

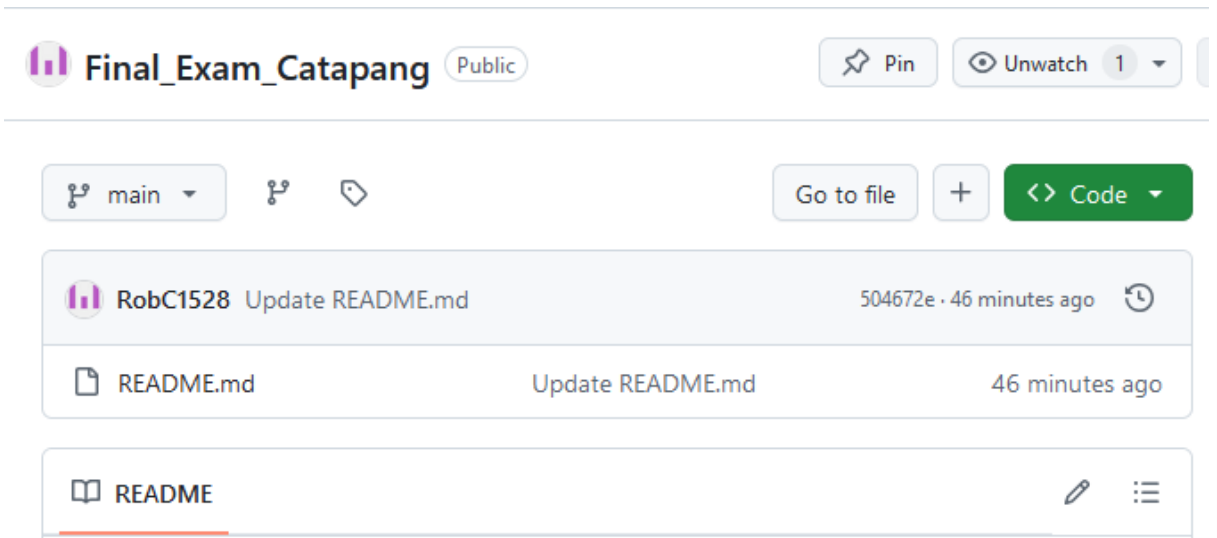
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Course & Section: CPE212-CPE31S2
Date: 12/04/24

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

```
catapang@localmachine:~/CPE212/Final_Exam_Catapang$
```

- 3. Create an Ansible playbook that does the following with an input of a config.yaml file and structure inventory file.

```
catapang@localmachine:~/CPE212/Final_Exam_Catapang$ tree
.
├── ansible.cfg
├── config.yaml
├── inventory
├── playbook.yml
└── README.md

1 directory, 5 files
```

- 3.1 Install and configure one enterprise service that can be installed in Debian and Centos servers

```
[rcatapang@localhost ~]$ systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Sun 2024-11-03 21:36:27 EST; 1h 32min ago
     Docs: man:httpd(8)
           man:apachectl(8)
  Main PID: 8623 (httpd)
    Status: "Total requests: 18; Current requests/sec: 0; Current traffic:  0 B/sec"
    Tasks: 7
   CGroup: /system.slice/httpd.service
           └─ 8623 /usr/sbin/httpd -DFOREGROUND
              8626 /usr/sbin/httpd -DFOREGROUND
              8627 /usr/sbin/httpd -DFOREGROUND
              8628 /usr/sbin/httpd -DFOREGROUND
              8629 /usr/sbin/httpd -DFOREGROUND
              8630 /usr/sbin/httpd -DFOREGROUND
             12201 /usr/sbin/httpd -DFOREGROUND

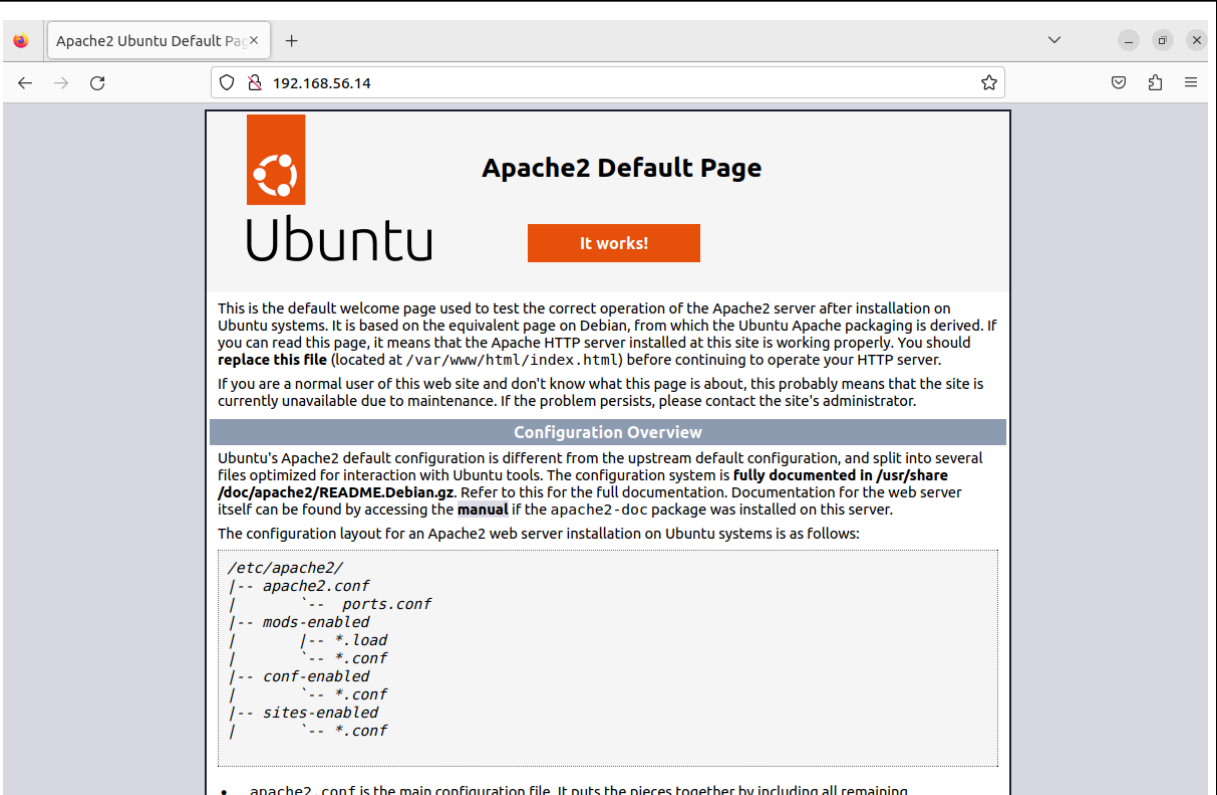
Nov 03 21:36:26 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
Nov 03 21:36:27 localhost.localdomain httpd[8623]: AH00558: httpd: Could not reliably...
Nov 03 21:36:27 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
Hint: Some lines were ellipsized, use -l to show in full.
[rcatapang@localhost ~]$
```



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)

```
catapang@server3:~$ systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor prese
   Active: active (running) since Wed 2024-12-04 09:24:49 +08; 7min ago
     Docs: https://httpd.apache.org/docs/2.4/
  Main PID: 967 (apache2)
    Tasks: 6 (limit: 1622)
   Memory: 2.1M
      CPU: 151ms
   CGroup: /system.slice/apache2.service
           └─ 967 /usr/sbin/apache2 -k start
              999 /usr/sbin/apache2 -k start
             1000 /usr/sbin/apache2 -k start
             1001 /usr/sbin/apache2 -k start
             1002 /usr/sbin/apache2 -k start
             1003 /usr/sbin/apache2 -k start

Warning: some journal files were not opened due to insufficient permissions.
```



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

```
[rcatapang@localhost ~]$ cat /etc/motd
Ansible Managed by rcatapang
```

```
catapang@server3:~$ cat /etc/motd
Ansible Managed by catapang
```

4. Push and commit your files in GitHub

```
catapang@localmachine:~/CPE212/Final_Exam_Catapang$ git add .
catapang@localmachine:~/CPE212/Final_Exam_Catapang$ git commit -m "Final Exam"
On branch main
Your branch and 'origin/main' have diverged,
and have 1 and 4 different commits each, respectively.
(use "git pull" to merge the remote branch into yours)

nothing to commit, working tree clean
catapang@localmachine:~/CPE212/Final_Exam_Catapang$ git pull
Successfully rebased and updated refs/heads/main.
catapang@localmachine:~/CPE212/Final_Exam_Catapang$ ls
ansible.cfg  config.yaml  inventory  playbook.yml  README.md
catapang@localmachine:~/CPE212/Final_Exam_Catapang$ git push
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 2 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 987 bytes | 987.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:RobC1528/Final_Exam_Catapang.git
504672e..8a1bf1b  main -> main
```



Final_Exam_Catapang

Public



Pin



Unwatch

1



main



Go to file



Code



RobC1528

Final Exam Catapang

8a1bf1b · now



README.md

Update README.md

1 hour ago



ansible.cfg

Final Exam Catapang

now



config.yaml

Final Exam Catapang

now



inventory

Final Exam Catapang

now



playbook.yml

Final Exam Catapang

now

5. Make sure to show evidence of input (codes) process (codes successfully running) and output (evidence of installation)

```
catapang@localmachine:~/CPE212/Final_Exam_Catapang$ cat playbook.yml
---
- name: Setup Apache and Netdata on CentOS and Ubuntu servers
  hosts: all
  become: true
  tasks:

    # Install Apache (for Ubuntu and CentOS)
    - name: Install Apache on Ubuntu and CentOS
      package:
        name: apache2
        state: present
      when: ansible_facts['os_family'] == 'Debian'

    - name: Install Apache on CentOS
      package:
        name: httpd
        state: present
      when: ansible_facts['os_family'] == 'RedHat'

    # Start and enable Apache service (for Ubuntu and CentOS)
    - name: Start and enable Apache service
      service:
        name: "{{ 'apache2' if ansible_facts['os_family'] == 'Debian' else 'httpd' }}"
        state: started
        enabled: yes
        when: ansible_facts['os_family'] == 'Debian' or ansible_facts['os_family'] == 'RedHat'

    # Install Netdata (for Ubuntu and CentOS)
    - name: Install dependencies for Netdata (Ubuntu and CentOS)
      package:
        name:
          - curl
          - gcc
          - make
        state: present
```

```

    package:
      name: apache2
      state: present
      when: ansible_facts['os_family'] == 'Debian'

- name: Install Apache on CentOS
  package:
    name: httpd
    state: present
    when: ansible_facts['os_family'] == 'RedHat'

# Start and enable Apache service (for Ubuntu and CentOS)
- name: Start and enable Apache service
  service:
    name: "{{ 'apache2' if ansible_facts['os_family'] == 'Debian' else 'httpd' }}"
    state: started
    enabled: yes
    when: ansible_facts['os_family'] == 'Debian' or ansible_facts['os_family'] == 'RedHat'

# Install Netdata (for Ubuntu and CentOS)
- name: Install dependencies for Netdata (Ubuntu and CentOS)
  package:
    name:
      - curl
      - gcc
      - make
    state: present
    when: ansible_facts['os_family'] == 'Debian' or ansible_facts['os_family'] == 'RedHat'

# Change MOTD message (for Ubuntu and CentOS)
- name: Change MOTD to "Ansible Managed by {{ ansible_user }}"
  lineinfile:
    path: /etc/motd
    line: "Ansible Managed by {{ ansible_user }}"
    create: yes
    state: present

```

```

catapang@localmachine:~/CPE212/Final_Exam_Catapang$ ansible-playbook --ask-become-pass playbook.yml
BECOME password:

PLAY [Setup Apache and Netdata on CentOS and Ubuntu servers] *****

TASK [Gathering Facts] *****
ok: [192.168.56.17]
ok: [192.168.56.14]

TASK [Install Apache on Ubuntu and CentOS] *****
skipping: [192.168.56.17]
ok: [192.168.56.14]

TASK [Install Apache on CentOS] *****
skipping: [192.168.56.14]
ok: [192.168.56.17]

TASK [Start and enable Apache service] *****
ok: [192.168.56.17]
ok: [192.168.56.14]

TASK [Install dependencies for Netdata (Ubuntu and CentOS)] *****
ok: [192.168.56.17]
changed: [192.168.56.14]

TASK [Change MOTD to "Ansible Managed by {{ ansible_user }}"] *****
changed: [192.168.56.14]
ok: [192.168.56.17]

PLAY RECAP *****
192.168.56.14      : ok=5    changed=2    unreachable=0    failed=0    s
kipped=1    rescued=0    ignored=0
192.168.56.17      : ok=5    changed=0    unreachable=0    failed=0    s
kipped=1    rescued=0    ignored=0

```

5. For your final exam to be counted, please paste your repository link as an answer in this exam.

https://github.com/RobC1528/Final_Exam_Catapang.git

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