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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). Create a word document report for this final exam. For your final exam to be counted, please paste your repository link as an answer in your report. No point will be given if you forgot to paste your repo link.

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

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Input

```
davonn@workstation:~/Final_Exam_Escobilla$ ls
ansible.cfg  config.yaml  dockerfile  inventory
```

```
ansible.cfg  config.yaml  dockerfile  inventory
davonn@workstation:~/Final_Exam_Escobilla$ cat config.yaml
---
- hosts: all
  become: true
  pre_tasks:

  -   name: update repository index CentOS
      dnf:
        update_cache: yes
      changed_when: false
      when: ansible_distribution == "CentOS"

  -   name: update repository index Ubuntu
      apt:
        upgrade: dist
        update_cache: yes
      changed_when: false
      when: ansible_distribution == "Ubuntu"

- hosts: all
  become: true
  tasks:

  -   name: install docker ubuntu
      apt:
        name: docker.io
        state: latest
      when: ansible_distribution == "Ubuntu"
```

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```yaml
      state: latest
    when: ansible_distribution == "Ubuntu"

  - name: install docker centos
    shell: 'curl -fsSL https://get.docker.com/ | sh'
    when: ansible_distribution == "CentOS"

  - name: install docker sdk ubuntu
    apt:
      name: python3-docker
      update_cache: yes
      cache_valid_time: 3600
    when: ansible_distribution == "Ubuntu"

  - name: docker permission ubuntu
    shell: 'sudo usermod -aG docker $USER'
    when: ansible_distribution == "Ubuntu"

  - name: install docker sdk centos
    yum:
      name: python-docker-py
      update_cache: yes
    when: ansible_distribution == "CentOS"

  - name: docker permission centos
    shell: 'sudo usermod -aG docker $(whoami)'
    when: ansible_distribution == "CentOS"
```
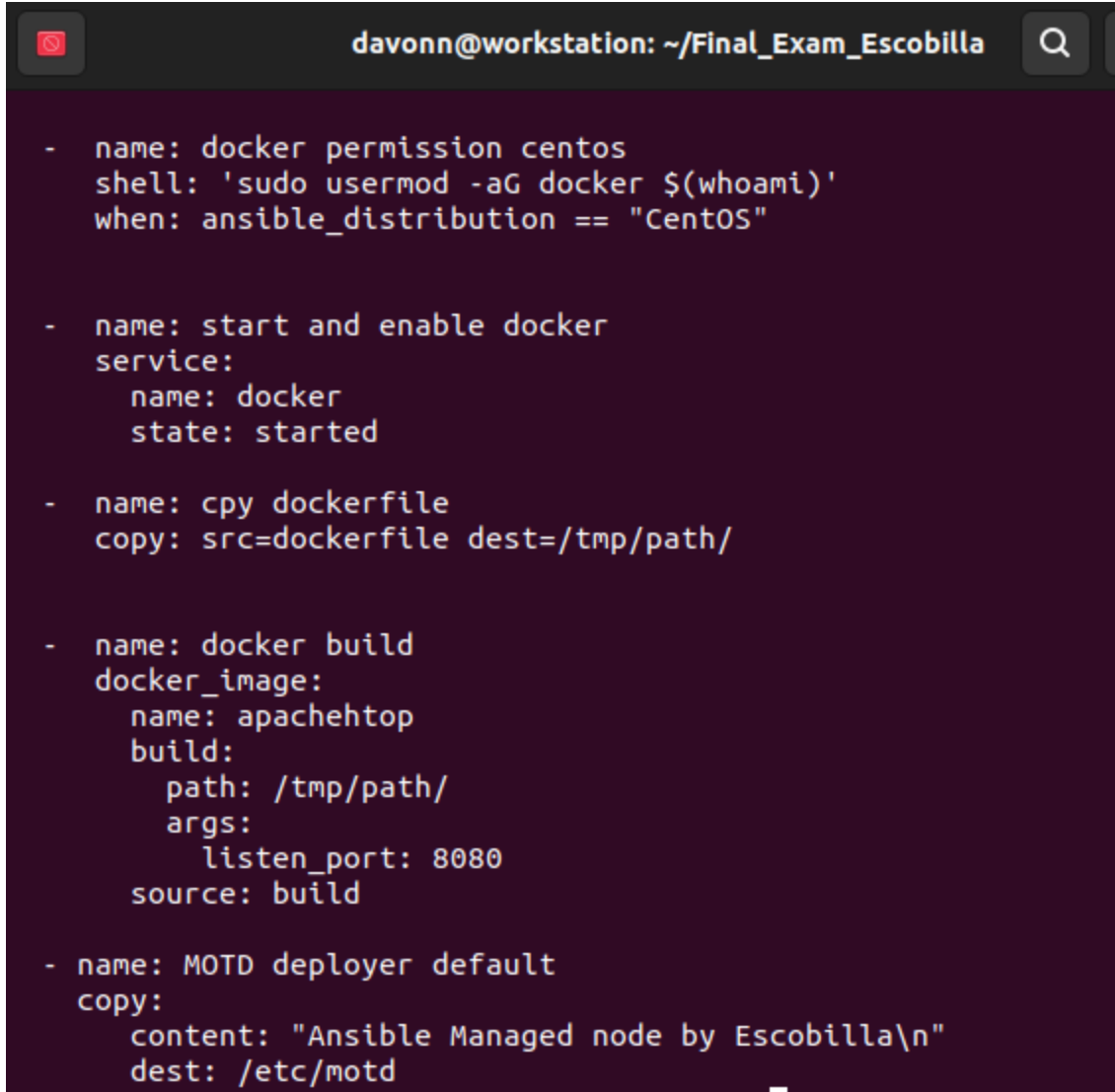
Davonn P. Escobilla

```
-   name: docker permission centos
    shell: 'sudo usermod -aG docker $(whoami)'
    when: ansible_distribution == "CentOS"


-   name: start and enable docker
    service:
      name: docker
      state: started

-   name: cpy dockerfile
    copy: src=dockerfile dest=/tmp/path/


-   name: docker build
    docker_image:
      name: apachehtop
      build:
        path: /tmp/path/
        args:
          listen_port: 8080
      source: build

- name: MOTD deployer default
  copy:
      content: "Ansible Managed node by Escobilla\n"
      dest: /etc/motd
```

Output

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```
davonn@workstation: ~/Final_Exam_Escobilla                    Q   ☰   —   ▫   ✕

davonn@workstation:~/Final_Exam_Escobilla$ ansible-playbook --ask-become-pass c
onfig.yaml
BECOME password:

PLAY [all] ********************************************************************
*

TASK [Gathering Facts] *******************************************************
*
ok: [192.168.56.104]
ok: [192.168.56.102]

TASK [update repository index CentOS] ****************************************
*
skipping: [192.168.56.104]
fatal: [192.168.56.102]: FAILED! => {"changed": false, "cmd": "dnf install -y p
ython3-dnf", "msg": "Could not import the dnf python module using /usr/bin/pyth
on (3.6.8 (default, Nov 16 2020, 16:55:22) [GCC 4.8.5 20150623 (Red Hat 4.8.5-4
4)]). Please install `python3-dnf` package or ensure you have specified the cor
rect ansible_python_interpreter.", "rc": 1, "results": [], "stderr": "Error: Un
able to find a match: python3-dnf\n", "stderr_lines": ["Error: Unable to find a
 match: python3-dnf"], "stdout": "Last metadata expiration check: 0:01:50 ago o
n Saturday, 10 December, 2022 11:23:37 AM PST.\nNo match for argument: python3-
dnf\n", "stdout_lines": ["Last metadata expiration check: 0:01:50 ago on Saturd
ay, 10 December, 2022 11:23:37 AM PST.", "No match for argument: python3-dnf"]}

TASK [update repository index Ubuntu] ****************************************
*
```

As we can see, there is an error here since my CentOS is not working properly, unfortunately I am unable to find a solution to this. Therefore, the result of this is it does not install the Apache and deploy it properly using containerization on the CentOS leading to no output on that virtual machine compared to the Ubuntu. Also, I am unable to deploy monitoring tools on both.

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```
TASK [update repository index Ubuntu] ************************************
*
ok: [192.168.56.104]

PLAY [all] **************************************************************
*

TASK [Gathering Facts] **************************************************
*
ok: [192.168.56.104]

TASK [install docker ubuntu] ********************************************
*
ok: [192.168.56.104]

TASK [install docker centos] ********************************************
*
skipping: [192.168.56.104]

TASK [install docker sdk ubuntu] ****************************************
*
ok: [192.168.56.104]

TASK [docker permission ubuntu] *****************************************
*
changed: [192.168.56.104]

TASK [install docker sdk centos] ****************************************
*
```

Davonn P. Escobilla

```
 *
skipping: [192.168.56.104]

TASK [docker permission centos] ********************************************
 *
skipping: [192.168.56.104]

TASK [start and enable docker] *********************************************
 *
ok: [192.168.56.104]

TASK [cpy dockerfile] ******************************************************
 *
ok: [192.168.56.104]

TASK [docker build] ********************************************************
 *
changed: [192.168.56.104]

TASK [MOTD deployer default] ***********************************************
 *
changed: [192.168.56.104]

PLAY RECAP *****************************************************************
 *
192.168.56.102             : ok=1    changed=0    unreachable=0    failed=1
skipped=0    rescued=0    ignored=0
192.168.56.104             : ok=10   changed=3    unreachable=0    failed=0
skipped=4    rescued=0    ignored=0
```

Output

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Enterprise service for Ubuntu
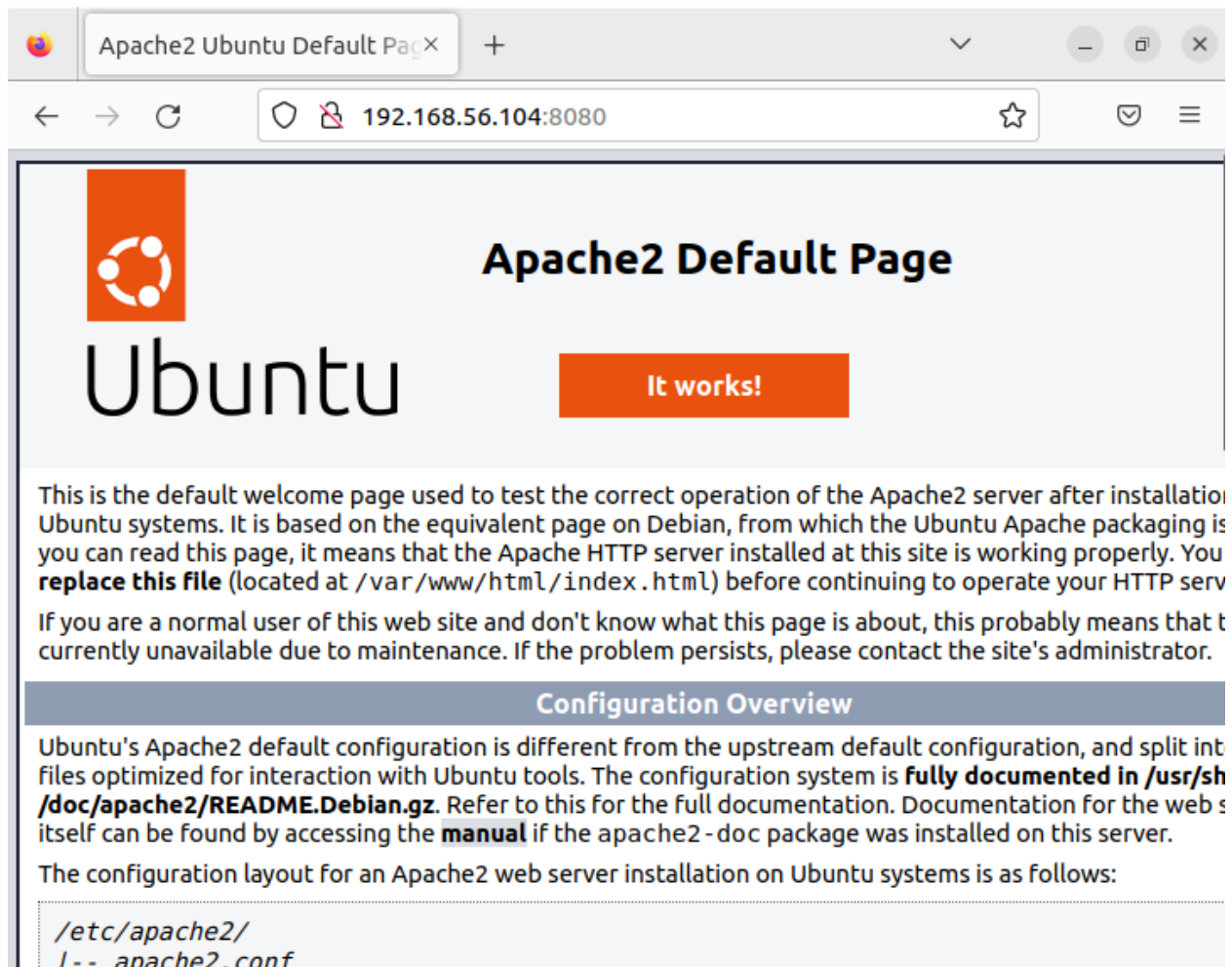
Link on the repository: https://github.com/DavonnEscobilla/Final_Exam_Escobilla.git

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