

272 - Ansible Assignment Demo

- Two VMs, **VM1** and **VM2** on AWS:

The screenshot shows the AWS EC2 Instances page with the instance summary for VM1. Key details include:

- Instance ID: i-002776118fb82cb21 (VM1)
- Public IPv4 address: 13.58.171.96
- Instance state: Running
- Private IP DNS name (IPv4 only): ip-172-31-21-200.us-east-2.compute.internal
- Instance type: t2.micro
- VPC ID: vpc-03a528a698bc4a041
- Subnet ID: subnet-0cf02a4e2fdbef590
- Instance ARN: arn:aws:ec2:us-east-2:557124976850:instance/i-002776118fb82cb21

The Details tab is selected, showing additional instance details like AMI ID, Platform, and Launch time.

The screenshot shows the AWS EC2 Instances page with the instance summary for VM2. Key details include:

- Instance ID: i-04b3379c136a75dad (VM2)
- Public IPv4 address: 18.224.109.62
- Instance state: Running
- Private IP DNS name (IPv4 only): ip-172-31-24-72.us-east-2.compute.internal
- Instance type: t2.micro
- VPC ID: vpc-03a528a698bc4a041
- Subnet ID: subnet-0cf02a4e2fdbef590
- Instance ARN: arn:aws:ec2:us-east-2:557124976850:instance/i-04b3379c136a75dad

The Details tab is selected, showing additional instance details like AMI ID, Platform, and Launch time.

```
Last login: Fri Aug 30 20:26:24 on ttys000
rushabhrunwal$cd AWS
rushabhrunwal$chmod aws-key-vm2.pem
usage: chmod [-fhv] [-R [-H | -L | -P]] [-a | +a | =a [i][# [ n]]] mode|entry file ...
        chmod [-fhv] [-R [-H | -L | -P]] [-E | -C | -N | -i | -I] file ...
rushabhrunwal$chmod 400 aws-key-vm2.pem
rushabhrunwal$ssh -i aws-key-vm2.pem ubuntu@18.224.109.62
The authenticity of host '18.224.109.62 (18.224.109.62)' can't be established.
ED25519 key fingerprint is SHA256:hakqQlHqkdTJwEtrb4Pxvs9FCuAmVQbuzKhk677Ezqc.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '18.224.109.62' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

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

System information as of Sat Aug 31 03:44:32 UTC 2024

System load: 0.07      Processes:          106
Usage of /: 22.8% of 6.71GB  Users logged in:      0
Memory usage: 21%           IPv4 address for enX0: 172.31.24.72
Swap usage:  0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.
```

```
rushabhrunwal$ssh -i aws-key-vm1.pem ubuntu@13.58.171.96
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

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

System information as of Sat Aug 31 03:37:41 UTC 2024

System load: 0.0      Processes:          106
Usage of /: 22.9% of 6.71GB  Users logged in:      1
Memory usage: 19%           IPv4 address for enX0: 172.31.21.200
Swap usage:  0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Sat Aug 31 03:32:27 2024 from 3.16.146.5
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-21-200:~$ sudo apt-get update
Hit:1 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [323 kB]
Get:8 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:9 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
```

- Configured Ansible to deploy a webserver on **VM1** and **VM2** on port 8080 with a web page that is accessible from a web browser, and displays the message: “Hello World from SJSU-X” where X is 1 or 2 depending on which web server instance, VM1 or VM2

- Ansible playbook:

webserver.yml

```

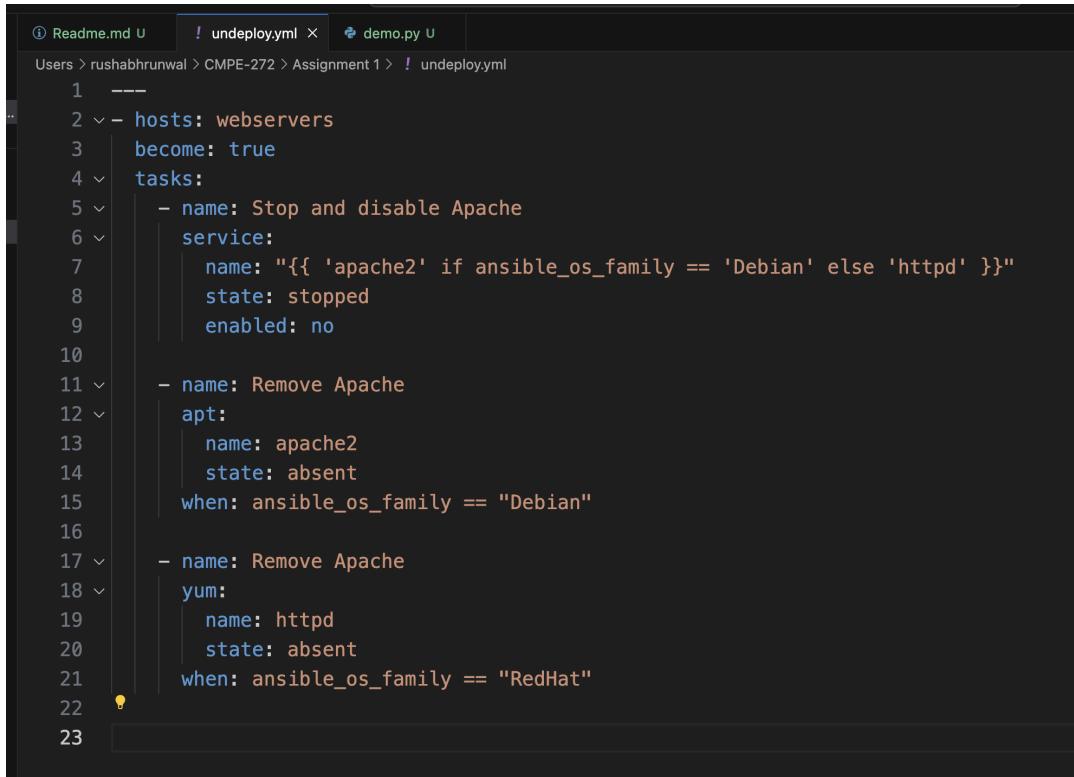
1  ---
2  - hosts: webservers
3    become: true
4    tasks:
5      - name: Install Apache
6        apt:
7          name: apache2
8          state: present
9          when: ansible_os_family == "Debian"
10
11     - name: Install Apache
12       yum:
13         name: httpd
14         state: present
15         when: ansible_os_family == "RedHat"
16
17     - name: Start and enable Apache
18       service:
19         name: "{{ 'apache2' if ansible_os_family == 'Debian' else 'httpd' }}"
20         state: started
21         enabled: yes
22
23     - name: Create a custom index.html
24       copy:
25         dest: /var/www/html/index.html
26         content: "Hello World from SJSU-{{ inventory_hostname }}"
27
28     - name: Configure Apache to listen on port 8080
29       lineinfile:
30         path: /etc/apache2/ports.conf
31         regexp: '^Listen'
32         line: 'Listen 8080'
33         notify: restart apache
34         when: ansible_os_family == "Debian"
35
36     - name: Configure Apache to listen on port 8080
37       lineinfile:
38         path: /etc/httpd/conf/httpd.conf
39         regexp: '^Listen'
40         line: 'Listen 8080'
41         notify: restart apache
42         when: ansible_os_family == "RedHat"
43
44   handlers:
45     - name: restart apache
46       service:
47         name: "{{ 'apache2' if ansible_os_family == 'Debian' else 'httpd' }}"
48         state: restarted
49
50

```

- What it does :

- Installs Apache on Ubuntu
- Starts Apache service and enables it to run on boot
- Creates custom index.html file in web server’s root directory that displays “Hello World from SJSU-X”, X = hostname of VM
- Configures to listen on port 8080

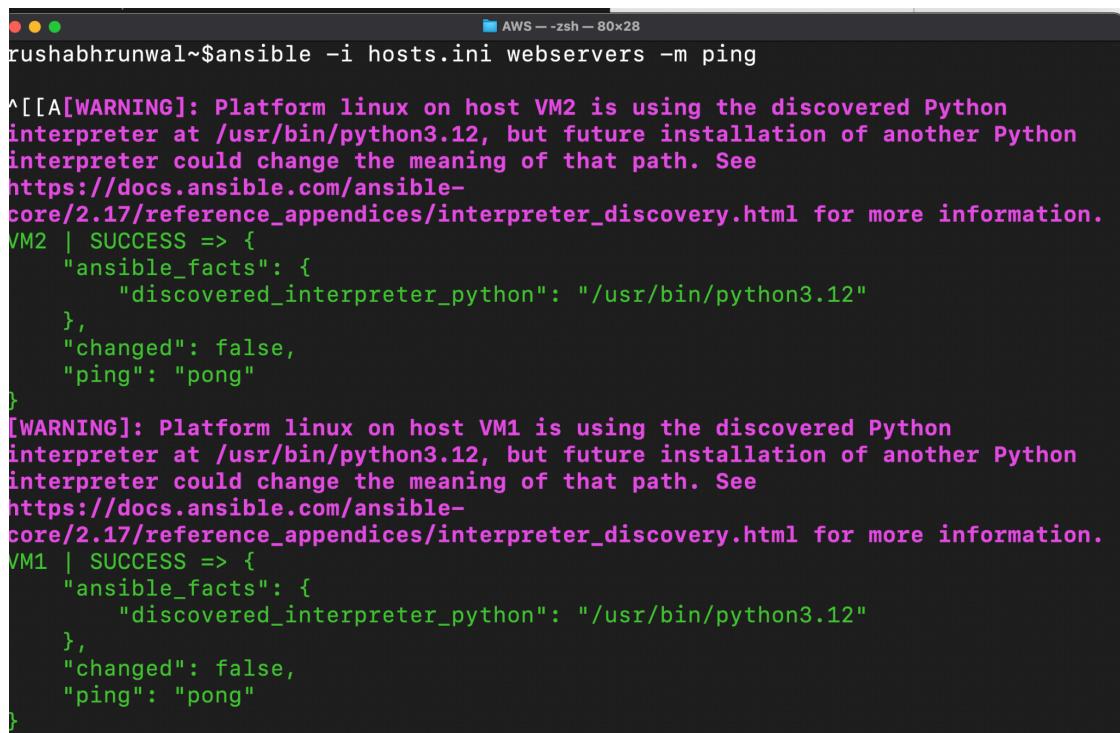
undeploy.yml



```
① Readme.md U ! undeploy.yml X ⚡ demo.py U
Users > rushabhrunwal > CMPE-272 > Assignment 1 > ! undeploy.yml
1 ---
2   - hosts: webservers
3     become: true
4     tasks:
5       - name: Stop and disable Apache
6         service:
7           name: "{{ 'apache2' if ansible_os_family == 'Debian' else 'httpd' }}"
8           state: stopped
9           enabled: no
10
11      - name: Remove Apache
12        apt:
13          name: apache2
14          state: absent
15          when: ansible_os_family == "Debian"
16
17      - name: Remove Apache
18        yum:
19          name: httpd
20          state: absent
21          when: ansible_os_family == "RedHat"
22
23
```

Stops and disables Apache from Ubuntu

- **Deploying and un-deploying the webserver resources**



```
rushabhrunwal~$ansible -i hosts.ini webservers -m ping
^[[A[WARNING]: Platform linux on host VM2 is using the discovered Python
interpreter at /usr/bin/python3.12, but future installation of another Python
interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
VM2 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3.12"
    },
    "changed": false,
    "ping": "pong"
}
[WARNING]: Platform linux on host VM1 is using the discovered Python
interpreter at /usr/bin/python3.12, but future installation of another Python
interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
VM1 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3.12"
    },
    "changed": false,
    "ping": "pong"
}
```

```

rashabhrunwal$ ansible-playbook -i hosts.ini webserver.yml

PLAY [webservers] *****
TASK [Gathering Facts] *****
[WARNING]: Platform linux on host VM2 is using the discovered Python
interpreter at /usr/bin/python3.12, but future installation of another Python
interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [VM2]
[WARNING]: Platform linux on host VM1 is using the discovered Python
interpreter at /usr/bin/python3.12, but future installation of another Python
interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [VM1]

TASK [Install Apache] *****
changed: [VM2]
changed: [VM1]

TASK [Install Apache] *****
skipping: [VM1]
skipping: [VM2]

TASK [Start and enable Apache] *****
ok: [VM1]
ok: [VM2]

TASK [Create a custom index.html] *****
changed: [VM1]
changed: [VM2]

TASK [Configure Apache to listen on port 8080] *****
changed: [VM1]
changed: [VM2]

TASK [Configure Apache to listen on port 8080] *****

*****
AWS -- zsh -- 80x40
interpreter at /usr/bin/python3.12, but future installation of another Python
interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [VM1]

TASK [Install Apache] *****
changed: [VM2]
changed: [VM1]

TASK [Install Apache] *****
skipping: [VM1]
skipping: [VM2]

TASK [Start and enable Apache] *****
ok: [VM1]
ok: [VM2]

TASK [Create a custom index.html] *****
changed: [VM1]
changed: [VM2]

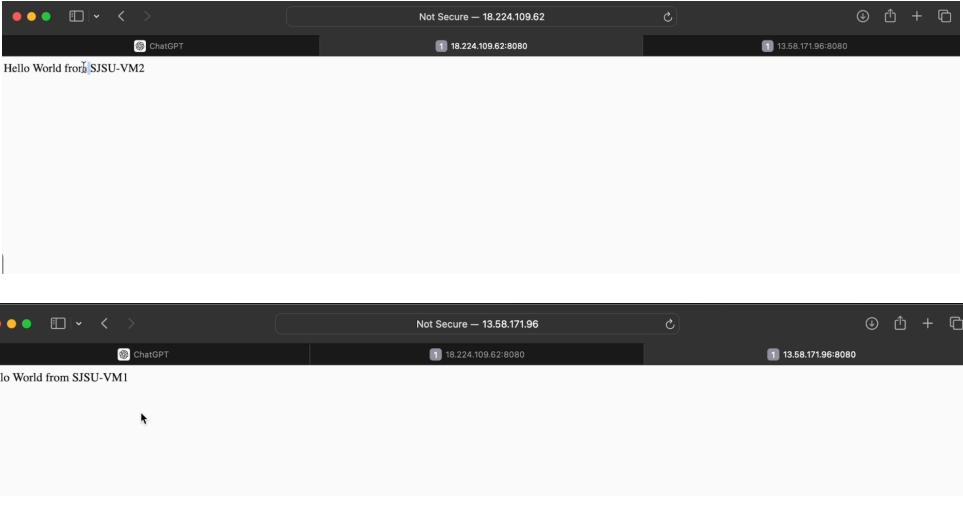
TASK [Configure Apache to listen on port 8080] *****
changed: [VM1]
changed: [VM2]

TASK [Configure Apache to listen on port 8080] *****
skipping: [VM1]
skipping: [VM2]

RUNNING HANDLER [restart apache] *****
changed: [VM2]
changed: [VM1]

PLAY RECAP *****
VM1 : ok=6    changed=4    unreachable=0    failed=0    s
kippe=2    rescued=0    ignored=0
VM2 : ok=6    changed=4    unreachable=0    failed=0    s
kippe=2    rescued=0    ignored=0

```



```

Not Secure — 18.224.109.62
ChatGPT
Hello World from SJSU-VM2

Not Secure — 13.58.171.96:8080
ChatGPT
Hello World from SJSU-VM1

```

```

AWS -- zsh -- 80x40
interpreter at /usr/bin/python3.12, but future installation of another Python
interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [VM1]

TASK [Install Apache] *****
changed: [VM2]
changed: [VM1]

TASK [Install Apache] *****
skipping: [VM1]
skipping: [VM2]

TASK [Start and enable Apache] *****
ok: [VM1]
ok: [VM2]

TASK [Create a custom index.html] *****
changed: [VM1]
changed: [VM2]

TASK [Configure Apache to listen on port 8080] *****
changed: [VM1]
changed: [VM2]

TASK [Configure Apache to listen on port 8080] *****
skipping: [VM1]
skipping: [VM2]

RUNNING HANDLER [restart apache] *****
changed: [VM2]
changed: [VM1]

PLAY RECAP *****
VM1 : ok=6    changed=4    unreachable=0    failed=0    s
skipped=2  rescued=0   ignored=0
VM2 : ok=6    changed=4    unreachable=0    failed=0    s
skipped=2  rescued=0   ignored=0

```

- GitHub repo: [CMPE-272/Assignment 1 at main · Rushabh-Runwal/CMPE-272 \(github.com\)](https://github.com/Rushabh-Runwal/CMPE-272)