Name: Miranda, Charlemagne	Date Performed:02/12/2024
Course/Section:CPE31S2	Date Submitted:02/12/2024
Instructor: Engr. Robin Valenzuela	Semester and SY: 1st sem 2024-2025

Hands-on Final Exam

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.

Output:

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Tools Needed:

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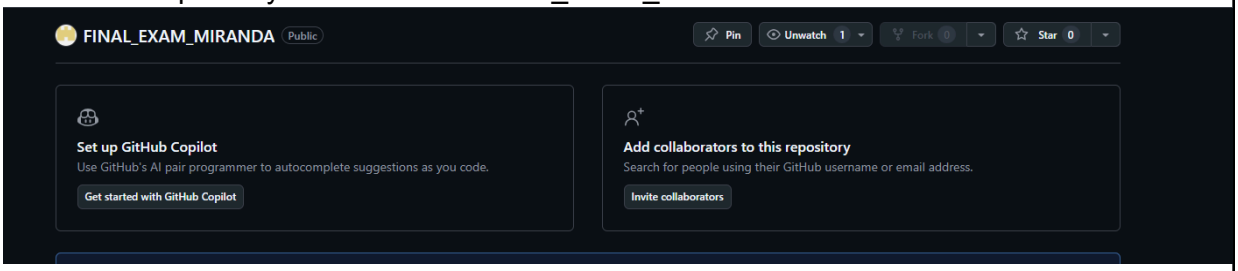
Procedure:

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

```
---
- name: Install httpd and php (CentOS)
  dnf:
    name:
      - httpd
      - php
    state: present
  when: ansible_distribution == "CentOS"

- name: Install mariadb package (CentOS)
  yum:
    name: mariadb-server
    state: present
  when: ansible_distribution == "CentOS"

- name: Start httpd (CentOS)
  service:
    name: httpd
    state: started
  when: ansible_distribution == "CentOS"

- name: Start MariaDB (CentOS)
  service:
    name: mariadb
    state: started
  when: ansible_distribution == "CentOS"

- name: Enable httpd (CentOS)
  service:
    name: httpd
    enabled: true
  when: ansible_distribution == "CentOS"

- name: Enable MariaDB (CentOS)
  service:
```

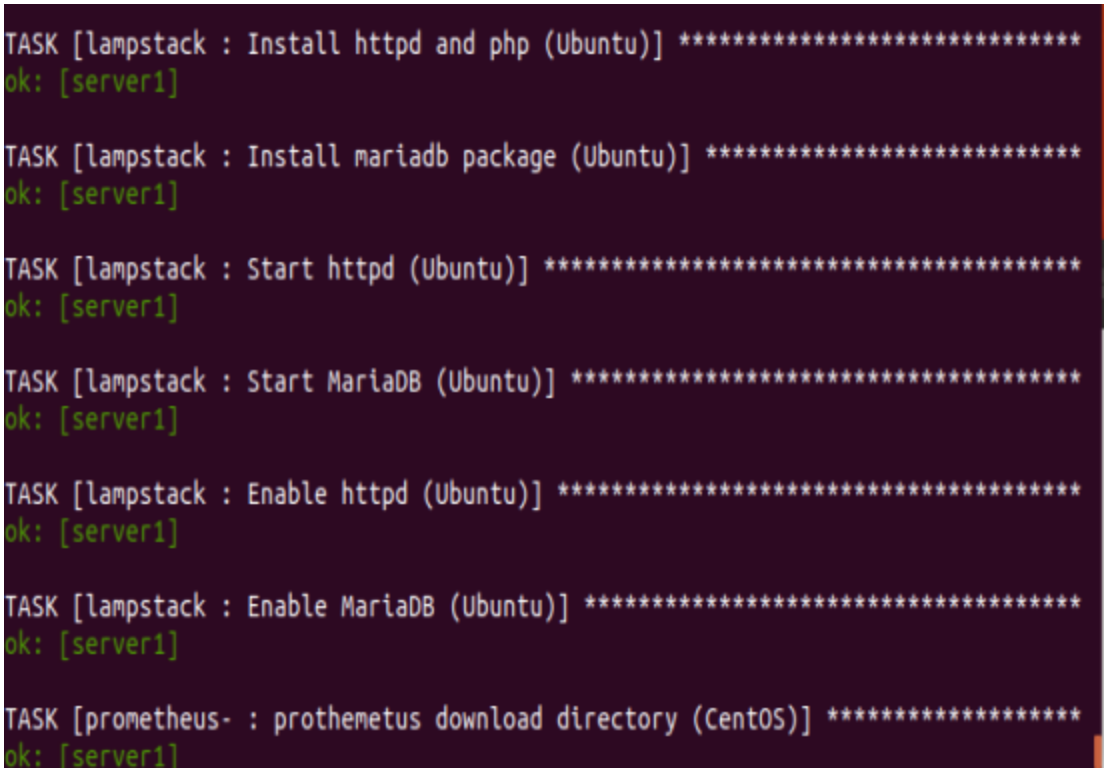
YAML ▾ Tab Width: 8 ▾ Ln 68, Col 4 ▾ INS

```
- name: Start MariaDB (CentOS)
  service:
    name: mariadb
    state: started
  when: ansible_distribution == "CentOS"

- name: Enable httpd (CentOS)
  service:
    name: httpd
    enabled: true
  when: ansible_distribution == "CentOS"

- name: Enable MariaDB (CentOS)
  service:
    name: mariadb
    enabled: true
  when: ansible_distribution == "CentOS"

- name: Install httpd and php (Ubuntu)
  apt:
    name:
      - apache2
      - libapache2-mod-php
    state: present
  when: ansible_distribution == "Ubuntu"

- name: Install mariadb package (Ubuntu)
  apt:
    name: mariadb-server
    state: present
  when: ansible_distribution == "Ubuntu"

- name: Start httpd (Ubuntu)
  service:
    name: apache2
```

```
  apt:
    name:
      - apache2
      - libapache2-mod-php
    state: present
  when: ansible_distribution == "Ubuntu"

- name: Install mariadb package (Ubuntu)
  apt:
    name: mariadb-server
    state: present
  when: ansible_distribution == "Ubuntu"

- name: Start httpd (Ubuntu)
  service:
    name: apache2
    state: started
  when: ansible_distribution == "Ubuntu"

- name: Start MariaDB (Ubuntu)
  service:
    name: mariadb
    state: started
  when: ansible_distribution == "Ubuntu"

- name: Enable httpd (Ubuntu)
  service:
    name: apache2
    enabled: true
  when: ansible_distribution == "Ubuntu"

- name: Enable MariaDB (Ubuntu)
  service:
    name: mariadb
    enabled: true
  when: ansible_distribution == "Ubuntu"
```

YAML ▾ Tab Width: 8 ▾ Ln 68, Col 4 ▾ INS

```
TASK [apache-httpd : install apache and php for Ubuntu servers] ****************
skipping: [192.168.56.13]
ok: [server1]
```

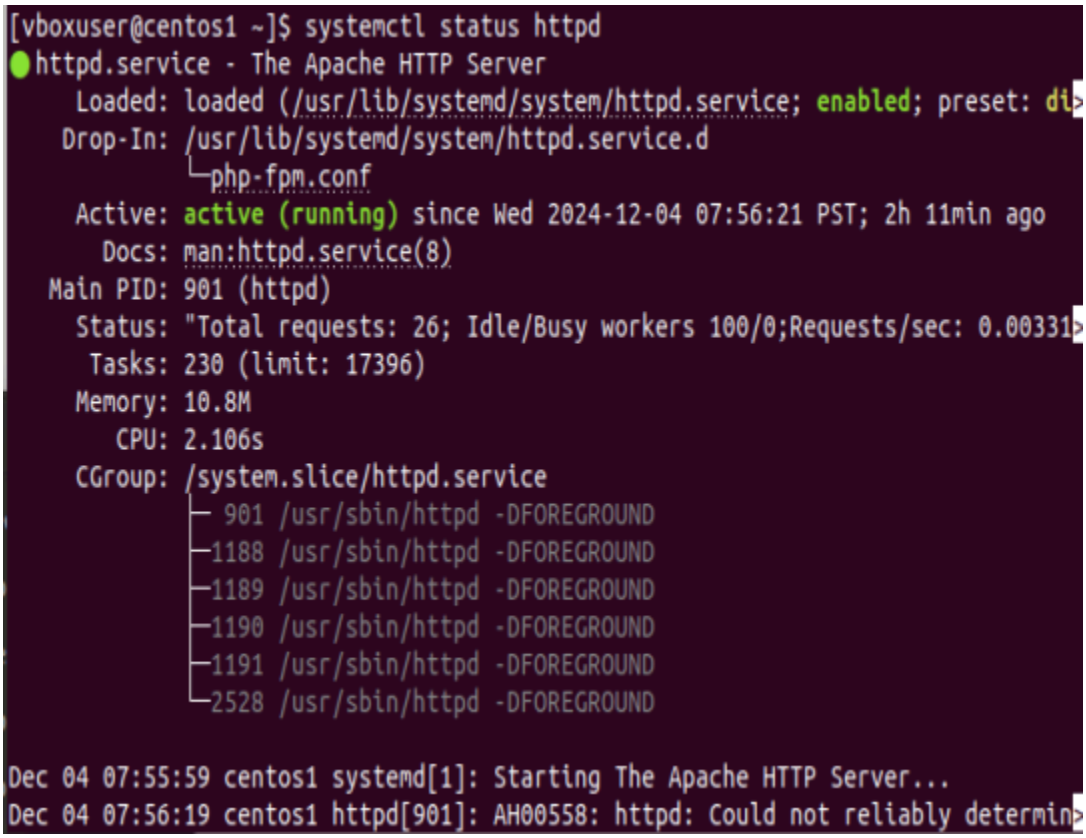

TASK [lampstack : Install httpd and php (Ubuntu)] ****************************
ok: [server1]
TASK [lampstack : Install mariadb package (Ubuntu)] ***************************
ok: [server1]
TASK [lampstack : Start httpd (Ubuntu)] ***************************************
ok: [server1]
TASK [lampstack : Start MariaDB (Ubuntu)] *************************************
ok: [server1]
TASK [lampstack : Enable httpd (Ubuntu)] **************************************
ok: [server1]
TASK [lampstack : Enable MariaDB (Ubuntu)] ************************************
ok: [server1]
TASK [prometheus- : prothemetus download directory (CentOS)] ******************
ok: [server1]

UBUNTU

```
vboxuser@server1:~$ systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset:
    Drop-In: /lib/systemd/system/apache2.service.d
             └─apache2-systemd.conf
     Active: active (running) since Wed 2024-12-04 07:48:18 +08; 2h 14min ago
   Main PID: 1419 (apache2)
      Tasks: 7 (limit: 2888)
     CGroup: /system.slice/apache2.service
             ├─1419 /usr/sbin/apache2 -k start
             ├─4457 /usr/sbin/apache2 -k start
             ├─4458 /usr/sbin/apache2 -k start
             ├─4459 /usr/sbin/apache2 -k start
             ├─4460 /usr/sbin/apache2 -k start
             ├─4461 /usr/sbin/apache2 -k start
             └─4546 /usr/sbin/apache2 -k start

Warning: Journal has been rotated since unit was started. Log output is incomple
```

```
vboxuser@server1:~$ systemctl status mariadb.service
● mariadb.service - MariaDB 10.1.48 database server
     Loaded: loaded (/lib/systemd/system/mariadb.service; enabled; vendor preset:
     Active: active (running) since Wed 2024-12-04 09:56:07 +08; 7min ago
       Docs: man:mysqld(8)
             https://mariadb.com/kb/en/library/systemd/
   Main PID: 24646 (mysqld)
     Status: "Taking your SQL requests now..."
      Tasks: 27 (limit: 2888)
     CGroup: /system.slice/mariadb.service
             └─24646 /usr/sbin/mysqld
lines 1-10/10 (END)
```

Centos



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)

```
  - name: prothemetus download directory (CentOS)
    file:
      path: ~/prometheus
      state: directory

  - name: Downloading and extracting Prometheus (CentOS)
    unarchive:
      src: https://github.com/prometheus/prometheus/releases/download/
v2.8.1/prometheus-2.8.1.linux-amd64.tar.gz
      dest: ~/prometheus
      remote_src: yes
      mode: 0777
      owner: root
      group: root


  - name: Stop the Prometheus service (CentOS)
    service:S
      name: prometheus
      state: stopped
    async: 300
    poll: 0
    ignore_errors: yes


  - name: Copying the Prometheus Configuration (CentOS)
    copy:
      src: prometheus.service
      dest: /etc/systemd/system/prometheus.service
      owner: root
      group: root
      mode: 777
```

```
: [server1]

ASK [lampstack : Enable MariaDB (Ubuntu)] ************************************
: [server1]

ASK [prometheus- : prothemetus download directory (CentOS)] ******************
: [server1]

ASK [prometheus- : Downloading and extracting Prometheus (CentOS)] ***********
: [server1]

ASK [prometheus- : Stop the Prometheus service (CentOS)] *********************
anged: [server1]

ASK [prometheus- : Copying the Prometheus Configuration (CentOS)] ************
: [server1]
```

Ubuntu

```
vboxuser@server1:~$ systemctl status prometheus
● prometheus.service - Prometheus
     Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; vendor prese
     Active: active (running) since Wed 2024-12-04 10:16:42 +08; 8s ago
   Main PID: 29246 (prometheus)
      Tasks: 9 (limit: 2888)
     CGroup: /system.slice/prometheus.service
             └─29246 /usr/local/bin/prometheus/prometheus --config.file=/usr/local
lines 1-7/7 (END)
```

Centos

```
[vboxuser@centos1 ~]$ systemctl status prometheus
○ prometheus.service - Prometheus
     Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; preset: d>
     Active: inactive (dead) since Wed 2024-12-04 09:51:00 PST; 17min ago
   Duration: 1h 54min 38.696s
   Main PID: 1094 (code=exited, status=0/SUCCESS)
        CPU: 3.465s
```

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

```
- name: set MOTD
  copy:
    content: "ANSIBLE MANAGED BY qcpmirandaS"
    dest: /etc/motd
    owner: root
    group: root
    mode: 0644
```

```
vboxuser@server1:~$ cat /etc/motd
ANSIBLE MANAGED BY qcpmiranda
```

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.