
create mode 100644 inventory.ini
create mode 100644 playbook.yaml
create mode 100644 roles/elasticsearch/tasks/main.yml
create mode 100644 roles/grafana/tasks/main.yml
create mode 100644 roles/httpd_php/tasks/main.yml
create mode 100644 roles/influxdb/tasks/main.yml
create mode 100644 roles/kibana/tasks/main.yml
create mode 100644 roles/logstash/tasks/main.yml
create mode 100644 roles/mariadb/tasks/main.yml
create mode 100644 roles/nagios/tasks/main.yml
create mode 100644 roles/prometheus/tasks/main.yml
```








```
vboxuser@Workstation:~/CPE_MIDEXAM_REYES$ git push origin main
Enumerating objects: 35, done.
Counting objects: 100% (35/35), done.
Delta compression using up to 2 threads
Compressing objects: 100% (16/16), done.
Writing objects: 100% (34/34), 3.85 KiB | 1.28 MiB/s, done.
Total 34 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
To github.com:AlexzanderReyes/CPE_MIDEXAM_REYES.git
180f221..0268b5b  main -> main
```





CPE_MIDEXAM_REYES
Public

 Pin
  Watch 0
  Fork 0
  Star 0

main
1 Branch
0 Tags







Add file
Code

File	Commit	Time
 roles	MIDTERM EXAM	4 minutes ago
 LICENSE	Initial commit	2 hours ago
 README.md	Initial commit	2 hours ago
 ansible.cfg	MIDTERM EXAM	4 minutes ago
 config.yaml	MIDTERM EXAM	4 minutes ago
 inventory.ini	MIDTERM EXAM	4 minutes ago
 playbook.yaml	MIDTERM EXAM	4 minutes ago

 **README**
 Apache-2.0 license
 

CPE_MIDEXAM_REYES

No description, website, or topics provided.

 Readme
 Apache-2.0 license
 Activity
 0 stars
 0 watching
 0 forks

Releases
 No releases published
[Create a new release](#)

Packages
 No packages published
[Publish your first package](#)

GitHub link: https://github.com/AlexzanderReyes/CPE_MIDEXAM_REYES#

Conclusions: (link your conclusion from the objective)

- I was able to install, configure, and manage different monitoring tools and LAMP stack using Ansible. The setup was done in separate hosts using a playbook, config file, and inventory. This activity helped me understand how to automate tasks using Infrastructure as Code. All outputs were tested and uploaded to GitHub.