# *ANSIBLE* 02

1) **Watch ansible-02 video and write down notes.**

   →**watched and made note of it.**

2) **Install httpd using ansible playbook, use handlers, notifiers.**

   →**Check python**

   →**Apt update**

   →**Sudo apt install ansible**

   →**Ssh keygen**

   →**check connection: ansible all -m ping**

```
ubuntu@ip-172-31-37-195:~$ ansible all -m ping
The authenticity of host '172.31.41.66 (172.31.41.66)' can't be established.
ED25519 key fingerprint is SHA256:Nk24mmdQN1QRaizOKfjOTFrva51G/LfDZ7RF8ROlBmI.
This key is not known by any other names.
The authenticity of host '172.31.32.229 (172.31.32.229)' can't be established.
ED25519 key fingerprint is SHA256:Wqh6l8dvtiF9t5BzZO+7nPydQpjeB5UOQ6Ic8CZgCd4.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
172.31.41.66 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
yes
172.31.32.229 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
```

   →**Ansible Playbook to Install httpd(apache2) using handlers, notifiers:**

```
ubuntu@ip-172-31-37-195: ~
---
- hosts: all
  become: yes
  tasks:
    - name: Install Apache
      apt: name=apache2 state=latest
    - name: copy index.html
      copy: src=index.html dest=/var/www/html
      notify: Restart apache2
  handlers:
    - name: Restart apache2
      service: name=apache2 state=restarted
~
~
~
~
~
~
~
```

➔**Run playbook:**

```
ubuntu@ip-172-31-37-195:~/playbooks$ ansible-playbook apache2.yml

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

TASK [Gathering Facts] *********************************************************
ok: [172.31.41.66]
ok: [172.31.32.229]

TASK [Install Apache (httpd)] *************************************************
changed: [172.31.41.66]
changed: [172.31.32.229]

TASK [Debug Apache Installation Result] **************************************
ok: [172.31.32.229] => {
    "apache_install_result": {
        "cache_update_time": 1741164292,
        "cache_updated": false,
        "changed": true,
```

```
    }
}

TASK [Copy index.html] *********************************************************
changed: [172.31.32.229]
changed: [172.31.41.66]

RUNNING HANDLER [Restart apache2] *********************************************
changed: [172.31.32.229]
changed: [172.31.41.66]

PLAY RECAP ********************************************************************
172.31.32.229              : ok=5    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.41.66               : ok=5    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-37-195:~/playbooks$ vi apache2.yml
ubuntu@ip-172-31-37-195:~/playbooks$
```
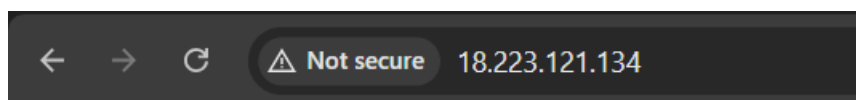
➔**Apache 2 running in worker1:**

```
ubuntu@ip-172-31-32-229:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
     Active: active (running) since Wed 2025-03-26 10:12:33 UTC; 7min ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 2910 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Main PID: 2913 (apache2)
      Tasks: 55 (limit: 1129)
     Memory: 5.4M (peak: 5.7M)
        CPU: 42ms
     CGroup: /system.slice/apache2.service
             ├─2913 /usr/sbin/apache2 -k start
             ├─2915 /usr/sbin/apache2 -k start
             └─2916 /usr/sbin/apache2 -k start

Mar 26 10:12:33 ip-172-31-32-229 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Mar 26 10:12:33 ip-172-31-32-229 systemd[1]: Started apache2.service - The Apache HTTP Server.
ubuntu@ip-172-31-32-229:~$
```

**i-0227c43cf5c08d637 (Ansible-worker1)**

PublicIPs: 18.223.121.134    PrivateIPs: 172.31.32.229

← → C  ⚠ Not secure  18.223.121.134
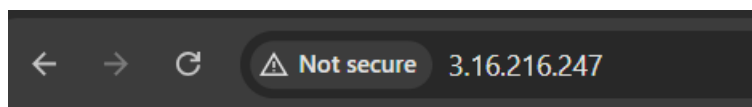
hello this is my first ansible playbook!!

**→Apache 2 running in worker2:**

```
ubuntu@ip-172-31-41-66:~$ cd .ssh/
ubuntu@ip-172-31-41-66:~/.ssh$ ls
authorized_keys
ubuntu@ip-172-31-41-66:~/.ssh$ vi authorized_keys
ubuntu@ip-172-31-41-66:~/.ssh$ cd
ubuntu@ip-172-31-41-66:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
     Active: active (running) since Wed 2025-03-26 10:12:33 UTC; 3min 49s ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 2882 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Main PID: 2885 (apache2)
      Tasks: 55 (limit: 1129)
     Memory: 5.4M (peak: 5.6M)
        CPU: 36ms
     CGroup: /system.slice/apache2.service
             ├─2885 /usr/sbin/apache2 -k start
             ├─2887 /usr/sbin/apache2 -k start
             └─2888 /usr/sbin/apache2 -k start

Mar 26 10:12:33 ip-172-31-41-66 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Mar 26 10:12:33 ip-172-31-41-66 systemd[1]: Started apache2.service - The Apache HTTP Server.
ubuntu@ip-172-31-41-66:~$
```

**i-0e04a62c82e7f5dec (Ansible-worker2)**

PublicIPs: 3.16.216.247   PrivateIPs: 172.31.41.66

← → C   ⚠ Not secure   3.16.216.247

hello this is my first ansible playbook!!

# 3)Write a ansible playbook to install apache tomcat.

**→ ansible playbook to install apache tomcat:**

```yaml
---
- hosts: all
  become: yes
  tasks:
    - name: Install Java
      apt:
        name: default-jdk
        state: present
    - name: Download Tomcat
      get_url:
        url: "https://archive.apache.org/dist/tomcat/tomcat-9/v9.0.80/bin/apache-tomcat-9.0.80.tar.gz"
        dest: /tmp/
    - name: Extract Tomcat
      unarchive:
        src: /tmp/apache-tomcat-9.0.80.tar.gz
        dest: /opt/
        remote_src: yes
    - name: Start Tomcat
      command: /opt/apache-tomcat-9.0.80/bin/startup.sh
```

**→Run playbook:**



**→tomcat running:**



## 4) Write a ansible playbook to provision one ec2 on aws.
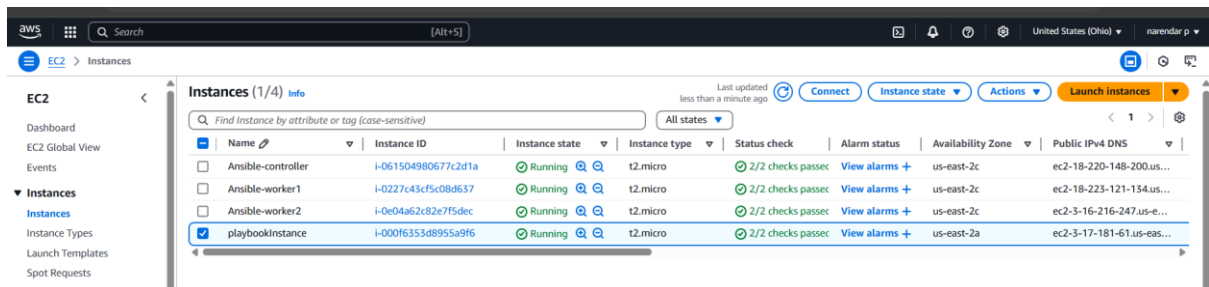
**→AWS configure:**

**→ ansible playbook to provision one ec2 on aws.**

```
ubuntu@ip-172-31-37-195: ~

---
- name: Provision an EC2 Instance on AWS
  hosts: localhost
  gather_facts: no
  tasks:
    - name: Launch EC2 instance
      ec2_instance:
        name: playbookInstance
        key_name: ansible
        instance_type: t2.micro
        image_id: ami-04f167a56786e4b09
        region: us-east-2
        vpc_subnet_id: subnet-084cd94d0085a7ade
        security_groups: ["default"]
        network:
          assign_public_ip: yes
        tags:
          Name: instancenaren
      register: ec2
    - name: Display instance details
      debug:
        var: ec2.instances[0]
~
~
~
~
~
~
```

**→run playbook:**

```
ubuntu@ip-172-31-37-195:~$ vi ec2.yml
ubuntu@ip-172-31-37-195:~$ ansible-playbook ec2.yml

PLAY [Provision an EC2 Instance on AWS] ***************************************************************

TASK [Launch EC2 instance] ***************************************************************
changed: [localhost]

TASK [Display instance details] ***************************************************************
ok: [localhost] => {
    "ec2.instances[0]": {
        "ami_launch_index": 0,
        "architecture": "x86_64",
        "block_device_mappings": [
            {
                "device_name": "/dev/sda1",
                "ebs": {
                    "attach_time": "2025-03-26T13:23:20+00:00",
                    "delete_on_termination": true,
                    "status": "attaching",
                    "volume_id": "vol-05f9ccb130d3690a3"
                }
```

```
            "Name": "playbookInstance"
        },
        "usage_operation": "RunInstances",
        "usage_operation_update_time": "2025-03-26T13:23:19+00:00",
        "virtualization_type": "hvm",
        "vpc_id": "vpc-0f9ee23733eee978a"
    }
}

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

ubuntu@ip-172-31-37-195:~$
```
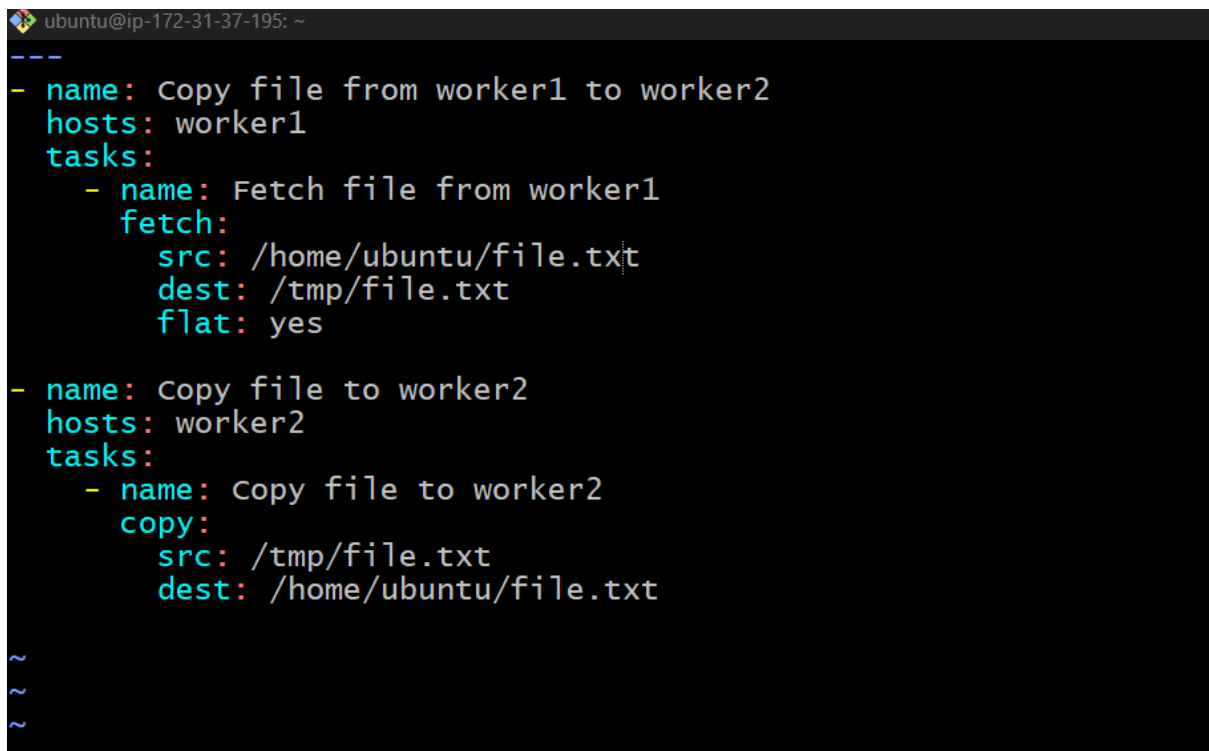
**➔Created ec2 on my AWS:**



# 5)Write a ansible playbook to copy one file from worker1 to worker2.

**➔ ansible playbook to copy one file from worker1 to worker2:**



```
---
- name: Copy file from worker1 to worker2
  hosts: worker1
  tasks:
    - name: Fetch file from worker1
      fetch:
        src: /home/ubuntu/file.txt
        dest: /tmp/file.txt
        flat: yes

- name: Copy file to worker2
  hosts: worker2
  tasks:
    - name: Copy file to worker2
      copy:
        src: /tmp/file.txt
        dest: /home/ubuntu/file.txt
```

**→run playbook:**

```
ubuntu@ip-172-31-37-195:~$ vi file.yml
ubuntu@ip-172-31-37-195:~$ ansible-playbook file.yml

PLAY [Copy file from worker1 to worker2] ***************************************

TASK [Gathering Facts] ********************************************************
ok: [172.31.32.229]

TASK [Fetch file from worker1] ***********************************************
changed: [172.31.32.229]

PLAY [Copy file to worker2] ***************************************************

TASK [Gathering Facts] ********************************************************
ok: [172.31.41.66]

TASK [Copy file to worker2] **************************************************
changed: [172.31.41.66]

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

ubuntu@ip-172-31-37-195:~$
```

**→created file.txt worker1:**

```
Last login: Wed Mar 26 10:56:04 2025 from 172.31.37.195
ubuntu@ip-172-31-32-229:~$ sudo touch file.txt
ubuntu@ip-172-31-32-229:~$ ls
file.txt
ubuntu@ip-172-31-32-229:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-32-229:~$ 
```

**i-0227c43cf5c08d637 (Ansible-worker1)**

PublicIPs: 18.223.121.134   PrivateIPs: 172.31.32.229

**→copied file.txt in worker2:**

```
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


Last login: Wed Mar 26 10:56:04 2025 from 172.31.37.195
ubuntu@ip-172-31-41-66:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-41-66:~$ ls
file.txt
ubuntu@ip-172-31-41-66:~$ 
```

**i-0e04a62c82e7f5dec (Ansible-worker2)**

PublicIPs: 3.16.216.247   PrivateIPs: 172.31.41.66

## 6)Write a ansible playbook to create different files with different names using single playbook.

→ ansible playbook to create different files with different names using single playbook.

```
ubuntu@ip-172-31-37-195: ~
---
- name: Create multiple files
  hosts: all
  gather_facts: no
  tasks:
    - name: Create files with different names
      file:
        path: "/home/ubuntu/{{ item }}"
        state: touch
      with_items:
        - file1.txt
        - file2.log
        - file3.conf
        - file4.yaml

~
~
```

→run playbook:

```
ubuntu@ip-172-31-37-195:~$ vi multifile.yml
ubuntu@ip-172-31-37-195:~$ ansible-playbook multifile.yml

PLAY [Create multiple files] ********************************************************************

TASK [Create files with different names] ********************************************************
changed: [172.31.41.66] => (item=file1.txt)
changed: [172.31.32.229] => (item=file1.txt)
changed: [172.31.41.66] => (item=file2.log)
changed: [172.31.32.229] => (item=file2.log)
changed: [172.31.41.66] => (item=file3.conf)
changed: [172.31.32.229] => (item=file3.conf)
changed: [172.31.41.66] => (item=file4.yaml)
changed: [172.31.32.229] => (item=file4.yaml)

PLAY RECAP **************************************************************************************
172.31.32.229              : ok=1    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.41.66               : ok=1    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-37-195:~$
```

**→created different files in worker1 and worker2:**

```
ubuntu@ip-172-31-41-66:~$ ls
file.txt
ubuntu@ip-172-31-41-66:~$ ls
file.txt  file1.txt  file2.log  file3.conf  file4.yaml
ubuntu@ip-172-31-41-66:~$ 
```

**i-0e04a62c82e7f5dec (Ansible-worker2)**

PublicIPs: 3.16.216.247    PrivateIPs: 172.31.41.66

```
ubuntu@ip-172-31-32-229:~$ ls
file.txt
ubuntu@ip-172-31-32-229:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-32-229:~$ ls
file.txt  file1.txt  file2.log  file3.conf  file4.yaml
ubuntu@ip-172-31-32-229:~$ 
```

**i-0227c43cf5c08d637 (Ansible-worker1)**

PublicIPs: 18.223.121.134    PrivateIPs: 172.31.32.229