Experiment 12 – Create and Run Ansible Playbooks:

Steps

1. Repeat the steps in Experiment 11 to create the initial setup

2. Test adhoc commands

```
[ansible@ip-172-31-11-127 ~]$ ansible upes --list-hosts

  hosts (1):
    172.31.5.83
[ansible@ip-172-31-11-127 ~]$
[ansible@ip-172-31-11-127 ~]$
```

3. Install Apache server on node server using adhoc command

```
[ansiblenode@ip-172-31-5-83 ~]$ which httpd
/usr/bin/which: no httpd in (/usr/local/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/home/ansiblenode/.local/bin:/home/ansib
lenode/bin)
[ansiblenode@ip-172-31-5-83 ~]$
```
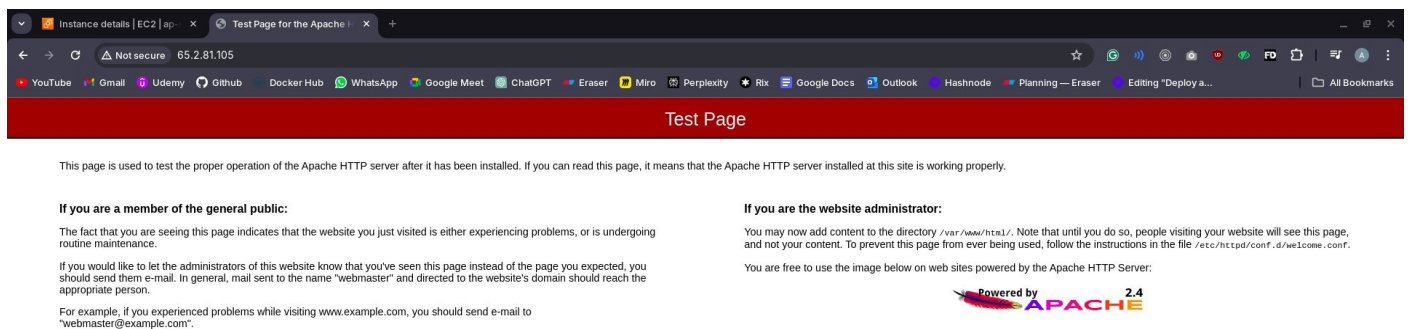
```
[ansible@ip-172-31-11-127 .ssh]$ ansible upes --list-hosts
  hosts (1):
    172.31.5.83
[ansible@ip-172-31-11-127 .ssh]$ ansible upes -a "sudo yum install httpd -y"
[WARNING]: Consider using 'become', 'become_method', and 'become_user' rather than running sudo
[WARNING]: Platform linux on host 172.31.5.83 is using the discovered Python interpreter at /usr/bin/python, but
future installation of another Python interpreter could change this. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
172.31.5.83 | CHANGED | rc=0 >>
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.58-1.amzn2 will be installed
--> Processing Dependency: httpd-filesystem = 2.4.58-1.amzn2 for package: httpd-2.4.58-1.amzn2.x86_64
--> Processing Dependency: httpd-tools = 2.4.58-1.amzn2 for package: httpd-2.4.58-1.amzn2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.58-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.58-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.58-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.58-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.58-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.58-1.amzn2.x86_64
--> Running transaction check
---> Package apr.x86_64 0:1.7.2-1.amzn2 will be installed
---> Package apr-util.x86_64 0:1.6.3-1.amzn2.0.1 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.3-1.amzn2.0.1 for package: apr-util-1.6.3-1.amzn2.0.1.x86_64
---> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
---> Package httpd-filesystem.noarch 0:2.4.58-1.amzn2 will be installed
---> Package httpd-tools.x86_64 0:2.4.58-1.amzn2 will be installed
---> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
---> Package mod_http2.x86_64 0:1.15.19-1.amzn2.0.1 will be installed
--> Running transaction check
---> Package apr-util-bdb.x86_64 0:1.6.3-1.amzn2.0.1 will be installed
--> Finished Dependency Resolution
```

```
[ansible@ip-172-31-5-83 ~]$ which httpd
/usr/sbin/httpd
[ansible@ip-172-31-5-83 ~]$ []
```

4. Start the httpd service using ansible


```
complete!
[ansible@ip-172-31-11-127 .ssh]$ ansible upes -a "sudo systemctl start httpd"
[WARNING]: Consider using 'become', 'become_method', and 'become_user' rather than running sudo
[WARNING]: Platform linux on host 172.31.5.83 is using the discovered Python interpreter at /usr/bin/python, but
future installation of another Python interpreter could change this. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
172.31.5.83 | CHANGED | rc=0 >>

[ansible@ip-172-31-11-127 .ssh]$ []
```


Test Page

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

If you are the website administrator:

You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file /etc/httpd/conf.d/welcome.conf.

You are free to use the image below on web sites powered by the Apache HTTP Server:

5. Remove ansbile and then reinstall using ansible playbook


```
[ansible@ip-172-31-11-127 .ssh]$ ansible upes -a "sudo yum remove httpd -y"
[WARNING]: Consider using 'become', 'become_method', and 'become_user' rather than running sudo
[WARNING]: Platform linux on host 172.31.5.83 is using the discovered Python interpreter at /usr/bin/python, but
future installation of another Python interpreter could change this. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
172.31.5.83 | CHANGED | rc=0 >>
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.58-1.amzn2 will be erased
--> Processing Dependency: httpd-mmn = 20120211x8664 for package: mod_http2-1.15.19-1.amzn2.0.1.x86_64
--> Running transaction check
---> Package mod_http2.x86_64 0:1.15.19-1.amzn2.0.1 will be erased
--> Finished Dependency Resolution

Dependencies Resolved
```

```
[ansible@ip-172-31-11-127 .ssh]$ cat pb1.yml
- hosts: upes
  user: ansible
  become: yes
  connection: ssh
  vars:
    pkgname: httpd
    currstatus: present
  tasks:
    - name: Install HTTPD
      yum:
        name: '{{ pkgname }}'
        state: '{{ currstatus }}'

    - name: Start HTTPD service
      service:
        name: httpd
        state: started

[ansible@ip-172-31-11-127 .ssh]$ ansible-playbook pb1.yml

PLAY [upes] ***********************************************************************

TASK [Gathering Facts] ***********************************************************
[WARNING]: Platform linux on host 172.31.5.83 is using the discovered Python interpreter at /usr/bin/python, but
future installation of another Python interpreter could change this. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.5.83]

TASK [Install HTTPD] *************************************************************
ok: [172.31.5.83]

TASK [Start HTTPD service] ******************************************************
changed: [172.31.5.83]

PLAY RECAP **********************************************************************
172.31.5.83                : ok=3    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[ansible@ip-172-31-11-127 .ssh]$
```
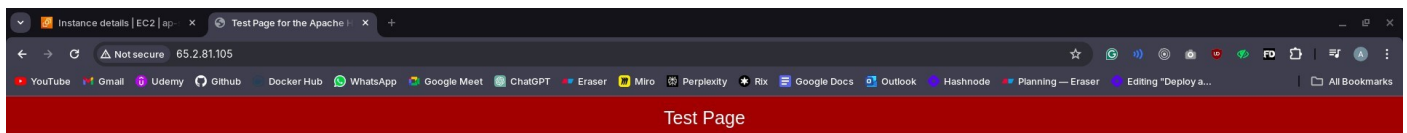

Test Page

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

If you are the website administrator:

You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file /etc/httpd/conf.d/welcome.conf.

You are free to use the image below on web sites powered by the Apache HTTP Server:

Powered by APACHE 2.4

6. Testing other playbooks

```
[ansible@ip-172-31-11-127 .ssh]$ nano pb2.yml
[ansible@ip-172-31-11-127 .ssh]$ cat pb2.yml
---
- hosts: upes
  user: ansible
  become: yes
  connection: ssh
  tasks:
    - name: Debian Family
      command: apt-get install apache2 -y
      when: ansible_os_family == "Debian"
    - name: RedHat Family
      command: yum install httpd -y
      when: ansible_os_family == "RedHat"
[ansible@ip-172-31-11-127 .ssh]$ ansible-playbook pb2.yml

PLAY [upes] ********************************************************************************************

TASK [Gathering Facts] ********************************************************************************
[WARNING]: Platform linux on host 172.31.5.83 is using the discovered Python interpreter at /usr/bin/python, but
future installation of another Python interpreter could change this. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.5.83]

TASK [Debian Family] **********************************************************************************
skipping: [172.31.5.83]

TASK [RedHat Family] **********************************************************************************
[WARNING]: Consider using the yum module rather than running 'yum'.  If you need to use command because yum is
insufficient you can add 'warn: false' to this command task or set 'command_warnings=False' in ansible.cfg to get rid
of this message.
changed: [172.31.5.83]

PLAY RECAP ********************************************************************************************
172.31.5.83                : ok=2    changed=1    unreachable=0    failed=0    skipped=1    rescued=0    ignored=0

[ansible@ip-172-31-11-127 .ssh]$ []
```