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Course/Section: CpE31s2	Date Submitted: 4/12/2024
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### Final Exam

## Github Link:

[https://github.com/Moznaim/Final\\_Exam\\_Ballesteros](https://github.com/Moznaim/Final_Exam_Ballesteros)

### 1. Codes

#### Site.yml

GNU nano 7.2

site.yml

```
---
- hosts: all
  become: true
  roles:
    - base

- hosts: apache
  become: true
  roles:
    - apache

- hosts: prometheus
  become: true
  roles:
    - prometheus
```

#### Main.yml @ base

GNU nano 7.2

main.yml

```
---
- name: copy motd file to /etc/motd
  template:
    src: motd.j2
    dest: /etc/motd
    owner: root
    group: root
    mode: '644'
```

## templates/Motd.j2 @ base

```
GNU nano 7.2 motd.j2
#####

Ansible Managed by Erwin(Moznaim).

github.com/Moznaim

#####
```

## Main.yml @ prometheus

```
---
- name: install prometheus
  tags: install
  get_url:
    url: https://github.com/prometheus/prometheus/releases/download/v2.54.1/prometheus-2.54.1.linux-amd64.tar.gz
    dest: /tmp/prometheus.tar.gz

- name: extract prometheus
  tags: extract
  unarchive:
    src: /tmp/prometheus.tar.gz
    dest: /usr/local/bin
    remote_src: yes

- name: create prometheus group
  user:
    name: prometheus
    shell: /sbin/nologin

- name: copy prometheus
  copy:
    src: /usr/local/bin/prometheus-2.54.1.linux-amd64/{{ item }}
    dest: /usr/local/bin
    mode: '0755'
    remote_src: yes
  with_items:
    - prometheus
    - promtool
```

```

- name: create config dir prometheus
  file:
    path: /etc/prometheus
    state: directory
    owner: prometheus
    group: prometheus

- name: copy prometheus config
  copy:
    src: /usr/local/bin/prometheus-2.54.1.linux-amd64/prometheus.yml
    dest: /etc/prometheus/prometheus.yml
    owner: prometheus
    group: prometheus
    mode: '0644'
    remote_src: yes

- name: set up prometheus systemd service
  copy:
    dest: /etc/systemd/system/prometheus.service
    content: |
      [Unit]
      Description=Prometheus
      After=network.target

      [Service]
      User=Prometheus
      ExecStart=/usr/local/bin/prometheus \
        --config.file=/etc/prometheus/prometheus.yml \
        --storage.tsdb.path=/var/lib/prometheus
      Restart=always

      [Install]
      WantedBy=multi-user.target

- name: reload systemd and enable prometheus
  systemd:
    daemon_reload: yes
    name: prometheus
    enabled: yes
    state: started

```

Main.yml @ apache

```
--  
- name: copy html file for site  
  copy:  
    src: default_site.html  
    dest: /var/www/html/index.html  
    owner: root  
    group: root  
    mode: 0644  
  
- name: install apache and php in ubuntu  
  apt:  
    name:  
      - apache2  
      - libapache2-mod-php  
    state: latest  
  when: ansible_distribution == "Ubuntu"  
  
- name: install apache and php in centos  
  dnf:  
    name:  
      - httpd  
      - php  
    state: latest  
  when: ansible_distribution == "CentOS"
```

```
- name: start apache in centos  
  service:  
    name: httpd  
    state: started  
  when: ansible_distribution == "CentOS"  
  
- name: start apache in ubuntu  
  service:  
    name: apache2  
    state: started  
  when: ansible_distribution == "Ubuntu"
```

## 2. Ansible Playbook Output

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

TASK [Gathering Facts] *****
ok: [192.168.56.115]
ok: [192.168.56.113]

TASK [base : copy motd file to /etc/motd] *****
changed: [192.168.56.115]
changed: [192.168.56.113]
```

```
PLAY [apache] *****

TASK [Gathering Facts] *****
ok: [192.168.56.115]
ok: [192.168.56.113]

TASK [apache : copy html file for site] *****
changed: [192.168.56.115]
changed: [192.168.56.113]

TASK [apache : install apache and php in ubuntu] *****
skipping: [192.168.56.113]
ok: [192.168.56.115]

TASK [apache : install apache and php in centos] *****
skipping: [192.168.56.115]
ok: [192.168.56.113]

TASK [apache : start apache in centos] *****
skipping: [192.168.56.115]
ok: [192.168.56.113]

TASK [apache : start apache in ubuntu] *****
skipping: [192.168.56.113]
ok: [192.168.56.115]
```

```

TASK [prometheus : install prometheus] *****
ok: [192.168.56.113]
ok: [192.168.56.115]

TASK [prometheus : extract prometheus] *****
ok: [192.168.56.113]
ok: [192.168.56.115]

TASK [prometheus : create prometheus group] *****
ok: [192.168.56.113]
ok: [192.168.56.115]

TASK [prometheus : copy prometheus] *****
changed: [192.168.56.115] => (item=prometheus)
ok: [192.168.56.113] => (item=prometheus)
changed: [192.168.56.115] => (item=promtool)
ok: [192.168.56.113] => (item=promtool)

TASK [prometheus : create config dir prometheus] *****
changed: [192.168.56.115]
ok: [192.168.56.113]

```

```

TASK [prometheus : copy prometheus config] *****
changed: [192.168.56.115]
ok: [192.168.56.113]

TASK [prometheus : set up prometheus systemd service] *****
ok: [192.168.56.113]
changed: [192.168.56.115]

TASK [prometheus : reload systemd and enable prometheus] *****
changed: [192.168.56.113]
changed: [192.168.56.115]

PLAY RECAP *****
192.168.56.113      : ok=15   changed=1   unreachable=0    failed=0    skipped=2
   rescued=0   ignored=0
192.168.56.115      : ok=15   changed=3   unreachable=0    failed=0    skipped=2
   rescued=0   ignored=0

```

### 3. Verification

#### Monitoring tool :

```

erwin@server1:/$ sudo service prometheus start
erwin@server1:/$ sudo service prometheus status
* prometheus.service - Prometheus
   Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; preset: enabled)
   Active: failed (Result: exit-code) since Wed 2024-12-04 00:23:10 PST; 2s ago
 Unit node.explore.service could not be found.

[erwin@centos9 ~]$ sudo systemctl status prometheus
* prometheus.service - Prometheus
   Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; preset: d>
   Active: failed (Result: exit-code) since Wed 2024-12-04 00:13:27 PST; 12mi

```

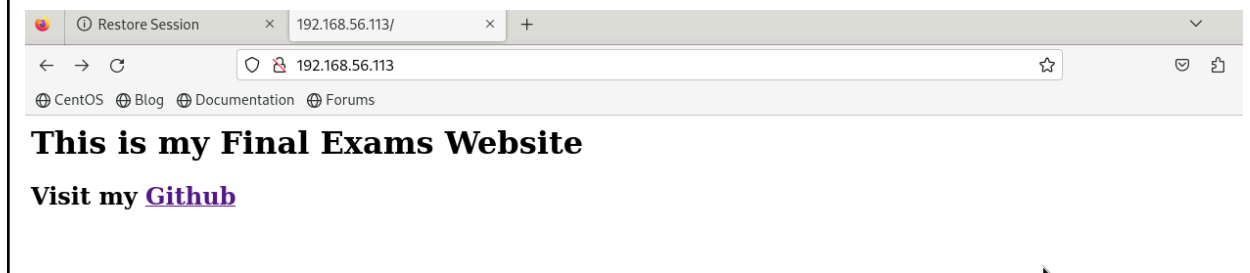
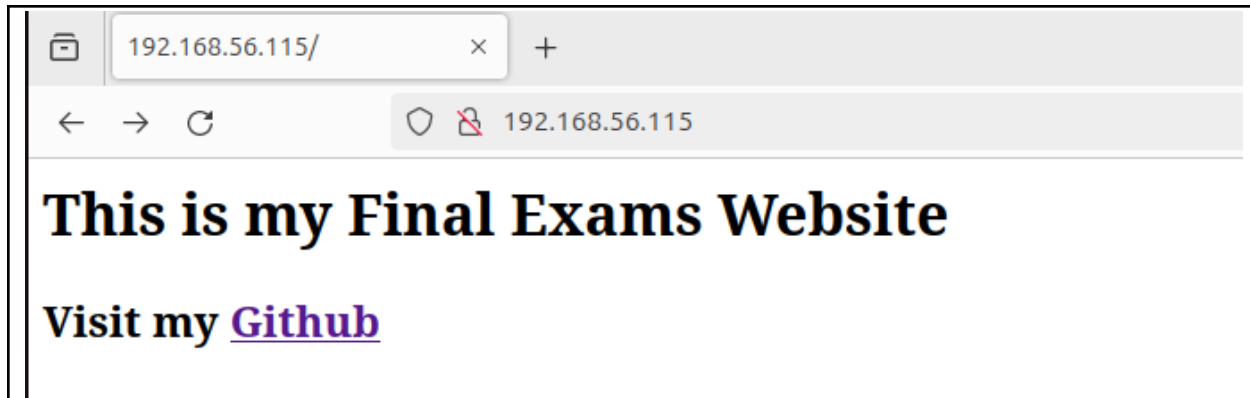
## Enterprise Service:

```
erwin@server1:/$ sudo service apache2 status
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
   Active: active (running) since Wed 2024-12-04 08:45:47 PST; 44min ago
     Docs: https://httpd.apache.org/docs/2.4/
    Main PID: 82825 (apache2)
      Tasks: 7 (limit: 4615)
   Memory: 8.3M (peak: 11.3M swap: 8.6M swap peak: 8.7M)
      CPU: 251ms
    CGroup: /system.slice/apache2.service
            └─82825 /usr/sbin/apache2 -k start
              └─82828 /usr/sbin/apache2 -k start
                └─82829 /usr/sbin/apache2 -k start
                  └─82830 /usr/sbin/apache2 -k start
                    └─82831 /usr/sbin/apache2 -k start
                      └─82832 /usr/sbin/apache2 -k start
                        └─124301 /usr/sbin/apache2 -k start

Dec 04 08:45:47 server1 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Dec 04 08:45:47 server1 apachectl[82824]: AH00558: apache2: Could not reliably determine the server's full
Dec 04 08:45:47 server1 systemd[1]: Started apache2.service - The Apache HTTP Server.
lines 1-20/20 (END)
```

```
[erwin@centos9 ~]$ sudo service httpd status
[sudo] password for erwin:
Redirecting to /bin/systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
   Drop-In: /usr/lib/systemd/system/httpd.service.d
            └─php-fpm.conf
   Active: active (running) since Wed 2024-12-04 07:50:29 PST; 1h 41min ago
     Docs: man:httpd.service(8)
    Main PID: 929 (httpd)
   Status: "Total requests: 4; Idle/Busy workers 100/0;Requests/sec: 0.00066;..."
      Tasks: 177 (limit: 23021)
   Memory: 38.6M
      CPU: 12.676s
    CGroup: /system.slice/httpd.service
            └─929 /usr/sbin/httpd -DFOREGROUND
              └─986 /usr/sbin/httpd -DFOREGROUND
                └─987 /usr/sbin/httpd -DFOREGROUND
                  └─988 /usr/sbin/httpd -DFOREGROUND
                    └─989 /usr/sbin/httpd -DFOREGROUND

Dec 04 07:50:29 centos9 systemd[1]: Starting The Apache HTTP Server...
Dec 04 07:50:29 centos9 httpd[929]: AH00558: httpd: Could not reliably determine
```



## MOTD:

```
erwin@workstation:~/Final_Exam_Ballesteros$ ssh erwin@server1
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-48-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

Expanded Security Maintenance for Applications is not enabled.

185 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

8 additional security updates can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

*** System restart required ***
#####

Ansible Managed by Erwin(Moznaim).

github.com/Moznaim

#####
Last login: Wed Dec  4 09:12:35 2024 from 192.168.56.114
```



```
erwin@workstation:~/Final_Exam_Ballesteros$ ssh erwin@centos9
#####

Ansible Managed by Erwin(Moznaim).

github.com/Moznaim

#####
Activate the web console with: systemctl enable --now cockpit.socket

Last login: Wed Dec  4 09:12:35 2024 from 192.168.56.114
[erwin@centos9 ~]$
```