Perez, Dean Lenard D. 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)

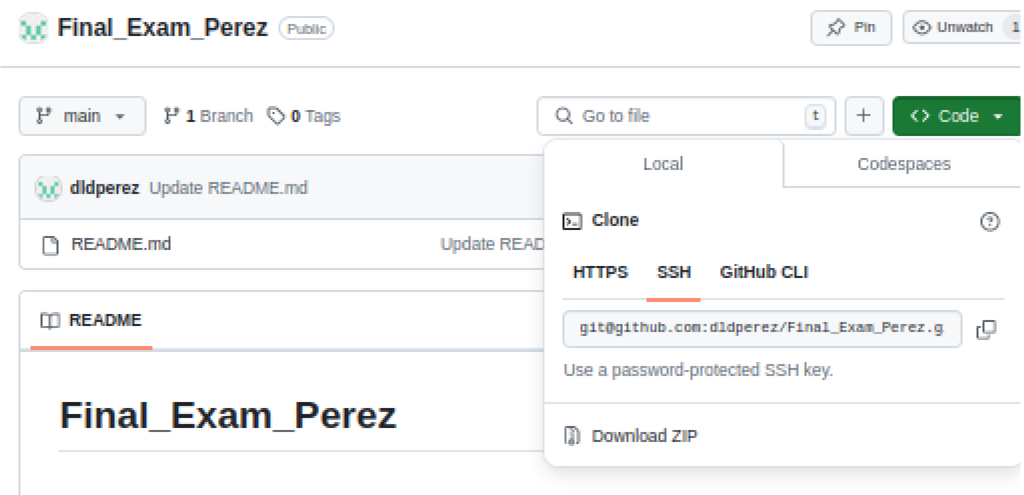
4.4 Change Motd as "Ansible Managed by <username>"

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.

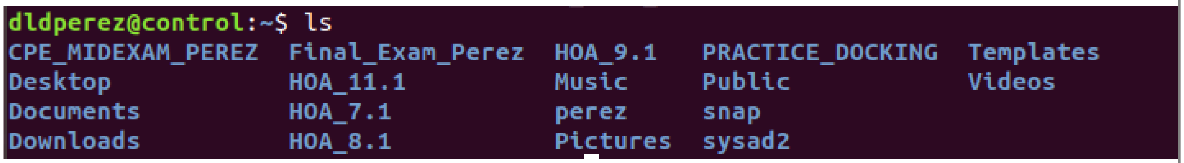
Note: Extra points if you will implement the said services via containerization.



```
git@github.com:dldperez/Final_Exam_Perez.g
```

Use a password-protected SSH key.

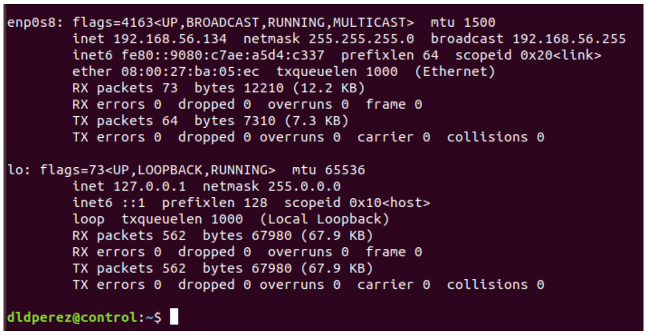
Github repository



```
dldperez@control:~$ ls
CPE_MIDEXAM_PEREZ  Final_Exam_Perez  HOA_9.1   PRACTICE_DOCKING  Templates
Desktop            HOA_11.1          Music     Public            Videos
Documents          HOA_7.1           perez     snap
Downloads          HOA_8.1           Pictures  sysad2
```

Cloned github Repository

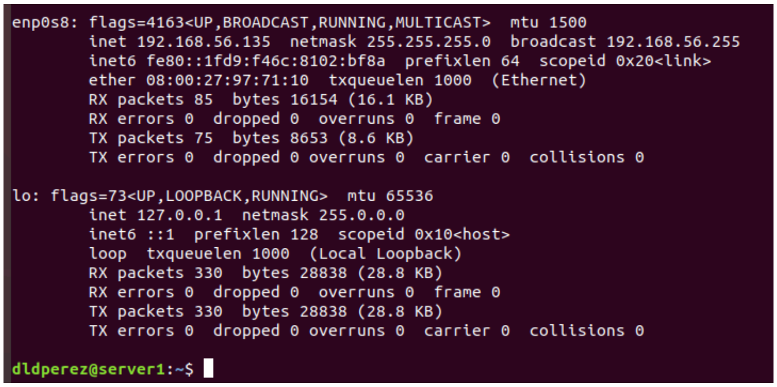
CONTROL



```
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.56.134  netmask 255.255.255.0  broadcast 192.168.56.255
        inet6 fe80::9080:c7ae:a5d4:c337  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:ba:05:ec  txqueuelen 1000  (Ethernet)
        RX packets 73  bytes 12210 (12.2 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 64  bytes 7310 (7.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 562  bytes 67980 (67.9 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 562  bytes 67980 (67.9 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

dldperez@control:~$
```

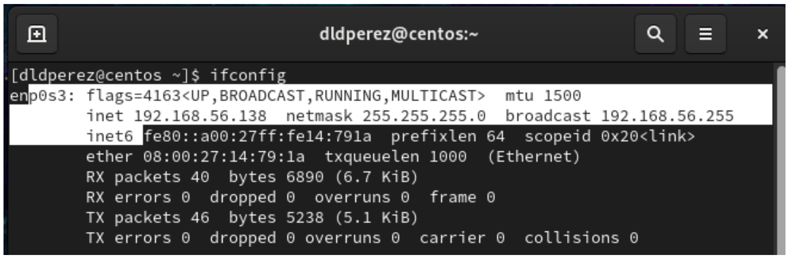
MANAGED NODES

A. UBUNTU



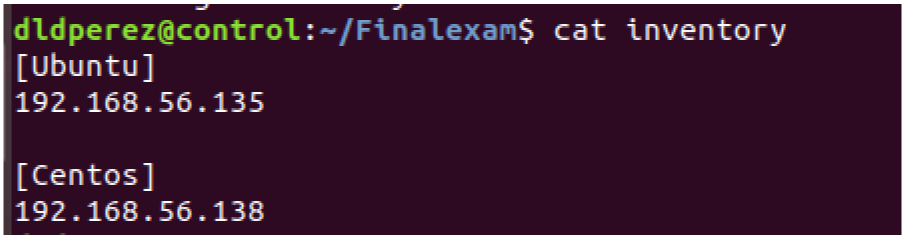
```
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.56.135  netmask 255.255.255.0  broadcast 192.168.56.255
        inet6 fe80::1fd9:f46c:8102:bf8a  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:97:71:10  txqueuelen 1000  (Ethernet)
        RX packets 85  bytes 16154 (16.1 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 75  bytes 8653 (8.6 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 330  bytes 28838 (28.8 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 330  bytes 28838 (28.8 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

dldperez@server1:~$
```

B. CENTOS

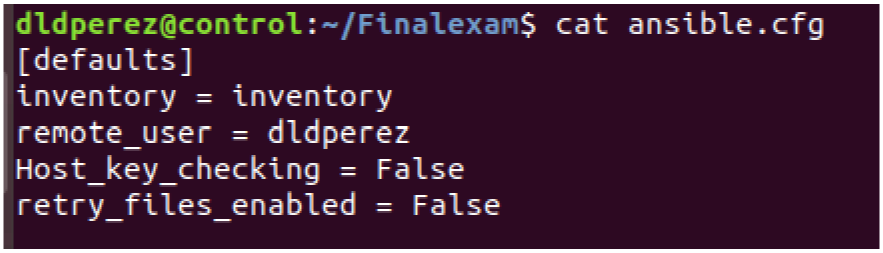


```
[dldperez@centos ~]$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.56.138  netmask 255.255.255.0  broadcast 192.168.56.255
        inet6 fe80::a00:27ff:fe14:791a  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:14:79:1a  txqueuelen 1000  (Ethernet)
        RX packets 40  bytes 6890 (6.7 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 46  bytes 5238 (5.1 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

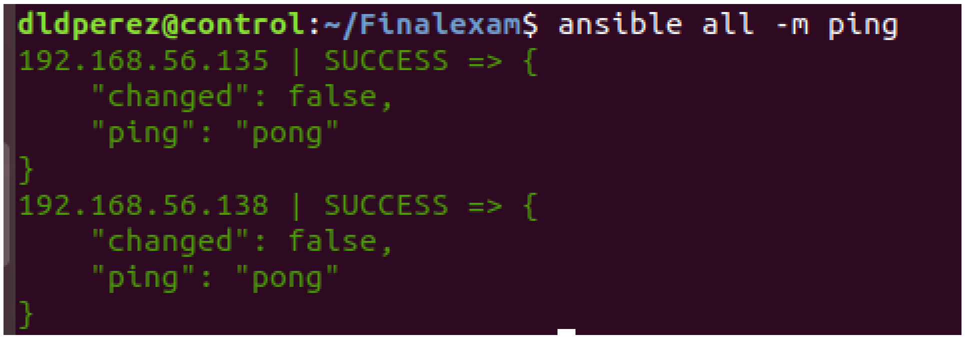
Repository files contents



```
dldperez@control:~/Finalexam$ cat inventory
[Ubuntu]
192.168.56.135

[Centos]
192.168.56.138
```

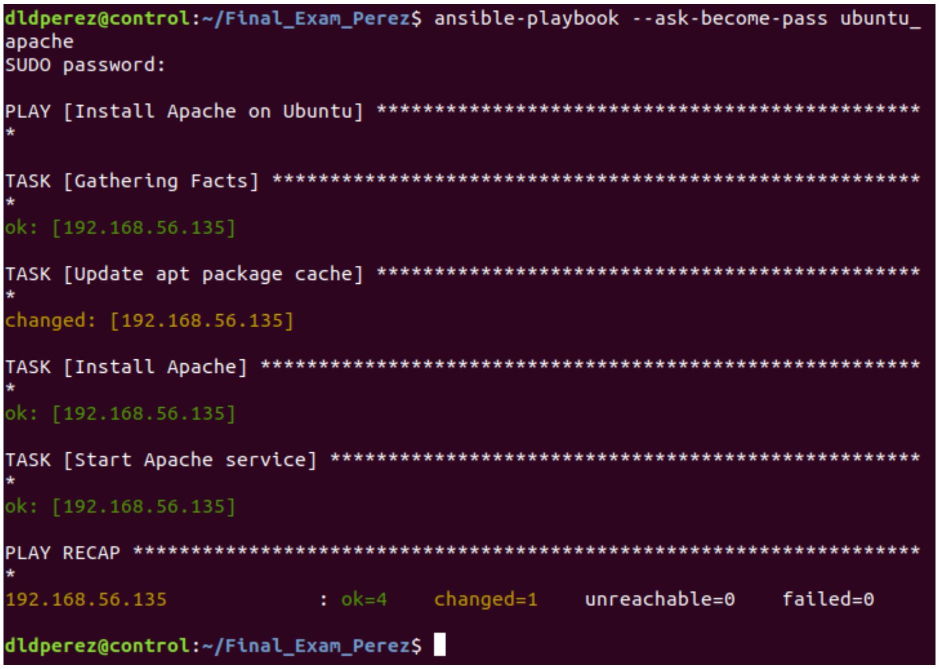


```
dldperez@control:~/Finalexam$ cat ansible.cfg
[defaults]
inventory = inventory
remote_user = dldperez
Host_key_checking = False
retry_files_enabled = False
```



```
dldperez@control:~/Finalexam$ ansible all -m ping
192.168.56.135 | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
192.168.56.138 | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
```

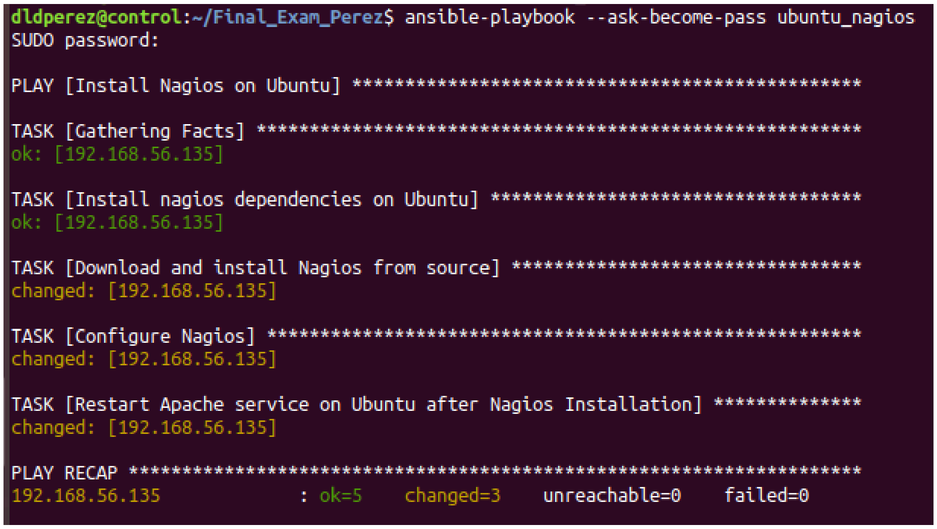
Install Apache on Ubuntu



```
dldperez@control:~/Final_Exam_Perez$ ansible-playbook --ask-become-pass ubuntu_
apache
SUDO password:

PLAY [Install Apache on Ubuntu] ***********************************************
*

TASK [Gathering Facts] ********************************************************
*
ok: [192.168.56.135]

TASK [Update apt package cache] ***********************************************
*
changed: [192.168.56.135]

TASK [Install Apache] *********************************************************
*
ok: [192.168.56.135]

TASK [Start Apache service] ***************************************************
*
ok: [192.168.56.135]

PLAY RECAP ********************************************************************
*
192.168.56.135             : ok=4    changed=1    unreachable=0    failed=0

dldperez@control:~/Final_Exam_Perez$ 
```

Install Apache on Centos

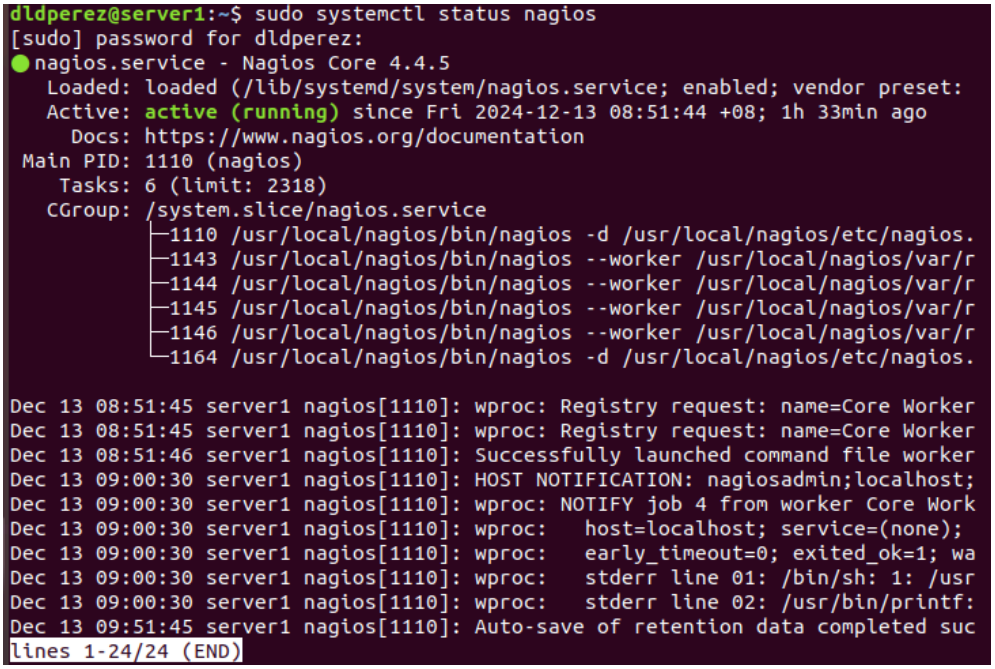
Install Nagios on ubuntu



```
dldperez@control:~/Final_Exam_Perez$ ansible-playbook --ask-become-pass ubuntu_nagios
SUDO password:

PLAY [Install Nagios on Ubuntu] ************************************************

TASK [Gathering Facts] *********************************************************
ok: [192.168.56.135]

TASK [Install nagios dependencies on Ubuntu] ***********************************
ok: [192.168.56.135]

TASK [Download and install Nagios from source] *********************************
changed: [192.168.56.135]

TASK [Configure Nagios] ********************************************************
changed: [192.168.56.135]

TASK [Restart Apache service on Ubuntu after Nagios Installation] **************
changed: [192.168.56.135]

PLAY RECAP *********************************************************************
192.168.56.135             : ok=5    changed=3    unreachable=0    failed=0
```

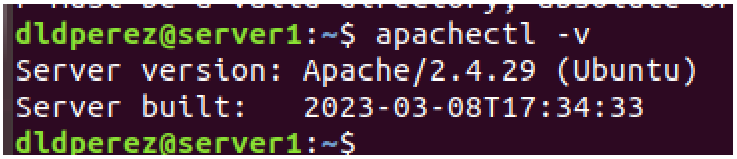
Install Nagos on Centos

Nagios Confirmation on Ubuntu

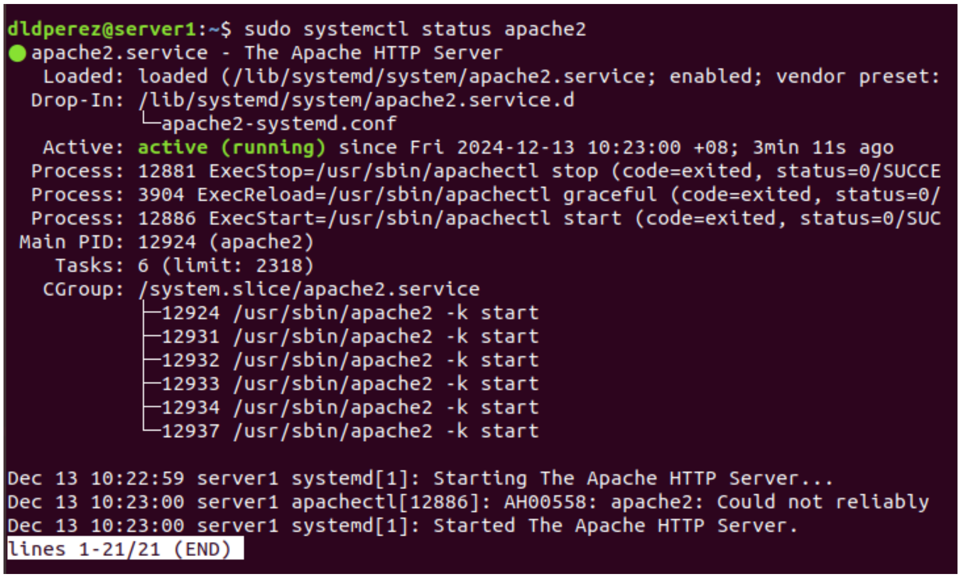


```
dldperez@server1:~$ sudo systemctl status nagios
[sudo] password for dldperez:
● nagios.service - Nagios Core 4.4.5
   Loaded: loaded (/lib/systemd/system/nagios.service; enabled; vendor preset:
   Active: active (running) since Fri 2024-12-13 08:51:44 +08; 1h 33min ago
     Docs: https://www.nagios.org/documentation
 Main PID: 1110 (nagios)
    Tasks: 6 (limit: 2318)
   CGroup: /system.slice/nagios.service
           ├─1110 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.
           ├─1143 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/r
           ├─1144 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/r
           ├─1145 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/r
           ├─1146 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/r
           └─1164 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.

Dec 13 08:51:45 server1 nagios[1110]: wproc: Registry request: name=Core Worker
Dec 13 08:51:45 server1 nagios[1110]: wproc: Registry request: name=Core Worker
Dec 13 08:51:46 server1 nagios[1110]: Successfully launched command file worker
Dec 13 09:00:30 server1 nagios[1110]: HOST NOTIFICATION: nagiosadmin;localhost;
Dec 13 09:00:30 server1 nagios[1110]: wproc: NOTIFY job 4 from worker Core Work
Dec 13 09:00:30 server1 nagios[1110]: wproc:   host=localhost; service=(none);
Dec 13 09:00:30 server1 nagios[1110]: wproc:   early_timeout=0; exited_ok=1; wa
Dec 13 09:00:30 server1 nagios[1110]: wproc:   stderr line 01: /bin/sh: 1: /usr
Dec 13 09:00:30 server1 nagios[1110]: wproc:   stderr line 02: /usr/bin/printf:
Dec 13 09:51:45 server1 nagios[1110]: Auto-save of retention data completed suc
lines 1-24/24 (END)
```

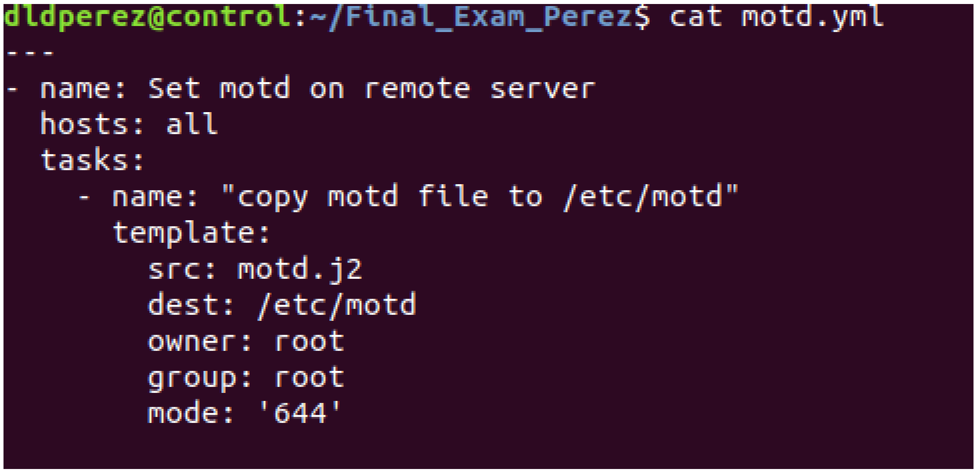
Apache on Ubuntu



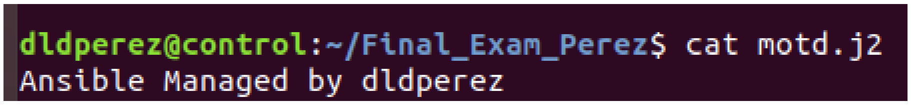
```
dldperez@server1:~$ apachectl -v
Server version: Apache/2.4.29 (Ubuntu)
Server built:   2023-03-08T17:34:33
dldperez@server1:~$
```



```
dldperez@server1:~$ sudo 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 Fri 2024-12-13 10:23:00 +08; 3min 11s ago
  Process: 12881 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/SUCCE
  Process: 3904 ExecReload=/usr/sbin/apachectl graceful (code=exited, status=0/
  Process: 12886 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUC
 Main PID: 12924 (apache2)
    Tasks: 6 (limit: 2318)
   CGroup: /system.slice/apache2.service
           ├─12924 /usr/sbin/apache2 -k start
           ├─12931 /usr/sbin/apache2 -k start
           ├─12932 /usr/sbin/apache2 -k start
           ├─12933 /usr/sbin/apache2 -k start
           ├─12934 /usr/sbin/apache2 -k start
           └─12937 /usr/sbin/apache2 -k start

Dec 13 10:22:59 server1 systemd[1]: Starting The Apache HTTP Server...
Dec 13 10:23:00 server1 apachectl[12886]: AH00558: apache2: Could not reliably
Dec 13 10:23:00 server1 systemd[1]: Started The Apache HTTP Server.
lines 1-21/21 (END)
```



```
dldperez@control:~/Final_Exam_Perez$ cat motd.yml
---
- name: Set motd on remote server
  hosts: all
  tasks:
    - name: "copy motd file to /etc/motd"
      template:
        src: motd.j2
        dest: /etc/motd
        owner: root
        group: root
        mode: '644'
```



```
dldperez@control:~/Final_Exam_Perez$ cat motd.j2
Ansible Managed by dldperez
```